# In the Matter of

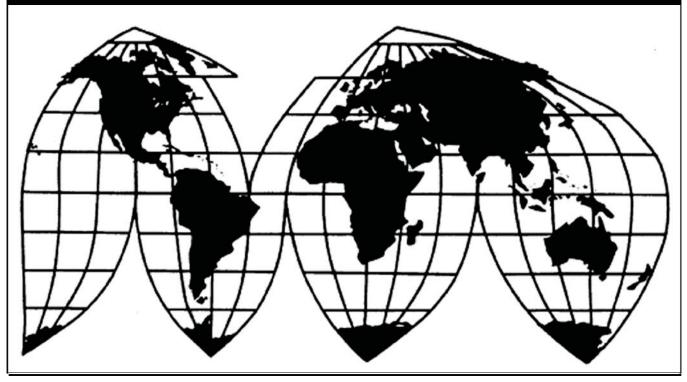
# Certain Flash Memory Controllers, Drivers, Memory Cards, and Media Players and Products Containing Same

Investigation No. 337-TA-619

**Publication 4147** 

**April 2010** 

**U.S. International Trade Commission** 



Washington, DC 20436

# **U.S. International Trade Commission**

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# **U.S. International Trade Commission**

Washington, DC 20436 www.usitc.gov

# In the Matter of

# Certain Flash Memory Controllers, Drivers, Memory Cards, and Media Players and Products Containing Same

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# UNITED STATES INTERNATIONAL TRADE COMMISSION Washington, D.C. 20436

In the Matter of

CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME Investigation No. 337-TA-619

### NOTICE OF COMMISSION FINAL DETERMINATION OF NO VIOLATION OF SECTION 337; TERMINATION OF INVESTIGATION

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined that there has been no violation of section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337, in this investigation, and has terminated the investigation.

FOR FURTHER INFORMATION CONTACT: Panyin A. Hughes, Esq., Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-3042. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <u>http://www.usitc.gov</u>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <u>http://edis.usitc.gov</u>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on December 12, 2007, based on a complaint filed by SanDisk Corporation of Milpitas, CA. 72 *Fed. Reg.* 70610 (Dec. 12, 2007). The complaint alleged violations of section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain flash memory controllers, drives, memory cards, media players and products containing the same by reason of infringement of various claims of United States Patent Nos. 6,426,893; 6,763,424 ("the '424 patent"); 5,719,808; 6,947,332; and 7,137,011 ("the '011 patent"). Three patents and several claims were subsequently terminated from the investigation. Claims 17, 24 and 30 of the '424 patent and claim 8 of the '011 patent remain in the investigation. The complaint named nearly

fifty respondents. Twenty-one respondents were terminated from the investigation based on settlement agreements, consent orders and withdrawal of allegations from the complaint. Five respondents defaulted. The following respondents remain in the investigation: Imation Corporation of Oakdale, MN; Imation Enterprises Corporation of Oakdale, MN; and Memorex Products, Inc. of Cerritos, CA (collectively, "Imation Respondents"); Phison Electronics Corporation of Hsinchu, Taiwan; Silicon Motion Inc. of Taiwan; Silicon Motion, Inc. of Milpitas, CA; Skymedi Corporation of Hsinchu, Taiwan; Power Quotient International Co., Ltd. of Taipei, Taiwan; Power Quotient International (HK) Co., Ltd. of Hong Kong; Syscom Development Co., Ltd. of the British Virgin Islands; PQI Corporation of Fremont, California; Kingston Technology Corporation of Fountain Valley, CA; Kingston Technology Company, Inc. of Fountain Valley, CA ; MemoSun, Inc. of Fountain Valley, CA; Transcend Information Inc. of Taipei, Taiwan; Transcend Information Inc. of Orange, CA; Transcend Information Maryland, Inc. of Linthicum, MD; Apacer Technology Inc. of Taipei Hsien, Taiwan; Apacer Memory America, Inc. of Milpitas, CA; Dane Memory S.A. of Bagnolet, France; Deantusaiocht Dane-Elec TEO of Spiddal, Galway, Ireland; Dane-Elec Corporation USA of Irvine CA; LG Electronics U.S.A., Inc. of Englewood Cliffs, New Jersey; and LG Electronics, Inc. of Seoul, South Korea.

On April 10, 2009, the ALJ issued his final ID finding no violation of section 337 by Respondents. The ALJ issued a corrected version of his final ID on April 16, 2009. The ID included the ALJ's recommended determination on remedy and bonding. In the subject ID, the ALJ found that the accused products do not infringe asserted claims 17, 24 and 30 of the '424 patent. The ALJ also found that none of the asserted claims of the '424 patent were proven to be invalid as anticipated or obvious in view of the prior art. The ALJ further found the Respondents not liable for contributory or induced infringement of the asserted claims of the '424 patent. Likewise, the ALJ found that SanDisk failed to prove that the Imation Respondents, the only respondents accused of infringing claim 8 of the '011 patent, induced or contributed to infringement of the patent. The ALJ also found that SanDisk's rights in the '011 patent were not exhausted and that claim 8 of the '011 patent satisfies the indefiniteness requirement of 35 U.S.C. § 112, second paragraph. The ALJ, however, concluded that the prior art rendered claim 8 of the '011 patent obvious.

On May 4, 2009, SanDisk and the Commission investigative attorney filed petitions for review of the ID. That same day, Respondents filed a collective contingent petition for review of the ID with respect to the '424 patent. Skymedi Corporation and the Imation Respondents, in addition to joining the collective contingent petition for review, filed individual contingent petitions for review. On May 18, 2009, the parties filed responses to the various petitions and contingent petitions for review.

On August 24, 2009, the Commission determined to review the final ID in part and requested briefing on several issues it determined to review, and on remedy, the public interest and bonding. 74 *Fed. Reg.* 44382 (Aug. 28, 2009). The Commission determined to review the claim construction of claims 17, 24 and 30 of the '424 patent; infringement of the asserted claims

of the '424 patent; validity of the '424 patent; and the ALJ's decision not to consider the Sinclair PCT publication as evidence of prior art to claim 17 of the '424 patent. *Id.* 

On September 3, 2009, the parties filed written submissions on the issues on review, remedy, the public interest and bonding. On September 14, 2009, the parties filed response submissions on the issues on review, remedy, the public interest and bonding.

Having examined the record of this investigation, including the ALJ's final ID, the Commission has determined to (1) reverse the ALJ's finding that claim 17 of the '424 patent does not cover single-page updates; (2) reverse the ALJ's finding that the claim term "reading and assembling data from the first and second plurality of pages" as recited in claim 20 of the '424 patent excludes the so-called table method as disclosed in Figure 12; (3) affirm the ALJ's finding that the accused products do not infringe the asserted claims of the '424 patent; and (4) affirm the ALJ's finding that none of the asserted claims of the '424 patent were proven to be invalid as anticipated or obvious in view of the prior art considered by the ALJ. Given the Commission's affirmance of the ALJ's determination that SanDisk failed to establish that the accused controllers infringe claim 17 of the '424 patent, the Commission declines to reach the issue of whether the ALJ should have considered the Sinclair PCT publication as evidence of prior art to claim 17 of the '424 patent.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in sections 210.42-46 and 210.50 of the Commission's Rules of Practice and Procedure (19 C.F.R. §§ 210.42-46 and 210.50).

By order of the Commission.

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Marilyn R. Abbott Secretary to the Commission

Issued: October 23, 2009

### CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, 337-TA-619 MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME

#### **CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION FINAL DETERMINATION OF NO VIOLATION OF SECTION 337; TERMINATION OF INVESTIGATION** has been served by hand upon the Commission Investigative Attorney, Christopher G. Paulraj, Esq., and the following parties as indicated, on \_\_\_\_\_October 23, 2009\_\_\_\_\_.

Marilyn R. Abbott, Secretary JNO U.S. International Trade Commission 500 E Street, SW Washington, DC 20436

#### **On Behalf of Complainant Sandisk Corporation:**

Gregory A. Castanias, Esq. JONES DAY 51 Louisiana Avenue, NW Washington, DC 20001-2113 ( ) Via Hand Delivery
( ) Via Overnight Mail
( ) Via First Class Mail
( ) Other:

<u>On Behalf of Respondents Phison Electronics</u> <u>Corporation; Kingston Technology Company,</u> <u>Incorporated; Kingston Technology Corporation; and,</u> <u>Memo Sun Incorporated</u>:

Jeffrey R. Whieldon, Esq. FISH & RICHARDSON PC 1425 K Street, NW – Suite 1100 Washington, DC 20005 ( ) Via Hand Delivery
( ) Via Overnight Mail
( ) Via First Class Mail
( ) Other:

## **On Behalf of Respondents, Skymedi Corporation:**

Robert R. McKelvie, Esq. **Covington & Burling Llp** 1201 Pennsylvania Avenue, Nw Washington, Dc 20004-2401

# On Behalf Of Respondents Apacer Technology, Incorporated and Apacer Memory America, Incorporated:

Daniel J. Lueders, Esq. WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP 111 Monument Circle, Suite 2700 Indianapolis, IN 46204-5137

### On Behalf of Respondents LG Electronics, Incorporated and LG Electronics USA, Incorporated:

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# On Behalf of Respondents Dane Elec Corporation USA, Dane-Memory, S.A., and Deantusaiocht Dane-Elec TEO:

Charles C.H. Wu, Esq. **WU & CHEUNG LLP** 98 Discovery Irvine, CA 92618-3105

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### UNITED STATES INTERNATIONAL TRADE COMMISSION Washington, D.C. 20436

In the Matter of

Investigation No. 337-TA-619

# CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME

#### COMMISSION OPINION

#### I. BACKGROUND

#### A. Procedural History

The Commission instituted this investigation on December 12, 2007, based on a complaint filed by SanDisk Corporation ("SanDisk"). 72 Fed. Reg. 70610 (Dec. 12, 2007). The complaint alleged violations of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain flash memory controllers, drives, memory cards, media players and products containing the same by reason of infringement of certain claims of five United States patents: U.S. Patent No. 6,763,424 ("the '424 patent"), U.S. Patent No. 7,137,011 ("the '011 patent"), U.S. Patent No. 6,763,424 ("the '808 patent"), U.S. Patent No. 6,947,332 ("the '332 patent") and U.S. Patent No. 6,426,893 ("the '893 patent"). SanDisk named forty-seven respondents. *See id.* Subsequently, SanDisk filed motions to terminate the investigation with respect to the '808, '332 and '893 patents. Only the '424 and '011 patents remain in the investigation.

During the course of the investigation, several respondents were terminated based on

settlement agreements, consent orders, and/or withdrawal of allegations from the complaint. Five

respondents defaulted. The following groups of respondents remain in the investigation after the

various defaults and terminations:

- 1. Phison Electronics Corporation of Hsinchu, Taiwan ("Phison");
- 2. Silicon Motion Inc. of Taiwan; and Silicon Motion, Inc. of Milpitas, CA (collectively "Silicon");
- 3. Skymedi Corporation of Hsinchu, Taiwan ("Skymedi");
- 4. Power Quotient International Co., Ltd. of Taipei, Taiwan; Power Quotient International (HK) Co., Ltd. of Hong Kong; Syscom Development Co., Ltd. of the British Virgin Islands; and PQI Corporation of Fremont, California (collectively "PQI");
- Kingston Technology Corporation of Fountain Valley, CA; Kingston Technology Company, Inc. of Fountain Valley, CA; and MemoSun, Inc. of Fountain Valley, CA (collectively "Kingston")
- 6. Transcend Information Inc. of Taipei, Taiwan; Transcend Information Inc. of Orange, CA; and Transcend Information Maryland, Inc. of Linthicum, MD (collectively "Transcend");
- Imation Corporation of Oakdale, MN; Imation Enterprises Corporation of Oakdale, MN; and Memorex Products, Inc. of Cerritos, CA (collectively "Imation");
- 8. Apacer Technology Inc. of Taipei Hsien, Taiwan; and Apacer Memory America, Inc. of Milpitas, CA (collectively "Apacer");
- 9. Dane Memory S.A. of Bagnolet, France; Deantusaiocht Dane-Elec TEO of Spiddal, Galway, Ireland; and Dane-Elec Corporation USA of Irvine CA (collectively "Dane-Elec"); and
- 10. LG Electronics U.S.A., Inc. of Englewood Cliffs, New Jersey; and LG Electronics, Inc. of Seoul, South Korea (collectively "LG").

The ALJ held a Markman hearing from May 6-7, 2008, and issued an order construing the

terms of the asserted claims of the patents-in-issue on July 15, 2008. See Order No. 33. The ALJ

further stated that all briefing in this investigation is governed by the claim construction order and

"[a]ll other claim terms shall be deemed as undisputed and shall be interpreted by the undersigned

in accordance with 'their ordinary meaning as viewed by one of ordinary skill in the art." Id. at 9.

The ALJ incorporated Order No. 33 into his final ID. ID at 8.

On April 10, 2009, the ALJ issued his final ID in this investigation, finding no violation of section 337 by Respondents with respect to any of the asserted claims.<sup>1</sup> Specifically, the ALJ found that the accused products do not infringe the asserted claims of the '424 patent. The ALJ also found that none of the references properly before him anticipated the asserted claims or rendered the asserted claims of the '424 patent obvious. The ALJ further found the Respondents not liable for contributory or induced infringement of the asserted claims of the '424 patent. Likewise, the ALJ found that SanDisk failed to prove that Imation, the sole respondent accused of infringing the '011 patent, induced or contributed to infringement of the patent. The ALJ also found that SanDisk's rights in the '011 patent were not exhausted and that claim 8 of the '011 patent satisfied the indefiniteness requirement of 35 U.S.C. § 112, second paragraph. The ALJ further found claim 8 of the '011 patent invalid for obviousness. The ALJ concluded that an industry exists within the United States with respect to SanDisk's products that practice the '424 and '011 patents, as required by 19 U.S.C. § 1337(a)(2) and (3).

The ID includes the ALJ's recommended determination ("RD") on remedy and bonding. The ALJ recommended that in the event the Commission finds a violation of section 337, the Commission should issue a limited exclusion order to exclude the accused products of all the named respondents as well as a cease and desist order directed towards respondents, [

] because they maintain significant inventories of accused products in the United States. The ALJ recommended that the Commission set a bond of [ ] based on a reasonable royalty rate, during the period of

<sup>&</sup>lt;sup>1</sup> The ALJ issued a corrected version of the ID on April 16, 2009.

Presidential review.

On May 4, 2009, SanDisk filed a petition requesting review of the ID's finding that the accused products do not infringe the asserted patents. SanDisk also sought review of the ID's finding that the prior art invalidates the asserted claim of the '011 patent. That same day, the Commission investigative attorney ("IA") filed a petition seeking review of the ID's finding that the accused products do not infringe claim 17 of the '424 patent. The IA further asked the Commission to review the ALJ's decision not to consider U.S. Patent No: 6,725,321 ("the'321 patent") to Alan Welsh Sinclair *et al.* and its corresponding Patent Cooperation Treaty ("PCT") publication, WO 00/49488 ("the Sinclair PCT publication") as prior art references to claim 17 of the '424 patent. Also on May 4, 2009, Respondents filed various contingent petitions for review of the ID's findings should the Commission decide to review the subject ID. The contingent petitions sought review of the ID's findings regarding validity of the asserted claims, waiver of non-infringement contentions and patent exhaustion.

On August 24, 2009, the Commission determined to review the final ID in part and requested briefing on several issues it determined to review, and on remedy, the public interest and bonding. 74 *Fed. Reg.* 44382 (Aug. 28, 2009). The Commission determined to review the claim construction of claims 17, 24 and 30 of the '424 patent; infringement of the asserted claims of the '424 patent; validity of the '424 patent; and the ALJ's decision not to consider the Sinclair PCT publication as evidence of prior art to claim 17 of the '424 patent. *Id.* The Commission determined not to review the remaining issues decided in the ID. In its notice of review, the Commission asked the parties the following:

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- 1. Address whether the accused products would infringe claim 17 of the '424 patent if construction of the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" is construed to cover single-page updates. Please cite record evidence and/or relevant legal precedent to support your position.
- 2. Address whether the claim term "reading and assembling data from the first and second plurality of pages" as recited in claim 20 of the '424 patent should be construed to cover the so-called "table method," and whether the accused products would infringe claims 24 and 30 of the '424 patent as a result. *See* '424 patent (JX-2) at column 10, lines 44-59; FIG. 12. Please cite record evidence and relevant legal authority to support your position.
- 3. Address why the Sinclair PCT publication was not listed on any notice of prior art as required by Ground Rule No. 5, and having violated the ground rule, why none of the parties availed itself of its remedy to submit a timely written motion showing good cause why the reference was not listed. *See* Order No. 2 at 9-10.
- 4. Address under what circumstances, if any, the Commission should consider a reference that was not submitted in accordance with an ALJ's ground rule.
- 5. Address the similarities and differences, if any, between U.S. Patent No. 6,725,321 to Alan Welsh Sinclair *et al.* (RX-628) and its corresponding Patent Cooperation Treaty publication, WO 00/49488 ("the Sinclair PCT publication") (RX-1038 rejected by ALJ) and whether the Sinclair PCT publication invalidates claim 17 of the '424 patent. Please cite record evidence and any relevant legal authority to support your position.

On September 3, 2009, the parties filed written submissions on the issues under review,

remedy, the public interest and bonding. On September 14, 2009, the parties filed response

submissions on the same issues.

For the reasons discussed below, the Commission affirms the ID's determination of no

violation of section 337. Specifically, we affirm the ID's finding that Complainant has failed to

prove that Respondents indirectly infringe asserted claims 17, 24 and 30 of the '424 patent. In

other words, Complainant's proffered evidence falls short of establishing that Respondents either contribute to, or induce infringement of, the asserted claims of the '424 patent. The Commission affirms the ID's construction of the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" in claim 17 of the '424 patent to mean "updating fewer than all the pages of a block within the metablock," but reverses the ID's application of the claim construction to exclude single-page updates. The Commission also finds that the "reading and assembling" claim term recited in independent claim 20, from which asserted claims 24 and 30 depend, is not limited to the so-called reverse-read method, but rather construes the term to cover the so-called table method as described in Figure 12 of the '424 patent. Finally, because the Commission finds no section 337 violation due to Complainant's failure to prove that Respondents indirectly infringe the asserted claims of the '424 patent, the Commission does not decide the issue of whether the ALJ should have considered the Sinclair PCT publication as evidence of prior art to claim 17 of the '424 patent.

#### **B.** Patents and Technology at Issue

This investigation pertains to flash memory controllers, drives, memory cards, and media players and products containing same. Flash memory signifies a non-volatile memory system, for example, a USB flash drive. The term "non-volatile" refers to the fact that flash memory retains the information stored on it, even in the absence of electrical power, making flash memory useful as a portable storage device. In contrast, most personal computers utilize a memory drive (Random Access Memory or RAM) that loses the information stored on it in the absence of electrical power.

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The '424 patent, entitled "Partial Block Data Programming and Reading Operations in a Non-Volatile Memory," issued on July 13, 2004, to Kevin M. Conley. SanDisk owns the '424 patent and has asserted independent claim 17 as well as dependent claims 24 and 30, depending from independent claim 20, in this investigation. The asserted claims cover two categories of inventions. Claim 17 discloses an allegedly novel technique for updating data stored in the component blocks of a metablock, while claims 24 and 30 disclose an allegedly novel method for performing partial block updates to data stored in a non-volatile memory system.

The '011 patent, entitled "Removable Mother/Daughter Peripheral Card," issued on November 14, 2006, to Eliyahou Harari, Daniel C. Guterman and Robert F. Wallace. SanDisk owns the patent and has asserted only independent claim 8 in this investigation. Claim 8 discloses an allegedly novel non-volatile memory card that incorporates a flash memory array in an enclosure and that is removably attached to a host system. The memory card is allegedly designed to provide "security with portability." Unlike prior art systems, SanDisk asserts that the memory card recited in claim 8 stores both a decryption algorithm and encrypted user data in the flash memory array so that they can be read out for use together.

### C. Products at Issue

The accused products fall into two general categories: (1) Flash memory controllers, and (2) products or systems containing Flash memory controllers, generally referred to as Flash memory systems. Specifically, SanDisk asserted the '424 patent against particular controllers manufactured by certain respondents, as well as against Flash memory systems imported and sold

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by certain respondents that incorporate the accused controllers.<sup>2</sup> With respect to the '011 patent, SanDisk accused various products manufactured by Imation of infringement.<sup>3</sup>

#### **II. STANDARD OF REVIEW**

Under the Administrative Procedure Act, upon review of the initial determination of the ALJ, "the agency has all of the powers which it would have in making the initial decision except as it may limit the issues on notice or by rule." 5 U.S.C. § 557(b) (*quoted in Certain Acid-Washed Garments and Accessories*, Inv. No. 337-TA-324 (U.S.I.T.C. Aug. 6, 1992)); 19 C.F.R.

§ 210.45(c). In other words, once the Commission decides to review the decision of the ALJ, the Commission may conduct a review of the findings of fact and conclusions of law presented by the record under a *de novo* standard.

Address of all

#### **III. CLAIM CONSTRUCTION**

#### A. Legal Standard

Claim construction "begin[s] with and remain[s] centered on the language of the claims themselves." *Storage Tech. Corp. V. Cisco Sys., Inc.*, 329 F.3d 823, 830 (Fed. Cir. 2003). That is, the words of the claims "define the scope of the patented invention." *Vitronics Corp. v. Conceptronic, Inc.,* 90 F.3d 1576, 1582 (Fed. Cir. 1996). Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim

<sup>&</sup>lt;sup>2</sup> For a detailed list of accused controllers, representative controllers and system products, see ID at pages 19-21.

<sup>&</sup>lt;sup>3</sup> For a detailed list of Imation products accused of infringing claim 8 of the '011 patent, see the ID at page 20.

terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (*en banc*). In construing claims, a court looks first to the intrinsic evidence, which consists of the language of the claims, the patent's specification, and the prosecution history, as such evidence "is the most significant source of the legally operative meaning of disputed claim language." *Vitronics*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The claims themselves, however, "provide substantial guidance as to the meaning of particular claim terms." *Phillips*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). In addition, it is essential to consider a claim as a whole when construing each term, because the context in which a term is used in a claim "can be highly instructive." *Id.* 

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When the meaning of a claim term remains uncertain, the specification is usually the first and best place to look, aside from the claim itself, in order to find that meaning. *Phillips*, 415 F.3d at 1315. The specification of a patent "acts as a dictionary" both "when it expressly defines terms used in the claims" and "when it defines terms by implication." *Vitronics*, 90 F.3d at 1582; *Phillips*, 415 F.3d at 1323. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Phillips*, 415 F.3d at 1316. However, a court may not read particular examples or embodiments discussed in the specification into the claims as limitations. *Markman v. Westview Instruments*, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995).

Differences between claims may be helpful in understanding the meaning of claim terms. *Phillips*, 415 F.3d at 1314. A claim construction that gives meaning to all the terms of a claim is preferred over one that does not do so. *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364,

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1372 (Fed. Cir. 2005). In addition, the presence of a specific limitation in a dependent claim raises a presumption that the limitation is not present in the independent claim. *Phillips*, 415 F.3d at 1315. This presumption of claim differentiation is especially strong when the only difference between the independent and dependent claim is the limitation in dispute. *SunRace Roots Enter*. *Co., v. SRAMCorp.,* 336 F.3d 1298, 1303 (Fed. Cir. 2003).

"[I]n context, the plural can describe a universe ranging from one to some higher number, rather than requiring more than one item." *Versa Corp. v. Ag-Bag Int'l Ltd.*, 392 F.3d 1325, 1330 (Fed. Cir. 2004) (stating that "the use of 'channels' in the plural does not imply that multiple channels are required by the claim."); *Dayco Prods. v. Total Containment, Inc.*, 258 F.3d 1317, 1328 (Fed. Cir. 2001) (noting that "[i]n the phrase 'projections with recesses therebetween,' the use of 'recesses' can be understood to mean a single recess where there are only two projections and more than one recess where there are three or more projections" and that "in the present context, if the patentees had wanted to require an insert means with more than one recess, it would have been natural to limit the claimed invention to an insert means with a 'plurality of recesses.")

#### **B.** Claim Construction of the '424 Patent

The Commission determined to review the claim construction of claims 17, 24 and 30 of the '424 patent. Specifically, the Commission determined to review whether the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" recited in claim 17 should be construed to cover single-page updates. The Commission also decided to review whether the claim term "reading and assembling data from

the first and second plurality of pages" as recited in claim 20 of the '424 patent should be

construed to cover the so-called table method as described in Figure 12 of the '424 patent.

# 1. Construction of the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" recited in asserted claim 17

Claim 17 of the '424 patent with emphasis on the claim term at issue is set forth below:

17. A method of operating a non-volatile memory system having an array of memory storage elements organized into at least two sub-arrays, wherein the individual sub-arrays are divided into a plurality of non-overlapping blocks of storage elements wherein a block contains the smallest group of memory storage elements that are erasable together, and the individual blocks are divided into a plurality of pages of storage elements wherein a page is the smallest group of memory storage elements that are programmable together, comprising:

linking at least one block from individual ones of said at least two sub-arrays to form a metablock wherein its component blocks are erased together as a unit, and

updating pages of original data within any of the metablock component blocks less than all the pages within the block by programming replacement data into pages within another at least one block in only a designated one of the sub-arrays regardless of which sub-array the data being updated is stored.

The ALJ adopted the claim construction agreed to by the parties, including the IA, and

construed the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" to mean "updating fewer than all the pages of a block within the metablock" in his *Markman* Order. Order No. 33 at 57. We find that the ALJ improperly applied his *Markman* claim construction to exclude single-page updates, and thus, despite affirming the ALJ's claim construction, we reverse his application of the construction to exclude single page updates.

Although claim construction issues normally present some uncertainty, the parties in this investigation agreed to a construction of the claim term during the *Markman* hearing, and the ALJ adopted that construction. The parties agreed to construe the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" to mean "updating fewer than all the pages of a block within the metablock." This claim construction on its face includes single-page updates because updating a single-page necessarily updates "fewer than all the pages." *See* Rhyne, Tr. 409:2-4 (noting that "one page is fewer than all the pages"). Nothing from case law or the patent disclosure dictates deviating from this understanding.

Federal Circuit precedent makes clear that "in context, the plural can describe a universe ranging from one to some higher number, rather than requiring more than one item." *Versa*, 392 F.3d at 1330.<sup>4</sup> Consequently, the use of the word "pages" does not necessarily compel construing

To determine the meaning of "circuit boards," this court begins with the claim language. The preamble defines "circuit boards" as "at least first and second substantially identical boards . . . . References throughout the rest of the claim to "circuit boards" rely upon and derive antecedent basis from this preamble language. Therefore, this preamble definition limits the term "circuit boards" throughout the claim.

*Id.* at 1348. In other words, the context of the claim, reciting "*at least first and second* substantially identical boards" (emphasis added) dictated that the claimed "circuit boards"

<sup>&</sup>lt;sup>4</sup> Respondents cite *Electro Scientific Indus., Inc. v. Dynamic Details, Inc.*, 307 F.3d 1343, 1349-50 (Fed. Cir. 2002), and *Superior Fireplace Co. v. Majestic Products Co.*, 92 F.Supp.2d 1001, 1010 (Cal. 2002), for the proposition that the general rule in claim construction is that the plural form requires more than one. In our view, Respondents mis-describe the courts' holdings. In *Electro Scientific*, the Federal Circuit explained its rationale behind construing the claim term "circuit boards" to require multiple circuit boards as follows:

the claim term to exclude single-page updates. The context in which the word "pages" is employed should dictate its scope. The ALJ acknowledged Federal Circuit law but concluded that the context of claim 17 did not warrant construing "pages" to encompass single-page updates. ID at 46. The ALJ reasoned that "[t]he plain meaning of the term 'pages' clearly indicates more than one page" and found "no indication within the specification that the patentees intended the word 'pages' to indicate anything other than the plain and ordinary meaning of the term 'pages." *Id.* The ALJ noted that "[w]hile there may be a reference in the 'Summary of the invention' that the metablock is 'particularly useful when the memory system frequently updates single pages from a metablock,' the claim specifically refers to pages" and that "the example in the preferred embodiment refers to multiple pages." *Id.* 

We find that the ALJ impermissibly allowed an embodiment disclosed in the specification to limit the claim term. *See Markman*, 52 F.3d at 979. While the '424 patent includes an embodiment that recites multiple-page updates, the '424 patent's disclosure specifically states that "this technique is particularly useful when the memory system frequently updates *single* pages from a metablock." '424 patent, col. 3, ll. 19-26 (emphasis added). In other words, the patent contemplates single-page updates. Moreover, claim 17 as a whole compels the understanding that

included at least two boards. Thus, the Federal Circuit construed the claim term to require multiple circuit boards.

In Superior Fireplace, the claim at issue specifically recited "... a housing having a top wall, bottom wall, side walls and <u>a rear wall</u>..." (Emphasis added). The claim also recited "a firebox within the housing comprising the top wall, <u>rear walls</u> and side walls ...." (Emphasis added). The court stated that the claim term "rear walls" required at least two walls because of the context in which in the claim term was used. That is, the patentee used the singular (a rear wall) when he intended the singular, and used the plural (rear walls) when he intended the plural.

"pages" as used in that context should encompass single pages. For example, in its preamble, claim 17 states that "the individual sub-arrays are divided into *a plurality of* non-overlapping blocks of storage elements" and that "the individual blocks are divided into *a plurality of* pages of storage elements" (emphasis added). That is, when the patentee wanted to limit the scope of the invention to "plurals," he used the qualifier "plurality of." As the Federal Circuit has noted, such use of the qualifier "plurality of" indicates that when the qualifier is not used, the claim term should not be limited to the plural. *Dayco Prods. v. Total Containment, Inc.*, 258 F.3d 1317, 1328 (Fed. Cir. 2001) (stating that "indeed, in the present context, if the patentee had wanted to require an insert means with a 'plurality of recesses.'").

In sum, the claim language as a whole, the specification, and Federal Circuit precedent compel construing the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" to mean "updating fewer than all the pages of a block within the metablock" and specifically including single-page updates. Accordingly, although we affirm the ALJ's claim construction, we reverse his application of the claim construction to exclude single-page updates.

# 2. Construction of claim term "reading and assembling" recited in independent claim 20 from which asserted claims 24 and 30 depend

Claims 24 and 30 depend from independent claim 20, which was not asserted in the investigation. The disputed claim term the Commission determined to review, however, resides within claim 20. Thus, claim 20 of the '424 patent with emphasis on the claim term at issue is set forth below:

20. In a re-programmable non-volatile memory system having a plurality of blocks of memory storage elements that are erasable together as a unit, the plurality of blocks individually being divided into a plurality of a given number of pages of memory storage elements that are programmable together, a method of operating the memory system, comprising:

programming individual ones of a first plurality of said given number of pages in each of at least a first block with original data and a logical page address associated with the original data,

thereafter programming individual ones of a second plurality of a total number of pages less than said given number in a second block with updated data and a logical page address associated with the updated data, wherein the logical page addresses associated with the updated data programmed into the second plurality of pages are the same as those associated with the original data programmed into the first plurality of pages, and

thereafter **reading and assembling** data from the first and second plurality of pages including, for pages having the same logical addresses, selecting the updated data from the pages most recently programmed and omitting use of the original data from the pages earlier programmed.

We find that the ALJ's claim construction improperly limits the scope of the claim term "reading and assembling" to one embodiment (reverse-read method) disclosed in the '424 patent while ignoring a second embodiment (table method) disclosed in the patent. Accordingly, we reverse the ALJ's claim construction and find that the claim term "reading and assembling"

encompasses both the reverse-read and table methods.

Even though reliance may be placed on the written specification to provide guidance as to the meaning of claim terms when construing patent claims, a court may not read particular examples or embodiments discussed in the specification into the claims as limitations. *Markman*, 52 F.3d 967, 979 (Fed. Cir. 1995). The '424 patent describes two distinct embodiments, a reverse-read method and a table method. *See* '424 patent, col. 9, 1. 54 - col. 10, 1. 43; col. 10, ll.

44-59. As SanDisk notes, the reverse-read method "enables a controller to distinguish new data (stored in an update block) from old data (stored in an original block) by reading the pages of memory in the two blocks in the reverse of the order in which they were programmed." SanDisk Petition for Review at 47 (citing '424 patent, col. 9, 1. 54 - col. 10, 1. 43). The patent also describes a second embodiment, the table method, which "can be used . . . when the reverse page reading technique is not used." '424 patent, col. 10, 11. 54-55. SanDisk explains that under this method "the controller maintains a table that maps the correspondence between a given logical address and the physical address in the memory where the associated data is stored" and "when the host provides the controller with a particular logical address . . . the controller checks the table so (sic) see whether that logical address is associated with an update block, or only an original block." SanDisk Petition for Review at 48. If an updated block exists "then the controller will select the updated page and omit the original page." *Id.* In other words, under this technique, the controller does not read logical page address information from both the first and second plurality of pages.<sup>5</sup>

The claim term at issue specifically recites, "thereafter reading and assembling *data* from the first and second plurality of pages including, for pages having the same logical addresses, selecting the updated data from the pages most recently programmed and omitting use of the

<sup>&</sup>lt;sup>5</sup> We note that while the controller does not read logical page address information from both the first and second plurality of pages, the table is "constructed by reading the overhead data from each of the pages in blocks to which data of a common LBN [logical block number] has been written." '424 Patent, col. 10, ll. 51-53. The ALJ construed the claim term "logical page address" as requiring "a logical block number and a logical page offset." *See* Order No. 33 at 63-64.

original data from the pages earlier programmed" (emphasis added). The plain meaning of the claim indicates that "reading and assembling" pertains primarily to data, not to logical page addresses, and the specification provides two techniques that may be used to "read and assemble" the data. Nothing in the claim language or specification indicates or even suggests that "reading and assembling" should be limited to the reverse-read method, and Respondents do not point to any disclosure in the intrinsic evidence as supporting such a proposition. They merely rely on their proposed findings of fact, rebutted by SanDisk, for support. *See* Respondents Reply to Petitions for Review at 27 (citing RFF 4230-4233); *but see* CRRFF 4230A-E.

The doctrine of claim differentiation lends further support. Claim 22, which depends from claim 20, specifically recites "reading the first and second plurality of pages in an order that is reverse to an order in which they were programmed." That is, dependent claim 22 is drawn to the concern reverse-read method. As the Federal Circuit has explained, the presence of a specific limitation in a dependent claim raises a presumption that the limitation is not present in the independent claim. *Phillips*, 415 F.3d at 1315. We therefore find that the ALJ should not have limited the scope of claim 20 to the reverse-read method.

Finally, we find unpersuasive Respondents' contention that SanDisk did not raise the argument that the ALJ's claim construction fails to cover the table method until its petition for review. *See* Respondents' Submission in Response to the Commission's Notice of Review at 23. In discussing SanDisk's arguments, the ALJ stated that "SanDisk also counters Phison's attempt to limit claim 24 to a system that reads the logical page addresses stored in the superseded pages of an original block as an attempt to improperly limit the scope of the claim to a 'reverse read.'"

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ID at 78. The ALJ noted that "SanDisk argues that claims 20, 24 and 30 are not limited to the "reverse read" technique, based on the doctrine of claim differentiation." *Id.* In other words, the ALJ clearly considered this argument prior to issuing his ID. Because the ALJ's claim construction impermissibly excludes the table method as described in Figure 12 of the '424 patent from the scope of the claim, we reverse the ALJ's claim construction.

#### **IV. INFRINGEMENT ANALYSIS**

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#### A. Legal Standard

Maria Data.

#### 1. Direct Infringement

After construing the claims of the patent, a factual determination must be made as to whether the properly construed claims read on the accused devices. *Markman*, 52 F.3d at 976. Direct infringement of a method claim requires a party to perform each and every step of a claimed method. *Joy Techs., Inc. v. Flakt, Inc.,* 6 F.3d 770, 773 (Fed. Cir. 1993). In a section 337 investigation, the complainant bears the burden of proving infringement of the asserted patent claims by a "preponderance of the evidence." *Enercon GmbH v. Int'l Trade Comm'n,* 151 F.3d 1376 (Fed. Cir. 1998).

### 2. Indirect Infringement

Accused infringers may be liable for indirect infringement if they induce or contribute to infringement. "Indirect infringement, whether inducement to infringe or contributory infringement, can only arise in the presence of direct infringement." *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1272 (Fed. Cir. 2004).

Section 271(b) of the Patent Act states that "[w]hoever actively induces infringement of a patent shall be liable as an infringer," and the Federal Circuit has explained that

[t]o establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they "actively and knowingly aid [ed] and abett[ed] another's direct infringement." However, "knowledge of the acts alleged to constitute infringement" is not enough. The "mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven."

DSU Med. Corp. v. JMS Co., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (en banc) (citations omitted).

Under 35 U.S.C. § 271(c), a seller of a component of an infringing product can be held liable for contributory infringement if: (1) there has been an act of direct infringement by a third party; (2) the accused contributory infringer knows that the combination for which its component was made was both patented and infringing; and (3) there are no substantial non-infringing uses for the component part, *i.e.*, the component is not a "staple article" of commerce. *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1312 (Fed. Cir. 2005); *Certain Flash Memory Circuits and Products Containing Same*, Inv. No. 337-TA-382, Commission Opinion at 9-10 (July 1997).

# B. Infringement Analysis of Asserted Independent Claim 17

After construing the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" to mean "updating fewer than all the pages of a block within the metablock," the ALJ found that the accused Phison controllers did not infringe claim 17 exclusively because [

] ID at 47 (stating that "[t]here is no

disagreement among the parties that if the claim is interpreted in this manner [

] that Phison's controllers do not infringe."). As we discussed *supra* at III.B.1., the ALJ erred in his application of his construction of the claim term. The plain meaning of the claim term, in conjunction with the specification and case law, establishes that the claim covers single-page updates.

We find that the accused Phison controllers can be used to infringe method claim 17.<sup>6</sup> Experts for both SanDisk and Respondents testified that [

] Subramanian, Tr. 1208:18–1209:5 [

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] Rhyne, Tr. 416:2–417:2 [

SanDisk, however, does not argue that the accused Phison controllers directly infringe claim 17. Complainant SanDisk Corporation's Written Submission On The Issues Under Review at 6. Instead, SanDisk accuses Phison of indirectly infringing claim 17 because, allegedly, "Phison intends for its products to be used in a manner that includes single-page updates" and that "there is no substantial non-infringing use for those parts." *Id.* We disagree with SanDisk and affirm the ALJ's determination that SanDisk failed to prove by a preponderance of the evidence

<sup>&</sup>lt;sup>6</sup> Because we affirm the ALJ's finding of non-infringement on other grounds, we terminate the investigation without considering Respondents' [ ] (*see, e.g.*, Respondents Reply to SanDisk and Staff's Petition for Review at 14). *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (acknowledging that "[t]he Commission . . . is at perfect liberty to reach a "no violation" determination on a single dispositive issue.").

that the accused Phison controllers either contribute to or induce infringement of claim 17 of the '424 patent.

SanDisk asserted in its petition for review that upon finding that the accused products did not directly infringe the '424 patent, the ALJ "dismissed summarily the allegations of indirect infringement" and by so doing committed "fundamental errors of law and fact with respect to both contributory infringement and inducement to infringe." SanDisk Petition for Review at 56, 63. We find SanDisk's assertion unpersuasive. Rather, even after concluding that the accused products did not directly infringe, the ALJ considered the other factors necessary to prove indirect infringement and found that SanDisk had failed to present enough evidence to sustain its allegations. *See* ID at 90-95.

With respect to contributory infringement, the record evidence supports the ALJ's finding that the accused Phison controllers do not contribute to infringement of the '424 patent. In particular, the undisputed evidence of record shows that the ALJ did not err in finding that the accused products have substantial non-infringing uses. ID at 94. Indeed, experts for both SanDisk and Respondents acknowledged the existence of substantial non-infringing uses. Subramanian, Tr. 1206: 18-1207:6 (testifying that "there are some usages of flash systems where we don't rewrite to them, for example, for handing out books on flash. . . . And it turns out that's getting more common because there are many examples today of flash being used as a distribution-only medium.); Rhyne, Tr. 427:14-22 (stating that the only non-infringing use of the accused products "would be if you used them as essentially a memory that once you had stored

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data in it, you never did an update . . . . ").<sup>7</sup> We find no error in the ALJ's conclusion that the record evidence established the presence of substantial non-infringing uses, and hence we affirm his determination that SanDisk failed to establish, by a preponderance of the evidence, contributory infringement.

Concerning inducement to infringe, the ALJ correctly found that "SanDisk failed to establish that Respondents knowingly induced infringement or possessed specific intent to encourage another's infringement, and thus the evidence falls short of the necessary intent required for induced infringement." ID at 92-93. "Inducement requires evidence of culpable conduct, directed to encouraging another's infringement, not merely that the inducer had knowledge of the direct infringer's activities." *DSU*, 471 F.3d at 1306. We find that the ALJ correctly found SanDisk's circumstantial evidence of inducement insufficient. ID at 92-93. The circumstantial evidence presented by SanDisk was the fact that Respondents [

] *Id.* The Federal

Circuit found such evidence to be insufficient in *Kyocera Wireless Corp. v. International Trade Commission*, 545 F.3d 1340,1353 (Fed. Cir. Oct. 14, 2008). There, the Federal Circuit stated that

> the ITC's conclusion that "Qualcomm [the accused infringer] intends to induce infringement because it provides its customers with the system determination code" evinces, at most, a finding that Qualcomm generally intended to cause acts that produced infringement. Thus, the current record falls short of the necessary

<sup>&</sup>lt;sup>7</sup> Dr. Rhyne's testimony specifically concerns asserted claims 24 and 30 of the '424 patent. The testimony, however, is also relevant to asserted claim 17 of the '424 patent.

intent showing for inducement – that Qualcomm possessed a specific intent to cause infringement of Broadcom's patent.

545 F.3d at 1354. We note that the evidence SanDisk relies on in this investigation is no more probative of inducement than the evidence that was found insufficient in *Kyocera*. As in *Kyocera*, SanDisk failed to show that Respondents possessed a specific intent to cause infringement of the '424 patent. Accordingly, we affirm the ALJ's determination that SanDisk failed to prove indirect infringement.

#### C. Infringement Analysis of Asserted Dependent Claims 24 and 30

As discussed above, we have construed the claim term "reading and assembling" to include the so-called "table method." However, we affirm the ALJ's construction and application of the other terms in the claim. *See generally* Order No. 33 at 61-65. Consequently, the only accused product that would be implicated by our decision to modify the ALJ's construction of "reading and assembling" to cover the table method is [\_\_\_\_\_] because the ALJ's construction of the claim term provided the only basis for his finding of no direct infringement with respect to that controller. *See* ID at 49-50, 56-57, 69-73, 80. *See also* Complainant SanDisk Corporation's Written Submission On The Issues Under Review at 9-10. Specifically, the ALJ found that [

] ID at 80. We note that the ALJ properly found that the other accused controllers did not infringe due in part to his construction of other terms in the asserted claims and his finding that the other accused products did not practice those other claim terms. *See* ID at 57-60, 67-73, 80-85.

Although we construe the claim term "reading and assembling" to encompass the table method, SanDisk must still prove that [ ] infringes the claim term when construed to cover the table method.<sup>8</sup> SanDisk has failed to do so. SanDisk argues that "under the table method, the controller does not read logical page address information from the pages at all. Rather, it relies on the logical page address information in the table during the reading and assembling step." SanDisk's Petition for Review at 48 (emphasis omitted). Nothing in the record evidence, however, [

] Indeed

SanDisk's own theory of infringement [

] SanDisk's Initial Post-Hearing Brief

] involves [

at 88. SanDisk argues that [

] (CFF

32.14)" and that [

] (CFF 32.15)." *Id.*; see also,

Respondents' Submission In Response To The Commission's Notice Of Review. That is, SanDisk's theory of infringement requires [

] which SanDisk has admitted does not occur under the table method. Thus, SanDisk has failed to prove that the [ ] practices the claim.

<sup>&</sup>lt;sup>8</sup> The ALJ did not consider whether the accused products practiced the table method because of his finding that the table method was outside the scope of the claim term.

In addition, we affirm the ALJ's finding of no infringement because SanDisk failed to prove that the accused products, including the Phison CF/SSD controller, indirectly infringe claims 24 and 30 of the '424 patent. ID at 90-94. The ALJ correctly noted that the

> asserted claims [of the '424 patent] are all "method of use" claims where the accused flash memory system and controllers themselves do not infringe. Because the accused systems must be operated in a particular manner in order to infringe these claims, liability as to the Respondents can only be based on induced or contributory infringement.

ID at 95. Our discussion of no indirect infringement, supra at IV.B.2, applies here as well.

#### **V. Sinclair PCT Publication**

During the investigation, Respondents argued that U.S. Patent No. 6,725,321 ("the '321 patent") to Alan Welsh Sinclair *et al.* and its corresponding Patent Cooperation Treaty ("PCT") publication, WO 00/49488 ("the Sinclair PCT publication") invalidated claim 17 of the '424 patent. *See* ID at 106. The Sinclair '321 patent, which issued on April 20, 2004, has an effective filing date under 35 U.S.C. § 102(e)<sup>9</sup> of March 5, 2001. *Id.* at 108. This date is after the January 19, 2001, filing date of the '424 patent and therefore the ALJ correctly found that the '321 patent does not qualify as prior art to the '424 patent. *Id.* The '321 patent, however, includes a reference to the Sinclair PCT publication on its cover page. The Sinclair PCT publication was published on

<sup>&</sup>lt;sup>9</sup> 35 U.S.C. § 102(e) states that a person shall not be entitled to a patent unless the invention was described in — (1) an application for patent published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States and was published under Article 21(2) of such treaty in the English language.

August 4, 2000, and therefore is prior art to the '424 patent under § 102(a).<sup>10</sup> ID at 108. Although respondents listed the '321 patent on their notices of prior art, they failed to list the Sinclair PCT publication, and none of the other parties listed the Sinclair PCT publication. *Id.* The ALJ ruled that because the Sinclair PCT publication was not listed in any notice of prior art, pursuant to Ground Rule 5,<sup>11</sup> it was excluded from the investigation. *Id. See also* Pre-Hearing Tr. 26:6-8. The ALJ acknowledged that "[h]ad one of the parties listed the Sinclair PCT application on the notice of prior art, there would be no dispute that the Sinclair PCT application would be considered prior art to the '424 patent." *Id.* 

In our notice of review we stated that we would review the ALJ's decision not to consider the Sinclair PCT publication as evidence of prior art to claim 17 of the '424 patent and asked the parties to submit written responses to several questions. 74 *Fed. Reg.* 44382 (Aug. 28, 2009). Generally, an ALJ has discretion to establish and enforce ground rules for the proper administration of an investigation. *See* Administrative Procedure Act, 5 U.S.C. § 556(c). We acknowledge that the publication was not submitted in accordance with Judge Bullock's ground rules in that Respondents failed to list it in their notices of prior art, and we find no abuse of discretion in his ruling to exclude it from the investigation. However, because we find no

<sup>&</sup>lt;sup>10</sup> 35 U.S.C. § 102(a) states that "a person shall be entitled to a patent unless . . . the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent."

<sup>&</sup>lt;sup>11</sup> Ground Rule No. 5 states that the parties "must file on or before the date set in the procedural schedule, notices of any prior art consisting of the following information: country, number, date, and name of the patentee of any patent; the title, date and page numbers of any publication to be relied upon as anticipation of the patent in suit; or as showing the state of the art ... " Order No. 2 at 9. The ground rule adds that "in the absence of such notice, proof of the said matters may not be introduced into evidence at the trial except upon a timely written motion showing good cause." *Id.* at 10.

#### **PUBLIC VERSION**

infringement of the '424 patent, we decline to reach the issue of invalidity. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984) (acknowledging that "[t]he Commission . . . is at perfect liberty to reach a "no violation" determination on a single dispositive issue.").

## VI. CONCLUSION

For the reasons discussed herein, the Commission affirms the ID's determination of no violation of section 337. Specifically, we affirm the ID's finding that Complainant has failed to prove that Respondents indirectly infringe asserted claims 17, 24 and 30 of the '424 patent. The Commission affirms the ID's construction of the claim term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" in claim 17 of the '424 patent to mean "updating fewer than all the pages of a block within the metablock," but reverses the ID's application of the claim construction to exclude single-page updates. The Commission also finds that the ID impermissibly limited the "reading and assembling" claim term of independent claim 20, from which asserted claims 24 and 30 depend, to the so-called "reverse-read method." The ID should have construed the claim term to cover the so-called table method as well. Finally, because we find no section 337 violation due to SanDisk's failure to prove that Respondents indirectly infringe the asserted claims of the '424 patent, we do not reach the issue of whether the ALJ should have considered the Sinclair PCT publication as evidence of prior art to claim 17 of the '424 patent.

By order of the Commission.

William R. Bishop

Acting Secretary to the Commission

Issued: November 24, 2009

# CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, 337-TA-619 MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME

## **CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **COMMISSION OPINION** has been served by hand upon the Commission Investigative Attorney, Christopher G. Paulraj, Esq., and the following parties as indicated, on

November 24, 2009

Marilyn R. Abbott, Secretary U.S. International Trade Commission 500 E Street, SW Washington, DC 20436

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# PUBLIC VERSION

# UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS AND MEDIA PLAYERS, AND PRODUCTS CONTAINING SAME

Inv. No. 337-TA-619

# INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Charles E. Bullock

(April 10, 2009)

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# LIST OF ABBREVIATIONS

<b></b>	Γ			
CDX	Complainant's demonstrative exhibit			
CFF	Complainant's proposed findings of fact			
СІВ	Complainant's initial post-hearing brief			
CORFF	Complainant's objections to Respondents' proposed findings of fact			
COSFF	Complainant's objections to Staff's proposed findings of fact			
СРХ	Complainant's physical exhibit			
CRB	Complainant's reply post-hearing brief			
СХ	Complainant's exhibit			
Dep	Deposition			
IIB	Imation's initial post-hearing brief			
IRB	Imation's reply post-hearing brief			
JX	Joint Exhibit			
RDX	Respondents' demonstrative exhibit			
RFF	Respondents' proposed findings of fact			
RIB	Respondents' initial post-hearing brief			
ROCFF	Respondents' objections to Complainant's proposed findings of fact			
ROSFF	Respondents' objections to Staff's proposed findings of fact			
RPX	Respondents' physical exhibit			
RRB	Respondents' reply post-hearing brief			
RX	Respondents' exhibit			
SFF	Staff's proposed findings of fact			
SIB	Staff's initial post-hearing brief			
SOCFF	Staff's objections to Complainant's proposed findings of fact			
SORFF	Staff's objections to Respondents' proposed findings of fact			
SRB	Staff's reply post-hearing brief			
Tr.	Transcript			
Tr.	Transcript			

#### **PUBLIC VERSION**

#### UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

#### In the Matter of

# CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS AND MEDIA PLAYERS, AND PRODUCTS CONTAINING SAME

Inv. No. 337-TA-619

# INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Charles E. Bullock

(April 10, 2009)

Pursuant to the Notice of Investigation and Rule 210.42(a) of the Rules of Practice and Procedure of the United States International Trade Commission, this is the Administrative Law Judge's Initial Determination in the matter of certain flash memory controllers, drives, memory cards and media players, and products containing same, Investigation No. 337-TA-619.

The Administrative Law Judge hereby determines that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain flash memory controllers, drives, memory cards, and media players and products containing same, in connection with claims 17, 24, and 30 of U.S. Patent No. 6,763,424 and claim 8 of U.S. Patent No. 7,137,011. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States exists that practices U.S. Patent Nos. 6,763,424 and 7,137,011.

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#### DISCUSSION

#### I. Introduction

## A. Procedural History

This investigation was instituted by the Commission on December 6, 2007 and the notice of investigation was published in the Federal Register on December 12, 2007.<sup>1</sup> The Administrative Law Judge set a fifteen-month target date of March 12, 2009 for completion of this investigation by the Commission in Order No. 2.<sup>2</sup>

On January 4, 2008 certain Respondents filed a motion for a modification of the target date from fifteen months to eighteen months based on a request for a *Markman* hearing. The undersigned determined that a *Markman* hearing would be beneficial to this investigation and the motion was granted by initial determination in Order No. 6, extending the target date to eighteen months or June 12, 2009.<sup>3</sup> The Commission issued a notice of determination not to review this initial determination on February 8, 2008.

On February 1, 2008, the undersigned issued the procedural schedule in this investigation.<sup>4</sup> This procedural scheduled was modified on July 15, 2008<sup>5</sup> and September 22, 2008.<sup>6</sup>

On January 7, 2008, SanDisk and Respondent Kaser Corporation, filed a joint motion to terminate the investigation as to Kaser based upon a settlement agreement and consent order. On February 13, 2008, the undersigned issued an initial determination granting the joint motion and

- <sup>3</sup> See Order No. 6 (January 23, 2008).
- <sup>4</sup> See Order No. 8 (February 1, 2008).
- <sup>5</sup> See Order No. 34 (July 15, 2008).
- <sup>6</sup> See Order No. 41 (September 22, 2008).

<sup>&</sup>lt;sup>1</sup> See 72 Fed. Reg. 70,610.

<sup>&</sup>lt;sup>2</sup> See Order No. 2 (December 13, 2007).

terminated Kaser from the investigation.<sup>7</sup> On March 5, 2008, the Commission issued a notice of determination not to review this initial determination.

On January 10, 2008, SanDisk and Respondent PNY Technologies, Inc. filed a joint motion to terminate the investigation as to PNY based upon a settlement agreement and consent order. On February 13, 2008, the undersigned issued an initial determination granting the joint motion and terminated PNY from the investigation.<sup>8</sup> On March 5, 2008, the Commission issued a notice of determination not to review this initial determination.

On January 7, 2008, SanDisk and Respondent TSR Silicon Resources Inc. filed a joint motion to terminate the investigation as to TSR based upon a settlement agreement and consent order. On February 13, 2008, the undersigned issued an initial determination granting the joint motion and terminated TSR from the investigation.<sup>9</sup> On March 5, 2008, the Commission issued a notice of determination not to review this initial determination.

On January 22, 2008, SanDisk and Respondent Infotech Logistic, LLC filed a joint motion to terminate the investigation as to Infotech based upon a settlement agreement. On February 13, 2008, the undersigned issued an initial determination granting the joint motion and terminated Infotech from the investigation.<sup>10</sup> On March 7, 2008, the Commission issued a notice of determination not to review this initial determination.

On January 22, 2008, SanDisk and Respondent Interactive Media Corporation filed a joint motion to terminate the investigation as to Interactive based upon a settlement agreement. On

<sup>&</sup>lt;sup>7</sup> See Order No. 9 (February 13, 2008).

<sup>&</sup>lt;sup>8</sup> See Order No. 10 (February 13, 2008).

<sup>&</sup>lt;sup>9</sup> See Order No. 11 (February 13, 2008).

<sup>&</sup>lt;sup>10</sup> See Order No. 12 (February 13, 2008).

February 13, 2008, the undersigned issued an initial determination granting the joint motion and terminated Interactive from the investigation.<sup>11</sup> On March 7, 2008, the Commission issued a notice of determination not to review this initial determination.

On January 22, 2008, SanDisk and Respondent Edge Tech Corporation filed a joint motion to terminate the investigation as to Edge Tech based upon a settlement agreement. On February 13, 2008, the undersigned issued an initial determination granting the joint motion and terminated Edge Tech from the investigation.<sup>12</sup> On March 7, 2008, the Commission issued a notice of determination not to review this initial determination.

On January 30, 2008, SanDisk and Respondents Add-On Computer Peripherals, Inc. and Add-On Computer Peripherals, LLC filed a joint motion to terminate the investigation as to Add-On based upon a settlement agreement. On February 13, 2008, the undersigned issued an initial determination granting the joint motion and terminated Add-On from the investigation.<sup>13</sup> On March 7, 2008, the Commission issued a notice of determination not to review this initial determination.

On February 4, 2008, SanDisk and Respondent Welldone Company filed a joint motion to terminate the investigation as to Welldone based upon a settlement agreement. On February 19, 2008, the undersigned issued an initial determination granting the joint motion and terminated Welldone from the investigation.<sup>14</sup> On March 7, 2008, the Commission issued a notice of determination not to review this initial determination.

On February 6, 2008, Respondent USBest Technology Inc. filed a motion to amend the notice

<sup>&</sup>lt;sup>11</sup> See Order No. 13 (February 13, 2008).

<sup>&</sup>lt;sup>12</sup> See Order No. 14 (February 13, 2008).

<sup>&</sup>lt;sup>13</sup> See Order No. 15 (February 13, 2008).

<sup>&</sup>lt;sup>14</sup> See Order No. 16 (February 19, 2008).

of investigation to reflect a corporate name change from USBest Technology Inc to AFA Technologies, Inc.. On February 27, 2008, the undersigned issued an initial determination granting the motion.<sup>15</sup> On March 14, 2008, the Commission issued a notice of determination not to review this initial determination.

On February 5, 2008, SanDisk and Respondents Melco Holdings, Inc., Buffalo Inc., and Buffalo Technology (USA) Inc. filed a joint motion to terminate the investigation as to these respondents based upon a consent order. On February 27, 2008, the undersigned issued an initial determination granting the joint motion and terminated these three respondents from the investigation.<sup>16</sup> On March 25, 2008, the Commission issued a notice of determination not to review this initial determination.

On February 19, 2008, Respondents Imation Corporation, Imation Enterprises Corporation, and Memorex Products, Inc. filed a motion to stay the investigation based upon the pending Supreme Court decision in *Quanta Computer, Inc. et al. v. LG Electronics, Inc.*<sup>17</sup> The undersigned denied this motion on March 12, 2008.<sup>18</sup>

On February 15, 2008, Respondents Phison Electronics Corp., Kingston Technology Co., Kingston Technology Corp., MemoSun, Inc., and Payton Technology Corp. filed a motion to terminate this investigation as to U.S. Patent No. 5.719,808 for good cause, or alternatively, to stay the investigation as to this patent. On March 12, 2008, the undersigned issued an order denying the motion to terminate, but granting the motion to stay the investigation as to the '808 patent. In

<sup>&</sup>lt;sup>15</sup> See Order No. 18 (February 27, 2008).

<sup>&</sup>lt;sup>16</sup> See Order No. 19 (February 27, 2008).

<sup>&</sup>lt;sup>17</sup> Quanta Computer, Inc. et al. v. LG Electronics, Inc., – U.S. – , 128 S.Ct. 2109 (2008) ("Quanta").

<sup>&</sup>lt;sup>18</sup> See Order No. 21 (March 12, 2008).

addition, the undersigned issued an initial determination that bifurcated the investigation and extended the target date as to the '808 patent.<sup>19</sup> On April 11, 2008, the Commission issued a notice of determination to review this initial determination. On April 24, 2008, SanDisk filed a motion to terminate the investigation as to the '808 patent. On May 6, 2008, the undersigned issued an initial determination granting the motion to terminate the '808 patent from the investigation.<sup>20</sup> On May 30, 2008, the Commission issued a notice of determination not to review the initial determination granting the motion to terminate the '808 patent, and vacated Order No. 22.

On February 27, 2008, SanDisk filed a motion for an order to show cause and default judgment against Respondents Zotek Electronic Co. (d/b/a Zodata Technology Limited) ("Zotek"); Add-On Technology Co. ("Add-On"); Behavior Tech Computer Corp. ("BTC"); Behavior Tech Computer (USA) Corp. (d/b/a BTC USA); and Emprex Technologies Corp. ("Emprex"), based on the respondents' failure to respond to the Complaint and Notice of Investigation. On March 12, 2008, the undersigned issued an order granting the motion for an order to show cause.<sup>21</sup> Upon failure of these respondents to answer the show cause order, the undersigned issued an initial determination granting the motion for an entry of default against these five respondents.<sup>22</sup> On May 14, 2008, the Commission issued a notice of determination not to review this initial determination.

On March 6, 2008, SanDisk filed a motion to amend the notice of investigation to correct the names of certain respondents. Specifically, SanDisk moved to change the name of "Chipsbank Technology (Shenzhen) Co., Ltd." to "Chipsbank Technologies (Shenzhen) Co., Ltd."; "Chipsbank

<sup>&</sup>lt;sup>19</sup> See Order No. 22 (March 12, 2008).

<sup>&</sup>lt;sup>20</sup> See Order No. 31 (May 6, 2008).

<sup>&</sup>lt;sup>21</sup> See Order No. 24 (March 12, 2008).

<sup>&</sup>lt;sup>22</sup> See Order No. 28 (April 25, 2008).

Microelectronics Co., Ltd." to "Shenzhen Chipsbank Microelectronics Co., Ltd."; and "Dane-Elec Memory S.A. " to "Dane Memory S.A., d/b/a Dane-Elec Memory S.A." On March 12, 2008, the undersigned issued an initial determination granting the motion.<sup>23</sup> On March 28, 2008, the Commission issued a notice of determination not to review this initial determination.

On April 10, 2008, SanDisk filed a motion to terminate Respondent Acer, Inc. from the investigation based upon a withdrawal of allegations from the Complaint. On April 28, 2008, the undersigned issued an initial determination granting the motion to terminate Acer from the investigation.<sup>24</sup> On May 20, 2008, the Commission issued a notice of determination not to review this initial determination.

On April 10, 2008, SanDisk filed a motion to amend the Complaint to correct several inadvertent omissions, including: amending Confidential Exhibit 110 and Appendix L to add three confidential third-party license agreements, as required by 19 C.F.R. § 210.12(c)(1), as well as a fourth confidential third-party license agreement that was executed on December 5, 2007, the day before the investigation was instituted; and to amend Section IX to add references to three additional related litigations. On April 28, 2008, the undersigned issued an order granting the motion.<sup>25</sup>

A *Markman* hearing was held on May 6-7, 2008. On July 15, 2008, the undersigned issued Order No. 33: Order Construing the Terms of the Asserted Claims of the Patents at Issue.<sup>26</sup> As stated in that order, all briefing in this investigation is governed by the claim construction order and "*[a]ll* other claim terms shall be deemed as undisputed and shall be interpreted by the undersigned in

<sup>&</sup>lt;sup>23</sup> See Order No. 25 (March 12, 2008).

<sup>&</sup>lt;sup>24</sup> See Order No. 29 (April 28, 2008).

<sup>&</sup>lt;sup>25</sup> See Order No. 30 (April 28, 2008).

<sup>&</sup>lt;sup>26</sup> See Order No. 33 (July 15, 2008).

accordance with 'their ordinary meaning as viewed by one of ordinary skill in the art.'<sup>27</sup> On August 26, 2008, the undersigned issued a notice of errata regarding Order No. 33, replacing pages 61 and 63. Order No. 33, and the errata thereto, is hereby incorporated by reference into this Initial Determination.

On July 14, 2008, SanDisk filed a motion to terminate Respondent Payton Technology Corporation from the investigation based upon a withdrawal of allegations from the Complaint. On July 29, 2008, the undersigned issued an initial determination granting the motion to terminate Payton from the investigation.<sup>28</sup> On August 20, 2008, the Commission issued a notice of determination not to review this initial determination.

On August 7, 2008, SanDisk filed a motion for partial termination of the investigation with respect to U.S. Patent No. 6,947,332. On August 27, 2008, the undersigned issued an initial determination granting the motion and terminated the '332 patent from the investigation. See Order No. 37 (August 27, 2008). On September 15, 2008, the Commission issued a notice of determination not to review this initial determination.

On July 31, 2008, SanDisk filed a motion for leave to amend its complaint to: (1) add Verbatim Americas, LLC ("Verbatim Americas") as a respondent to reflect existing Respondent Verbatim Corporation's corporate restructuring; (2) add Zhubai Chipsbank Microelectronics Co., Ltd. and Chipsbrand Technologies (HK) Co., Ltd., both of whom are wholly-owned subsidiaries of existing Respondent Chipsbank Technologies (Shenzhen) Co., Ltd., as respondents; (3) clarify that claims 12, 14, 17 and 58 of U.S. Patent No. 6,426,893 are being asserted against existing Respondent

<sup>&</sup>lt;sup>27</sup> See Order No. 33, p. 9 (July 15, 2008) (emphasis in original).

<sup>&</sup>lt;sup>28</sup> See Order No. 35 (July 29, 2008).

Afa Technologies, Inc.; (4) assert claim 8 of U.S. Patent No. 7,137,011 against existing Respondents Transcend Information, Inc. (Taiwan), Transcend Information, Inc. (California), and Transcend Information Maryland, Inc.; and (5) assert claims 24 and 30 of U.S. Patent No. 6,763,424 against existing Respondent Chipsbank Technologies (Shenzhen) Co., Ltd. and proposed respondents Zhubai Chipsbank Microelectronics Co., Ltd. and Chipsbrand Technologies (HK) Co. On September 12, 2008, the undersigned issued an initial determination granting in part and denying in part SanDisk's motion. Specifically, the undersigned granted SanDisk's motion to amend with respect to (1) and (2) above; found that the motion was moot with respect to (3) and (5) above; and denied the motion with respect to (4) above.<sup>29</sup> On October 6, 2008, the Commission issued a notice of determination not to review this initial determination.

On September 4, 2008, Respondent Corsair Memory, Inc. filed a motion to terminate the investigation as to Corsair based upon a consent order. On September 22, 2008, the undersigned issued an initial determination granting the motion and terminated Corsair from the investigation.<sup>30</sup> On October 20, 2008, the Commission issued a notice of determination not to review this initial determination.

On September 4, 2008, SanDisk filed a motion for summary determination that it has satisfied the economic prong of the domestic industry requirement with respect to U.S. Patent Nos. 6,426,893; 6,763,424; and 7,137,011. On October 2, 2008, the undersigned issued an initial determination granting the motion.<sup>31</sup> On October 23, 2008, the Commission issued a notice of determination not to review this initial determination.

<sup>&</sup>lt;sup>29</sup> See Order No. 40 (September 12, 2008).

<sup>&</sup>lt;sup>30</sup> See Order No. 42 (September 22, 2008).

<sup>&</sup>lt;sup>31</sup> See Order No. 46 (October 2, 2008).

On September 18, 2008, SanDisk filed a motion to terminate Respondents Silicon Motion Technology Corp. and Silicon Motion International, Inc.<sup>32</sup> from the investigation based upon a withdrawal of allegations from the Complaint. On October 2, 2008, the undersigned issued an initial determination granting the motion to terminate these two respondents from the investigation.<sup>33</sup> On October 24, 2008, the Commission issued a notice of determination not to review this initial determination.

On September 23, 2008, SanDisk filed a motion to terminate certain claims of U.S. Patent No. 6.425,893. On October 7, 2008, the undersigned issued an initial determination granting the motion.<sup>34</sup> On October 24, 2008, the Commission issued a notice of determination not to review this initial determination.

On October 6, 2008, SanDisk and Respondents A-DATA Technology Co., Ltd. and A-DATA Technology (USA) Co., Ltd. filed a motion to terminate the investigation as to A-DATA based upon a consent order. On October 21, 2008, the undersigned issued an initial determination granting the motion and terminated A-DATA from the investigation.<sup>35</sup> On November 12, 2008, the Commission issued a notice of determination not to review this initial determination.

On October 14, 2008, SanDisk filed a motion to: (1) terminate the investigation as to Respondent AFA Technologies, Inc. ("AFA") and Respondents Chipsbrand Microelectronics (HK) Co., Ltd., Chipsbank Technologies (Shenzhen) Co., Ltd., Shenzhen Chipsbank Microelectronics Co., Ltd., Zhuhai Chipsbank Microelectronics Co., Ltd. and Chipsbrand Technologies (HK) Co., Ltd.

<sup>&</sup>lt;sup>32</sup> The motion makes clear, however, that SanDisk is not withdrawing any allegations against Silicon Motion, Inc. (a Taiwan corporation), and Silicon Motion, Inc.

<sup>&</sup>lt;sup>33</sup> See Order No. 47 (October 2, 2008).

<sup>&</sup>lt;sup>34</sup> See Order No. 48 (October 7, 2008).

<sup>&</sup>lt;sup>35</sup> See Order No. 52 (October 21, 2008).

based on settlement agreements; (2) terminate the investigation as to U.S. Patent No. 6,426,893 in light of the certain respondents' decision to stop importing the products accused of infringing that patent into the United States; and (3) terminate U.S. Patent No. 7,137,011 and the '893 patent with respect to Respondent Power Quotient International (HK) Co. Ltd., Syscom Development Co. Ltd., and PQI Corporation based upon a consent order. On October 28, 2008, the undersigned issued an initial determination granting the motion.<sup>36</sup> On October 30, 2008, the undersigned issued a notice of errata to Order No. 53, correcting one of the attached consent orders. On November 18, 2008, the Commission issued a notice of determination not to review this initial determination.

On October 29, 2008, SanDisk and Respondent Verbatim Americas LLC and Verbatim Corporation (collectively "Verbatim"), filed a motion to terminate the investigation as to Verbatim based upon a settlement agreement. On November 14, 2008, the undersigned issued an initial determination granting the motion and terminated A-DATA from the investigation.<sup>37</sup> On December 8, 2008, the Commission issued a notice of determination not to review this initial determination.

On November 10, 2008, SanDisk filed a motion to admit additional exhibits into evidence. On November 18, 2008, SanDisk and the K&L Gates' respondents filed a joint motion to correct typographical errors and omissions in the hearing transcript. On November 21, 2008, the undersigned issued an order granting the motion.<sup>38</sup> On December 2, 2008, an errata was issued regarding Order No. 55.<sup>39</sup>

<sup>&</sup>lt;sup>36</sup> See Order No. 53 (October 28, 2008).

<sup>&</sup>lt;sup>37</sup> See Order No. 54 (November 14, 2008).

<sup>&</sup>lt;sup>38</sup> See Order No. 55 (November 21, 2008).

<sup>&</sup>lt;sup>39</sup> See Notice (December 2, 2008).

The parties have stipulated as to certain material facts.<sup>40</sup> Particular stipulated facts that are relevant to this Initial Determination are cited accordingly.

An evidentiary hearing on liability was conducted before the undersigned from October 27, 2008 through November 5, 2008. In support of its case-in-chief and rebuttal case, Complainant called the following witnesses:

- Dr. Paul Min (SanDisk's expert on the '011 patent)<sup>41</sup>;
- Dr. Thomas Rhyne (SanDisk's expert on the '424 patent)<sup>42</sup>;
- Dr. Eliyahou Harari (SanDisk's CEO & Chairman of the Board of Directors);<sup>43</sup>
- Dr. Jerry Hausman (SanDisk's expert on patent misuse).<sup>44</sup>

In support of its case-in-chief and rebuttal case, Respondents called the following witnesses:

- Ellis Lee (Senior Manager at Phison)<sup>45</sup>;
- Darwin Chen (Kingston's VP of Sales & Marketing)<sup>46</sup>;
- C.Y. Chang (Senior Engineer at Skymedi)<sup>47</sup>;
- V. Nyles Kynett (Silicon Motion's expert)<sup>48</sup>;
- Dr. Vivek Subramanian (Respondents' expert on the '424 patent)<sup>49</sup>;
- Dr. Melvin Ray Mercer (Respondents' expert on the '424 patent);<sup>50</sup> and
- Dr. Russell W. Mangum (Respondents' expert on patent misuse).<sup>51</sup>

In addition, witness statements and deposition designations were received into evidence without any

- <sup>43</sup> CRX-185C, CRX-220C (Harari Rebuttal).
- <sup>44</sup> CRX-221C (Hausman Rebuttal).
- <sup>45</sup> RX-936C (Lee Direct).
- <sup>46</sup> RX-941C (Chen Direct).
- <sup>47</sup> RRX-33C (Chang Rebuttal).
- <sup>48</sup> RX-937C (Kynett Direct).
- <sup>49</sup> RRX-018C (Subramanian Direct).

<sup>&</sup>lt;sup>40</sup> See JX-64 (Skymedi Stipulation), JX-167 through JX-172.

<sup>&</sup>lt;sup>41</sup> CX-1007C (Min Direct); CRX-223C (Min Rebuttal).

<sup>&</sup>lt;sup>42</sup> CX-1008C (Rhyne Direct); CRX-225C (Rhyne Rebuttal).

<sup>&</sup>lt;sup>50</sup>; RX-318C (Mercer Direct); RRX-34C (Mercer Rebuttal Non-Infringement); RRX-36C (Mercer Rebuttal).

<sup>&</sup>lt;sup>51</sup> RX-938C (Mangum Direct).

live testimony.<sup>52</sup>

Witness	Position	Exhibit Number
Kevin Conley	VP of SanDisk	CRX-219C (Conley Direct); JX-132C (Conley Dep)
Earle Thompson	VP and Chief Intellectual Property Counsel of SanDisk	CRX-226C (Thompson Witness Statement)
Gerald Parsons	SanDisk's patent prosecution attorney	JX-118C (Parsons Dep)
Richard Chernicoff	Senior Vice President of Corporate Development at SanDisk	JX-146C (Chernicoff Dep)
J.Y. Yang	Chief Engineer at Phison	RRX-017 (Yang Direct)
Chi-Heng Chiu aka Frankie Chiu	Transcend's VP for Research and Development	RX-990C (Chiu Direct); RRX- 10C (Chiu Rebuttal); JX-117C (Chiu Dep)
Jason Chien	Silicon Motion's Project Manager in the Product Marketing Department	RX-995C (Chien Direct); RRX- 12C (Chien Rebuttal); JX-125C (Chien Dep)
James Lee	Manager at Silicon Motion	RRX-11 (J. Lee Rebuttal); JX- 124C (J. Lee Dep)
Chia Kyun Chang	Apacer's Associate Vice President	RRX-13C (C.K. Chang Rebuttal); JX-102C (Chang Dep)
O-byoung Kang	LGE's Group Leader and Principal Research Engineer for the IT Media Group in the Cheongju RMC Division	RX-998C (Kang Direct); RRX- 14C (Kang Rebuttal); JX-101C (Kang Dep)
Scott Hsaio	Senior Manager of the quality assurance department at Silicon Motion	JX-153C (Hsaio Dep)
Nigel Doong	Assistant Manager at Silicon Motion	JX-141C (Doong Dep)

<sup>52</sup> The following witness statements and deposition designations were received into evidence:

After the hearing, post-hearing briefs and reply briefs, together with proposed findings of fact, conclusions of law and rebuttals to the same, were filed on November 25, 2008 and December 16, 2008, respectively.

On November 26, 2008, Staff filed an unopposed motion for leave to accept the late filing of its proposed findings of fact and conclusions of law, which is hereby granted.

#### **B.** The Parties

#### 1. Complainant

Complainant SanDisk Corporation is a Delaware corporation with its principal place of business in Milpitas, California.

## 2. Respondents

#### a. Controller-Level Respondents

Controller-level Respondents are respondents that manufacture Flash memory controllers.

#### (1) Phison

Phison is a company organized under the laws of the Republic of China (Taiwan) with its principal place of business in Hsinchu, Taiwan.

## (2) Silicon Motion

Silicon Motion (Taiwan) is a company organized under the laws of the Republic of China (Taiwan) with its principal place of business in Jhubei City, Taiwan. Silicon Motion (Taiwan) was formerly known as Feiya Technology Corporation. Silicon Motion (Taiwan) is a wholly-owned subsidiary of Silicon Motion Technology Corporation.

Silicon Motion Inc. (USA) is a California corporation with its principal place of business in Milpitas, California. Silicon Motion Inc. (USA) is a wholly-owned subsidiary of Silicon Motion Inc.

(Taiwan).

Silicon Motion (Taiwan) and Silicon Motion Inc. (USA) are related companies that operate together at "Silicon Motion" and will hereinafter be referred to together as "SMI."

## (3) Skymedi

Skymedi is a company organized under the laws of the Republic of China (Taiwan) with its principal place of business in Hsinchu, Taiwan.

# b. System-Level Respondents

System-level Respondents are respondents that purchase controllers from the Controller-level Respondents and incorporate those controllers into Flash memory devices (systems).

# (1) **PQI**

Power Quotient International Co., Ltd. is a limited company organized under the laws of the Republic of China (Taiwan) with its principal place of business in Chung Ho City, Taipei, Taiwan.

Power Quotient International (HK) Co., Ltd. is a limited company organized under the laws of the People's Republic of China (Hong Kong) with its principal place of business in Kowloon Bay, Hong Kong. Power Quotient International (HK) Co., Ltd. is a wholly-owned subsidiary of Power Quotient International Co., Ltd.

Syscom Development Co., Ltd. is a limited company organized under the laws of the British Virgin Islands with its principal place of business in Road Town, Tortola, British Virgin Islands. Syscom Development Co., Ltd. is a wholly-owned subsidiary of Power Quotient International Co., Ltd.

PQI Corporation is a California corporation with its principal place of business in Fremont, California. PQI Corporation is a wholly-owned subsidiary of Syscom Development Co., Ltd. Power Quotient International Co., Ltd., Power Quotient International (HK) Co., Ltd., Syscom Development Co., Ltd., and PQI Corporation are related entities and operate together as Power Quotient International or "PQI" and will hereinafter be referred to together as "PQI."

# (2) Kingston

Kingston Technology Corporation is a Delaware corporation with its principal place of business in Fountain Valley, California.

MemoSun, Inc. is a California corporation with its principal place of business in Fountain Valley, California. MemoSun is a distributor of Kingston products.

#### (3) Transcend

Transcend Information Inc. (Taiwan) is a company organized under the laws of the Republic of China (Taiwan) with its principal place of business in Taipei, Taiwan.

Transcend Information Inc. (California) is a California corporation with its principal place of business in Orange, California. Transcend Information Inc. (California) is owned by Transcend Information Inc. (Taiwan).

Transcend Information Maryland, Inc. is a Maryland corporation with its principal place of business in Linthicum, Maryland.

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## (4) Imation

Imation Corp. is Delaware corporation with its principal place of business in Oakdale, Minnesota.

Imation Enterprises Corp. is a Delaware corporation with its principal place of business in Oakdale, Minnesota. Imation Enterprises Corp. is a wholly-owned subsidiary of Imation Corp.

Memorex Products, Inc. is a California corporation with its principal place of business in Cerritos, California. Imation Corp. acquired Memorex Products, Inc. in 2006. Memorex Products, Inc. is a wholly-owned subsidiary of Imation Corp.

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## (5) Apacer

Apacer Technology Inc. is a company organized under the laws of the Republic of China (Taiwan) with its principal place of business in Hsichih City, Taipei Hsien, Taiwan.

Apacer Memory America, Inc. is a California corporation with its principal place of business in Milpitas, California. Apacer Memory America, Inc. is a wholly-owned subsidiary of Apacer Technology Inc.

# (6) Dane-Elec

Dane Memory S.A. is a company organized under the laws of France with its principal place of business in Bagnolet, France.

Deantusaiocht Dane-Elec TEO is a limited company organized under the laws of Ireland with its principal place of business in Spiddal, Galway, Ireland. Deantusaiocht Dane-Elec TEO is a wholly-owned subsidiary of Dane Memory S.A.

Dane-Elec Corp. USA is a Delaware corporation with its principal place of business in Irvine, California. Dane-Elec Corp. USA is a wholly-owned subsidiary of Dane Memory S.A.

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## (7) LG

LG Electronics U.S.A., Inc. is a Delaware corporation with its principal place of business in

Englewood Cliffs, New Jersey.

LG Electronics, Inc. is a company organized under the laws of the Republic of South Korea with its principal place of business in Seoul, South Korea.

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# C. Overview of the Technology

The asserted patents both involve Flash memory-based systems. Flash is a type of EEPROM, or Electrically Erasable Programmable Read Only Memory. Flash EEPROM (or "Flash memory" or simply "Flash") is a non-volatile, semiconductor-based memory. "Non-volatile" means that the memory retains the information stored in it, even when the electric power goes off.

Manufacturers use Flash memory in a variety of storage systems. Perhaps most recognizable are USB Flash drives, which attach to a computer system's USB port and allow users to read and write data to carry to other computers. A Flash memory system, such as a Flash drive or other similar products usually contains a Flash memory controller, among other things.

The asserted claims in the '424 patent are directed to two categories of inventions. Claim 17 discloses an allegedly novel technique for updating data stored in the component blocks of a metablock, while claims 24 and 30 disclose an allegedly novel method for performing partial block updates to data stored in a non-volatile memory system.

The asserted claim, claim 8, in the '011 patent discloses an allegedly novel, non-volatile memory card that incorporates a Flash memory array in an enclosure and that is removably attached to a host system, and is designed to provide "security with portability." Unlike prior-art systems, SanDisk asserts that claim 8's memory card stores both a decryption algorithm and encrypted user data in the Flash memory array so that they can be read out for use together.

## **D.** The Patents at Issue

#### 1. The '424 Patent

The '424 patent is entitled "Partial Block Data Programming and Reading Operations in a Non-Volatile Memory" which was issued on July 13, 2004, based on Application Serial No. 09/766,436, filed on January 19, 2001. The named inventor is Kevin M. Conley and the patent was assigned to SanDisk, the current owner of the '424 patent. The '424 patent has a total of 31 claims. One independent claim, claim 17, is at issue here. Dependent claims 24 and 30, which depend from claim 20, is also at issue here.<sup>53</sup>

#### 2. The '011 Patent

The '011 patent is entitled "Removable Mother/Daughter Peripheral Card" which was issued on November 14, 2006, based on Application Serial No. 10/050,429, filed on January 15, 2002. The named inventors are Eliyahou Harari, Daniel C. Guterman, and Robert F. Wallace and the patent was assigned to SanDisk, the current owner of the '011 patent. The '011 patent has a total of 9 claims. One independent claim, claim 8, is at issue here.<sup>54</sup>

## E. The Products at Issue

At issue in this investigation are certain Flash memory controllers, drives, memory cards, and media players, and products containing same. These products fall into two general categories: (1) Flash memory controllers, and (2) Flash memory products or systems containing infringing Flash memory controllers, generally referred to as Flash memory systems.

Imation is the only respondent accused of infringing the '011 patent. The Imation products

<sup>&</sup>lt;sup>53</sup> See JX-2 ("the '424 patent") and JX-5 ("the '424 prosecution history").

<sup>&</sup>lt;sup>54</sup> See JX-3 ("the '011 patent") and JX-6 ("the '011 prosecution history").

accused of infringing the '011 patent include: Pocket, Atom, Nano, Swivel, Swivel Pro, Clip, Rotodrive, Traveldrive, Mini Traveldrive, Pivot and M-Flyer Pilot series.

Company	USB Controllers	CF/SSD Controllers	MMC Controllers	MP3 Controllers
Phison	USB Controllers [, ] PS2231: PS2101, PS2134, PS2135, PS2136, PS2143, PS2151, PS2153, PS2154, PS2230, PS2231, PS2232, PS2233, UP8, UP10, UP12	CF/SSD Controllers [ ] PS3006: <sup>56</sup> PS3002, PS3006, PS3102		
Silicon Motion	SM321, SM323, SM324, SM325	SM221, SM222, SM223, SM224	SM261, SM263, SM267	SM339, SM340

The controllers accused of infringing the '424 patent include:

<sup>55</sup> [

<sup>56</sup>[

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Skymedi	USB Controllers	MMC Controllers
	[ ] IPN	
	1603/ SK6281 [	IPN1603/SK6621 [
	57	58
	SK6203/IPN2806,	SK6618/IPN1603,
	SK6208/IPN1603,	SK6621/IPN1603,
	SK6211/IPN2806,	SK6623/KTC681/
	SK6281/IPN1603,	IPN1603,
	SK6288/IPN1603	SK6625/IPN1605,
		SK6626/IPN1606,
	USB Controllers	SK6633/IPN1606
	[ ] IPN	
	1606F/ SK6626AE	MMC Controllers
		[ ] IPN1606F/
	]	SK6626AE[ ]
	SK6212/IPN1608	[ ]
		SK6626AE/
		IPN1606F,
		SK6628/IPN2807

The system products accused of infringing the '424 patent include any of Respondents' Flash memory products that incorporate one of the accused controllers:

System Company		Controllers used by System Co	mpany in System Products
Apacer	[		_ <b>]</b> ·
Dane-Elec	] [	]	
Imation	] [		]
Kingston	[		]
LG	[	]	
PQI	][		]
Transcend	[	]	

<sup>57</sup> [

<sup>58</sup> [

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# II. Jurisdiction and Importation

Section 337 confers subject matter jurisdiction on the International Trade Commission to investigate, and if appropriate, to provide a remedy for, unfair acts and unfair methods of competition in the importation of articles into the United States. In order to have the power to decide a case, a court or agency must have both subject matter jurisdiction, and jurisdiction over either the parties or the property involved.<sup>59</sup>

# A. Subject Matter Jurisdiction/In Rem Jurisdiction

The complaint alleges that Respondents have violated Subsection 337(a)(1)(A) and (B) in the importation and sale of products that infringe one or both of the asserted patents. Respondents do not dispute that the importation requirement has been satisfied.<sup>60</sup> Accordingly, the Commission has subject matter jurisdiction over Respondents in this investigation.<sup>61</sup>

# **B.** Personal Jurisdiction

Respondents have responded to the complaint and notice of investigation, participated in the investigation, including participating in discovery, made an appearance at the hearing, and submitted post-hearing briefs, thereby submitting to the personal jurisdiction of the Commission.<sup>62</sup>

<sup>&</sup>lt;sup>59</sup> 19 U.S.C. § 1337; also see Certain Steel Rod Treating Apparatus and Components Thereof, Inv. No. 337-TA-97, Commission Memorandum Opinion, 215 U.S.P.Q. 229, 231 (1981) ("Certain Steel Rod").

<sup>&</sup>lt;sup>60</sup> See CX-754C (Stipulation) and JX-64 (Stipulation); CFF13.1-13.16.

<sup>&</sup>lt;sup>61</sup> See Amgen, Inc. v. U.S. Int'l Trade Comm'n, 902 F.2d 1532, 1536 (Fed. Cir. 1990) ("Amgen").

<sup>&</sup>lt;sup>62</sup> See Certain Miniature Hacksaws, Inv. No. 337-TA-237, U.S.I.T.C. Pub. No. 1948, Initial Determination (unreviewed by Commission in relevant part) at 4, 1986 WL 379287 (U.S.I.T.C., October 15, 1986) ("Certain Miniature Hacksaws").

## III. Relevant Law

#### A. Infringement

#### 1. Literal Infringement

Literal infringement is a question of fact.<sup>63</sup> Literal infringement requires the patentee to prove that the accused device contains each limitation of the asserted claim(s). Each element of a claim is considered material and essential, and in order to show literal infringement, every element must be found to be present in the accused device.<sup>64</sup> If any claim limitation is absent from the accused device, there is no literal infringement of that claim as a matter of law.<sup>65</sup>

# 2. Doctrine of Equivalents

Where literal infringement is not found, infringement nevertheless can be found under the doctrine of equivalents based on "the substantiality of the differences between the claimed and accused products or processes, assessed according to an objective standard" judged from "the vantage point of one of ordinary skill in the relevant art."<sup>66</sup> Determining infringement under the doctrine of equivalents "requires an intensely factual inquiry."<sup>67</sup>

In *Warner-Jenkinson*, the Supreme Court noted that the doctrine of equivalents is subject to several limitations, including applying the doctrine to individual elements of a claim and not to the

<sup>&</sup>lt;sup>63</sup> Tegal Corp. v. Tokyo Electron Am., Inc., 257 F.3d 1331, 1350 (Fed. Cir. 2001) ("Tegal"), cert. denied, 535 U.S. 927 (2002).

<sup>&</sup>lt;sup>64</sup> London v. Carson Pirie Scott & Co., 946 F.2d 1534, 1538 (Fed. Cir. 1991) ("London").

<sup>&</sup>lt;sup>65</sup> Bayer AG v. Elan Pharm. Research Corp., 212 F.3d 1241, 1247 (Fed. Cir. 2000) ("Bayer").

<sup>&</sup>lt;sup>66</sup> Hilton Davis Chem. Co. v. Warner-Jenkinson Co., Inc., 62 F.3d 1512, 1518-1519 (Fed. Cir. 1995) ("Hilton Davis"), rev'd, 520 U.S. 17 (1997) ("Warner-Jenkinson").

<sup>&</sup>lt;sup>67</sup> Vehicular Tech. Corp. v. Titan Wheel Int'l, Inc., 212 F.3d 1377, 1381 (Fed. Cir. 2000) ("Vehicular Technologies").

invention as a whole.<sup>68</sup> The court acknowledged that the commonly used "function-way-result" test is suitable in some instances, including analyzing mechanical devices.<sup>69</sup>

## 3. Indirect Infringement

Indirect infringement may be either induced or contributory. Direct infringement must first

be established in order for a claim of indirect infringement to prevail.<sup>70</sup>

# a. Induced Infringement

Section 271(b) of the Patent Act prohibits inducement: "[w]hoever actively induces

infringement of a patent shall be liable as an infringer."<sup>71</sup> As the Federal Circuit stated:

To establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they "actively and knowingly aid [ed] and abett[ed] another's direct infringement." However, "knowledge of the acts alleged to constitute infringement" is not enough. The "mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven."<sup>72</sup>

In addition, the burden of proof is on the complainant.<sup>73</sup>

# b. Contributory Infringement

Under 35 U.S.C. § 271(c), a seller of a component of an infringing product can be held liable

for contributory infringement if: "(1) there has been an act of direct infringement by a third party;

(2) the accused contributory infringer knows that the combination for which its component was made

<sup>71</sup> 35 U.S.C. § 271(b) (2008).

<sup>73</sup> *Broadcom*, 543 F.3d at 698.

<sup>&</sup>lt;sup>68</sup> Warner-Jenkinson, 520 U.S. at 29.

<sup>&</sup>lt;sup>69</sup> See Hilton Davis, 62 F.3d at 1518 ("In applying the doctrine of equivalents, it is often enough to assess whether the claimed and accused products or processes include substantially the same function, way, and result").

<sup>&</sup>lt;sup>70</sup> Broadcom Corp. v. Qualcomm Inc., 543 F.3d 683, 697, (Fed. Cir. 2008) ("Broadcom"); ACCO Brands, Inc. v. ABA Locks Mfr. Co., 501 F.3d 1307, 1312 (Fed. Cir. 2007) ("ACCO").

<sup>&</sup>lt;sup>72</sup> DSU Med. Corp. v. JMS Co., 471 F.3d 1293, 1305 (Fed. Cir. 2006) (*en banc*) ("DSU") (citations omitted).

was both patented and infringing; and (3) there are no substantial non-infringing uses for the component part, *i.e.*, the component is not a 'staple article' of commerce."<sup>74</sup>

### B. Domestic Industry

In a patent-based complaint, a violation of Section 337 can be found "only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established."<sup>75</sup> This "domestic industry requirement" has an "economic" prong and a "technical" prong.<sup>76</sup>

The term "domestic industry" in Section 337 is not defined by the statute, but the Commission has interpreted the intent of Section 337 to be "the protection of domestic manufacture of goods."<sup>77</sup> The Commission has further stated that "[t]he scope of the domestic industry in patent-based investigations has been determined on a case by case basis in light of the realities of the marketplace and encompasses not only the manufacturing operations but may include, in addition, distribution, research and development and sales."<sup>78</sup>

In making this determination, Section 337(a)(2) provides that for investigations based on patent infringement, a violation can be found "only if an industry in the United States, relating to the articles protected by the patent . . . concerned, exists or is in the process of being established." 19 U.S.C. § 1337(a)(2). Section 337(a)(3) sets forth the following economic criteria for determining

<sup>78</sup> *Id.* at 62 (footnotes omitted).

<sup>&</sup>lt;sup>74</sup> Certain Flash Memory Circuits and Products Containing Same, Inv. No. 337-TA-382, Commission Opinion at 9-10 (July 1997).

<sup>&</sup>lt;sup>75</sup> 19 U.S.C. § 1337(a)(2).

<sup>&</sup>lt;sup>76</sup> Certain Stringed Musical Instruments and Components Thereof, Inv. No. 337-TA-586, Commission Opinion at 12-14 (April 24, 2008) ("Stringed Instruments").

<sup>&</sup>lt;sup>77</sup> Certain Dynamic Random Access Memories, Components Thereof and Products Containing Same, Inv. No. 337-TA-242, U.S.I.T.C. Pub. No. 2034 (November 1987), Commission Opinion at 61, 1987 WL 450856 (U.S.I.T.C., September 21, 1987) ("Certain DRAMs").

the existence of a domestic industry in such investigations:

an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the . . . patent . . . concerned –

(A) significant investment in plant and equipment;

(B) significant employment of labor or capital; or

(C) substantial investment in its exploitation, including engineering, research and development, or licensing.<sup>79</sup>

As the statute uses the disjunctive term "or," a complainant can demonstrate this so-called "economic prong" of the domestic industry requirement by satisfying any one of the three tests set forth in Section 337(a)(3).<sup>80</sup> The complainant bears the burden of establishing that the domestic industry requirement is satisfied.<sup>81</sup>

In addition to meeting the economic criteria of the domestic industry requirement, a complainant in a patent-based Section 337 investigation must also demonstrate that it is practicing or exploiting the patents at issue.<sup>82</sup> In order to find the existence of a domestic industry exploiting a patent at issue, it is sufficient to show that the domestic industry practices any claim of that patent,

<sup>&</sup>lt;sup>79</sup> 19 U.S.C. § 1337(a)(3).

<sup>&</sup>lt;sup>80</sup> See Certain Plastic Encapsulated Integrated Circuits, Inv. No. 337-TA-315, U.S.I.T.C. Pub. No. 2574 (November 1992), Initial Determination at 83, 1992 WL 813952 (U.S.I.T.C., October 15, 1991) (unreviewed by Commission in relevant part) ("Certain Encapsulated Circuits").

<sup>&</sup>lt;sup>81</sup> See Certain Set-Top Boxes and Components Thereof, Inv. No. 337-TA-454, U.S.I.T.C. Pub. No. 3564 (November 2002), Initial Determination at 294, 2002 WL 31556392 (U.S.I.T.C., June 21, 2002), unreviewed by Commission in relevant part, Commission Opinion at 2 (August 29, 2002) ("Certain Set-Top Boxes").

<sup>&</sup>lt;sup>82</sup> See 19 U.S.C. § 1337(a)(2) and (3); also see Certain Microsphere Adhesives, Process for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes, Inv. No. 337-TA-366, Commission Opinion at 8, 1996 WL 1056095 (U.S.I.T.C., January 16, 1996) ("Certain Microsphere Adhesives"), aff'd sub nom. Minnesota Mining & Mfg. Co. v. U.S. Int'l Trade Comm'n, 91 F.3d 171 (Fed. Cir. 1996) (Table); Certain Encapsulated Circuits, Commission Opinion at 16.

not necessarily an asserted claim of that patent.<sup>83</sup> Fulfillment of this so-called "technical prong" of the domestic industry requirement is not determined by a rigid formula, but rather by the articles of commerce and the realities of the marketplace.<sup>84</sup>

The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement.<sup>85</sup> "First, the claims of the patent are construed. Second, the complainant's article or process is examined to determine whether it falls within the scope of the claims."<sup>86</sup> As with infringement, the first step of claim construction is a question of law, whereas the second step of comparing the article to the claims is a factual determination.<sup>87</sup> To prevail, the patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent either literally or under the doctrine of equivalents.<sup>88</sup>

### C. Validity

A patent is presumed valid.<sup>89</sup> The party challenging a patent's validity has the burden of overcoming this presumption by clear and convincing evidence.<sup>90</sup> Since the claims of a patent

<sup>&</sup>lt;sup>83</sup> Certain Microsphere Adhesives, Commission Opinion at 7-16.

<sup>&</sup>lt;sup>84</sup> Certain Diltiazem Hydrochloride and Diltiazem Preparations, Inv. No. 337-TA-349, U.S.I.T.C. Pub. No. 2902, Initial Determination at 138, 1995 WL 945191 (U.S.I.T.C., February 1, 1995) (unreviewed in relevant part) ("Certain Diltiazem"); Certain Double-Sided Floppy Disk Drives and Components Thereof, Inv. No. 337-TA-215, 227 U.S.P.Q. 982, 989 (Commission Opinion 1985) ("Certain Floppy Disk Drives").

<sup>&</sup>lt;sup>85</sup> Certain Doxorubicin and Preparations Containing Same, Inv. No. 337-TA-300, Initial Determination at 109, 1990 WL 710463 (U.S.I.T.C., May 21, 1990) ("Certain Doxorubicin"), aff'd, Views of the Commission at 22 (October 31, 1990).

<sup>&</sup>lt;sup>86</sup> Id.

<sup>&</sup>lt;sup>87</sup> Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996) ("Markman").

<sup>&</sup>lt;sup>88</sup> See Bayer, 212 F.3d at 1247.

<sup>&</sup>lt;sup>89</sup> 35 U.S.C. § 282; *Richardson-Vicks Inc. v. Upjohn Co.*, 122 F.3d 1476, 1480 (Fed. Cir. 1997) ("*Richardson-Vicks*").

<sup>&</sup>lt;sup>90</sup> Richardson-Vicks Inc., supra; Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044 (Fed. (continued...)

measure the invention at issue, the claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses. As with an infringement analysis, an analysis of invalidity involves two steps: the claim scope is first determined, and then the properly construed claim is compared with the prior art to determine whether the claimed invention is anticipated and/or rendered obvious.<sup>91</sup>

#### 1. Anticipation, 35 U.S.C. § 102

A patent may be found invalid as anticipated under 35 U.S.C. § 102(a) if "the invention was known or used by others in this country, or patented or described in a printed publication in this country, or patented or described in a printed publication in a foreign country, before the invention thereof by the applicant for patent." 35 U.S.C. § 102(a). A patent may be found invalid as anticipated under 35 U.S.C. § 102(b) if "the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States."<sup>92</sup> Under 35 U.S.C. § 102(e), a patent is invalid as anticipated if "the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent."<sup>93</sup>

Under the foregoing statutory provision, a claim is anticipated and therefore invalid when

<sup>90</sup>(...continued)

Cir.) ("Uniroyal"), cert. denied, 488 U.S. 825 (1988).

<sup>&</sup>lt;sup>91</sup> Amazon.com, Inc. v. Barnesandnoble.com, Inc., 239 F.3d 1343, 1351 (Fed. Cir. 2001) ("Amazon.com").

<sup>92 35</sup> U.S.C. § 102(b).

<sup>&</sup>lt;sup>93</sup> 35 U.S.C. § 102(e).

<sup>&</sup>lt;sup>94</sup> Texas Instruments, Inc. v. U.S. Int'l Trade Comm'n, 988 F.2d 1165, 1177 (Fed. Cir. 1993) ("Texas Instruments II").

"the four corners of a single, prior art document describe[s] every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation."<sup>95</sup> To be considered anticipatory, the prior art reference must be enabling and describe the applicant's claimed invention sufficiently to have placed it in possession of a person of ordinary skill in the field of the invention.<sup>96</sup> But, the degree of enabling detail contained in the reference does not have to exceed that contained in the patent at issue.<sup>97</sup>

Further, the disclosure in the prior art reference does not have to be express, but may anticipate by inherency where the inherency would be appreciated by one of ordinary skill in the art.<sup>98</sup> To be inherent, the feature must necessarily be present in the prior art.<sup>99</sup> Inherency may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. If, however, the disclosure is sufficient to show that the natural result flowing from the operation as taught would result in the performance of the questioned function, it seems to be well settled that the disclosure should be regarded as sufficient. This modest flexibility in the rule that "anticipation" requires that every element of the claims appear in a single reference accommodates situations where the common knowledge of technologists is not recorded in the reference; that is, where technological facts are known to those in the field of the

<sup>&</sup>lt;sup>95</sup> Advanced Display Sys., Inc. v. Kent State Univ., 212 F.3d 1272, 1282 (Fed. Cir. 2000), cert. denied, 532 U.S. 904 (2001) ("Advanced Display Systems").

<sup>&</sup>lt;sup>96</sup> Helifix Ltd. v. Blok-Lok, Ltd., 208 F.3d 1339, 1346 (Fed. Cir. 2000) ("Helifix"); In re Paulsen, 30 F.3d 1475, 1478 (Fed. Cir. 1994) ("Paulsen").

<sup>&</sup>lt;sup>97</sup> Paulsen, 30 F.3d at 1481 n.9.

<sup>&</sup>lt;sup>98</sup> Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043, 1047 (Fed. Cir.), cert. denied, 516 U.S. 988 (1995) ("Glaxo").

<sup>&</sup>lt;sup>99</sup> See Finnigan Corp. v. U.S. Int'l Trade Comm'n, 180 F.3d 1354, 1365-66 (Fed. Cir. 1999) ("Finnigan").

invention, albeit not known to judges.<sup>100</sup>

#### 2. Obviousness, 35 U.S.C. § 103

Under 35 U.S.C. § 103(a), a patent is valid unless "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."<sup>101</sup> The ultimate question of obviousness is a question of law, but "it is well understood that there are factual issues underlying the ultimate obviousness decision."<sup>102</sup>

Once claims have been properly construed, "[t]he second step in an obviousness inquiry is to determine whether the claimed invention would have been obvious as a legal matter, based on underlying factual inquiries including : (1) the scope and content of the prior art, (2) the level of ordinary skill in the art, (3) the differences between the claimed invention and the prior art ; and (4) secondary considerations of non-obviousness" (also known as "objective evidence").<sup>103</sup>

Although Federal Circuit case law also required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a "teaching, suggestion, or motivation to combine, the Supreme Court has rejected this "rigid approach" employed by the Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*:<sup>104</sup>

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one.

<sup>&</sup>lt;sup>100</sup> See Cont'l Can Co. v. Monsanto Co., 948 F.2d 1264, 1268-69 (Fed. Cir. 1991) ("Continental Can"); Finnigan, 180 F.2d at 1365.

<sup>&</sup>lt;sup>101</sup> 35 U.S.C. § 103(a).

<sup>&</sup>lt;sup>102</sup> Richardson-Vicks Inc., 122 F.3d at 1479; Wang Lab., Inc. v. Toshiba Corp., 993 F.2d 858, 863 (Fed. Cir. 1993) ("Wang Laboratories").

 <sup>&</sup>lt;sup>103</sup> Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc., 183 F.3d 1347, 1354 (Fed. Cir. 1999)
 ("Smiths Industries"), citing Graham v. John Deere Co., 383 U.S. 1, 17 (1966) ("Graham").
 <sup>104</sup> KSR Int'l Co. v. Teleflex Inc., 500 U.S. 398 (2007), 127 S.Ct. 1727, 1739 ("KSR").

If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. Sakraida and Anderson's-Black Rock are illustrative–a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.

Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See In re Kahn, 441 F.3d 977, 988 (CA Fed. 2006) ("[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness"). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

[...]

The obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.<sup>105</sup>

"Secondary considerations," also referred to as "objective evidence of non-obviousness,"

such as "commercial success, long felt but unsolved needs, failure of others, etc." may be used to

<sup>&</sup>lt;sup>105</sup> *KSR*, 127 S.Ct. at 1740-41.

understand the origin of the subject matter at issue, and may be relevant as indicia of obviousness or non-obviousness.<sup>106</sup> Secondary considerations may also include copying by others, prior art teaching away, and professional acclaim.<sup>107</sup>

Evidence of "objective indicia of non-obviousness," also known as "secondary considerations," must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness.<sup>108</sup> In order to accord objective evidence substantial weight, its proponent must establish a nexus between the evidence and the merits of the claimed invention, and a *prima facie* case is generally made out "when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent."<sup>109</sup> Once the patentee has made a *prima facie* case of nexus, the burden shifts to the challenger to show that the commercial success was caused by "extraneous factors other than the patented invention, such as advertising, superior workmanship, etc."<sup>110</sup>

<sup>110</sup> *Id.* at 1393.

<sup>&</sup>lt;sup>106</sup> Graham, 383 U.S. at 17-18.

<sup>&</sup>lt;sup>107</sup> See Perkin-Elmer Corp. v. Computervision Corp., 732 F.2d 888, 894 (Fed. Cir. 1984) ("Perkin-Elmer"), cert. denied, 469 U.S. 857 (1984); Avia Group Int'l, Inc. v. L.A. Gear California, 853 F.2d 1557, 1564 (Fed. Cir. 1988) ("Avia") (copying by others); In re Hedges, 783 F.2d 1038, 1041 (Fed. Cir. 1986) ("Hedges") (prior art teaching away; invention contrary to accepted wisdom); Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565 (Fed. ir. 1986) ("Kloster"), cert. denied, 479 U.S. 1034 (1987) (wide acceptance and recognition of the invention).

<sup>&</sup>lt;sup>108</sup> *Richardson-Vicks Inc.*, 122 F.3d at 1483-84.

<sup>&</sup>lt;sup>109</sup> In re GPAC Inc., 57 F.3d 1573, 1580 (Fed. Cir. 1995) ("GPAC"); Demaco Corp. v. F. Von Langsdorff Licensing Ltd., 851 F.2d 1387, 1392 (Fed. Cir. 1988), cert. denied, 488 U.S. 956 (1988) ("Demaco"); Certain Crystalline Cefadroxil Monohydrate, Inv. No. 337-TA-293, Commission Opinion (March 15, 1990),15 U.S.P.Q.2d 1263, 1270 ("Certain Crystalline").

### 3. Indefiniteness, 35 U.S.C. § 112, ¶ 2

Claims must "... particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention."<sup>111</sup> When "means plus function" language is used in the claims, the specification must set forth "adequate disclosure showing what is meant by that language."<sup>112</sup> Claim indefiniteness under Section 112, ¶ 2 is a question of law.<sup>113</sup>

"[I]f the claims, read in light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts can demand no more."<sup>114</sup> Further in this connection, the Federal Circuit has observed:

We have not insisted that claims be plain on their face in order to avoid condemnation for indefiniteness; rather, what we have asked is that the claims be amenable to construction, however difficult that task may be. If a claim is insolubly ambiguous, and no narrowing construction can properly be adopted, we have held the claim indefinite. If the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.<sup>115</sup>

"By finding claims indefinite only if reasonable efforts at claim construction prove futile," the

Federal Circuit continued in Exxon Research, "we accord respect to the statutory presumption of

<sup>115</sup> Exxon Research, supra, 265 F.3d at 1375. See also Energizer Holdings Inc. v. Int'l Trade Comm'n, 435 F.3d 1366 (Fed. Cir. 2006) ("Energizer").

<sup>&</sup>lt;sup>111</sup> 35 U.S.C. § 112, ¶ 2.

<sup>&</sup>lt;sup>112</sup> In re Donaldson, 16 F.3d 1189, 1195 (Fed. Cir. 1994) ("Donaldson").

<sup>&</sup>lt;sup>113</sup> Exxon Research and Engineering Co. v. U.S., 265 F.3d 1371, 1376 (Fed. Cir. 2001) (*"Exxon Research"*); Union Pacific Resources Co. v. Chesapeake Energy Corp., 236 F.3d 684, 692 (Fed. Cir. 2001) (*"Union Pacific"*).

<sup>&</sup>lt;sup>114</sup> Shatterproof Glass Corp. v. Libby-Owens-Ford Co., 758 F.2d 613, 624 (Fed. Cir. 1985), cert. dismissed, 474 U.S. 976 (1985) ("Shatterproof Glass"); accord, Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1385 (Fed. Cir. 1986), cert. denied, 480 U.S. 947 (1987) ("Hybritech").

patent validity."<sup>116</sup> In this regard, where claims on their face cover various methods that produce widely varying and non-overlapping results such that they "fail to put competitors on notice of the limits of the claimed invention, so that they may fairly know the point at which their activities may begin to pose a serious risk of infringement," those claims are indefinite under Section 112,  $\P 2$ .<sup>117</sup>

#### **D.** Other Affirmative Defenses

### 1. Patent Misuse

Patent misuse is an equitable defense to a claim of patent infringement.<sup>118</sup> As the Federal

Circuit has explained:

The policy of the patent misuse doctrine is "to prevent a patentee from using the patent to obtain market benefit beyond that which inures in the statutory patent right." Therefore, in evaluating a patent-misuse defense, "[t]he key inquiry is whether, by imposing conditions that derive their force from the patent, the patentee has impermissibly broadened the scope of the patent grant with anticompetitive effect."<sup>119</sup>

Patent misuse has been found, for example, when a patentee conditions a patent license on the purchase of unpatented goods,<sup>120</sup> or when a patent license requires royalty payments after the

expiration of the licensed patents.

To determine if patent misuse exists, courts must conduct a three-part analysis.<sup>121</sup> First, the

court determines whether the alleged misuse practice is immunized under Section 271(d) of Title 35

<sup>&</sup>lt;sup>116</sup> Id.

<sup>&</sup>lt;sup>117</sup> Certain Polyethylene Terephthalate Yarn and Products Containing Same, Inv. No. 337-TA-457, Commission Opinion at 18, 2002 WL 1349938 (U.S.I.T.C., June 18, 2002) ("Certain Pet Yarns").

<sup>&</sup>lt;sup>118</sup> U.S. Philips Corp. v. United States Int'l Trade Comm'n, 424 F.3d 1179, 1184 (Fed. Cir. 2005) ("Philips").

<sup>&</sup>lt;sup>119</sup> Monsanto Co. v. McFarling, 363 F.3d 1336,1341 (Fed. Cir. 2004) ("Monsanto") (citations omitted).

<sup>&</sup>lt;sup>120</sup> See Carbice Corp. of Am. v. Am. Patents Dev. Corp., 283 U.S. 27 (1931) ("Carbice").

<sup>&</sup>lt;sup>121</sup> Virginia Panel Corp. v. MAC Panel Co., 133 F.3d 860, 868 (Fed. Cir. 1997) ("Virginia Panel").

of the United States Code. Second, the court determines if the challenged practice fits into the very narrow category of *per se* misuse, such as "tying" arrangements. If a case is not resolved by the third step, the court must determine if the challenged practice is

"reasonably within the patent grant, *i.e.*, that it relates to subject matter within the scope of the patent claims." If so, the practice does not have the effect of broadening the scope of the patent claims and thus cannot constitute patent misuse. If, on the other hand, the practice has the effect of extending the patentee's statutory rights and does so with an anti-competitive effect, that practice must then be analyzed in accordance with the "rule of reason." Under the rule of reason, "the finder of fact must decide whether the questioned practice imposes an unreasonable restraint on competition, taking into account a variety of factors, including specific information about the relevant business, its condition before and after the restraint was imposed, and the restraint's history, nature, and effect."<sup>122</sup>

Although there are similarities between patent misuse and a violation of the antitrust laws, patent

misuse is a broader violation, and thus may be found even where there is no antitrust violation.<sup>123</sup>

#### 2. Patent Exhaustion

Patent exhaustion, otherwise known as the first sale doctrine, is an affirmative defense to

infringement.<sup>124</sup> The patent exhaustion doctrine deems that "the initial authorized sale of a patented

item terminates all patent rights to that item."125

To establish patent exhaustion, an accused infringer must prove two elements: (1) that the

<sup>124</sup> See Jazz Photo Corp. v. United States, 439 F.3d 1344, 1350 (Fed. Cir. 2006) ("Jazz Photo II") ("We articulated the affirmative defense of first sale and permissible repair in Jazz I, holding that the "unrestricted sale of a patented article, by or with the authority of the patentee, 'exhausts' the patentee's right to control further sale and use of that article by enforcing the patent under which it was first sold."); see also Scruggs, 459 F.3d at 1332-36 (referring to patent exhaustion doctrine as an affirmative defense and discussing whether patent exhaustion doctrine barred patent infringement claims); Anton/Bauer, Inc. v. PAG, Ltd., 329 F.3d 1343, 1349-50 ("Anton") (Fed. Cir. 2003) (discussing patent infringement analysis and presenting patent exhaustion doctrine as a defense).

<sup>125</sup> *Quanta*, 128 S.Ct. at 2115.

<sup>&</sup>lt;sup>122</sup> Virginia Panel, 133 F.3d at 868.

<sup>&</sup>lt;sup>123</sup> Monsanto Co. v. Scruggs, 459 F.3d 1328, 1339 (Fed. Cir. 2006) ("Scruggs").

item "substantially embodies" the patented invention, and (2) that the sale of the item was authorized.<sup>126</sup> An item "substantially embodies" the patented invention when it itself satisfies two elements: (1) the item's only reasonable and intended use is to practice the patented invention, and (2) the item embodies essential features of the patented invention.<sup>127</sup> A patentee's authorization of an international first sale does not exhaust that patentee's right in the United States.<sup>128</sup>

As the Federal Circuit Court has held, "when a patented product has been sold the purchaser acquires 'the right to use and sell it, and ... the authorized sale of an article which is capable of use only in practicing the patent is a relinquishment of the patent monopoly with respect to the article sold."<sup>129</sup> However, it is not any sale that invokes this "first sale" or "patent exhaustion" doctrine. Rather,

The unrestricted sale of a patented article, by or with the authority of the patentee, "exhausts" the patentee's right to control further sale and use of that article by enforcing the patent under which it was first sold. In United States v. Masonite Corp., 316 U.S. 265, 278, 62 S. Ct. 1070, 86 L. Ed. 1461, 1942 Dec. Comm'r Pat. 777 (1942), the Court explained that exhaustion of the patent right depends on "whether or not there has been such a disposition of the article that it may fairly be said that the patentee has received his reward for the use of the article." See, e.g., Intel Corp. v. ULSI Sys. Tech., Inc., 995 F.2d 1566, 1568, 27 USPQ2d 1136, 1138 (Fed. Cir. 1993) ("The law is well settled that an authorized sale of a patented product places that product beyond the reach of the patent.") Thus when a patented device has been lawfully sold in the United States, subsequent purchasers inherit the same immunity under the doctrine of patent exhaustion.<sup>130</sup>

<sup>129</sup> McFarling, 302 F.3d 1291, 1298 (Fed. Cir. 2002) (quoting United States v. Univis Lens Co., 316 U.S. 241, 249 (1942) ("Univis")).

<sup>130</sup> Jazz Photo Corp. v. International Trade Comm'n, 264 F.3d 1094, 1105 (Fed. Cir. 2001) ("Jazz Photo I"), cert. denied, 536 U.S. 950, 153 L. Ed. 2d 823, 122 S. Ct. 2644 (2002).

<sup>&</sup>lt;sup>126</sup> *Id.* at 2113.

<sup>&</sup>lt;sup>127</sup> *Id.* at 2119.

<sup>&</sup>lt;sup>128</sup> Fuji Photo Fil Co., Ltd. v. Jazz Photo Corp., 394 F.3d 1368, 1376 (Fed. Cir. 2005) ("Fuji").

### 3. Licensing

A license under a patent, whether express or implied, is generally a complete defense to a charge of infringement, as long as the patent or invention is used in accordance with the license agreement.<sup>131</sup> As an agreement, contract law, rather than patent law, generally governs licenses.<sup>132</sup>

Licenses can be implied as well as express. There are two requirements for an implied license to arise: (1) the equipment involved must have no noninfringing uses, and (2) the circumstances of the sale must plainly indicate that the grant of a license should be inferred.<sup>133</sup>

#### 4. **Prosecution Laches**

The doctrine of prosecution laches is an equitable defense.<sup>134</sup> Prosecution laches may render a patent unenforceable when it has issued only after an unreasonable and unexplained delay in prosecution.<sup>135</sup> In determining whether delay during prosecution was unreasonable and unexplained, the court should examine the "totality of the circumstances, including the prosecution history of all of a series of related patents and overall delay in issuing claims."<sup>136</sup>

#### IV. The '424 Patent

#### A. Overview

Three claims of the '424 patent are asserted against Respondents, namely claims 17, 24, and 30. In addition, claim 20 is at issue even though it is not asserted against Respondents, because it

<sup>132</sup> Freeman v. Seiberling Rubber Co., 72 F.2d 124, 125 (6<sup>th</sup> Cir. 1934) ("Freeman").

 $^{135}$  *Id.* at 1385.

<sup>&</sup>lt;sup>131</sup> Glass Equipment Development, Inc. v. Besten, Inc., 174 F.3d 1337 (Fed. Cir. 1999) ("Glass Equipment").

<sup>&</sup>lt;sup>133</sup> Met-Coil Sys. Corp. v. Korners Unlimited, Inc., 803 F.2d 684,686 (Fed. Cir. 1986) ("Met-Coil").

<sup>&</sup>lt;sup>134</sup> Symbol Technologies, Inc. v. Lemelson Medical, Educ. & Research, 422 F.3d 1378, 1384 (Fed. Cir. 2005) ("Symbol Technologies").

<sup>&</sup>lt;sup>136</sup> *Id.* at 1386.

is an independent claim from which certain asserted dependent claims depend. These claims read

as follows:

- 17. A method of operating a non-volatile memory system having an array of memory storage elements organized into at least two sub-arrays, wherein the individual sub-arrays are divided into a plurality of non-overlapping blocks of storage elements wherein a block contains the smallest group of memory storage elements that are erasable together, and the individual blocks are divided into a plurality of pages of storage elements wherein a page is the smallest group of memory storage elements that are programmable together, comprising: linking at least one block from individual ones of said at least two sub-arrays to form a metablock wherein its component blocks are erased together as a unit, and updating pages of original data within any of the metablock component blocks less than all the pages within the block by programming replacement data into pages within another at least one block in only a designated one of the sub-arrays regardless of which sub-array the data being updated is stored.
- In a re-programmable non-volatile memory system having a plurality of blocks of 20. memory storage elements that are erasable together as a unit, the plurality of blocks individually being divided into a plurality of a given number of pages of memory storage elements that are programmable together, a method of operating the memory system, comprising: programming individual ones of a first plurality of said given number of pages in each of at least a first block with original data and a logical page address associated with the original data, thereafter programming individual ones of a second plurality of a total number of pages less than said given number in a second block with updated data and a logical page address associated with the updated data, wherein the logical page addresses associated with the updated data programmed into the second plurality of pages are the same as those associated with the original data programmed into the first plurality of pages, and thereafter reading and assembling data from the first and second plurality of pages including, for pages having the same logical addresses, selecting the updated data from the pages most recently programmed and omitting use of the original data from the pages earlier programmed.
- 24. The method of claim 20, wherein programming the second plurality of pages in a second block includes causing the updated data to be programmable in pages of the second block having different offset positions therein than the offset positions of pages within the first block containing the original data associated with the same logical page addresses.
- 30. The method of any one of claims 20-24, wherein the non-volatile memory system is formed within an enclosed card having an electrical connector along one edge thereof that operably connects with a host system.

As noted above, the undersigned has already construed the above claims in a Markman order.<sup>137</sup> A

summary of the claims construed in that order is detailed below:

Claim	Term	Construction
17	array of memory storage elements	A contiguous group of memory storage elements arranged in rows and columns with dedicated row and column decoders.
17	sub-array	Two or more blocks in a physically distinct subdivision of an array in which read, write, and/or erase operations can be performed independently.
17	block	The smallest group of cells that are erasable together.
17	page	The smallest group of memory storage elements that are programmable together.
17	updating pages of original data within any of the metablock component blocks less than all the pages within the block	Updating fewer than all the pages of a block within the metablock.
20	logical address	Address for storing data in memory that is distinct from a physical address.
20	programming individual ones of a first plurality of said given number of pages in each of at least a first block with original data and a logical page address associated with the original data	Writing pages in a first group of blocks with original data and an address consisting of a logical block number and a logical page offset that identifies the logical location of a page containing the original data.
20	programming individual ones of a second plurality of a total number of pages less than said given number in a second block with updated data and a logical page address associated with the updated data	Writing fewer than all of the pages in a second block with updated data and an address consisting of a logical block number and a logical page offset that identifies the logical location of a page containing the updated data.
20	reading and assembling data from the first and second plurality of pages	Reading the logical page address within the first and second plurality of pages and thereafter assembling the data portions from the most up-to-date pages into a data file.

<sup>137</sup> See Order No. 33.

# B. Infringement

### 1. Claim 17

SanDisk asserts that Flash memory system products that incorporate accused Phison controllers infringe claim 17 of the '424 patent.<sup>138</sup> According to [

] 139

Respondents assert that the Phison 2231 and 3006 controllers do not infringe claim 17, because step (b) requires [

] According to Respondents, if claim 17 is broad enough that the Phison controllers infringe, then it is certainly invalid as anticipated by the Sinclair '321 patent.<sup>140</sup>

Staff agrees with SanDisk that Respondents infringe claim 17. According to Staff, Respondents premise their non-infringement argument on a faulty construction of step (b) in claim 17.<sup>141</sup>

<sup>138</sup> CIB 62; 69.
<sup>139</sup> CIB 69.
<sup>140</sup> RIB 47-49.
<sup>141</sup> SIB 31.

a. Preamble: "A method of operating a non-volatile memory system having an array of memory storage elements organized into at least two sub-arrays, wherein the individual sub-arrays are divided into a plurality of non-overlapping blocks of storage elements wherein a block contains the smallest group of memory storage elements that are erasable together, and the individual blocks are divided into a plurality of pages of storage elements wherein a page is the smallest group of memory storage elements that are programmable together, comprising"

SanDisk asserts that the accused Phison controllers satisfy the preamble of claim 17.<sup>142</sup> Specifically, SanDisk asserts that: (1) the accused Phison controllers reside in non-volatile memory systems such as USB drives and memory cards, (2) the NAND memories used in these systems have one or more arrays of storage elements or cells, (3) each array is organized into sub-arrays (referred to as "planes") consisting of "two or more blocks in a physically distinct subdivision or an array in which read, write, and/or erase operations can be performed independently," and (4) within each plane, the NAND cells are organized as non-overlapping "blocks" which are "the smallest group of cells that are erasable together," and further divided into "pages" which are "the smallest group of memory storage elements that are programmable together."<sup>143</sup>

Phison does not address the preamble and therefore does not dispute that the limitations of the preamble are met by its controllers.

Accordingly, the undersigned agrees that Phison's controllers meet the limitation of the preamble of claim 17.

<sup>&</sup>lt;sup>142</sup> CIB 69; CRB 26-27.
<sup>143</sup> CIB 69-70.

b. Step (a): "linking at least one block from individual ones of said at least two sub-arrays to form a metablock wherein its component blocks are erased together as a unit"

SanDisk asserts that the accused Phison controllers satisfy step (a) of claim 17.<sup>144</sup> Specifically, SanDisk asserts that when a host system seeks to store original data in the accused Phison memory system, the Phison controller [

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Phison does not address step (a) and therefore does not dispute that the limitations of step (a) are met by its controllers.

Accordingly, the undersigned agrees that Phison's controllers meet the limitation of step (a)

of claim 17.

c. Step (b): "and updating pages of original data within any of the metablock component blocks less than all the pages within the block by programming replacement data into pages within another at least one block in only a designated one of the sub-arrays regardless of which sub-array the data being updated is stored."

]

SanDisk asserts that the accused Phison controllers satisfy step (b) of claim 17.146

Specifically, SanDisk [

<sup>&</sup>lt;sup>144</sup> CIB 70; CRB 26-27.
<sup>145</sup> CIB 70.
<sup>146</sup> CIB 70-72.

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SanDisk asserts that Respondents are attempting to rewrite the agreed-upon claim construction in order to avoid infringement. SanDisk argues that when claim 17 is read as a whole, it is clear that the term "pages," although plural, does not exclude single page updates. SanDisk cites to *Versa Corp. v. AG-Bag Int'l Ltd.* in support of the proposition that "the plural can describe a universe ranging from one to some higher number, rather than require more than one item."<sup>149</sup>

Staff agrees with SanDisk and makes similar arguments, citing to *Versa*<sup>150</sup> and arguing that, within the context of the '424 patent, when the patentees intended to refer to more than one page, they explicitly did so by reciting a "plurality of pages," as seen in the preamble. Furthermore, Staff asserts that its claim construction is consistent with the specification's description of a "metablock operation" and that Respondents' construction would impermissibly exclude the preferred embodiment.<sup>151</sup> Staff also cites to the "summary of the invention" in support.<sup>152</sup>

Respondents assert that claim 17 explicitly requires "updating pages," not a single page. And because it is only possible to program replacement data into pages within a multiple page update,

<sup>&</sup>lt;sup>147</sup> CIB 70.

<sup>&</sup>lt;sup>148</sup> CIB 70-71 citing Subramanian, Tr. 1158, 1163, 1208.

<sup>&</sup>lt;sup>149</sup> CIB 72 citing Versa Corp. v. AG-Bag Int'l Ltd., 392 F.3d 1325, 1330 (Fed. Cir. 2004) ("Versa").

<sup>&</sup>lt;sup>150</sup> SIB 32 citing Versa, 392 F.3d at 1330; Dayco Products, Inc. v. Total Containment, Inc., 258 F.3d 1317, 1328 (Fed. Cir. 2001) ("Dayco").

<sup>&</sup>lt;sup>151</sup> SIB 33-34 citing the '424 patent, col. 12:28-30, 46-50; *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008) ("*Helmsderfer*"); SRB 2-3.

<sup>&</sup>lt;sup>152</sup> SIB 34 citing the '424 patent, col. 3:26-27.

Respondents assert that claim 17 requires updating two or more pages. According to Respondents, the multiple page update could be two successive single page updates or a single multiple page update, and infringement only occurs after multiple pages have been updated. In support, Respondents state that the sole embodiment in the specification teaches multiple page updates.<sup>153</sup> Furthermore, Respondents argue that the general rule in claim construction is that the plural form requires more than one.<sup>154</sup>

Respondents also assert that the language of step (b) requires that one and only one of the sub-arrays of the flash memory be designated to store replacement data for a particular metablock regardless of where the old data is stored, as shown in Figure 16.<sup>155</sup> According to Respondents,

]<sup>156</sup> In support, Respondents cite to Federal Circuit case law which states that "only" means "only."<sup>157</sup> [

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SanDisk counters Respondents' argument that the specification does not teach single page updates because of Federal Circuit case law which states that even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using "words or expressions of manifest

<sup>158</sup> RIB 54.

<sup>&</sup>lt;sup>153</sup> RIB 52; RRB 6.

<sup>&</sup>lt;sup>154</sup> RIB 52-53 citing *Electro Scientific Industries, Inc. v. Dynamic Details, Inc.*, 307 F.3d 1343, 1349-50 (Fed. Cir. 2002) ("*Electro Scientific*"); RRB 7.

<sup>&</sup>lt;sup>155</sup> RIB 53-54.

<sup>&</sup>lt;sup>156</sup> RIB 54.

<sup>&</sup>lt;sup>157</sup> RIB 54 citing *Elekta Instruments S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302 (Fed. Cir. 2000) ("*Elekta*").

exclusion or restriction."<sup>159</sup> Furthermore, SanDisk argues that the "Summary of the Invention" expressly states that the metablock embodiment is "particularly useful when the memory system frequently updates single pages from a metablock."

As to Respondents' sub-array argument, while Staff agrees that the recitation of "only a designated one of the sub-arrays" requires a method where all replacement data is programmed into only one designated sub-array, Staff argues that claim 17 does not require the use of a system which necessarily stores all updated data within only one sub-array. Staff argues that in the situation where only one page of data is being updated within the metablock, the claim limitation will be met if the replacement data for that one page is stored in only one sub-array. Conversely, Staff acknowledges that when more than one page of data is being updated, a method which programs each page of replacement data into different sub-arrays, does not infringe claim 17. Staff asserts that the mere fact that an apparatus has potential noninfringing uses does not mean that it cannot be used to practice an infringing method.<sup>160</sup>

Respondents counter SanDisk's and Staff's arguments that, despite the unequivocal plural term "pages," the claim may be practiced by updating a single page based on the *Dayco Products* and *Versa* cases. According to Respondents, the limited exception to the rule that a plural limitation may include the singular only applies where the context requires such an interpretation, and that this is not the case for claim 17.<sup>161</sup>

Respondents also counter Dr. Rhyne's testimony that [

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 <sup>&</sup>lt;sup>159</sup> CIB 72 citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)
 ("*Liebel-Flarsheim*").
 <sup>160</sup> SIB 35.

<sup>&</sup>lt;sup>161</sup> RIB 53.

] Respondents argue that [ ] never appears in claim 17 or the specification and that Dr. Rhyne's test should be disregarded.<sup>162</sup>

The parties agreed that the construction of the term "updating pages of original data within any of the metablock component blocks less than all the pages within the block" should be construed as "updating fewer than all the pages of a block within the metablock."<sup>163</sup> SanDisk and Staff assert that the stipulated construction of this claim term includes an update to a single page of data, while Respondents argue that it requires updates to multiple pages. There is no dispute among the parties regarding the operation of Phison's controllers and that infringement hinges on claim construction.

The undersigned finds Respondents' arguments to be persuasive. The plain meaning of the term "pages" clearly indicates more than one page. There is no indication within the specification that the patentees intended the word "pages" to indicate anything other than the plain and ordinary meaning of the term "pages." While there may be a reference in the "Summary of the Invention" that the metablock embodiment is "particularly useful when the memory system frequently updates single pages from a metablock," the claim specifically refers to "pages." Furthermore, the example in the preferred embodiment refers to multiple pages.<sup>164</sup> In addition, although there is Federal Circuit case law which states that "the plural *can* describe a universe ranging from one to some higher number, rather than require more than one item,"<sup>165</sup> such exceptions should be limited to situations where the context requires such an interpretation, which the undersigned finds is not applicable here.

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<sup>&</sup>lt;sup>162</sup> RIB 55.

<sup>&</sup>lt;sup>163</sup> See Order No. 33 at 57.

<sup>&</sup>lt;sup>164</sup> See the '424 patent, col. 2:23-3:31, 12:28-30, 46-50.

<sup>&</sup>lt;sup>165</sup> Versa, 392 F.3d at 1330 (italics added).

Accordingly, the use of the term "pages" in the claim term requires updates to multiple pages. There is no disagreement among the parties that if the claim is interpreted in this manner, that Phison's controllers do not infringe. Therefore, the undersigned finds that Phison's 2231 and 3006 controllers do not infringe step (b) of claim 17. As the undersigned has found that this limitation is not met, the undersigned does not make any findings with regard to Respondent's one plane argument.

### d. Claim 17 Conclusion

Each and every limitation of claim term must be met in order for there to be a finding of infringement. SanDisk has failed to show that Phison's controller infringes step (b) of claim 17. Accordingly, SanDisk has failed to show that Phison's controllers infringe claim 17.

#### 2. Claim 20

While claim 20 is not directly asserted against any of the Respondents, claims 24 and 30, which depend from claim 20, are asserted against Respondents. Therefore, a discussion regarding infringement of claim 20 is necessary.

- a. Preamble: "In a re-programmable non-volatile memory system having a plurality of blocks of memory storage elements that are erasable together as a unit, the plurality of blocks individually being divided into a plurality of a given number of pages of memory storage elements that are programmable together, a method of operating the memory system, comprising"
  - (1) Phison

SanDisk summarizes its opinion of how Phison's controllers operate.<sup>166</sup> SanDisk asserts that

<sup>166</sup> CIB 73-75.

it is undisputed that Flash memory systems that use a Phison controller meet claims 24's preamble.<sup>167</sup> Specifically, SanDisk asserts that: [

]<sup>168</sup> Staff agrees.<sup>169</sup> Phison does not address the preamble and therefore does not dispute that the limitations of the preamble are met by its controllers.<sup>170</sup>

Accordingly, the undersigned agrees that Phison's controllers meet the limitations of the preamble of claim 20.

### (2) SMI

SanDisk summarizes its opinion of how SMI's controllers operate.<sup>171</sup> SanDisk asserts that the parties agree that Flash memory systems that include a SMI Flash memory controller meet the preamble of claim 24.<sup>172</sup> Staff agrees.<sup>173</sup> SMI does not address the preamble and therefore do not dispute that the limitations of the preamble are met by its controllers.<sup>174</sup>

Accordingly, the undersigned agrees that SMI's controllers meet the limitations of the preamble of claim 20.

<sup>&</sup>lt;sup>167</sup> While SanDisk puts its analysis under the heading of claim 24, the other parties detail their arguments under claim 20, which is the independent claim from which claim 24 depends. According to SanDisk, "[i]t is the same claim language at issue either way." CRB 29, n. 18. The undersigned hereafter will treat SanDisk's arguments as arising under claim 20.

<sup>&</sup>lt;sup>168</sup> CIB 75.

<sup>&</sup>lt;sup>169</sup> SIB 38 citing CX-1008C (Rhyne Direct) at Q. 363.

<sup>&</sup>lt;sup>170</sup> RRB 8.

<sup>&</sup>lt;sup>171</sup> CIB 92-94.

<sup>&</sup>lt;sup>172</sup> CIB 94-95.

<sup>&</sup>lt;sup>173</sup> SIB 38 citing CX-1008C (Rhyne Direct) at Q. 363.

<sup>&</sup>lt;sup>174</sup> RRB 8.

#### (3) Skymedi

SanDisk summarizes its opinion of how Skymedi's controllers operate.<sup>175</sup> SanDisk asserts that the parties agree that Flash memory systems that include a Skymedi Flash memory controller meet the preamble of claim 24.<sup>176</sup> Staff agrees.<sup>177</sup> Skymedi does not address the preamble and therefore do not dispute that the limitations of the preamble are met by its controllers.<sup>178</sup>

Accordingly, the undersigned agrees that Skymedi's controllers meet the limitations of the preamble of claim 20.

#### (4) Conclusion as to the Preamble

As detailed above, the undersigned finds that the flash memory controllers of Respondents Phison, SMI, and Skymedi meet the limitations of the preamble of claim 20.

> b. Step (a): "programming individual ones of a first plurality of said given number of pages in each of at least a first block with original data and a logical page address associated with the original data"

# (1) Phison

#### (a) Literal Infringement

SanDisk asserts that it is undisputed that Phison's CF/SSD controllers literally practice step

(a). According to SanDisk, Phison's expert, Dr. Subramanian, admitted that Phison's CF/SSD

controllers meet this limitation and that SanDisk's expert, Dr. Rhyne, agrees.<sup>179</sup> Staff agrees.<sup>180</sup>

<sup>&</sup>lt;sup>175</sup> CIB 99-101.

<sup>&</sup>lt;sup>176</sup> CIB 101-02.

<sup>&</sup>lt;sup>177</sup> SIB 38 citing CX-1008C (Rhyne Direct) at Q. 363.

<sup>&</sup>lt;sup>178</sup> RRB 8.

<sup>&</sup>lt;sup>179</sup> CIB 76 citing Subramanian, Tr. 1106, 1150; CX-1008C (Rhyne Direct) at Q. 283-91, 301-02, 379-81.

<sup>&</sup>lt;sup>180</sup> SIB 39; SRB 4.

As to Phison's CF/SSD controllers, the parties agree that these controllers literally satisfy step (a). Accordingly, the undersigned agrees that Phison's CF/SSD controllers meet the limitations of step (a) of claim 20.

### (b) Infringement under the Doctrine of Equivalents

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SanDisk asserts that it is undisputed that Phison memory systems [

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As to Phison's USB controllers, SanDisk asserts that Phison infringes under the doctrine of equivalents because there is only an insubstantial difference between [

<sup>181</sup> CIB 75. <sup>182</sup> CIB 76. ]<sup>183</sup> SanDisk argues that a person of ordinary skill in the art would find the difference between [

 $]^{184}$ 

Applying the function-way-result test, SanDisk argues that the test is met. As to "function," SanDisk argues that [

] performs the same function as the logical page address because [

] As to "way," SanDisk argues that [

]performs the same function

in the same way because [

] As to "result," SanDisk argues that [

] achieves the same result as programming the literal logical

page offset into the pages of a block containing original data because [

]<sup>185</sup>

Respondents assert that, during the hearing, SanDisk admitted that the Phison 2231 controller, the Skymedi 1606F controllers, and all of the SMI controllers do not literally practice step
(a) because [ ] and that

<sup>&</sup>lt;sup>183</sup> CIB 77-78.

<sup>&</sup>lt;sup>184</sup> CIB 78-79 citing CX-1008C (Rhyne Direct) at Q. 371; Subramanian, Tr. 1015-18, 1026-29, 1038-39; Mercer, Tr. 1559-61, 1565-67, 1569-73.

<sup>&</sup>lt;sup>185</sup> CIB 79-80 citing CX-1008C (Rhyne Direct) at Q. 371, 374-75. See also CRB 34-35.

SanDisk is asserting infringement against these accused products under the doctrine of equivalents.<sup>186</sup> Respondents argue that the evidence shows that these controllers do not infringe step (a) under the doctrine of equivalents.<sup>187</sup>

Respondents, in general, assert that SanDisk's doctrine of equivalents analysis contradicts the undersigned's claim construction order, as well as Federal Circuit precedent. Respondents assert that the undersigned construed the term "logical page address" to mean a "logical bock number and logical page offset." SanDisk has conceded that, under this claim construction, the Phison 2231 controller, the SMI controllers, and the Skymedi IPN1606F controllers do not literally infringe this limitation, but assert that they infringe under the doctrine of equivalents.<sup>188</sup> Respondents argue that SanDisk is attempting to get around the claim construction by attempting to reclaim a construction that was expressly rejected.<sup>189</sup>

According to Respondents, SanDisk's arguments should also be rejected because SanDisk's expert, Dr. Rhyne, has an incorrect understanding of how the doctrine of equivalents products operate.<sup>190</sup> Respondents argue that Dr. Rhyne is attempting to assert that [

] which is directly contradicted by the '424 patent.<sup>191</sup> Specifically, Respondents note that the '424 patent absolutely requires the programming of logical page offsets in pages of

<sup>189</sup> RIB 15.

<sup>&</sup>lt;sup>186</sup> RIB 20 citing Rhyne, Tr. 201-02.

<sup>&</sup>lt;sup>187</sup> RIB 20.

<sup>&</sup>lt;sup>188</sup> RIB 14 citing Rhyne, Tr. 201-02.

<sup>&</sup>lt;sup>190</sup> RIB 14.

<sup>&</sup>lt;sup>191</sup> RIB 15-16.

Respondents also counter Dr. Rhyne's assertion regarding that his way argument is inconsistent.<sup>195</sup>

original data and that [

requirement in step (a).<sup>193</sup>

[

Specifically as to Phison, Phison asserts that SanDisk's doctrine of equivalents argument is factually incorrect.<sup>196</sup> According to Phison, SanDisk accuses the Phison 2231 controller of practicing step (a) by[

claimed function of providing the logical page address to be programmed within the page itself.<sup>194</sup>

Respondents argue that SanDisk's proposed equivalents would vitiate the logical page offset

As to SanDisk's function-way-result test, Respondents assert that the proposed equivalent

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<sup>192</sup> RIB 16-17 citing JX -2 (the '424 patent), claim 20 and Figs. 8 and 10, Rhyne, Tr. 197-98, 273-74.

<sup>193</sup> RIB 17-18.

<sup>194</sup> RIB 19.

<sup>195</sup> RIB 19.

<sup>196</sup> Specifically, Respondents argue that SanDisk's expert, Dr. Rhyne, has significant factual errors with respect to how Phison's accused controllers operate and is inconsistent based on a comparison of Phison's 2231 and 2251 controllers. RIB 20-21.

<sup>197</sup> RIB 20 citing Rhyne, Tr. 201-02.

<sup>198</sup> RIB 20 citing Rhyne, Tr. 448-49. See also RRX-17C (Yang Direct) at Q. 111 and Subramanian, Tr. 1123-24, 1127, 1248-49.

<sup>199</sup> RIB 20 citing Rhyne, Tr. 216 and CX-1008C (Rhyne Direct) at Q. 371. See also JX-173C (continued...)

]<sup>192</sup> In addition,

] which is contrary to the

]

[

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Staff agrees with Phison that SanDisk has failed to satisfy its burden of proving that Phison's USB controllers can be used to practice the limitations recited in step (a) under the doctrine of equivalents.<sup>201</sup> According to Staff, the evidence shows that [

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While Staff agrees with Phison that the function is different, Staff does not agree that consolidation is an express requirement of claim 20.<sup>205</sup> Staff also asserts that the '424 patent contemplates a system which locks the original blocks, such that the physical order is always the same as the logical order.<sup>206</sup> Therefore, Staff asserts that [

] does not necessarily constitute a substantial difference from the claimed system.<sup>207</sup> Furthermore, Staff agrees with SanDisk that SanDisk's arguments do not impermissibly vitiate any

<sup>&</sup>lt;sup>199</sup>(...continued)
(Hsu Dep) at 49-50.
<sup>200</sup> RIB 20-21 citing Rhyne, Tr. 451, 457 and JX-173C (Hsu Dep) at 57, 61. See also Subramanian, Tr. 1250.
<sup>201</sup> SIB 41.
<sup>202</sup> SIB 43.
<sup>203</sup> SIB 47-49.
<sup>204</sup> SIB 50-51.
<sup>205</sup> SIB 43-45 citing Subramanian, Tr. 1155.
<sup>206</sup> SIB 45-46.

<sup>&</sup>lt;sup>207</sup> SIB 46.

express claim limitations.<sup>208</sup>

SanDisk counters Phison's doctrine of equivalents arguments. According to SanDisk, Phison is attempting to avoid infringement by making erroneous statements [

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SanDisk also counters Phison's arguments that SanDisk has misapplied the undersigned's claim construction and taken a position inconsistent with the '424 patent. SanDisk asserts that it has fully honored the claim construction for claim 24 set forth in Order No. 33, which requires programming the page of a first block, [ ] with original data and the logical page address, comprised of a logical block number and a logical page offset, associated with the data. SanDisk asserts that it is not vitiating a claim limitation because SanDisk is not asserting that "not programming" is equivalent to programming because SanDisk's argument is limited to a product that, [

] Finally, SanDisk asserts that its doctrine of equivalents argument is not inconsistent with Figure 14 in the '424 patent because Figure 14 relates to programming updated data, not original

<sup>&</sup>lt;sup>208</sup> SRB 8.

<sup>&</sup>lt;sup>209</sup> CIB 80-82 citing Subramanian, Tr. 1115, 1130, 1132-33, 1136-38, 1142-43. See also CRB 38-40.

data.210

In addition, SanDisk asserts that Dr. Rhyne correctly described how the accused controllers operate. SanDisk also asserts that [ ] Rather, Dr. Rhyne testified that [

\_\_\_\_\_

] which is a key factor in SanDisk's

doctrine of equivalents analysis.<sup>211</sup>

Staff also counters SanDisk's arguments regarding Phison's controllers [

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As to Phison's USB controllers, the undersigned agrees with Phison that SanDisk's doctrine of equivalents analysis contradicts the undersigned's claim construction order. In the claim construction order, the undersigned construed the term "logical page address" to mean a "logical block number and logical page offset." SanDisk has conceded that, under this claim construction,

]<sup>213</sup> While SanDisk urges the undersigned to find infringement under the doctrine of equivalents, the undersigned rejects such arguments as being overly broad.

The evidence shows that the [

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<sup>&</sup>lt;sup>210</sup> CIB 82-84; CRB 31-33.

<sup>&</sup>lt;sup>211</sup> CRB 29-30.

<sup>&</sup>lt;sup>212</sup> SIB 49-50.

<sup>&</sup>lt;sup>213</sup> Rhyne, Tr. 201-02.

<sup>&</sup>lt;sup>214</sup> RRX-18C (Subramanian Direct) at Q. 137.

1<sup>217</sup> Therefore, there are substantial differences in

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function.

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Accordingly, the undersigned finds that SanDisk has failed to satisfy its burden of proving that Phison's USB controllers can be used to practice the limitations recited in step (a) under the doctrine of equivalents.

### (2) SMI - Infringement under the Doctrine of Equivalents

SanDisk asserts that SMI's expert, Dr. Subramanian, admitted that SMI controllers meet the "original data" and "logical bock number" limitations in step (a).<sup>218</sup> According to SanDisk, the only limitation in step (a) that is not literally met by SMI's controllers is the "logical page offset" portion of the "logical page address." SanDisk asserts that the evidence shows that SMI's controllers meet this limitation under the doctrine of equivalents.<sup>219</sup> According to SanDisk, [

] Therefore, SanDisk asserts that a person of ordinary skill in the art would find

<sup>&</sup>lt;sup>215</sup> RRX-18C (Subramanian Direct) at Q. 129.

<sup>&</sup>lt;sup>216</sup>RRX-18C (Subramanian Direct) at Q. 129.

<sup>&</sup>lt;sup>217</sup> RRX-18C (Subramanian Direct) at Q. 129. See also JX-173C (Yang Dep) at 74-75.

<sup>&</sup>lt;sup>218</sup> CIB 95 citing Subramanian, Tr. 1106-07, RRX-18C (Subramanian Rebuttal) at Q. 105. <sup>219</sup> CIB 95.

that there is an insubstantial difference between [

] SanDisk also counters SMI's arguments that SanDisk is misapplying the undersigned's claim construction, as already discussed when addressing Phicom's arguments.<sup>220</sup>

SMI asserts that its controllers do not practice step (a) under the doctrine of equivalents because Dr. Rhyne's testimony is inaccurate and incomplete. According to SMI, its controllers [

 $]^{221}$ 

]

<sup>220</sup> CIB 95-96. <sup>221</sup> RIB 23.

[

[

 $]^{223}$  As to way, [

 $1^{222}$ 

# $]^{224}$ As to result, [

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]

Staff agrees with Respondents that SanDisk has failed to satisfy its burden of proving that SMI's controllers can be used to practice the limitations recited in step (a) under the doctrine of equivalents.<sup>226</sup> According to Staff, the evidence shows that the function served by [

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<sup>222</sup> RIB 24-25.
<sup>223</sup> RIB 25.
<sup>224</sup> RIB 25-26.
<sup>225</sup> RIB 26.
<sup>226</sup> SIB 41.
<sup>227</sup> SIB 43.
<sup>228</sup> SIB 53.

[

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SanDisk counters SMI's and Staff's arguments, asserting that they misstate the function of a logical page address, and therefore do not analyze the function-way-result test correctly.<sup>230</sup>

As to SMI's controllers, the undersigned agrees with SMI and Staff that SanDisk's doctrine of equivalents analysis contradicts the undersigned's claim construction order. In the claim construction order, the undersigned construed the term "logical page address" to mean a "logical block number and logical page offset." SanDisk has conceded that, under this claim construction, the Phison 2231 controller, the SMI controllers, and the Skymedi IPN1606F controllers do not literally infringe this limitation.<sup>231</sup> While SanDisk urges the undersigned to find infringement under the doctrine of equivalents, the undersigned rejects such arguments as being overly broad.

[

]<sup>232</sup> Therefore, there are substantial differences in function.

Accordingly, the undersigned finds that SanDisk has failed to satisfy its burden of proving that SMI's controllers can be used to practice the limitations recited in step (a) under the doctrine of equivalents.

<sup>&</sup>lt;sup>229</sup> SIB 53.

<sup>&</sup>lt;sup>230</sup> CRB 43-44.

<sup>&</sup>lt;sup>231</sup> Rhyne, Tr. 201-02.

<sup>&</sup>lt;sup>232</sup> RRX-11C (J. Lee Rebuttal) at Q. 27-31; RRX-18C (Subramanian Direct) at Q. 198; Subramanian, Tr. 1233; Rhyne, Tr. 465.

## (3) Skymedi

## (a) Literal Infringement

SanDisk asserts that the evidence shows that Skymedi's IPN1603 controllers literally meet the "logical page offset" portion of the "logical page address" limitation.<sup>233</sup> SanDisk asserts that Skymedi's own witness, Mr. Chang, agreed that [

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Staff agrees with SanDisk that SanDisk has satisfied its burden of proving that Skymedi's pre-July 1, 2008 controllers literally satisfy step (a).<sup>235</sup> According to Staff, the evidence shows that

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Skymedi asserts that its 1603 controller does not practice step (a) because it does not store

<sup>236</sup> SIB 39 citing CX-1008C (Rhyne Direct) at Q 440; CX-810 (Huang Dep); Mercer, Tr. 1577-78.

<sup>237</sup> SIB 40 citing RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 147; Mercer, Tr. 1581.
 <sup>238</sup> SIB 40 citing CX-1008C (Rhyne Direct) at Q. 465.

<sup>&</sup>lt;sup>233</sup> CIB 102-05.

<sup>&</sup>lt;sup>234</sup> CIB 102 citing Chang, Tr. 760.

<sup>&</sup>lt;sup>235</sup> SRB 4-5.

a logical page offset. While SanDisk asserts that [ ] satisfies the requirement for programming a logical page address, Skymedi asserts that [

[ ] in a page is clearly different from programming a logical page offset as the functions are different. A logical page address allows data to be stored anywhere in the chip, whereas [

]<sup>239</sup> Skymedi asserts that, even if [

SanDisk counters Skymedi's arguments. According to SanDisk, Skymedi's sole argument as to non-infringement [

] 240

] was belied by Dr. Mercer's testimony

] were relevant,

at the hearing. SanDisk asserts that Dr. Mercer confirmed that Skymedi's 1603 controller will program [

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Skymedi counters SanDisk's and Staff's arguments. According to Skymedi, its controllers program [

] Therefore, Skymedi asserts that the "use"

is completely unrelated to the claim limitations.<sup>242</sup>

The undersigned finds SanDisk's and Staff's arguments to be persuasive. The testimony of

<sup>&</sup>lt;sup>239</sup> RIB 29 citing Rhyne, Tr. 371-72.

<sup>&</sup>lt;sup>240</sup> RIB 30 citing JX-2 (the '424 patent) at col 2:57-62 and Rhyne, Tr. 186.

<sup>&</sup>lt;sup>241</sup> CRB 37-38 citing Mercer, Tr. 1576, 1589-92.

<sup>&</sup>lt;sup>242</sup> RRB 12, 18-19.

Dr. Mercer is undisputed that Skymedi's 1603 controllers [

]<sup>243</sup> Accordingly, Skymedi's 1603 controllers infringe step (a).

## (b) Infringement Under the Doctrine of Equivalents

SanDisk asserts that SMI's expert, Dr. Mercer, admitted that Skymedi's controllers meet the "original data" and "logical bock number" limitations in step (a).<sup>244</sup> According to SanDisk, the only limitation in step (a) that is not literally met by Skymedi's controllers is the "logical page offset" portion of the "logical page address." SanDisk asserts that the evidence shows that Skymedi's IPN1606F meet this limitation under the doctrine of equivalents.<sup>245</sup>

Specifically, SanDisk asserts that there is an insubstantiality of difference between [

] which is similar to

SanDisk's argument as to why the Phison USB and SMI controllers also infringe under the doctrine of equivalents.<sup>246</sup> In further support, SanDisk notes that Skymedi was able to easily design around the '424 patent by [

which SanDisk argues is a simple design change in an attempt to overcome literal infringement. According to SanDisk, because the design change has no impact on performance, the change is insubstantial.<sup>247</sup>

Staff agrees with SanDisk that SanDisk has satisfied its burden of proving that Skymedi's recently designed accused products can be used to practice the limitations recited in step (a) under

<sup>&</sup>lt;sup>243</sup> Mercer, Tr. 1576, 1589-92.

<sup>&</sup>lt;sup>244</sup> CIB 102 citing Mercer, Tr. 1576, 1584, 1591.

<sup>&</sup>lt;sup>245</sup> CIB 102-05.

<sup>&</sup>lt;sup>246</sup> CIB 104 citing JX-128C (Huang Dep) at 64-65; RRX-33C (Chang Rebuttal) at Q. 102. <sup>247</sup> CIB 104-05 citing JX-128C (Huang Dep) at 64-65.

the doctrine of equivalents.<sup>248</sup> According to Staff, the evidence shows that the function served by [ ] in the accused Skymedi 1606F controller is insubstantially different.<sup>249</sup> Staff asserts that the Skymedi 1606F controller performs a function that is equivalent to programming a logical page offset when it [

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] which is performing substantially the same function as programming a logical page offset, which is to program information that can be used to determine the physical address corresponding to a given logical address.<sup>251</sup> Furthermore, Staff asserts that the evidence shows that one of ordinary skill in the art would have considered it a trivial design change to modify a system that literally infringes claim 20 of the '424 patent, such as Skymedi's IPN 1603, to the accused equivalent systems.<sup>252</sup>

Skymedi asserts that the Skymedi 1606F controllers do not infringe step (a) under the doctrine of equivalents. According to Skymedi, Dr. Rhyne's assertion that the [

] as being equivalent to a logical page address should be rejected. Skymedi notes that while Dr. Rhyne agreed that the required logical page offset in the '424 patent will necessarily differ for each page of original data, Skymedi controllers are substantially different

<sup>&</sup>lt;sup>248</sup> SIB 41.

<sup>&</sup>lt;sup>249</sup> SIB 43.

<sup>&</sup>lt;sup>250</sup> SIB 55-56 citing RRDX-40C at 5; RRX-33C (Chang Rebuttal) at Q. 68; Mercer, Tr. 1597-98.

<sup>&</sup>lt;sup>251</sup> SIB 56-57 citing JX-2 (the '424 patent) at col. 10:44-59; CX-1008C (Rhyne Direct) at Q. 477, 481-82.

<sup>&</sup>lt;sup>252</sup> SIB 57-58 citing CX-1008C (Rhyne Direct) at Q. 485; CX-811 (Huang Dep).

SanDisk counters Skymedi's arguments that it does not infringe. First, as to Skymedi's argument that [

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]<sup>255</sup> Second, as to

Skymedi's argument that [

]<sup>256</sup> In the alternative, SanDisk

asserts that [

[

 $]^{257}$  Furthermore, SanDisk asserts that the fact that

] does not make the Skymedi controller

substantially different because [

] In

addition, [

30.

<sup>257</sup> CIB 103-04.

<sup>&</sup>lt;sup>253</sup> RIB 27 citing Rhyne, Tr. 355, 358-59, 362-64, 370, CX-1008 (Rhyne Direct) at Q. 476. <sup>254</sup> RIB 28 citing Rhyne, Tr. 347-48, CX-1008C (Rhyne Direct) at Q.475.

<sup>&</sup>lt;sup>255</sup> CIB 102-03 citing Mercer, Tr. 1581.

<sup>&</sup>lt;sup>256</sup> CIB 103 citing CX-1008C (Rhyne Direct) at Q. 465; JX-128C (Huang Dep) at 81-82, 127-

As to Skymedi's argument that SanDisk is not applying the undersigned's claim construction, SanDisk asserts that Skymedi's argument should be rejected for the same reason that Phison's and SMI's arguments should fail.<sup>259</sup>

Skymedi counters SanDisk's and Staff's arguments. According to Skymedi, the values that SanDisk identifies as being equivalent to the logical page offsets are [

] In

]

addition, Skymedi asserts that the claim requires using the values identified as equivalent to logical page offsets for use in a plurality of pages. [

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The undersigned agrees with SanDisk and Staff that, Skymedi's 1606F controllers infringe step (a) of claim 20 because the Skymedi 1606F controller performs a function that is equivalent to programming a logical page offset when it [

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[

<sup>&</sup>lt;sup>258</sup> CRB 36-37.

<sup>&</sup>lt;sup>259</sup> CIB 105.

<sup>&</sup>lt;sup>260</sup> RRB 11-12.

<sup>&</sup>lt;sup>261</sup> RRDX-40C at 5; RRX-33C (Chang Rebuttal) at Q. 68; Mercer, Tr. 1597-98.

]<sup>262</sup> Accordingly, SanDisk has shown that Skymedi's 1606F controllers meet the function-way-result test and infringe under the doctrine of equivalents.

## (4) Conclusion as to Step (a)

As detailed above, the undersigned finds that Phison's CF/SSD controllers literally practice step (a), while Phison's USB controllers do not infringe, either literally or under the doctrine of equivalents. The undersigned finds that none of SMI's controllers infringe step (a), either literally or under the doctrine of equivalents. The undersigned finds that Skymedi's IPN1603 controllers literally practice step (a), while Skymedi's IPN 1606F controllers infringe step (a) under the doctrine of equivalents.

c. Step (b): "thereafter programming individual ones of a second plurality of a total number of pages less than said given number in a second block with updated data and a logical page address associated with the updated data, wherein the logical page addresses associated with the updated data programmed into the second plurality of pages are the same as those associated with the original data programmed into the first plurality of pages, and"

SanDisk asserts that each of Respondents' accused products meets the limitations of step (b).<sup>263</sup> Staff agrees with SanDisk that the accused controllers practice step (b) either literally or under the doctrine of equivalents.<sup>264</sup>

Respondents assert the Phison 2231 controller, the Skymedi 1603 and 1606F controllers, and all of the SMI controllers do not literally practice step 20(b) because [ ]

<sup>&</sup>lt;sup>262</sup> JX-2 (the '424 patent) at col. 10:44-59; CX-1008C (Rhyne Direct) at Q. 477, 481-82.
<sup>263</sup> CRB 45. See also CX-1008C (Rhyne Direct) at Q. 384-92, 487-94, 567-74.

<sup>&</sup>lt;sup>264</sup> SIB 59; SRB 9.

[

]<sup>265</sup> According to Respondents, Dr. Rhyne asserts that step (b)

]

requires programming pages of updated data with the *same* logical page address as the superseded page of original data, where "same" means that if you looked at them as numerical values, they would be the same.<sup>266</sup> Respondents agree that Dr. Rhyne's testimony comports with the '424 patent and is consistent with the representations made during the prosecution history.<sup>267</sup>

## (1) Phison

SanDisk asserts that the evidence shows that [

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As to Phison's CF/SSD controllers, SanDisk argues that Phison's expert, Dr. Subramanian, admitted that Phison's CF/SSD controllers literally practice step (b) and that SanDisk's expert, Dr. Rhyne, agrees.<sup>269</sup>

As to Phison's USB controllers, SanDisk argues that [

<sup>265</sup> RIB 32.

<sup>&</sup>lt;sup>266</sup> RIB 31 citing Rhyne, Tr. 274-75, 277, 332; RRB 19.

<sup>&</sup>lt;sup>267</sup> RIB 31-32 citing Fig. 8; RRB 19.

<sup>&</sup>lt;sup>268</sup> CIB 85-87.

<sup>&</sup>lt;sup>269</sup> CIB 85-86 citing Subramanian, Tr. 1088-89, 1150-51; CX-1008C (Rhyne Direct) at Q. 390-92.

]<sup>274</sup>

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agrees that Phison's USB controllers practice step (b).<sup>271</sup>

Phison asserts that its Phison 2231 controllers [

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Staff argues that it is undisputed that all of Respondents' controllers [

Therefore, Staff asserts that SanDisk has shown that flash memory systems incorporating the accused Phison USB controllers satisfy the limitation of step (b) either literally or under the doctrine of equivalents.<sup>275</sup>

As to Phison's CF/SSD controllers, there appears to be no dispute that such controllers literally infringe step (b). Accordingly, the undersigned agrees with the parties that Phison's CF/SSD controllers literally infringe step (b).

<sup>&</sup>lt;sup>270</sup> CIB 86-87 citing Subramanian, Tr. 1088-89, 1148; RRDX-17 (Non-sequential updates in a system which does not use logical page offsets).

<sup>&</sup>lt;sup>271</sup> CIB 87 citing CX-1008C (Rhyne Direct) at Q. 384-89.

<sup>&</sup>lt;sup>272</sup> See RIB 34 citing RRX-18C (Subramanian Direct) at Q. 160.

<sup>&</sup>lt;sup>273</sup> RIB 35.

<sup>&</sup>lt;sup>274</sup> RRB 20 citing RRX-18C (Subramanian Direct) at Q. 160.

<sup>&</sup>lt;sup>275</sup> SIB 59; SRB 9.

As to Phison's USB controllers, the undersigned find's Phison's arguments persuasive. The evidence shows that the Phison 2231 controllers [

]<sup>276</sup> Accordingly, Phison's 2231 controllers do not infringe step (b).

]

## (2) SMI

SanDisk asserts that the evidence shows that SMI's controllers practice step (b) because [

SanDisk asserts that SMI's expert, Dr. Subramanian, conceded as much and that SanDisk's expert, Dr. Rhyne, agrees.<sup>277</sup>

According to SMI, its controllers have a different address programmed into a page of uploaded data and the corresponding superseded page of original data. Therefore the SMI controllers do not practice step (b).<sup>278</sup> Specifically, [

] <sup>279</sup>

<sup>276</sup> RRX-18C (Subramanian Direct) at Q. 157, 160.

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<sup>277</sup> CIB 96-97 citing Subramanian, Tr. 1082, 1088-89; CX-1008C (Rhyne Direct) at Q. 567-

<sup>278</sup> RIB 33 citing Rhyne, Tr. 287; Subramanian, Tr. 1282-83.

<sup>279</sup> RIB 34 citing Rhyne 282-83; CX-1008C (Rhyne Direct) at Q. 537-38; Subramanian, Tr. 1228-29; RRX-18C (Subramanian Direct) at Q. 198, 208, 210; RRX-11C (J. Lee Rebuttal) at Q. 27-(continued...)

The undersigned find's SMI's arguments to be persuasive. Step (b) of claim 20 requires programming pages of updated data with the same logical page address as the superseded page of original data. The evidence [

]<sup>280</sup> Accordingly, SMI's controllers do not infringe step (b).

## (3) Skymedi

SanDisk asserts that the evidence shows that Skymedi's controllers practice step (b). According to SanDisk, in Skymedi's IPN1603, [

] as confirmed by Skymedi's employee, Mr.

Huang.<sup>281</sup> SanDisk also cites to its expert, Dr. Rhyne, in support.<sup>282</sup>

Skymedi asserts that the Skymedi 1606F controller does not program a logical page offset or its equivalent into the pages of a block of original data because it programs [

]<sup>283</sup> Furthermore, Respondents assert that Dr. Rhyne failed to identify how

<sup>279</sup>(...continued)

31; RRDX-21C; RRB 20.

<sup>280</sup> Rhyne, Tr. 287.

<sup>281</sup> CIB 105-06 citing CFF 37.23-.24.

<sup>282</sup> CIB 106 citing CX-1008C (Rhyne Direct) at Q. 486-94.

<sup>283</sup> RIB 35 citing RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 175-76, 182-84.

any of the Skymedi controllers meet the limitations of the wherein clause, which requires the same address be programmed in the pages of original and updated data.<sup>284</sup>

Staff argues that it is undisputed that all of Respondents' controllers [

] Staff asserts that the evidence shows that the accused Skymedi post-July 2008 controllers program information into the first plurality of pages that is at least equivalent to the logical page address that is programmed into the second plurality of pages containing updated data and that the Skymedi controllers infringe step (b) under the doctrine of equivalents.<sup>285</sup> As to Skymedi's 1603 controllers, Staff asserts that the these controllers [

] Therefore, Staff asserts that

SanDisk has shown that flash memory systems incorporating the accused Skymedi controllers satisfy the limitation of step (b) either literally or under the doctrine of equivalents.<sup>286</sup>

Skymedi counters Staff's arguments that Skymedi's controllers practice step (b) under the doctrine of equivalents. According to Skymedi, SanDisk has not put forth any evidence that any accused products practice step (b) under the doctrine of equivalents on an element-by-element basis, and that SanDisk's only evidence on doctrine of equivalents went to step (a), which was discussed above.<sup>287</sup>

As to Skymedi's 1603 controllers, there appears to be no dispute that such controllers literally

<sup>&</sup>lt;sup>284</sup> RIB 35 citing RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 179; RRB 20.

<sup>&</sup>lt;sup>285</sup> SIB 59; SRB 9.

<sup>&</sup>lt;sup>286</sup> SIB 59; SRB 9.

<sup>&</sup>lt;sup>287</sup> RRB 20-21.

infringe step (b). Accordingly, the undersigned agrees with the parties that Skymedi's 1603 controllers literally infringe step (b).

With respect to Skymedi's 1606F controllers, the undersigned agrees with Skymedi that SanDisk has not set forth whether Skymedi's 1606F controllers infringe under the doctrine of equivalents, and therefore the issue of infringement under the doctrine of equivalents for step (b) will not be considered for these accused products.<sup>288</sup> Furthermore, the undersigned agrees with Skymedi that the evidence shows that Skymedi's 1606F controllers do not program the *same* logical page address, including the same logical block number and logical page offset, into the updated pages of data as was programmed into the corresponding pages of original data.<sup>289</sup> Accordingly, Skymedi's 1606F controllers do not infringe step (b).

## (4) Conclusion as to Step (b)

As detailed above, the undersigned finds that Phison's CF/SSD controllers literally practice step (b), while Phison's USB controllers do not infringe step (b). The undersigned also finds that none of SMI's controllers infringe step (b). The undersigned finds that Skymedi's IPN1603 controllers literally infringe step (b), while Skymedi's IPN 1606F controllers do not infringe step (b).

d. Step (c): "thereafter reading and assembling data from the first and second plurality of pages including, for pages having the same logical addresses, selecting the updated data from the pages most recently programmed and omitting use of the original data from the pages earlier programmed"

SanDisk asserts that step (c) is infringed by Respondents' accused products whenever [

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<sup>&</sup>lt;sup>288</sup> See CIB 105 which states that "Flash memory systems with Skymedi controllers literally meet the limitations of claim 24 step b."

<sup>&</sup>lt;sup>289</sup> RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 176, 182.

]<sup>290</sup> Furthermore, SanDisk asserts that the "assembling"

limitation is satisfied by the accused controllers [

]<sup>291</sup> Staff

] <sup>293</sup>

agrees with SanDisk that SanDisk has met its burden of proof with respect to step (c).<sup>292</sup>

Respondents assert the accused controllers do not literally practice step 20(c) for three reasons. [

As to the first argument, Respondents assert that all the accused controllers

Accordingly, Respondents argue that because the accused products

[

]<sup>294</sup>

As to the second argument, Respondents assert that SanDisk argued that the reading step in step (c) is illustrated by Figure 11 of the '424 patent and that the undersigned's construction of "reading and assembling data from the first and second plurality of pages" confirms that the logical

<sup>&</sup>lt;sup>290</sup> CIB 97, SIB 59-60 citing CX-1008C (Rhyne Direct) at Q. 394-403, 496-512, 576-584.

<sup>&</sup>lt;sup>291</sup> CIB 97-98.

<sup>&</sup>lt;sup>292</sup> SIB 60; SRB 10-11.

<sup>&</sup>lt;sup>293</sup> RIB 36.

<sup>&</sup>lt;sup>294</sup> RIB 36 citing Rhyne, Tr. 369; CX-1008C (Rhyne Direct ) at Q. 535-538; RRX-18C (Subramanian Direct) at Q. 160; RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 187.

page address for all pages must be read, whether or not those pages are superseded.<sup>295</sup> According to Respondents, reading the logical page address within the first and second plurality of pages does not require reading the user data from all of those pages and that the ability to read the logical page address separately from the user data is important to step (c).<sup>296</sup> Therefore, Respondents assert that step (c) requires reading the logical page address of each page, including superseded pages, of original data, and that there is a mechanism disclosed in the patent for reading the logical page address separately from the user data.<sup>297</sup>

As to the third argument, Respondents assert that SanDisk argued that the assembly step in step (c) is illustrated by Figure 13 of the '424 patent.<sup>298</sup> Respondents argue that to meet this claim limitation, the assembly takes place in the controller's RAM, requires more than one page being assembled, and that only the "user data portions" of the most up-to-date pages are assembled into a data file.<sup>299</sup>

Respondents counter SanDisk's and Staff's arguments. According to Respondents, while SanDisk and Staff point to Figure 12 in the '424 patent for support that the controller need not read the logical page address from any pages of superseded data, Respondents argue that Figure 12 does not relate to step (c) because step (c) requires reading the logical page address from each page of data within the blocks of original and updated data.<sup>300</sup>

As to SanDisk's and Staff's claim differentiation argument, Respondents assert that SanDisk

<sup>&</sup>lt;sup>295</sup> RIB 36-38 citing Rhyne, Tr. 322.

<sup>&</sup>lt;sup>296</sup> RIB 38 citing Rhyne, Tr. 217.

<sup>&</sup>lt;sup>297</sup> RIB 39.

<sup>&</sup>lt;sup>298</sup> RIB 41 citing Rhyne, Tr. 323; Subramanian, Tr. 1290-92.

<sup>&</sup>lt;sup>299</sup> RIB 42 citing Subramanian, Tr. 1293, Rhyne, Tr. 325.

<sup>&</sup>lt;sup>300</sup> RRB 21 citing Subramanian, Tr. 1029, 1290.

and Staff confuse the language of claim 22 and ignore the undersigned's construction of claim 20. According to Respondents, claim 22 requires reading all of the data from all of the pages of both the original and updated data block, and then ignoring the user data portions of the superseded pages, whereas claim 20 is broader than claim 22 and does not require that all of the data be read from each page. Rather, claim 20 only requires that the logical page address be read from each page.<sup>301</sup>

SanDisk counters Respondents' arguments. According to SanDisk, step (c) does not require reading the logical page address from all the pages of original data. Furthermore, SanDisk argues that Respondents impermissibly limit claim 20 to the "reverse read" technique because the '424 patent also teaches a "table" technique when the reverse read technique is not used.<sup>302</sup>

Staff counters Respondents' arguments. As to Respondents' second argument, Staff argues that the claim does not require that the logical page address, consisting of an LBN and logical page offset, must be read from each and every page stored in both the original and updated data blocks, including those pages in the original block that have been superceded by updated data. According to Staff, the undersigned's claim construction only requires reading the logical page address within the first and second plurality of pages and that this does not require that the same logical page address must be read from both the first and second plurality of pages or that the logical page addresses from all the pages must be read. In support, Staff cites to the '424 patent which discloses that pages containing superceded data may be ignored or skipped during the read operation.<sup>303</sup> Staff also refers to Figure 12 in the '424 patent for support of an embodiment that teaches that the controller may determine when a page in an original block has the same logical page address as a

<sup>&</sup>lt;sup>301</sup> RRB 21-23.

<sup>&</sup>lt;sup>302</sup> CRB 46-47 citing JX-2 (the '424 patent) at col. 9:57-65.

<sup>&</sup>lt;sup>303</sup> SIB 61-62 citing JX-2 (the '424 patent), col. 9:57-65.

page in an update block based on a table that is populated in the controller's RAM rather than by reading all the logical page addresses within the original data block.<sup>304</sup>

As to Respondents' third argument, Staff asserts that the undersigned's claim construction does not require an entire page to be omitted altogether when it contains valid sectors of data, as the claim only requires "omitting use of the original data from the pages earlier programmed."<sup>305</sup>

## (1) Phison

SanDisk asserts that Phison's CF/SSD and USB controllers both practice step (c).<sup>306</sup> With respect to the CF/SSD controllers, SanDisk asserts that these controllers [

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<sup>&</sup>lt;sup>304</sup> SIB 62; SRB 10-11.
<sup>305</sup> SIB 62-63.
<sup>306</sup> CIB 88 citing CX-1008C (Rhyne Direct) at Q.395-403.
<sup>307</sup> CIB 88.

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] <sup>308</sup>

SanDisk counters Phison's argument that step (c) requires [

] as an attempt to rewrite

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the undersigned's claim construction. According to SanDisk, the construction of the "reading and assembling" limitation is clear, which refers to reading the logical page address, which is singular, not plural.<sup>309</sup>

SanDisk also counters Phison's attempt to limit claim 24 to a system that reads the logical page addresses stored in the superseded pages of an original block as an attempt to improperly limit the scope of the claim to a "reverse read." SanDisk argues that claims 20, 24, and 30 are not limited to the "reverse read" technique, based on the doctrine of claim differentiation.<sup>310</sup>

With respect to the USB controllers, SanDisk asserts that these controllers practice step (c)

[

<sup>308</sup> CIB 88.

<sup>309</sup> CIB 89.

<sup>310</sup> CIB 90 comparing claims 22 and 20.

<sup>311</sup> CIB 91.

SanDisk counters Phison's arguments regarding the USB controllers similarly to the arguments for the CF/SSD controllers.<sup>313</sup> SanDisk also counters Phison's argument that the claim requires that the entirety of one of the two pages be omitted for pages having the same logical page address as being inconsistent with the plain language of the claim.<sup>314</sup>

Phison asserts that the Phison 2231 controller [

## ] 315

[

Phison asserts that the Phison 3006 controller

] <sup>316</sup> Therefore, Phison asserts that the Phison 3006 controllers do not infringe step (c).

As to Respondents' first argument, Staff counters that, with respect to Phison's 3006 controllers, [

] In support, Staff notes that Dr. Subramanian testified that

<sup>312</sup> CIB 91.
<sup>313</sup> CIB 91-92.
<sup>314</sup> CIB 92.
<sup>315</sup> RIB 36.
<sup>316</sup> RIB 40 citing RRX-18C (Subramanian Direct) at Q. 16-71.

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The undersigned finds Respondents' arguments to be persuasive. The evidence shows that, with respect to the Phison 2231 controller, [

]<sup>318</sup> and that with respect to the Phison 3001 controller, [

]<sup>319</sup> Accordingly, neither of Phison's accused controllers infringe step (c).

## (2) SMI

SanDisk asserts that SMI's controllers, [ ] practice step (c) during a read operation and during a consolidation event. Specifically, during the read operation of un-updated pages from the mother block, [

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<sup>&</sup>lt;sup>317</sup> SIB 60-61 citing Subramanian, Tr. 1155-56.

<sup>&</sup>lt;sup>318</sup> RRX-18C (Subramanian Direct) at Q. 160.

<sup>&</sup>lt;sup>319</sup> RRX-18C (Subramanian Direct) at Q. 169-71.

<sup>&</sup>lt;sup>320</sup> CIB 97.

<sup>&</sup>lt;sup>321</sup> CIB 97-98.

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SanDisk counters SMI's arguments, [ ] that step (c) requires reading the logical page address in each page of the original block that contains data that has been superseded by pages of data stored in the update block.<sup>324</sup>

SanDisk counters SMI's additional argument that SMI's controllers do not assemble a "data file." According to SanDisk, [

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Respondents assert that Dr. Rhyne's testimony that SMI controllers [

According to Respondents,

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SMI controllers [

<sup>&</sup>lt;sup>322</sup> RIB 39 citing RRX-18C (Subramanian Direct) at Q. 155, 216; RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 174.

 <sup>&</sup>lt;sup>323</sup> RIB 40 citing RRX-18C (Subramanian Direct) at Q. 217; Subramanian, Tr. 1288-89; CX-1008C (Rhyne Direct) at Q. 536; Rhyne Tr. 318; RRX-11C (J. Lee Rebuttal) at Q. 25.
 <sup>324</sup> CIB 98.

<sup>&</sup>lt;sup>325</sup> CIB 98-99.

] 326

SanDisk counters Respondents' argument that [

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] <sup>329</sup>

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The undersigned finds SMI's arguments to be persuasive. The evidence shows that SMI controllers do not store a logical page address within any page of original data,<sup>330</sup> nor do they read any data from an out-of-date page,<sup>331</sup> nor do they assemble a data file during a read operation because the SMI controllers transmit pages one at a time to the host.<sup>332</sup> Accordingly, SMI's controllers do not infringe step (c).

<sup>326</sup> RIB 42-43 citing RRX-18C (Subramanian Direct) at Q. 195; Rhyne, Tr. 329, 585; RRB 22-23.

<sup>&</sup>lt;sup>327</sup> CRB 47-48.

<sup>&</sup>lt;sup>328</sup> SIB 63-64.

<sup>&</sup>lt;sup>329</sup> SIB 63-64.

<sup>&</sup>lt;sup>330</sup> CX-1008C (Rhyne Direct) at Q. 535-38.

<sup>&</sup>lt;sup>331</sup> RRX-18C (Subramanian Direct) at Q. 216.

<sup>&</sup>lt;sup>332</sup> RRX-18C (Subramanian Direct) at Q. 195; Rhyne, Tr. 329

## (3) Skymedi

SanDisk asserts that Skymedi's controllers, [

practice step (c) during a read operation and during a consolidation event. [

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# ] <sup>334</sup>

## Respondents assert that the Skymedi 1603 and 1060F controllers do not[

] Accordingly, Respondents

]

assert that the Skymedi controllers do not read every page from the original block and therefore, do not infringe step (c).<sup>335</sup>

<sup>&</sup>lt;sup>333</sup> CIB 106.

<sup>&</sup>lt;sup>334</sup> CIB 106.

<sup>&</sup>lt;sup>335</sup> RIB 41 citing RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 187, 190-91, 194-95, 199, 210, 212; Rhyne, Tr. 369.

Respondents assert that Skymedi controllers also do not infringe step (c) because its Skymedi controllers [

SanDisk counters Skymedi's argument that it does not practice step (c) because step (c) requires reading the logical page address in each page of the original block for the same reasons that it counters Phison's and SMI's arguments.<sup>338</sup> SanDisk also counters Skymedi's argument that it does not practice step (c) because its controllers do not assemble a "data file" for the same reasons that it counter's SMI's argument.<sup>339</sup>

As to Respondents' first argument, Staff counters that Skymedi's 1603 controllers literally infringe the limitation in step (c) because Skymedi's controllers program [

]<sup>340</sup> Also with respect to Respondents' first argument,

Staff asserts that the evidence shows that the accused Skymedi 1606F controller performs this step at least under the doctrine of equivalents, because it [

] In support, Staff notes that Dr. Mercer testified [

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<sup>1&</sup>lt;sup>337</sup>

<sup>]</sup> 

<sup>&</sup>lt;sup>336</sup> RIB 43 citing RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 225.

<sup>&</sup>lt;sup>337</sup> RIB 43-44 citing CX-1008C (Rhyne Direct) at Q. 506, 511 and RRX-33C (Chang Rebuttal) at Q. 59.

<sup>&</sup>lt;sup>338</sup> CIB 107.

<sup>&</sup>lt;sup>339</sup> CIB 107.

<sup>&</sup>lt;sup>340</sup> SIB 60-61.

[

1 <sup>341</sup>

Staff also counters Respondents' additional argument that the Skymedi controllers do not assemble a "data file." Staff argues that there is no requirement from the claim that the required data file must be assembled and stored in RAM.<sup>342</sup>

The undersigned finds Respondents' arguments to be persuasive. The evidence shows that, neither the Skymedi 1603 or 1606F controllers store a logical page address within any page of original data, nor do they read a logical page address from both a W block (mother block), and a corresponding R block (child block) and thus do not read every page from the original block, nor do they assemble the most up-to-date pages in a data file in the controller memory.<sup>343</sup> Accordingly, neither of Skymedi's accused controllers infringe step (c).

## (4) Conclusion as to Step (c)

As detailed above, the undersigned finds that none of Phison's, SMI's, or Skymedi's controllers meet each and every limitation of claim (c).

## e. Conclusion as to Claim 20

Each and every limitation of claim must be practiced in order for there to be infringement of a claim.<sup>344</sup> As discussed above, SanDisk has not shown, by a preponderance of the evidence, that any of Phison's, SMI's, or Skymedi's accused controllers meet each and every limitation of claim

<sup>&</sup>lt;sup>341</sup> SIB 60-61 citing Mercer, Tr. 1628.

<sup>&</sup>lt;sup>342</sup> SIB 63-64.

<sup>&</sup>lt;sup>343</sup> RRX-34C (Mercer Rebuttal Non-Infringement) at Q. 187, 225.

<sup>&</sup>lt;sup>344</sup> *London*, 946 F.2d at 1538.

20. Accordingly, none of Phison's, SMI's, or Skymedi's accused controllers infringe claim 20 of the '424 patent.

## 3. Claim 24

SanDisk asserts that all of Respondents' flash memory system products that incorporate accused controllers infringe claim 24 of the '424 patent.<sup>345</sup> According to SanDisk, Respondents concede that in the accused products, [

]and that Respondents' own demonstrative

exhibit shows [

] 346

Respondents assert that none of the accused controllers infringe dependent claim 24 because SanDisk has failed to show that the accused controllers infringe independent claim 20. In addition, Respondents assert that dependent claim 24 is also not infringed because claim 24 requires that the offset position of the pages of updated data is caused to be different than the superseded pages of original data.<sup>347</sup> Specifically, Respondents cite to Dr. Rhyne's testimony that claim 24 requires that the physical offset of a page of updated data must be different, and therefore not the same, as the physical offset of the corresponding superseded page of original data.<sup>348</sup> According to Respondents, the key word in claim 24 is the word "causing," which requires that there be a causation that causes the updated data to have different offset positions than the original data.<sup>349</sup> Respondents argue that the doctrine of claim differentiation supports its position when comparing claims 23 and 24, which

<sup>&</sup>lt;sup>345</sup> CIB 62, 72.

<sup>&</sup>lt;sup>346</sup> RRB 48 citing RRDX-17.

<sup>&</sup>lt;sup>347</sup> RIB 44; RRB 24-26.

<sup>&</sup>lt;sup>348</sup> RIB 44 citing Rhyne, Tr. 337.

<sup>&</sup>lt;sup>349</sup> RIB 44-45 citing Subramanian, Tr. 1297.

both depend from claim 20.350

Staff asserts that Respondents do not present any additional non-infringement arguments with regard to claims 24 and 30 other than what was argued with respect to claim 20. Staff agrees with SanDisk that SanDisk has met its burden of proving that the accused controllers can be used to satisfy the additional limitations recited in the dependent claims.<sup>351</sup>

SanDisk counters Respondents' argument that claim 24 requires that the offsets be different 100% of the time. According to SanDisk, there are three problems with Respondents' argument. First, SanDisk asserts that Respondents have raised this issue for the first time in their post-trial brief and that the issue has been waived.<sup>352</sup> Second, SanDisk asserts that Dr. Subramanian conceded that there is "no rule expressly stated in the specification" that the system takes affirmative steps to guarantee that physical offset of data in the update block always be different than the physical offset sed for the original data it supercedes.<sup>353</sup> Finally, SanDisk asserts that Respondents' reference to the doctrine of claim differentiation is not persuasive. According to SanDisk, [

] whereas claim

20 covers both situations in claims 23 an 24.354

Staff also counters Respondents' "causing" argument. Staff asserts that Respondents have raised this "causing" argument for the first time in the post-hearing brief and that the issue has been

<sup>&</sup>lt;sup>350</sup> RIB 45 citing JX-2 (the '424 patent) at col. 16:17-30 and *Curtis-Wright Flow Control* Corp. v. Velan, Inc., 438 F.3d 1374, 1380 (Fed. Cir. 2006) ("Curtis-Wright").

<sup>&</sup>lt;sup>351</sup> SIB 64 citing CX-1008C (Rhyne Direct) at Q. 404-421, 513-525, 585-595.

<sup>&</sup>lt;sup>352</sup> CRB 48-49.

<sup>&</sup>lt;sup>353</sup> CRB 49 citing Subramanian, Tr. 1047-48.

<sup>&</sup>lt;sup>354</sup> CRB 49-50.

waived because it was not preserved in the pre-hearing brief.<sup>355</sup>

The undersigned agrees with SanDisk and Staff that Respondents failed to address their "causing" argument in Respondents' pretrial brief<sup>356</sup>, and therefore failed to preserve this argument under Ground Rule 8.2.

As claim 24 depends from claim 20, and the undersigned has already found that claim 20 is not infringed, claim 24 is also found not to be infringed by any of Respondents' accused products.

### 4. Claim 30

SanDisk asserts that claim 30 is performed by all of Respondents' Flash memory systems whenever an associated host system stores updated data on that system's memory devices.<sup>357</sup>

Staff asserts that Respondents do not present any additional non-infringement arguments with regard to claims 24 and 30 other than what was argued with respect to claim 20. Staff agrees with SanDisk that SanDisk has met its burden of proving that the accused controllers can be used to satisfy the additional limitations recited in the dependent claims.<sup>358</sup>

Respondents assert that because none of the accused controllers practice claim 24, they cannot also practice claim 30, which depends from claim 24.<sup>359</sup>

As claim 30 depends from claims 24 and 20, and the undersigned has already found that claims 24 and 20 are not infringed, claim 30 is also found not to be infringed by any of Respondents' accused products.

<sup>&</sup>lt;sup>355</sup> SRB 11.

<sup>&</sup>lt;sup>356</sup> See Respondents' Pre-Trial Brief at 129.

<sup>&</sup>lt;sup>357</sup> CIB 107.

<sup>&</sup>lt;sup>358</sup> SIB 64 citing CX-1008C (Rhyne Direct) at Q. 404-421, 513-525, 585-595.

<sup>&</sup>lt;sup>359</sup> RIB 2.

## 5. Indirect Infringement

SanDisk asserts that the steps of claims 17, 24, and 30 are performed when the accused Flash memory products are used in the manner that the Respondents intended, which is to store and retrieve data, and that when Respondents' customers in the U.S. use the Respondents' Flash memory products that have an infringing controller, those customers directly infringe these claims. According to SanDisk, Phison, SMI, and Skymedi infringe in two ways: (1) import or sell for importation controllers that infringe claim 24, or (2) import or sell for importation Flash memory systems that contain their respective accused controllers that infringe claim 24.<sup>360</sup>

Staff asserts that, because the method claims of the '424 patent are only directly infringed by domestic purchasers of Respondents' accused flash memory systems or flash memory systems that include Respondents' controllers, when they use such flash memory systems to store data in the United States, SanDisk must establish that the Respondents in this investigation indirectly infringe the asserted claims, either by contributory or induced infringement.<sup>361</sup>

Respondents assert that, in order for there to be a violation of Section 337, SanDisk must prove, by a preponderance of the evidence, that one or more Respondents have engaged in conduct that meets the stringent requirements set forth by the Federal Circuit regarding inducement or contributory infringement. Respondents assert that SanDisk has failed to meet its burden with regard to either type of indirect infringement.<sup>362</sup>

<sup>&</sup>lt;sup>360</sup> CIB 107-08.

 <sup>&</sup>lt;sup>361</sup> SIB 64-65 citing Certain Circuit Board Testers, Inv. No. 337-TA-342, Comm'n Op. (April 1993) ("Certain Circuit Boards").
 <sup>362</sup> RRB 2.

#### a. Inducement

SanDisk asserts that Phison, SMI, and Skymedi ("Controller Respondents") all intended to induce their customers to infringe claims 17, 24, and 30 of the '424 patent. SanDisk argues that ordinary usage of a Flash memory system, including the accused controllers, infringes the '424 patent. According to SanDisk, the Controller Respondents have known that: (1) their own products operated in accordance with its specifications, (2) their customers use the products as they intend, and (3) [

<sup>363</sup> Furthermore,

SanDisk asserts that there is no dispute that Respondents have known about the '424 patent, along with SanDisk's theories of infringement, at least since this investigation began.<sup>364</sup>

Specifically, as to Phison, SanDisk asserts that Phison provides specific technical instructions and support for its products, which affirmatively establishes that Phison intended for its customers to infringe the asserted claims of the '424 patent. For example, Phison provides [

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As to SMI, SanDisk asserts that SMI provides specific technical instructions and support for its products, which affirmatively establishes that SMI intended for its customers to infringe the

<sup>&</sup>lt;sup>363</sup> CIB 108.

<sup>&</sup>lt;sup>364</sup> CRB 50.

<sup>&</sup>lt;sup>365</sup> CIB 108-09 citing JX-121C (Chen Dep) at 16-19, 22-23, JX-131C (Tsay Dep) at 357-58.

asserted claims of the '424 patent. For example, SMI provides its customers with a mass production tool and a reference design, along with providing field application engineers to provide on-site technical support if a customer encounters difficulties.<sup>366</sup>

As to Skymedi, SanDisk asserts that Skymedi [

] which affirmatively establishes that Skymedi intended for its customers to infringe the asserted claims of the '424 patent. For example, Skymedi provides [

] to its

customers. In addition, Skymedi admits that [

] 367

Furthermore, SanDisk argues that [

] According to SanDisk, Federal Circuit case law supports the proposition that failure to obtain an opinion of counsel regarding non-infringement is one of the factors that can be considered in inducement.<sup>368</sup> Finally, SanDisk asserts that [

] and continue to induce their customers to infringe

the '424 patent.<sup>369</sup>

Respondents counter SanDisk's arguments and assert that SanDisk has provided no evidence that Respondents knew their actions would induce actual infringement. Respondents assert that at best, SanDisk has shown that Respondents [

<sup>366</sup> CIB 109 citing JX-141C (Doong Dep) at 115, 251, 270-71; JX-125C (Chien Dep) at 106-08.

<sup>367</sup> CIB 109-110 citing JX-64C (Skymedi stipulation) at ¶F; JX-103C (Chang Dep) at 389-90. See also CX-459C (Skymedi product specification).

<sup>&</sup>lt;sup>368</sup> CIB 111 citing *Broadcom*, 543 F.3d at 699-700.

<sup>&</sup>lt;sup>369</sup> CIB 111-12 citing *Broadcom*, 543 F.3d at 700-01.

[ ] which is insufficient to prove inducement.<sup>370</sup> Furthermore, Respondents assert that SanDisk has provided no evidence to show inducement by Respondents Kingston, Transcend, Apacer, PQI, Imation, and LGE.<sup>371</sup>

Staff asserts that SanDisk has failed to offer any evidence establishing that Respondents affirmatively intended for their customers to infringe the asserted claims of the '424 patent or that Respondents were aware, or should have been aware, that their activities constitute infringement of the asserted claims. Therefore, Staff argues that SanDisk has not satisfied its burden of showing the requisite level of intent under § 271 (b).<sup>372</sup>

SanDisk counters Staff's arguments. According to SanDisk, circumstantial evidence of intent suffices to show inducement and therefore direct evidence is not required.<sup>373</sup>

In order to prevail on inducement, the patentee must show "that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's inducement."<sup>374</sup> Furthermore, the specific intent necessary to induce infringement "requires more than just intent to cause the acts that produce direct infringement."<sup>375</sup> Based on this standard, the undersigned agrees with Respondents and Staff that SanDisk has failed to establish that any of the Respondents in this investigation knowingly induced infringement or possessed specific intent to encourage another's infringement. The evidence presented by SanDisk falls short of the necessary

<sup>375</sup> *DSU*, 471 F.3d at 1306.

<sup>&</sup>lt;sup>370</sup> RRB 3 citing *DSU*, 471 F.3d at 1306.

<sup>&</sup>lt;sup>371</sup> RRB 3.

<sup>&</sup>lt;sup>372</sup> SIB 65-66 citing *DSU*, 471 F.3d at 1306; SRB 12-14.

<sup>&</sup>lt;sup>373</sup> CRB 50 citing *MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.*, 420 F.3d 1369, 1378 (Fed. Cir. 2005) ("*MEMC*").

<sup>&</sup>lt;sup>374</sup> Kyocera Wireless Corp. v. Int'l Trade Comm'n, 545 F.3d 1340, 1353-54 (Fed. Cir. 2008) ("Kyocera").

intent showing for inducement, that is that Respondents possessed a specific intent to cause infringement of SanDisk's patents, as enumerated by the Federal Circuit in *DSU* and *Kyocera*. Accordingly, SanDisk has not shown that Respondents induce infringement of the '424 patent.

## b. Contributory

SanDisk asserts that Respondents contributorily infringe the '424 patent. According to SanDisk, direct infringement occurs at the end-user level, while Respondents supply a component for use in the infringing combinations. SanDisk argues that the component, whether it is the memory system or the controller, has no substantial non-infringing use.

Specifically, SanDisk argues that Respondents' Flash memory products are designed to work with host computers and that host computers routinely request that Flash memory products update data. According to SanDisk, the ability to update data, [ ] is an essential feature of Respondents' Flash memory products when used for their intended purpose. Furthermore, SanDisk asserts that, over the lifetime of a Respondent's Flash memory product, [

]<sup>376</sup> And, according to SanDisk, there is no dispute that Respondents have known of the '424 patent since at least October 2007, which is when SanDisk filed its complaint.<sup>377</sup>

Staff agrees with SanDisk that the evidence establishes that Respondents' accused products have contributed to the infringement of the asserted claims of the '424 patent. In support, Staff cites to Dr. Rhyne's testimony, stating that the accused flash memory systems will be used in an infringing

<sup>&</sup>lt;sup>376</sup> CIB 112.

<sup>&</sup>lt;sup>377</sup> CIB 112.

manner during their normal course of operation.<sup>378</sup> According to Staff, other than the argument that Respondents' controller cannot be used to infringe at all, Respondents did not make any assertions that their accused controllers have additional "substantial noninfringing uses" and are thus exempted from liability for contributory infringement. In addition, Staff asserts that there is no dispute that Respondents have known about the '424 patent at least since this investigation was instituted.<sup>379</sup>

Respondents assert that SanDisk has failed to prove that Respondents had the requisite knowledge of infringement and that the mere knowledge of SanDisk's patent portfolio is insufficient.<sup>380</sup> In addition, Respondents assert that SanDisk has failed to show the absence of substantial non-infringing uses, as SanDisk's own expert testified that the accused products have substantial non-infringing uses, such as for distributing books on flash, rather than using flash for rewriting capabilities.<sup>381</sup>

The undersigned agrees with Respondents that there are substantial non-infringing uses for the accused products, such as using flash as a distribution-medium, such as for distributing books.<sup>382</sup> In addition, the undersigned agrees with Respondents that SanDisk has failed to prove that Respondents knew that the accused products were patented and infringed. Accordingly, the undersigned finds that SanDisk has not established that any of the Respondents contributorily infringe the '424 patent.

### 6. Conclusion as to Infringement

SanDisk has asserted infringement of claims 17, 24, and 30 of the '424 patent against

<sup>&</sup>lt;sup>378</sup> SRB citing Rhyne, Tr. 415-17, 427-28.

<sup>&</sup>lt;sup>379</sup> SIB 65; SRB 14.

<sup>&</sup>lt;sup>380</sup> RRB 4.

<sup>&</sup>lt;sup>381</sup> RRB 5 citing Rhyne, Tr. 427. See also Subramanian, Tr. 1206-07.

<sup>&</sup>lt;sup>382</sup> Subramanian, Tr. 1206-07; Rhyne, Tr. 427.

Respondents. These asserted claims are all "method of use" claims where the accused flash memory systems and controllers themselves do not infringe. Because the accused systems must be operated in a particular manner in order to infringe these claims, liability as to the Respondents can only be based on induced or contributory infringement.

As detailed above, the undersigned has found that SanDisk has not shown, by a preponderance of the evidence, that any of Phison's, SMI's, or Skymedi's controllers infringe claims 17, 24 or 30. Furthermore, the undersigned has found that SanDisk has not shown that Phison, SMI, or Skymedi indirectly infringe the '424 patent, either by inducement or contributory infringement. Accordingly, SanDisk has not shown that any Respondents accused products infringe any of the asserted claims of the '424 patent.

## C. Domestic Industry - Technical Prong

SanDisk asserts that its Flash memory systems with Gen4 firmware practice the methods claimed in claims 17, 24, and 30 of the '424 patent.<sup>383</sup> Staff agrees with SanDisk.<sup>384</sup> Respondents assert that SanDisk does not meet the technical prong of the domestic industry requirement because SanDisk's Gen4 products do not practice all the limitations of claims 17, 24, or 30.<sup>385</sup> Respondents also assert that, much like infringement, if SanDisk's products practice claims 17, 24, or 30, then the '424 patent is surely invalid.<sup>386</sup>

### 1. Claim 17

SanDisk asserts that the steps of method claim 17 are performed by U.S. customers who use

<sup>&</sup>lt;sup>383</sup> CIB 113.
<sup>384</sup> SIB 66-69.
<sup>385</sup> RIB 56.
<sup>386</sup> RIB 3.

a SanDisk Flash memory system as memory for some host device, such as a computer.<sup>387</sup> Staff agrees with SanDisk.<sup>388</sup> Respondents assert that, when step (b) is properly construed as requiring updating "pages" of original data, then SanDisk does not practice claim 17.<sup>389</sup>

## a. Preamble

SanDisk asserts that it is undisputed that its Flash memory systems meet the preamble of claim 17.<sup>390</sup> According to SanDisk, its Flash memory products are non-volatile memory systems with one or more packaged NAND Flash memory products, which include one or more arrays. Each array is organized into sub-arrays, commonly referred to as planes. Within the sub-arrays, the NAND cells are organized as blocks which are the smallest group of cells that are erasable together. Within those blocks, the cells are arranged as pages which are the smallest group of memory storage elements that are programmable together.<sup>391</sup> Staff agrees with SanDisk.<sup>392</sup>

Phison does not address the preamble and therefore does not dispute that the limitations of the preamble are met by SanDisk's controllers.

Accordingly, the undersigned agrees that SanDisk's controllers meet the limitation of the preamble of claim 17.

## b. Step (a)

SanDisk asserts that it is undisputed that its Flash memory systems meet step (a) of claim

<sup>387</sup> CIB 114.
<sup>388</sup> SIB 66-67.
<sup>389</sup> RIB 56; RRB 26.
<sup>390</sup> CRB 51.
<sup>391</sup> CIB 114.
<sup>392</sup> SIB 66-67.

]<sup>394</sup> Staff agrees with

]

SanDisk.395

Phison does not address step (a) and therefore does not dispute that the limitations of step (a) are met by SanDisk's controllers.

Accordingly, the undersigned agrees that SanDisk's controllers meet the limitation of step (a) of claim 17.

c. Step (b)

SanDisk asserts that its controllers meet the limitation of step (b). According to SanDisk,

[

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According to SanDisk, there is no dispute that [

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<sup>&</sup>lt;sup>393</sup> CRB 51.

<sup>&</sup>lt;sup>394</sup> CIB 114-15.

<sup>&</sup>lt;sup>395</sup> SIB 66-67.

<sup>&</sup>lt;sup>396</sup> CIB 115; CRB 51-52.

<sup>&</sup>lt;sup>397</sup> See CX-583C (Exhibit 144D to Complaint).

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Staff agrees with SanDisk and argues that, when claim 17 is properly interpreted to encompass updates to only a single page, or less than a page of data, SanDisk's Flash memory controllers meet the technical prong through the use of its Scratch Pad Block.<sup>399</sup>

Respondents assert that SanDisk's [

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<sup>398</sup> CIB 115.

]

] SRB 15 citing Respondents' Pre-Hearing Brief at 130-45. Upon review of Respondent's prehearing brief, the undersigned finds that the issue was sufficiently preserved so as not be waived. See Respondents' Pre-Hearing Brief at 134-38.

<sup>400</sup> RIB 56 citing RRX-018C (Subramanian Direct) at Q. 228-29; RRB 26.

<sup>401</sup> RIB 57 citing RRX-018C (Subramanian Direct) at Q. 255.

<sup>&</sup>lt;sup>399</sup> SIB 66-67 citing CX-1008 (Rhyne Direct) at Q. 1503; SRB 15-16. In addition, Staff asserts that Respondents should be precluded from arguing that SanDisk's products do not practice step (b) [

As to Respondents' argument that SanDisk's products do not practice step (b) because [ ] SanDisk

counters that Respondents' argument ignores the undersigned's construction of the first portion of step (b) to cover fewer than all pages, *i.e.* a single page. As to Respondents' argument that SanDisk's products do not write updates to only one plane, SanDisk counters that Respondents' position is contrary to the teachings of the '424 patent.<sup>403</sup>

As the undersigned has already made clear in the infringement section, step (b) of claim 17 requires updated *pages*, or more than a single page. The evidence shows that SanDisk's controllers do not meet this limitation because [

J<sup>404</sup> Therefore, SanDisk's controller does not practice step (b) of claim 17. As the undersigned has found that this limitation is not met, the undersigned does not make any findings with regard to Respondent's one plane argument.

### d. Conclusion as to Claim 17

Each and every limitation of claim term must be met in order for the technical prong of the domestic industry requirement to be met. SanDisk has failed to show that its Flash memory controllers practice step (b) of claim 17. Accordingly, SanDisk has failed to show that its controllers meet the technical prong of the domestic industry requirement by practicing claim 17 of the '424 patent.

[

<sup>404</sup> See CX-1008C (Rhyne Direct) at Q. 1503; RRX-018C (Subramanian Direct) at Q. 228-29.

<sup>&</sup>lt;sup>402</sup> RIB 57 citing RRX-018C (Subramanian Direct) at Q. 250-51.

<sup>&</sup>lt;sup>403</sup> RRB 52.

#### 2. Claim 20

#### a. Preamble

SanDisk asserts that it is undisputed that its Flash memory systems that include a SanDisk Flash memory controller meet the preamble of claim 24.<sup>405</sup> According to SanDisk, its Flash memory systems are re-programmable non-volatile memory systems that contain one or more NAND Flash memory devices that partition the memory array into a plurality of blocks that are erasable together as a unit. Furthermore, each of these blocks are divided into a plurality of pages and the memory cells of the page are programmable together as a unit.<sup>406</sup> Staff agrees.<sup>407</sup>

Respondents do not address the preamble and therefore do not dispute that the limitations of the preamble are met by SanDisk's controllers.

Accordingly, the undersigned agrees that SanDisk's controllers meet the limitations of the preamble of step 20.

### b. Step (a)

SanDisk asserts that step (a) is performed by U.S. customers who use a SanDisk Flash memory system as memory for some host device, such as a computer. According to SanDisk, when [

<sup>405</sup> While SanDisk puts its analysis under the heading of claim 24, the other parties detail their arguments under claim 20, which is the independent claim from which claim 24 depends.
<sup>406</sup> CIB 115.

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<sup>&</sup>lt;sup>407</sup> SIB 67.

]<sup>408</sup> Staff agrees with SanDisk that

SanDisk has shown that it practices claim 20.409

Respondents assert that SanDisk's Gen4 products do not practice step (a) of claim 20, and therefore do not practice claims 24 or 30.<sup>410</sup> According to Respondents, SanDisk has failed to prove that its Gen4 products store a logical page offset or the equivalent in the header along with original data. Respondents argue that Dr. Rhyne's testimony [

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SanDisk counters Respondents' arguments and asserts that Respondents are misrepresenting the testimony of Andy Tomlin, a former SanDisk engineer. [

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<sup>&</sup>lt;sup>408</sup> CIB 116.

<sup>&</sup>lt;sup>409</sup> SIB 67.

<sup>&</sup>lt;sup>410</sup> RIB 58 citing RRX-18C (Subramanian Direct) at Q. 272; RRB 26-29.

<sup>&</sup>lt;sup>411</sup> RIB 58 citing JX-95C (Tomlin Dep) at 216.

<sup>&</sup>lt;sup>412</sup> RIB 58 citing JX-95C (Tomlin Dep) at 218.

<sup>&</sup>lt;sup>413</sup> CRB 52-53 citing JX-95C (Tomlin Dep) at 218.

Respondents counter Staff's arguments, which rely upon the testimony of Dr. Rhyne. According to Respondents, the accuracy of Dr. Rhyne's testimony is called into question when considering the testimony of Mr. Tomlin.<sup>414</sup>

The undersigned agrees with SanDisk and Staff that the testimony of Mr. Tomlin does not contradict the testimony of Dr. Rhyne that Gen4 products [

]<sup>415</sup> Accordingly, the undersigned

finds that SanDisk's products practice the limitations of step (a) of claim 20.

# c. Step (b)

SanDisk asserts that Respondents agree that SanDisk's Flash memory systems meet step (b), which is performed by U.S. customers who use a SanDisk Flash memory system as memory for some host device, such as a computer.<sup>416</sup> Staff agrees.<sup>417</sup>

Respondents do not address step (b) and therefore do not dispute that the limitations of step (b) are met by SanDisk's controllers.

Accordingly, the undersigned agrees that SanDisk's controllers meet the limitation of step (b) of claim 20.

# d. Step (c)

SanDisk asserts that its Flash memory products perform step (c) after data has filled an

<sup>&</sup>lt;sup>414</sup> RRB 27-28.

<sup>&</sup>lt;sup>415</sup> JX-95C (Tomlin Dep) at 218.

<sup>&</sup>lt;sup>416</sup> CIB 116-17 citing CX-1008C (Rhyne Direct) at Q. 1501-11. <sup>417</sup> SIB 67.

original block and updates to those data have been placed in an associated update block, and also when they consolidate data. Specifically, SanDisk asserts that [

# ]<sup>418</sup> Staff agrees.<sup>419</sup>

Respondents do not address step (c) and therefore do not dispute that the limitations of step (c) are met by SanDisk's controllers.

Accordingly, the undersigned agrees that SanDisk's controllers meet the limitation of step (c) of claim 20.

#### e. Conclusion as to Claim 20

SanDisk has shown that its Flash memory controllers practice each and every limitation of claim 20. Accordingly, SanDisk has shown that its controllers meet the technical prong of the domestic industry requirement by practicing claim 20 of the '424 patent.

<sup>&</sup>lt;sup>418</sup> CIB 117-18. <sup>419</sup> SIB 67.

### 3. Claim 24

SanDisk asserts that the evidence shows that its Flash memory systems practice claim 24.<sup>420</sup> Staff agrees with SanDisk that SanDisk has shown that it practices claim 24 of the '424 patent.<sup>421</sup> Respondents assert that SanDisk does not practice claim 24 because SanDisk's products [

# ] <sup>422</sup>

SanDisk asserts that Respondents should be precluded from arguing that SanDisk does not practice the "causing" limitation in claim 24 because it was not raised in Respondents' pre-trial brief.<sup>423</sup> Staff also asserts that Respondents should be precluded from arguing that SanDisk does not practice the "causing" limitation in claim 24 because it was not preserved in Respondents' pre-hearing brief.<sup>424</sup>

As to SanDisk's and Staff's argument that Respondents failed to preserve the issue of whether SanDisk meets the "causing" limitation in claim 24, the undersigned agrees with SanDisk and Staff that, upon review of Respondents' pre-hearing brief, Respondents failed to adequately preserve this issue, and therefore the issue is hereby waived and will not be considered.

Accordingly, as Respondents have made no other arguments, other than the "causing" argument which has been rejected, the undersigned finds that SanDisk's Flash memory systems practice claim 24 of the '424 patent.

<sup>&</sup>lt;sup>420</sup> CIB 115-18; CRB 52.

<sup>&</sup>lt;sup>421</sup> SIB 67 citing CX-1008C (Rhyne Direct) at 1513-1552.

<sup>&</sup>lt;sup>422</sup> RIB 59; RRB 28-29.

<sup>&</sup>lt;sup>423</sup> CRB 53-54.

<sup>&</sup>lt;sup>424</sup> SRB 15 citing Respondents' Pre-Hearing Brief at 146-52.

#### 4. Claim 30

SanDisk asserts that because its Flash memory systems meet the claim limitations of claim 24 and that there is no dispute among the parties that these systems are non-volatile and formed within an enclosed card having an electrical connector along one edge that operably connects with a host, there is no dispute that SanDisk's Flash memory system products also practice claim 30.<sup>425</sup> Staff agrees with SanDisk that SanDisk has shown that it practices claim 30 of the '424 patent.<sup>426</sup> Respondents assert that SanDisk does not practice claim 30, because SanDisk does not practice either claims 20 or 24, from which claim 30 depends.<sup>427</sup>

As the undersigned has already ruled above that SanDisk practices claims 20 and 24, and no new arguments have been made with respect to claim 30, the undersigned hereby finds that SanDisk meets the additional limitations in claim 30 and practices claim 30 of the '424 patent.

# 5. Conclusion as to Technical Prong

In order to find the existence of a domestic industry exploiting a patent at issue, it is sufficient to show that the domestic industry practices any claim of that patent, not necessarily an asserted claim of that patent.<sup>428</sup> While SanDisk has not shown that it practices claim 17 of the '424 patent, SanDisk has shown that it practices claims 20, 24, and 30 of the '424 patent. Accordingly, SanDisk has met the technical prong of the domestic industry requirement.

<sup>&</sup>lt;sup>425</sup> CIB 118; CRB 54.

<sup>&</sup>lt;sup>426</sup> SIB 67 citing CX-1008C (Rhyne Direct) at 1513-1552.

<sup>&</sup>lt;sup>427</sup> RIB 59.

<sup>&</sup>lt;sup>428</sup> Certain Microsphere Adhesives, Commission Opinion at 7-16.

#### **D.** Validity

### 1. Ordinary Skill in the Art

The undersigned has already determined that one of ordinary skill in the art is a person with at least a master's degree in electrical engineering, or an equivalent field, as well a few years of experience in the area of non-volatile memory technology.<sup>429</sup>

# 2. Claim 17

# a. Anticipation<sup>430</sup> - The Sinclair '321 Patent & the Sinclair PCT Application

Phison asserts that, if SanDisk's broad interpretation<sup>431</sup> of claim 17 is adopted, then claim 17

is invalid in light of the Sinclair '321 patent.<sup>432</sup>

SanDisk asserts that the Sinclair '321 patent is not prior art to the '424 patent under 35

U.S.C. § 102(e) because it was not published or available until after the '424 patent was filed. As

to Phison's contention that the Sinclair '321 patent is relevant evidence of what was known to others

<sup>431</sup> According to Phison, SanDisk asserts that claim 17 is infringed [

] RIB 70. <sup>432</sup> RIB 70 citing RX-628 (the Sinclair '321 patent).

<sup>&</sup>lt;sup>429</sup> See Order No. 33 at 10.

<sup>&</sup>lt;sup>430</sup> SanDisk asserts that Respondents are precluded from arguing that claim 17 is anticipated because Respondents failed to raise the issue in its pre-hearing brief, as discussed during the prehearing conference. CIB 119, n. 51 citing Bullock, Tr. 36. Respondents counter this assertion, recognizing that, while Respondents could not offer Mr. Kynett's witness statement on the issue because his expert report only argued single-reference obviousness, rather than anticipation, Respondents are not precluded from arguing anticipation during the hearing or in the post-hearing briefs. RRB 29. The undersigned agrees with Respondents that the issue of anticipation of claim 17 is properly before the undersigned because it was addressed in the pre-trial brief, and that the issue before the undersigned during the pre-hearing conference was whether Mr. Kynett could testify regarding anticipation of claim 17 because he failed to raise the issue in his expert report. Accordingly, while Respondents may argue anticipation, they cannot use the testimony of Mr. Kynett to support their contentions.

in the United States and described in a printed publication prior to the invention date of the '424 patent, SanDisk asserts that the only evidence that the subject matter of the Sinclair '321 patent was publicly available prior to the invention date of the '424 patent is two lines of hearsay from the face of the Sinclair '321 patent referencing PCT application PCT/GB00/00550 ("the Sinclair PCT application"). SanDisk asserts that because the Sinclair PCT application is not in evidence, there is simply no way to know for sure exactly what is disclosed in that reference.<sup>433</sup>

Staff agrees that the Sinclair '321 patent itself is not prior art.<sup>434</sup> Staff asserts, however, that there is no dispute that the Sinclair PCT application, which was published on August 4, 2000, qualifies as prior art under § 102(a). Staff argues that it is reasonable to presume that the international application to which the Sinclair '321 patent claims priority shares the same written disclosure as the '321 patent. Therefore, to the extent that the Sinclair '321 patent shares the same written description as the Sinclair PCT application, Staff asserts that the '321 patent is evidence of that prior publication.<sup>435</sup>

Phison counters SanDisk's and Staff's arguments that the Sinclair '321 patent is not prior art. According to Phison, although the Sinclair '321 patent itself was not published until after the filing date of the '424 patent, the Sinclair patent shows on its face that it claims priority back to the published Sinclair PCT application, which was published on August 24, 2000. Phison argues that, with respect to claim 17, the prior art system disclosed in the Sinclair '321 patent is identical to the prior art system disclosed in the published PCT application. Therefore, Phison asserts that the

<sup>&</sup>lt;sup>433</sup> CIB 119-20 citing Go Medical Industries Pty. Ltd. v. Inmed Corp., 471 F.3d 1264, 1270 (Fed. Cir. 2006) ("Go Medical"); CRB 54-56.

<sup>&</sup>lt;sup>434</sup> SIB 69.

<sup>&</sup>lt;sup>435</sup> SIB 69-70; SRB 16-18.

invention of claim 17 was known to others in this country and was described in a printed publication, thereby meeting the requirements of 35 U.S.C. § 102(a).<sup>436</sup>

The undersigned finds the Sinclair '321 patent itself is not prior art because it was not published or available until after the '424 patent was filed.<sup>437</sup> Specifically, the effective filing date of the Sinclair '321 patent is March 5, 2001, which is after the January 19, 2001 filing date of the '424 patent.<sup>438</sup> Therefore, the Sinclair '321 patent is not prior art to the '424 patent.

Furthermore, while the parties do not dispute that the PCT application qualifies as prior art, the undersigned already ruled during the prehearing conference that, because none of the Respondents had listed the PCT application on the notice of prior art, that it would not be considered as prior art for the purposes of this investigation.<sup>439</sup>

Phison and Staff urge the undersigned to consider the Sinclair '321 patent as relevant evidence of what was known to others in the United States as a printed publication prior to the invention date of the '424 patent because the Sinclair '321 patent shares the same disclosure as the PCT application. The undersigned does not find such arguments persuasive. Had one of the parties listed the Sinclair PCT application on the notice of prior art, there would be no dispute that the Sinclair PCT application would be considered prior art to the '424 patent. The Sinclair PCT application, however, was not listed on the notice of prior art. Therefore, any attempt to use the Sinclair '321 patent as relevant evidence as to the written disclosure of the Sinclair PCT application is hereby rejected. Accordingly, the undersigned hereby rejects Phison's arguments that claim 17

<sup>&</sup>lt;sup>436</sup> RIB 76-77 citing *In re Epstein*, 32 F.3d 1559, 1566-67 (Fed. Cir. 1994) ("*Epstein*"); RRB 30-32.

<sup>&</sup>lt;sup>437</sup> See Manual of Patent Examining Procedures ("MPEP") § 2136.03.

<sup>&</sup>lt;sup>438</sup> RX-628 (the Sinclair '321 patent).

<sup>&</sup>lt;sup>439</sup> See Bullock, Tr. 26 (October 23, 2008).

is anticipated by the Sinclair '321 patent.

# b. Single Reference Obviousness - The Sinclair '321 Patent & the Sinclair PCT Application

Alternatively, Phison asserts that if claim 17 is not anticipated by the Sinclair '321 patent or the Sinclair PCT application, that claim 17 is obvious, based on single reference obviousness.<sup>440</sup> As the undersigned has already ruled above that the Sinclair '321 patent and the Sinclair PCT application are not prior art to the '424 patent for this investigation, the undersigned rejects Phison's arguments that claim 17 is invalid based on single reference obviousness of the Sinclair '321 patent.

#### 3. Claims 24 and 30

Respondents assert that, if SanDisk's doctrine of equivalents theory is accepted, there is clear and convincing evidence that the Respondents' accused products, SanDisk's own products, and the prior art become indistinguishable, rendering the patent invalid.<sup>441</sup> Respondents cite to the testimony of Mr. Kynett in support, who asserted that the asserted claims of the '424 patent are invalid if applied as SanDisk advocates in its infringement contentions.<sup>442</sup> According to Respondents, SanDisk offered no testimony or evidence of its own to rebut Respondents' *prima facie* case, thereby putting all of SanDisk's eggs in its "infringement" basket.<sup>443</sup>

SanDisk asserts that claims 24 and 30<sup>444</sup> are valid, which is supported by Respondent's own validity expert, Mr. Kynett, who testified that, if claim 24 is properly construed by the *Markman* 

<sup>&</sup>lt;sup>440</sup> RIB 70, 75-76.

<sup>&</sup>lt;sup>441</sup> RIB 60 citing *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001) ("*Brown*"); RRB 34-35.

<sup>&</sup>lt;sup>442</sup> RIB 60 citing RX-937C (Kynett Direct).

<sup>&</sup>lt;sup>443</sup> RIB 61.

<sup>&</sup>lt;sup>444</sup> As to claim 30, SanDisk asserts that claim 30, which depends from claim 24, is not anticipated or rendered obvious if claim 24 is not anticipated or rendered obvious as well. CIB 131.

order, it is a valid claim.445

Staff agrees with SanDisk that the evidence does not establish that either claims 24 or 30 are invalid.<sup>446</sup>

# a. Anticipation

### (1) The Miyauchi '783 Patent

Respondents assert that claim 24 is invalid as anticipated by U.S. Patent No. 5,627,783 ("the Miyauchi '783 patent").<sup>447</sup> According to Respondents, there is no dispute that the Miyauchi '783 patent qualifies as prior art.<sup>448</sup> Specifically, Respondents assert that Mr. Kynett testified that claim 24 is anticipated by at least the prior art system described in the Miyauchi '783 patent.<sup>449</sup>

With respect to step (a) of claim 20, Respondents assert that the Miyauchi '783 patent discloses storing the same logical address information that SanDisk points to in its own products to satisfy the domestic industry requirement. Specifically, Respondents note that when Dr. Rhyne testified regarding SanDisk's product for domestic industry, a "logical block address" meets the limitation in step (a) because SanDisk's products store six bytes of control data, along with 512 bytes of user data.<sup>450</sup> According to Respondents, the prior art system in the Miyauchi '783 patent does the same thing by storing a logical sector address, along with each 512-byte sector of data.<sup>451</sup> While the terminology used differs, Respondents assert that it is insignificant and that Dr. Rhyne himself uses

<sup>&</sup>lt;sup>445</sup> CIB 125 citing Kynett, Tr. 775-76; CRB 62-64.

<sup>&</sup>lt;sup>446</sup> SIB 76-81; SRB 19.

<sup>&</sup>lt;sup>447</sup> RX-659 ("the Miyauchi '783 patent").

<sup>&</sup>lt;sup>448</sup> RIB 61 at n. 12.

<sup>&</sup>lt;sup>449</sup> RIB 62. Note that Respondents make clear that when referring to the "prior art system" of the Miyauchi '783 patent, Respondents are referring to the system set forth in Figures 10-16 and described at col. 1:9-3:63, which is described as being prior art to that patent. RIB 62, n. 13.

<sup>&</sup>lt;sup>450</sup> RIB 63 citing CX-1008C (Rhyne Direct) at Q.1518-21, 1523; RRB 35-36.

<sup>&</sup>lt;sup>451</sup> RIB 63 citing RX-659 (the Miyauchi '783 patent) at col. 2:53-61, 3:39-57.

the terms "logical block address" and "logical sector address" interchangeably.<sup>452</sup> Furthermore, Respondents argue that according to Dr. Rhyne, it is enough to merely store the logical block address, and it is irrelevant as to whether it is ever used, to satisfy step (a).<sup>453</sup>

With respect to step (c) of claim 20, Respondents assert that the prior art system in the Miyauchi '783 patent elects updated pages of data over old pages sharing the same logical sector address by consulting a table that always contains the locations of the most up-to-date data.<sup>454</sup> According to Respondents, Figure 16 of the Miyauchi '783 patent is the type of lookup function that Dr. Rhyne asserts is infringing the claim.<sup>455</sup>

With respect to the "causing" limitation of claim 24, Respondents assert that SanDisk is applying a double standard for validity and infringement. Respondents argue that, for purposes of infringement, SanDisk finds that it is sufficient that offsets be due to random chance, but that for purposes of validity, SanDisk finds that the Miyauchi '783 patent does not anticipate because it uses different offset locations as a random event.<sup>456</sup>

SanDisk asserts that the Miyauchi '783 patent differs from claim 24 of the '424 patent in three ways. First, that the Miyauchi '783 patent does not write logical addresses with either original or updated data pages.<sup>457</sup> According to SanDisk, Mr. Kynett clearly misunderstood Dr. Rhyne's position regarding what satisfies the "logical page address" limitation.<sup>458</sup> Second, the Miyauchi '783

<sup>&</sup>lt;sup>452</sup> RIB 63-64.

<sup>&</sup>lt;sup>453</sup> RIB 64 citing Rhyne, Tr. 219, 374-76.

<sup>&</sup>lt;sup>454</sup> RIB 65-66 citing RX-659 (the Miyauchi '783 patent) at Fig. 16; RRB 36-37.

<sup>&</sup>lt;sup>455</sup> RIB 66-67 citing CX-1008C (Rhyne Direct) at Q. 396, 402, 498, 578, and 1536.

<sup>&</sup>lt;sup>456</sup> RIB 67-68 citing Rhyne, Tr. 334-45, 348-49.

<sup>&</sup>lt;sup>457</sup> CIB 125-26, 127-28.

<sup>&</sup>lt;sup>458</sup> CIB 126 citing Kynett, Tr. 787-89, 989-94.

patent does not cause updated physical data to have a different offset then original data.<sup>459</sup> Third, the updating method used in the Miyauchi '783 patent does not select the most recently written updated data and omit the earlier written obsolete data with the same logical page address.<sup>460</sup> According to SanDisk, the Miyauchi '783 patent used flags to distinguish old data from new data, a methodology that was disclaimed by the '424 patent. SanDisk argues that Mr. Kynett improperly asserts that the flag disclaimer is limited to claim 18.<sup>461</sup>

Staff agrees with SanDisk that the evidence does not show that claims 24 or 30 are anticipated by the Miyauchi '783 patent. According to Staff, while Respondents acknowledge that the logical sector address taught by the Miyauchi '783 patent does not meet the undersigned's claim construction of "logical page address" which requires both a logical block number and a logical page offset, Respondents argue that the Miyauchi '783 patent teaches the limitation under SanDisk's broad interpretation of the term.<sup>462</sup> Staff asserts that, it is axiomatic in patent law that a product "which would literally infringe if later in time anticipates if earlier." Accordingly, Staff agrees that if the evidence establishes that the Miyauchi '783 patent teaches all the elements of claims 24 and 30 in the same manner interpreted by SanDisk for its infringement and domestic industry contentions, then the Miyauchi '783 patent anticipates the asserted claims. Staff continues to assert, however, that Respondents have failed to meet their initial burden of proving, by clear and convincing evidence, that claims 24 and 30 are invalid.

First, Staff argues that the evidence does not support a finding that the Miyauchi'783 patent

<sup>&</sup>lt;sup>459</sup> CIB 128 citing RX-659 (the Miyauchi '783 patent) at col. 3:39-42, Figs. 15-16; Kynett, Tr. 933-36

<sup>&</sup>lt;sup>460</sup> CIB 128 citing Kynett, Tr. 813-17, 820-21, 926-27, 932.

<sup>&</sup>lt;sup>461</sup> CIB 126-27 citing RX-937C (Kynett Direct) at Q. 103-04.

<sup>&</sup>lt;sup>462</sup> SIB 76-77; SRB 19.

teaches a "logical page address."<sup>463</sup> Second, Staff argues that the Miyauchi '783 patent does not meet the "second plurality of pages" limitation because the Miyauchi '783 patent expressly teaches one page, rather than a plurality of pages where the updated data is programmed into a different offset position than the original data.<sup>464</sup> Third, Staff argues that the Miyauchi '783 patent does not teach any particular method for omitting superceded data. Nor, it is argued, does the Miyauchi '783 patent disclose any process for assembling data portions into a data file, as required by the undersigned's "reading and assembling" limitation in step (c).<sup>465</sup>

As to SanDisk's argument that the Miyauchi '783 patent does not anticipate because it teaches the use of "flags" to distinguish old data, which SanDisk disclaimed in claim 24, Respondents counter that the Miyauchi '783 patent does not ever mention flags. Regardless, Respondents argue that even if flags were mentioned in the Miyauchi '783 patent, the process of selecting updated data is done entirely through the use of the table in Figure 16, where there is no mention of flags being required or used.<sup>466</sup>

As to Staff's argument regarding a plurality of pages, Respondents assert that looking at Figure 13 of the Miyauchi '783 patent shows an actual system where the number of pages in a flash memory block is greater than shown in Figure 16, which only shows a simplified illustration of the system. According to Respondents, looking at Figure 13, it is "virtually certain that at least two of the pages of updates (i.e., a plurality of pages) will have different offsets from the original pages

<sup>&</sup>lt;sup>463</sup> SIB 78.

<sup>&</sup>lt;sup>464</sup> SIB 79 citing Kynett, Tr. 996-97.

<sup>&</sup>lt;sup>465</sup> SIB 79.

<sup>&</sup>lt;sup>466</sup> RIB 67; RRB 37.

being updated."467

As to Staff's argument regarding the "omitting" limitation, Respondents concede that under the undersigned's claim construction, this limitation is not met, but that SanDisk has not used the undersigned's construction when asserting infringement under Respondents' products.<sup>468</sup>

The undersigned has already ruled above in the infringement section that Respondents' accused products do not infringe claims 24 and 30.<sup>469</sup> Respondents concede that, under such an interpretation, that Respondents' invalidity arguments should be rejected. Accordingly, the undersigned finds that Respondents have not shown, by clear and convincing evidence, that claims 24 and 30 of the '424 patent are invalid as anticipated based on the Miyauchi '783 patent.

# (2) The Itoh '563 Patent

Respondents assert that, if SanDisk's overly broad claim construction for infringement is applied, that both claims 24 and 30 are also anticipated by U.S. Patent No. 5,987,563 to Itoh ("the Itoh '563 patent").<sup>470</sup> According to Respondents, their rationale as to anticipation is detailed in the findings of fact and are the same as argued for the Miyauchi '783 patent.<sup>471</sup>

SanDisk asserts that the Itoh '563 patent does not anticipate or render obvious claim 24 or 30.<sup>472</sup> SanDisk notes that because the Itoh '563 patent was considered by the examiner during the prosecution of the '424 patent, the burden of proving invalidity on the basis of the Itoh '563 patent

<sup>467</sup> RRB 39.
<sup>468</sup> RRB 39-40.
<sup>469</sup> See Section IV (B) (3)-(4).
<sup>470</sup> RIB 69.
<sup>471</sup> RIB 69.
<sup>472</sup> CIB 128-31; CRB 64.

alone is "especially difficult."<sup>473</sup> SanDisk asserts that Mr. Kynett's position is flawed based on his misunderstanding of Dr. Rhyne's testimony regarding the "logical block address" limitation.<sup>474</sup>

Staff agrees with SanDisk that the evidence does not show that the asserted claims are anticipated or rendered obvious by the Itoh '563 patent.<sup>475</sup>

The undersigned is hereby dismissing Respondents' anticipation argument based on the Itoh '563 patent as being insufficient and in non-compliance with the undersigned's ground rules and post-hearing briefing page limitations.<sup>476</sup> A mere reference to the Itoh '563 patent, with a statement that the detailed *reasoning* is to be found in the proposed findings of facts, is an attempt to get around the page limitation which all parties are bound by and would give Respondents an unfair advantage. While parties may detail their findings of fact with specific references to the record, exhibits, and testimony, the *reasoning* behind the parties' arguments should be found within the four corners of the brief.

### b. Obviousness

Respondents assert that if SanDisk's overly broad claim construction for infringement is applied, both claims 24 and 30 are obvious in light of the Itoh '563 patent taken in combination with any of other several prior art references including: U.S. Patent No. 5,682,499 to Bakke ("the Bakke '499 patent"), U.S. Patent No. 6,288,862 to Baron ("the Baron '862 patent"), U.S. Patent No. 5,822,781 to Wells ("the Wells '781 patent"), U.S. Patent No. 6,219,752 to Sekido ("the Sekido '752 patent"), JP No. 3,070,539 to Fuse ("the JP '539 patent"), and U.S. Patent No. 6,584,579 to Komatsu

<sup>&</sup>lt;sup>473</sup> CIB 129 citing *Glaxo Group Ltd. v. Apotex, Inc.*, 376 F.3d 1339, 1348 (Fed. Cir. 2004) ("*Apotex*").

<sup>&</sup>lt;sup>474</sup> CIB 129 citing Kynett, Tr. 778-79, RX-937C (Kynett Direct ) at Q. 114.

<sup>&</sup>lt;sup>475</sup> SIB 80-81.

<sup>&</sup>lt;sup>476</sup> See Order No. 2, Ground Rule 11.1; Bullock, Tr. 2,077 (November 5, 2008).

("the Komatsu '579 patent"). According to Respondents, their rationale as to obviousness is detailed in their findings of fact and are the same as argued for the Miyauchi '783 patent.<sup>477</sup>

The undersigned is hereby dismissing all of Respondents' obviousness arguments as being insufficient and in non-compliance with the undersigned's ground rules and post-hearing briefing page limitations, consistent with the ruling above as to anticipation by the Itoh '563 patent.

# c. Secondary Considerations

SanDisk asserts that Respondents fail to address any secondary considerations of nonobviousness, such as the commercial success of SanDisk's products using the inventions in claims 17, 24, and 30 of the '424 patent. According to SanDisk, while the issue of secondary considerations was addressed in its pre-trial brief, Respondents failed to address the issue in their post-trial brief and therefore the issue is now waived under Ground Rule 11.1.<sup>478</sup> Accordingly, SanDisk asserts that the issue of non-obviousness is unrebutted and should be deemed admitted.<sup>479</sup>

As the undersigned has already determined that Respondents' obviousness arguments are dismissed because Respondents did not set forth their obviousness arguments with specificity in their post-hearing brief, the issue of any secondary considerations of obviousness is rendered moot.

#### V. The '011 Patent

#### A. Overview

Claim 8 is the only asserted claim against Respondent Imation, which reads as follows:

- 8. A non-volatile memory card, comprising: a flash EEPROM array, encoded user data stored in a first portion of the array, and data of information useful to decode the encoded user data stored in a second portion of the array, wherein the stored encoded
  - <sup>477</sup> RIB 69.

<sup>&</sup>lt;sup>478</sup> CRB 64.

<sup>&</sup>lt;sup>479</sup> CRB 64.

user data includes encrypted user data, and wherein the information useful to decode the stored encoded user data includes a decryption algorithm, the encoded user data and the decoding information being read from the memory card, and the read encoded user data is decrypted with the read decoding information.

As noted above, the undersigned has already construed the above claims in a Markman order.<sup>480</sup> A

summary of the claims construed in that order is detailed below:

Claim	Term	Construction
8	memory card	A removably connected enclosure of memory.
8	flash EEPROM	Non-volatile semiconductor memory that can be programmed and erased electrically and that must erase one or more blocks at one time.
8	flash EEPROM array	An arrangement of one or more flash EEPROM integrated circuit chips.
8	user data	Data transferred from a host for programming into memory.
8	data of information useful to decode the encoded user data	Information used in the process of decoding encoded user data.
8	decryption algorithm	A prescribed set of defined rules or processes for decryption.

#### **B.** Infringement of Claim 8

#### 1. In General

SanDisk alleges that Respondent Imation, the lone remaining respondent accused of infringing the '011 patent, induces infringement of claim 8 through the sale of Flash memory systems that support the encryption of user data. In order to prove induced infringement, complainant must meet the following statutory standard as set forth by the Federal Circuit in *Kyocera*:

Under 35 U.S.C. § 271(b), "[w]hoever actively induces infringement of a patent shall be liable as an infringer." To prevail on inducement, "the patentee must show, first

<sup>&</sup>lt;sup>480</sup> See Order No. 33.

that there has been direct infringement, and second that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement." *Minn. Mining & Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1304-05 (Fed. Cir. 2002) (citation omitted). In *DSU Med. Corp. v. JMS Co.*, this court clarified en banc that the specific intent necessary to induce infringement "requires more than just intent to cause the acts that produce direct infringement. Beyond that threshold knowledge, the inducer must have an affirmative intent to cause direct infringement." 471 F.3d 1293, 1306 (Fed. Cir. 2006) (en banc review of intent requirement).<sup>481</sup>

## 2. Direct Infringement

# a. Claim Element [a]: "A non-volatile memory card, comprising"

It is undisputed that each accused Flash memory system is a "removably connected enclosure of memory" and therefore a "non-volatile memory card."<sup>482</sup> The accused Flash memory systems are all USB Flash drives.<sup>483</sup> They contain at least one NAND Flash memory integrated circuit chip inside a cover that completely encloses and protects the memory.<sup>484</sup> They can be connected to and removed from a host system via a USB connector port.<sup>485</sup>

# b. Claim Element [b]: "a Flash EEPROM array"

It is also undisputed that each accused Flash memory system has a "Flash EEPROM array" as construed.<sup>486</sup>

<sup>&</sup>lt;sup>481</sup> *Kyocera*, 545 F.3d at 1353 - 1354.

<sup>&</sup>lt;sup>482</sup> ROCFF 15.36 - .39. No objections from Staff.

<sup>&</sup>lt;sup>483</sup> ROCFF 15.37. No objections from Staff.

<sup>&</sup>lt;sup>484</sup> Id.

<sup>&</sup>lt;sup>485</sup> ROCFF 15.38. No objections from Staff.

<sup>&</sup>lt;sup>486</sup> ROCFF 15.41 - 42. No objections from Staff.

c. Claim Element [c]: "encoded user data stored in a first portion of the array, ... wherein the stored encoded data includes encrypted user data"

## (1) Is there encoded user data present in the accused Imation memory cards as imported or sold?

SanDisk alleges that all user data in an accused Imation USB Flash drive is stored in the drive's Flash EEPROM array encoded as binary numbers.<sup>487</sup> SanDisk argues that there is no dispute that encrypted data is a form of encoded data.<sup>488</sup> Thus, SanDisk argues that claim element (c) is met at least because, [as shown below], it has met its burden of proving encrypted user data in each accused system. SanDisk asserts that Imation's argument, which is that this claim element is not met because none of the accused products contains encoded or encrypted user data *when sold by Imation*, is "irrelevant to infringement."<sup>489</sup>

Imation asserts that claim 8 is limited to a memory card storing "encoded user data," including "encrypted user data." Imation asserts that SanDisk cannot establish these limitations are present in the accused Imation memory cards as imported or sold because user data is not present on any memory card until placed there by a user. Imation cites testimony by Dr. Harari and Dr. Min<sup>490</sup> to support its argument.

Staff asserts that Dr. Harari testified only with respect to SanDisk's own products and not with respect to any of Imation's accused products. In any event, Staff asserts Imation's argument was not raised in its pre-hearing brief.

SanDisk stated that it had no objection to Imation's proposed finding of fact RFF 1073,

<sup>&</sup>lt;sup>487</sup> ROCFF 15:45. No objections from Staff.

<sup>&</sup>lt;sup>488</sup> CIB 25.

<sup>&</sup>lt;sup>489</sup> CRB 4.

<sup>&</sup>lt;sup>490</sup> RIB 3-5.

which states that "[n]o user data is present on flash drives until a user places the data there."<sup>491</sup> Thus, the claim element "encoded data stored in a first portion of the array . . . wherein the stored encoded user data includes encrypted user data" is not met with respect to Imation's accused devices by virtue of such data having been installed at the time of sale or import. SanDisk's argument that Imation induces users to store such data in "a first portion of the array" will be dealt with below.

# (2) Does Imation induce its customers to store encoded user data in a first portion of the array ... wherein the stored encoded user data includes encrypted user data?

SanDisk alleges, in its responses to statements by Imation that certain of its products have no user data present until a user places it there, as follows<sup>492</sup>:

- <u>1.</u> Imation Pocket (RFF 7034)
  - CRRFF 7034. Imation advertizes the Pocket as having "storage capabilities ranging from 1GB to 8GB," which make[] it easy to manage and transfer digital files." (CX-622, CX-1007C, Min Q&A 85, 99, 107.)
     CRRFF 7034A. The only reasonable conclusion from Imation's promotion of the D-1 still that I action is the promotion of the D-1 still that
    - the Pocket is that Imation *induces* users to place user data in the Pocket. (CX-622; CX1007C, Min Q&A 85, 99, 107.) [Italics added.]

2. <u>Swivel product (RFF7036)</u>

**CRRFF 7036.** Imation advertises the Swivel for secure data storage. Specifically, Imation advertises a feature of the Swivel as

<sup>492</sup> But see *id*.

<sup>&</sup>lt;sup>491</sup> See CORFF 7031: "No user data is present on flash drives until a user places the data there." In later responses to Respondents' findings of fact, SanDisk challenges this proposed finding of fact. See, for example, CORFF 7045. However, it is clear from its overall arguments that the reason SanDisk opposes this proposed finding of fact is because SanDisk believes that Imation *induces* users to place encoded user data in a first portion of the array.

"[q]uick, reliable, portable data." (CX-622; CX-1007C, Min Q&A 95, 116, 124.)

- **CRRFF 7036A.** The only reasonable conclusion from Imation's promotion of the Swivel is that Imation *induces* users to place data in the Swivel. (CX-622; CX-1007C, Min Q&A 95, 116, 124.) [Italics added.]
- 3. Pivot product (RFF 7037.)
  - **CRRFF 7037.** Imation advertizes the Pivot for secure data storage. Specifically, Imation advertises it as a "Flash Drive" and shows a picture of the Pivot connected to a PC in its packaging. (CX-622; CX-1007C, Min Q&A 94, 136, 140.)
  - **CRRFF 7037A.** The only reasonable conclusion from Imation's promotion of the Pivot is that Imation *induces* users to place data in the Pivot. (CX-622; CX-1007C, Min Q&A 94, 136, 140.) [Italics added.]
- 4. <u>TravelDrive product</u>
  - CRRFF 7038. Imation advertises the TravelDrive for secure data storage. Specifically, Imation's packaging states the TravelDrive is a "Portable USB 2.0 Flash Storage Device." (CX-622; CX-1007C, Min Q&A 89, 147, 155.)
  - **CRRFF 7038A.** The only reasonable conclusion from Imation's promotion of the TravelDrive is that Imation *induces* users to place data in the TravelDrive. (CX-622; CX-1007C, Min Q&A 89, 147, 155.) [Italics added.]
- 5. Mini TravelDrive product
  - **CRRFF 7039.** Imation advertises the Mini TravelDrive for secure data storage. Specifically, Imation's packaging for the Mini TravelDrive calls it a "Portable Storage Device." (CX-622; CX-1007C, Min Q&A 90, 162, 170.)
  - **CRRFF 7039A.** The only reasonable conclusion from Imation's promotion of the TravelDrive is that Imation *induces* users to place data in the TravelDrive. (CX-622; CX-1007C, Min Q&A 90, 162, 170.) [Italics added.]

6. Rotodrive product

**CRRFF 7040.** Imation advertises the Rotodrive for secure data storage. Specifically, Imation's packaging for the Rotodrive proclaims that it is a "Portable USB 2.0 Flash Storage Device." (CX-622; CX-1007C, Min Q&A 91, 177, 185.)

**CRRFF 7040A.** The only reasonable conclusion from Imation's promotion of the Rotodrive is that Imation *induces* users to place data in the Rotodrive. (CX-622; CX-1007C, Min Q&A 91, 177, 185.) [Italics added.]

#### 7. Atom product

**CRRFF 7041.** SanDisk introduced evidence that Imation affirmatively promotes the Atom for secure data storage. Specifically, Imation advertised the Atom as "the ultimate in data storage portability...." (CX-622; CX-1007C, Min Q&A 87.)

**CRRFF 7041A.** The only reasonable conclusion from Imation's promotion of the Atom is that Imation *induces* users to place data on the Atom. (CX-622; CX-1007C, Min Q&A 87.) [Italics added.]

CRRFF 7041B The Imation Atom flash drive is a USB flash drive for which Imation provides ImationLock software. The Atom is sold with ImationLock. (CX-1007C, Min Q&A 87, 92, 99, 114; CPX-37; CX-622.)

**CRRFF 7041C** SanDisk introduced evidence that ImationLock software functions in exactly the same way, whether it is stored on the Pocket, Atom, Nano, Swivel Pro, or Clip products. This includes the way user data is stored in products containing ImationLock. (CX-1007C, Min Q&A 92, 99, 114; CPX-37; CX-622.)

### <u>8.</u> <u>Nano product</u>

CRRFF 7042 SanDisk introduced evidence establishing that Imation affirmatively promotes the Nano for secure data storage. Specifically, Imation advertised the Nano as "combin[ing] a professional design with the performance and storage capacity needed to easily manage and transfer digital files." (CX-1007C, Min Q&A 86; CX-622.) CRRFF 7042A The only reasonable conclusion from Imation's promotion of the Nano is that Imation *induces* users to place user data on the Nano. (CX-1007C, Min Q&A 86; CX-622.) [Italics added.]

CRRFF 7042B The Imation Nano flash drive is a USB flash drive for which Imation provides ImationLock software. The Nano is sold with ImationLock. (CX-1007C, Min Q&A 86, 92, 99, 114; CPX-49; CX-622.)

**CRRFF 7042C** SanDisk introduced evidence that ImationLock software functions in exactly the same way, whether it is stored on the Pocket, Atom, Nano, Swivel Pro, or Clip products. This includes the way user data is stored in products containing Imation Lock. (CX-1007C, Min Q&A 92, 99, 114.)

#### 9. Swivel Pro product

CRRFF 7043 SanDisk introduced evidence establishing that Imation affirmatively promotes the Swivel Pro for secure data storage. Specifically, Imation advertised the Swivel Pro as "the quick and easy way to transfer or share business presentations, digital photos, videos or other large files."(CX-1007C, Min Q&A 95; CX-622.)

**CRRFF 7043A**The only reasonable conclusion from Imation's promotion of<br/>the Swivel Pro is that Imation *induces* users to place user data<br/>on the Swivel Pro. (CX-1007C, Min Q&A 95; CX-622.)<br/>[Italics added.]

- **CRRFF 7043B** The Imation Swivel Pro flash drive is a USB flash drive for which Imation provides ImationLock software and Flash Manager. The Swivel Pro is sold with Flash Manager. (CX-1007C, Min Q&A 95, 99, 114, 130; CPX-57; CX-622.)
- **CRRFF 7043C** SanDisk introduced evidence that ImationLock software functions in exactly the same way, whether it is stored on the Pocket, Atom, Nano, Swivel Pro, or Clip products. This includes the way user data is stored in products containing Imation Lock. (CX-1007C, Min Q&A 92, 99, 114.)

<u>10.</u> <u>Clip product</u>

CRRFF 7044 SanDisk introduced evidence establishing that Imation affirmatively promotes the Clip for secure data storage. Specifically, Imation advertised the Clip as "the ultimate in portable data storage ...." (CX-1007C, Min Q&A 84; CX-622.)

**CRRFF 7044A**The only reasonable conclusion from Imation's promotion of<br/>the Clip is that Imation *induces* users to place user data on the<br/>Swivel Pro. (CX-1007C, Min Q&A 84; CX-622.) [Italics<br/>added.]

CRRFF 7044B The Imation Clip flash drive is a USB flash drive for which Imation provides ImationLock software and Imation Drive Manager software. The Clip is sold with Imation Drive Manager. (CX-1007C, Min Q&A 84, 99, 114, 130; CPX-40; CX-622.)

**CRRFF 7044C** SanDisk introduced evidence that ImationLock software functions in exactly the same way, whether it is stored on the Pocket, Atom, Nano, Swivel Pro, or Clip products. This includes the way user data is stored in products containing Imation Lock. (CX-1007C, Min Q&A 92, 99, 114.)

CRRFF 7044D SanDisk introduced evidence that Drive Manager software functions in exactly the same way, whether it is stored on the Swivel, Swivel Pro, or Clip products. This includes the way user data is stored in products containing Drive Manager. (CX-1007C, Min Q&A 84, 92, 95, 96, 130.)

#### <u>11.</u> <u>M-Flyer product</u>

CRRFF 7045 SanDisk introduced evidence establishing that Imation affirmatively promotes the M-Flyer Pilot for secure data storage. Specifically, Imation advertised the M-Flyer Pilot as "[t]aking portable storage to new heights...." (CX-1007C, Min Q&A 88; CX-622.)

CRRFF 7045A The only reasonable conclusion from Imation's promotion of the M-Flyer Pilot is that Imation *induces* users to place user data on the M-Flyer Pilot. (CX-1007C, Min Q&A 88; CX-622.) [Italics added.]

CRRFF 7045B	The M-Flyer Pilot flash drive is a USB flash drive for which
	Imation provides Portable Vault software. The M-Flyer pilot
	is sold with Portable Vault. (CX-1007C, Min Q&A 88,147,
	161; CPX-43; CX-622.)

**CRRFF 7045C** SanDisk introduced evidence that Portable Vault software functions in exactly the same way, whether it is stored on the Travel Drive or M-Flyer Pilot products. This includes the way user data is stored in products containing Portable Vault. (CX-1007C, Min Q&A 88-90,147, 161.)

SanDisk also argues that Imation's argument that it did not have knowledge of the '011 patent as required to prove infringement was not raised in Imation's prehearing brief and therefore is waived pursuant to the undersigned's Ground Rule 8.2. Even if the argument is not deemed to waived, SanDisk argues that Imation certainly had knowledge of the patent after it was served with the complaint in this proceeding.

Imation argues that SanDisk has failed to establish liability for inducement under § 271(b) because it has failed to demonstrate an affirmative intent to cause direct infringement. Specifically, SanDisk has not shown that Imation knew of the patent and also that SanDisk, at best, has shown only a general intent by Imation to cause infringement, rather than a specific intent to cause direct infringement.

Staff argues that all of Imation's induced infringement arguments were waived pursuant to Ground Rule 8.2.

For the reasons set forth below, it is determined that SanDisk has not shown that Imation has induced its customers to store encoded user data in a first portion of the array. In the first instance, the burden is on complainant to show inducement. Therefore, the arguments relied upon below presented no undue surprise to SanDisk or Staff and thus are not deemed waived pursuant to Ground Rule 8.2.493

SanDisk's argument with respect to each of the accused products regarding inducement is, in essence, that the only reasonable conclusion from Imation's promotion of each specific product is that Imation induces the user to place user data on the accused product. This conclusion is based upon language in Imation's advertising with respect to each product, as set forth in detail above. However, a review of Federal Circuit precedent indicates that inferences from this type of advertising do not meet the standard of specific intent on the part of the alleged infringer to induce infringement. As the Court has stated, the specific intent necessary to induce infringement "requires more than just intent to cause the acts that produce direct infringement. Beyond that threshold knowledge, the inducer must have an affirmative intent to cause direct infringement."494 A level of specific intent required by the Court has not been shown to be present in this case. Accordingly, SanDisk has not demonstrated the Imation's accused products meet claim element (c): "encoded user data stored in a first portion of the array" because Imation has not been shown to induce users to store encoded user data on a first portion of the array. Because this claim element has not been shown to have been infringed by any of Imation's accused products, there is no need to discuss any of the other elements of claim 8.

For the reasons stated above, none of Imation's products have been shown to have infringed claim 8 under the standard of induced infringement.

### C. Domestic Industry - Technical Prong

SanDisk argues that SanDisk's Cruzer Micro product embodies the elements of claim 8 of

 <sup>&</sup>lt;sup>493</sup> As the undersigned does not rely on Imation's argument that it had no knowledge of the
 '011 patent, no determination is made with respect to Ground Rule 8.2 regarding this argument.
 <sup>494</sup> DSU, 471 F.3d at 1306.

the '011 patent.<sup>495</sup> Staff does not dispute SanDisk's practice of the '011 patent citing Dr. Min's testimony.<sup>496</sup> Imation does not challenge SanDisk's contention.<sup>497</sup> For these reasons, it is determined that SanDisk has met the technical prong of the domestic industry requirement.

## D. Validity

# 1. Ordinary Skill in the Art

The undersigned has already determined that one of ordinary skill in the art is a person with at least a master's degree in electrical engineering, or an equivalent field, as well a few years of experience in the area of non-volatile memory technology.<sup>498</sup>

### 2. Obviousness

# a. Maniscalco in Combination with Izawa and Knowledge of a Person of Ordinary Skill in the Art

Staff argues that claim 8 is obvious in light of the teachings of the Maniscalco reference.<sup>499</sup> Staff states that the Maniscalco reference is a magazine article in which the author presents a highly secure data-encryption algorithm (called "Crypt") as well as a challenge offering a reward to any reader who can decrypt an encoded message published therein.<sup>500</sup> Staff states that the article, the testimony of Dr. Min, and the knowledge of one of ordinary skill in the art, teach all of the limitations of claim 8. Staff also cites the Izawa reference<sup>501</sup> as support for its contentions.

Imation supports Staff's position. Imation asserts that SanDisk's argument that Maniscalco

<sup>495</sup> CX-752 (Stipulation).

<sup>&</sup>lt;sup>496</sup> CX-1007 (Min Direct) at Q. 251-57.

<sup>&</sup>lt;sup>497</sup> CX-752 (Stipulation).

<sup>&</sup>lt;sup>498</sup> See Order No. 33 at 10.

<sup>&</sup>lt;sup>499</sup> RX-125 (Maniscalco Article).

<sup>&</sup>lt;sup>500</sup> *Id.* at 93.

<sup>&</sup>lt;sup>501</sup> RX-120 (Izawa).

is not pertinent prior art is not supported.

SanDisk argues that none of the prior art references cited by Staff and Imation are pertinent prior art because they are not sufficiently related to the field of flash memory technology such that one of ordinary skill in the art would have considered them to be analogous prior art. In fact, it is argued, to combine certain of the cited references would render them inoperable. In sum, SanDisk asserts that Staff and Imation have not demonstrated that Maniscalco, in combination with Izawa or the knowledge of one of ordinary skill in the art, discloses, teaches or even suggests the limitations of claim 8.

The contention of Staff and Imation that claim 8 is obvious is persuasive for the reasons set forth below. The Maniscalco reference is a magazine article in which the author presents a highly secure data-encryption algorithm (called "Crypt") as well as a challenge offering a reward to any reader who can decrypt an encoded message published therein.<sup>502</sup> The article indicates that "[t]he full source code in C, an executable version of Crypt, and the encoded message are available from the R-E BBS and on IBM PC format diskette from the author."<sup>503</sup>

At the hearing, Complainant's expert Dr. Min testified that Maniscalco teaches all the limitations of claim 8 except for a "non-volatile memory card," "a flash EEPROM array," and the requirement that the encoded user data must be programmed into the flash memory. <sup>504</sup> For example, Dr. Min acknowledged that the message offered by Maniscalco can be both "encoded" and "user data."<sup>505</sup> Although the algorithm offered by Maniscalco has the capacity to encrypt and decrypt only

<sup>503</sup> Id.

<sup>&</sup>lt;sup>502</sup> RX-125 (Maniscalco Article) at 93.

<sup>&</sup>lt;sup>504</sup> Min, Tr. 2021:17 - 2022:2.

<sup>&</sup>lt;sup>505</sup> Min, Tr. 2019:8 - 22.

plain text ASCII files, Dr. Min acknowledged that claim 8 is not limited to any particular type of encoded user data, and could therefore include the type of file that is disclosed in Maniscalco.<sup>506</sup>

With respect to the elements that Dr. Min testified are missing, i.e., "a non-volatile memory card," "a flash EEPROM array," and the requirement that the encoded user data must be programmed into the flash memory, this is in essence to say that Maniscalco does not use flash memory. But flash memory was well known in the art and existed long before the November 11, 1993 invention date of the '011 patent.<sup>507</sup> The Izawa article, dated December 7, 1989, and published by February, 1990, is entitled "Digital Still Video Camera Using Semiconductor Memory Cards."508 The Izawa article discloses that "in recent years, electronic still cameras using a two-inch magnetic floppy disk have been gradually introduced into the commercial market."509 The article then proceeds to disclose the movement from floppy disks for the storage of digital photography to "digital picture data store in a memory card" containing flash memory, including a flash memory card with a flash EEPROM.<sup>510</sup> The '011 patent itself discusses how flash EEPROM memory cards may be used as a replacement for removable (floppy) magnetic disks because floppy disks are "relatively slow, bulky and require high precision moving mechanical parts." <sup>511</sup> The '011 patent also states that "[t]here is currently underway an effort to apply non-volatile Flash EEPROM memory systems for mass storage applications. For example, they are intended to replace either of

<sup>&</sup>lt;sup>506</sup> *Id.* at Tr. 2024:11-23.

<sup>&</sup>lt;sup>507</sup> RX-120 (Izawa).

<sup>&</sup>lt;sup>508</sup> RX-120 (Izawa) at RX-0120.0002.

<sup>&</sup>lt;sup>509</sup> *Id.* at 1.

<sup>&</sup>lt;sup>510</sup> Id. at 2; Min, Tr. 1960:6-12.

<sup>&</sup>lt;sup>511</sup> JX-3 (the '011 patent), col. 1:45-47.

the existing fixed or removable floppy magnetic disk systems, or both."<sup>512</sup> Therefore, one of ordinary skill in the art would have found it obvious to replace the floppy disk offered by Maniscalco with a flash EEPROM array memory card.

SanDisk's argument that the Maniscalco reference is not pertinent is not persuasive. Just because a reference does not exactly encompass the precise class of products as the patent at issue does not determine the issue. As the Supreme Court has said, "familiar items may have obvious uses beyond their primary purposes.<sup>513</sup> More specifically, while one of the Maniscalco article's purposes is to "present a challenge offering a reward to any reader who can decrypt an encoded message" from the author,<sup>514</sup> it is nonetheless pertinent art in the general field of encryption and decryption, which are features recited for the memory card of claim 8. Dr. Min admitted that the "Crypt" program distributed by Maniscalco is a "decryption algorithm" and that the encoded message is "encrypted user data."<sup>515</sup> Although Maniscalco does not disclose a flash EEPROM memory array, it does teach that a decryption algorithm can be stored along with encrypted user data in a portable storage medium (i.e., a floppy disk). But SanDisk argues that the floppy disk is irrelevant to the problem presented by Maniscalco because it was one of three ways in which the code-breaking challenge was distributed. However, one of ordinary skill in the art would have found it obvious to take the information stored on the floppy disk distributed by Maniscalco and store it onto other portable storage media available at the time, which included flash EEPROM memory cards. Flash memory was well known in the art and existed long before the November 11, 1993 invention date of the '011

<sup>&</sup>lt;sup>512</sup> *Id.* at col.1:66 -2:3.

<sup>&</sup>lt;sup>513</sup> *KSR*, 127 S. Ct. at 1742.

<sup>&</sup>lt;sup>514</sup> RX-125 (Maniscalco Article) at 93.

<sup>&</sup>lt;sup>515</sup> Min, Tr. 2021:17 - 2022:2

patent.<sup>516</sup> The '011 patent itself discusses how Flash EEPROM memory cards may be used as a replacement for removable (floppy) magnetic disks because floppy disks are "relatively slow, bulky and require high precision moving mechanical parts." <sup>517</sup> The '011 patent also states that "[t]here is currently underway an effort to apply non-volatile Flash EEPROM memory systems for mass storage applications. For example, they are intended to replace either of the existing fixed or removable floppy magnetic disk systems, or both."<sup>518</sup>

SanDisk also asserts that Maniscalco teaches away from the secure, portable memory card of claim 8 because Maniscalco describes storing the decryption algorithm on, and executing it from the host. However, claim 8 states nothing about whether encryption algorithm must be stored on the host computer. Dr. Min has testified that the phrase "being read from the memory card" in claim 8 requires the capability to transfer the encoded user data and decoding information out of the memory card.<sup>519</sup> As such, the fact that the host computer may ultimately execute the decryption algorithm disclosed by Maniscalco is entirely consistent with a correct construction of claim 8. Furthermore, there is nothing to suggest in Maniscalco that the Crypt algorithm must necessarily be stored on the host computer in order to be executed. Indeed, Maniscalco discloses than an "executable version of Crypt" is provided on the IBM format diskette.<sup>520</sup> Therefore, there is no suggestion that Crypt must be loaded onto the hard drive of a host computer before it is executed.

SanDisk also asserts that Maniscalco teaches away from the limitation that the "read encoded user data is decrypted with the read decoding information" because Maniscalco teaches several times

<sup>&</sup>lt;sup>516</sup> RX-120 (Izawa).

<sup>&</sup>lt;sup>517</sup> JX-3 (the '011 patent). col. 1:45-47.

<sup>&</sup>lt;sup>518</sup> *Id.* at col.1:66 -2:3.

<sup>&</sup>lt;sup>519</sup> CX-1007C (Min Direct) at Q. 65.

<sup>&</sup>lt;sup>520</sup> RX-125 (Maniscalco Article).

that the ciphertext stored on the diskette cannot be decrypted with the Crypt program because necessary decoding information is not provided. However, it is undisputed that any individual who possesses the decoding information (*i.e.*, the "key"), which would include at least the author of the article, will be able to decrypt the read encoded user data with the read decoding algorithm.<sup>521</sup> Therefore, Maniscalco does not teach away from this limitation.

SanDisk argues that Maniscalco discloses the decryption algorithm "stored in a second portion of the array" as required by claim 8. SanDisk states that, under Imation's argument, the undersigned is to suppose that the ciphertext and the Crypt program are stored separately in a first and second portion of the floppy diskette, respectively. SanDisk argues that the only evidence in Maniscalco suggests that they are stored in a single file.

In the first instance, SanDisk's own expert witness Dr. Min testified that in his expert opinion this claim element was met by the Maniscalco reference.<sup>522</sup> In any event, under the standard of *KSR*, this does not seem to be an insurmountable change for one of ordinary skill in the art to make. Accordingly, SanDisk's argument is rejected.

#### b. Secondary Considerations

#### (1) Long-felt Need

SanDisk argues that there was a considerable need in the Flash memory industry to have secure yet highly portable storage of data in a Flash environment and the memory card recited in claim 8 met that need. It is alleged that others failed for years to meet that need. SanDisk asserts that although Maniscalco was published in 1988, Imation has adduced no evidence explaining why no

<sup>521</sup> Id

<sup>&</sup>lt;sup>522</sup> Min, Tr. 2021:17 - 2022:2.

one arrived at the combination of claim 8 in the five years before SanDisk invented it. SanDisk argues that Staff and Imation have advanced no evidence to refute its contentions.

Imation states that SanDisk has not shown the requisite nexus between long-felt need and the alleged invention. It argues that both flash memory and data protection contained on a portable memory device were known in the prior art. Imation states that the asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art, which SanDisk has failed to do.

SanDisk's argument is not persuasive. While SanDisk has shown a five-year period between the Maniscalco article and the date of issuance of the patent, it must also show a sufficient relationship between the secondary consideration and the patented invention.<sup>523</sup> It has not demonstrated the required nexus, other than to state that Imation did not explain the 5-year interval. Therefore, SanDisk has not shown long-felt need.

## (2) Unexpected Results

SanDisk alleges that the invention of claim 8 produced unexpected results for the industry and is alleged to have been a major breakthrough because it provided portability for secure data, a portability which did not exist prior to the invention.

Imation states that SanDisk has not showed unexpected results because claim 8 is nothing more than Maniscalco, a portable storage device that includes security in the form of data encryption, updated with flash memory technology that was already available at the time of the issuance of the '011 patent. The idea of securing data on any portable device with security features, such as encryption, is neither novel nor a major breakthrough.

<sup>&</sup>lt;sup>523</sup> Demaco, 851 F.2d at 1392.

SanDisk's argument is not persuasive. As discussed in the previous section, a portable storage device that includes security in the form of data encryption, updated with flash memory technology, was already available at the time of the date of issuance of the patent. Again, SanDisk has not shown any unexpected results that can be said to be the result of claim 8.<sup>524</sup> Accordingly, SanDisk has not shown unexpected results.

### (3) Commercial Success and Industry-Wide Recognition

SanDisk asserts that the combination of portability and security in relatively inexpensive Flash memory products, as defined in claim 8, led to enormous commercial success for these devices, as well as commercial acknowledgment of their importance. SanDisk argues that the portability security features of claim 8 contributed directly to the industry-wide recognition of the value of the invention and its commercial success. SanDisk asserts that this is the reason for its increase in total product revenues from [ ] More specifically, SanDisk alleges that the increase in the revenues generated by SanDisk Cruzer USB drives (which embody claim 8 of the '011 patent) from over [

] is due to claim 8.

Imation states that the testimony of Dr. Harari supports the proposition that the criteria applied in the two July 2004 Editor's Choice awards won by SanDisk's Cruzer Titanium USB flash drive. Dr Harari acknowledged that in granting the awards, the CNET editor stated that the Cruzer drive includes a trinity of useful utilities and superior durability at a competitive price per megabyte. The CruzerLock encryption utility represents only one of the five features identified by Dr. Harari and is not even specifically mentioned. Imation states that the enhanced productivity enabled the fast

<sup>524</sup> Id.

write speed of the Cruzer products as the primary feature driving commercial success. With respect to SanDisk's increase in overall revenues, there is no evidence to tie the overall revenues to the invention of claim 8.

SanDisk's arguments are not persuasive. Dr. Harari has testified that success was due to may factors, including but not limited to, the trinity of useful utilities,<sup>525</sup> superior durability,<sup>526</sup> competitive price,<sup>527</sup> innovative features,<sup>528</sup> and ease of use.<sup>529</sup> With respect to the sales revenues, there is no nexus shown between the increased sales revenues and the invention of claim 8. "[S]imple sales figure[s] with no evidence of a nexus" to the claimed invention are insufficient to overcome clear and convincing evidence of obviousness.<sup>530</sup> Accordingly, for the reasons stated above, SanDisk has not demonstrated industry-wide recognition and commercial success.

## c. Conclusion

For all of the reasons stated above, claim 8 has been shown to be obvious in light of Maniscalco, Izawa, and knowledge of one of ordinary skill in the art. There have been no showings of secondary considerations of obviousness. In light of this finding of obviousness, there is no need to consider the other possible bases for a finding of obviousness presented in this proceeding.

#### 3. Indefiniteness

Imation argues that claim 8 of the '011 patent is indefinite and invalid as a matter of law under 35 U.S.C. ¶ 112, ¶ 2 because it is a hybrid claim combining an apparatus with two method

<sup>&</sup>lt;sup>525</sup> Harari, Tr.1529:3 - 1530:1.

<sup>&</sup>lt;sup>526</sup> Id.

<sup>&</sup>lt;sup>527</sup> Id.

<sup>&</sup>lt;sup>528</sup> Harari, Tr. 1535:10 -23.

<sup>&</sup>lt;sup>529</sup> Id.

<sup>&</sup>lt;sup>530</sup> Teleflex Inc. v. KSR Int'l Co., 298 F. Supp.2d 581, 596 (E.D. Mich.) ("Teleflex"), aff'd 550 U.S. 398, 127, 1745.

elements. Imation asserts that claim 8 is directed to an apparatus – a "memory card" – and it contains two steps: (1) encoded user data and decoding information must be <u>read</u> from the memory card and (2) the read encoded user data must be <u>decrypted</u> with the read decoding information. As such, it is alleged, claim 8 is invalid because it is indefinite in that it is not sufficiently precise so as to provide competitors with the ability to determine whether the presence of a memory card alone infringes claim 8, or whether it is the use of a memory card in a particular way that constitutes infringement. Imation states that its argument is supported by *IPXL*,<sup>531</sup> is distinguishable from *Microprocessor Enhancement*,<sup>532</sup> and is supported by the testimony of Dr. Min and Dr. Harari. Imation asserts that it rejects SanDisk's argument that this situation is similar to that found in *Microprocessor Enhancement* and related cases because those cases contain functional language that states that the claimed apparatus is capable of performing some act and do not, like the instant case, describe active use.<sup>533</sup>

SanDisk argues that claim 8 is not indefinite. It argues that Imation's reliance on *IPXL* is misplaced because that case is a narrow one that has rarely been used to find a claim indefinite since its issuance in 2005. In most cases since *IPXL*, it is argued, including the Federal Circuit's *Microprocessor Enhancement* decision, courts have found that suspect claims did not cover both an apparatus and a method, but rather were apparatus claims containing functional limitations. Further,

<sup>&</sup>lt;sup>531</sup> IPXL Holdings, L.L.C. v. Amazon.com, Inc., 430 F.3d 1377, 1384 (Fed. Cir. 2005) ("IPXL").

<sup>&</sup>lt;sup>532</sup> Microprocessor Enhancement Corp. v. Texas Instruments Inc., 520 F.3d 1367 (Fed. Cir. 2008) ("Microprocessor Enhancement").

<sup>&</sup>lt;sup>533</sup> Imation also attempts to incorporate by reference an argument from its pre-hearing brief that claim 8 is also invalid because it violates 35 U.S.C. ¶ 101. RIB 27, n. 7. The arguments in post trial briefs are to be self-contained. Otherwise the undersigned's page limits on post trial briefs would be meaningless. Accordingly, Imation's ¶ 101 argument will not be considered.

it is argued, the testimony cited by Imation does not adequately support Imation's position. SanDisk states that, like *Microprocessor Enhancement* and similar cases, the language of claim 8 describes an apparatus and contains language that indicates that the structures cited in the claim are capable of performing certain actions.

Staff supports SanDisk's position that claim 8 is not indefinite. Staff asserts that Imation is misreading the functioning of claim 8. It is argued that it is not the memory card that is capable of reading the encoded data and decoding data, and decrypting the read encoded user data with the read decoding information because, among other things, the claim itself recites "the encoded user data and decoding information being read from the memory card." Thus, Staff argues that the claim requires only the capability of a connected host system to be able to read the encoded user data and decoding information from the memory card, and that the read decoding information is capable of being decrypted by the host system with the read decoding information. It cites to the specification of the '011 patent as further support for its position.

Imation's arguments are not persuasive. Like the situation in *Microprocessor Enhancement*, claim 8 is an apparatus claim that indicates a structure, a non-volatile memory card, which is capable of having the "encoded user data and the decoding information being read from the memory card, and the read encoded user data is decrypted with the read decoding information."<sup>534</sup> Imation, who has the burden of proving this affirmative defense, has not shown the this claim is insolubly ambiguous. Accordingly, Imation's argument that claim 8 is indefinite is rejected.

## 4. **Prosecution Laches**

Imation argues that SanDisk's claim for relief under the '011 patent is barred by the doctrine

<sup>&</sup>lt;sup>534</sup> JX-3 (the '011 patent), claim 8, col. 15 - 16.

of prosecution laches because there has been an unreasonable delay in prosecuting the patent. Imation asserts that SanDisk did not file a patent claim directed to encryption/decryption until approximately nine years after the filing date of the application to which the '011 patent claims priority. Imation states that the '011 patent claims an effective date of November 12, 1993. After filing the '428 application, Imation filed six continuation-in-part or continuation patent applications. Imation argues that SanDisk did not file any claims directed to encryption/decryption in those six patent applications. It was only in the seventh continuation application that SanDisk filed claims directed to encryption/decryption.

SanDisk and Staff assert that Imation has not presented sufficient evidence to support a finding of prosecution laches.

The undersigned agrees that Imation has not made a sufficient showing to justify a finding of prosecution laches. A showing of a nine-year delay as alleged by Imation, absent more, is insufficient to justify a finding of prosecution laches. Imation has failed to meet the criteria of the Federal Circuit's *Symbol Technologies* decision<sup>535</sup> which are (1) an unreasonable delay, (2) that there was no explanation for the delay, and (3) that the delay caused prejudice to the accused infringer. While Imation has alleged a delay, it has not shown that the delay was unreasonable, and that the delay caused prejudice to the infringer. Accordingly, Imation's affirmative defense of prosecution laches is rejected.

<sup>&</sup>lt;sup>535</sup> Symbol Techs., Inc. v. Lemelson Med., Educ. & Res. Found., 422 F.3d 1378, 1385 (Fed. Cir. 2005) ("Symbol Technologies").

### VI. Patent Misuse

#### A. Tying Arrangement

Respondents assert that SanDisk's licensing policy constitutes improper tying of its U.S. patent rights to worldwide royalty payments and constitutes per se patent misuse or an improper tying arrangement under a rule of reason analysis.

#### 1. Per Se

Respondents argue that SanDisk demands worldwide royalties of [ ] on all licensed products, which include flash memory system products, such as USB drives and flash memory cards, whether or not they are covered by a SanDisk patent.<sup>536</sup> Respondents assert that conditioning a patent license on payment of royalties for products not covered by a patent amounts to patent misuse.<sup>537</sup> According to Respondents, there is no dispute that both of the asserted patents are jurisdictionally limited to the United States. Therefore, Respondents argue that SanDisk's conditioning of its U.S. patent rights on worldwide royalties amounts to patent misuse, rendering its asserted U.S. patents unenforceable.<sup>538</sup>

Respondents assert that a *per se* patent misuse tying claim requires four elements: (1) two products, (2) the sale of a product conditioned on the sale of another product, (3) sufficient market power to compel the purchaser to purchase the tied product; and (4) the tying arrangement affects a non-insubstantial amount of commerce.<sup>539</sup>

<sup>&</sup>lt;sup>536</sup> RIB 78.

<sup>&</sup>lt;sup>537</sup> RIB 78 citing Zenith Radio Corp. v. Hazeltine Research, Inc., 395 U.S. 100, 135-36 (1969) ("Zenith Radio").

<sup>&</sup>lt;sup>538</sup> RIB 78.

<sup>&</sup>lt;sup>539</sup> RIB 79 citing Eastman Kodak Co. v. Image Tech. Servs., 504 U.S. 451, 461-62 (1992) ("Eastman Kodak").

As to the first *Eastman Kodak* factor, Respondents argue that there are two separate relevant markets. According to Respondents, the first relevant market is the removable solid state storage (RS3) product market that is geographically defined as being global, while the second relevant market is the technology or rights to practice or use the RS3 technology that is geographically defined as being only in the U.S. Respondents assert that, with respect to the second relevant market, SanDisk has not provided, nor do Respondents need, any technological "know-how." Rather, all that is needed for RS3 operations in the U.S. is permission to use the RS3 technology in the U.S. from patent holders, including SanDisk, who have patent rights covering the RS3 technology needed to manufacture RS3 products.<sup>540</sup>

As to the second *Eastman Kodak* factor, Respondents assert that the first product is SanDisk's U.S. patent rights to use the RS3 technology, while the second product is SanDisk's foreign rights to use the RS3 technology.<sup>541</sup> Respondents assert that SanDisk is using its U.S. rights to the RS3 technology to force the payments of royalties through the licensing of its non-U.S. intellectual property. In other words, Respondents assert that SanDisk uses its U.S. rights to the RS3 technology as the "tying product" to obligate the licensing of SanDisk's non-U.S. rights, the "tied product," to thereby collect royalties on a worldwide basis.<sup>542</sup>

As to the third *Eastman Kodak* factor, Respondents assert that SanDisk itself believes that it possesses market power in the RS3 technology market because SanDisk asserts that it is unaware of any existing RS3 products in the form of USB flash drives or CF cards that do not infringe at least one of its U.S. patents in its entire U.S. patent portfolio. Respondents argue that SanDisk's "take-it-

<sup>&</sup>lt;sup>540</sup> RIB 79-80.
<sup>541</sup> RIB 80.

<sup>&</sup>lt;sup>542</sup> RIB 80.

or-leave-it" approach to its licensing and settlement negotiations is further evidence of SanDisk's market power in the RS3 technology market.<sup>543</sup>

As to the last *Eastman Kodak* factor, Respondents assert that requiring Respondents to pay royalties on a worldwide basis in order to obtain a license to SanDisk's U.S. rights affects a vast amount of commerce. Respondent Kingston estimates that if it were required to pay royalties on a worldwide basis, such royalties would amount to [

] which is the typical term of a SanDisk license.<sup>544</sup>

SanDisk asserts that, in order to prove patent misuse based on tying, Respondents must establish the following five elements: (1) market power; (2) tying of patents that constitute distinct products; (3) coercion; (4) harmful effects on competition; and (5) absence of procompetitive benefits.<sup>545</sup> According to SanDisk, Respondents have not established any of the elements.

First, SanDisk asserts that Respondents' expert offered no opinion regarding market power with respect to the product market for Flash memory systems.<sup>546</sup> Second, SanDisk asserts that Respondents have failed to prove that SanDisk ties two separate products. According to SanDisk, its Flash memory system license involves a single product, which is the right to use SanDisk's technology relating to the interoperation of Flash memory controllers, Flash memory chips and other parts of a memory system.<sup>547</sup> Third, SanDisk asserts that Respondents have failed to prove coercion. According to SanDisk, many companies have chosen to license SanDisk's technology accepting

<sup>&</sup>lt;sup>543</sup> RIB 81.

<sup>&</sup>lt;sup>544</sup> RIB 81-82.

<sup>&</sup>lt;sup>545</sup> CIB 134 citing Jefferson Parish Hosp. Dist. No. 2 v. Hyde, 466 U.S. 2 (1984) ("Jefferson Parish"); Philips, 424 F.3d 1179.

<sup>&</sup>lt;sup>546</sup> CIB 134.

<sup>&</sup>lt;sup>547</sup> CIB 135-36.

SanDisk's terms, while others have negotiated different terms, but that none have complained of coercion.<sup>548</sup> Fourth, SanDisk asserts that Respondents have failed to prove that there is an adverse impact on competition resulting from SanDisk's proposed license terms. According to SanDisk, the focus of the inquiry is not on companies purchasing the technology, but on providers of alternative technologies. And SanDisk asserts that when the focus is not on the Respondents, but on alternative technology providers, Respondents have failed to show a negative effect on commercially available technology.<sup>549</sup> In addition, SanDisk asserts that higher prices do not necessarily constitute anticompetitive harm.<sup>550</sup> Finally, SanDisk asserts that even if Respondents could show anticompetitive efforts from SanDisk's licensing practices, the procompetitive efficiencies outweigh those effects.<sup>551</sup> According to SanDisk, in this industry, the channels of distribution and use make it very difficult to track where Flash memory products are shipped, sold, and used.<sup>552</sup> Therefore, SanDisk and its licensees chose to enter into worldwide portfolio cross-licenses that eliminate the administrative difficulties that they would otherwise face.<sup>553</sup> In addition, SanDisk asserts that it wants its licensees to have worldwide design freedom because SanDisk does not want to undertake the burdens of monitoring its licensees' activities worldwide to determine if they infringe any

<sup>550</sup> CIB 138 citing Jefferson Parish, 466 U.S. at 14.

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<sup>551</sup> CIB 140-41.

<sup>552</sup> CIB 141 citing CRX-220C (Harari Rebuttal) at Q. 82; JX-114C (Harari Dep) at 138-40, 158-59, 160-61; CRX-226C (Thompson Witness Statement) at Q. 186-92; JX-151C (Mehotra Dep.) at 73-75; CRX-221C (Hausman Rebuttal) at Q. 71-85.

<sup>553</sup> [

<sup>&</sup>lt;sup>548</sup> CIB 136-37.

<sup>&</sup>lt;sup>549</sup> CIB 137-38.

unlicensed SanDisk patents.554

Staff agrees with SanDisk that the evidence does not support a finding of patent misuse based on improper tying under either the per se or rule of reason analysis.<sup>555</sup> Staff agrees with SanDisk that, under 35 U.S.C. § 271(d), a "per se" patent misuse defense may not even be a viable claim for licensing arrangements that condition the rights of any patent of the sale of a patented product to the rights in another patent or sale or purchase of a separate product.<sup>556</sup> Staff also agrees with SanDisk that SanDisk's worldwide license can be considered a single "product" consisting of the freedom to use SanDisk's patented technology for flash memory system products anywhere in the world.<sup>557</sup>

As to Respondents' argument that there is one market for SanDisk's U.S. patent rights while a separate market exists for the right to sell products covered by SanDisk's U.S. patents in other countries worldwide, Staff asserts that, while the evidence shows that SanDisk possesses "market power" with regard to its U.S. patent rights, the evidence does not show that tying those rights to worldwide sales has an anticompetitive effect. In support, Staff cites to Dr. Hausman's testimony, which references the FTC/DOJ Guidelines for the Licensing of Intellectual Property.<sup>558</sup> Staff agrees with SanDisk that there are many procompetitive benefits and efficiencies from requiring a worldwide license, rather than a U.S.-only license, because it may not be feasible for SanDisk to offer a "country-by-country" license because it is difficult, if not impossible, to track sales of Respondents'

<sup>&</sup>lt;sup>554</sup> CIB 142.

<sup>&</sup>lt;sup>555</sup> SIB 94-95.

<sup>&</sup>lt;sup>556</sup> SIB 95 citing 35 U.S.C. § 271(d); *Philips*, 424 F.3d at 1186.

<sup>&</sup>lt;sup>557</sup> SRB 26.

<sup>&</sup>lt;sup>558</sup> SIB 96-97 citing CRX-221C (Hausman Rebuttal) at Q. 25; CRX-14 (DOJ and FTC Antitrust Guidelines for the Licensing of IP).

products where SanDisk possesses patent rights over those products.<sup>559</sup> According to Staff, the Federal Circuit has recognized that portfolio licenses can eliminate the potential for future disputes between the parties and avoid litigation.<sup>560</sup>

SanDisk asserts that Respondents err as a matter of law in asserting a per se theory of tying because courts have recognized that portfolio licensing of patents is fundamentally different from tying the sales of two physical products and therefore, the per se doctrine does not apply to package licenses.561

SanDisk also asserts that its licensing terms do not apply outside the scope of its patented technology and that the terms have no anticompetitive effect.<sup>562</sup> According to SanDisk, tying is a rational activity that occurs throughout the economy. SanDisk argues that patent holders frequently license their portfolios as a package, which is lawful, efficient, and beneficial to both sellers and consumers.<sup>563</sup> In support, SanDisk asserts that the Federal Circuit has recognized the lawfulness and efficiency of portfolio licensing.<sup>564</sup> Specifically, in *Philips*, the Federal Circuit held that a package of patents, which are all necessary to practice a technology, is one product, rather than a tying arrangement.<sup>565</sup> According to SanDisk, *Philips* is controlling here because SanDisk's worldwide portfolio licenses also involve a single product-a covenant not to sue the licensee for products in the

<sup>&</sup>lt;sup>559</sup> SIB 97-98 citing CRX-221C (Hausman Rebuttal) at Q. 70, 72; *Philips*, 424 F.3d at 1192; SRB 26-27.

<sup>&</sup>lt;sup>560</sup> SRB 27 citing *Philips*, 424 F.3d at 1192-93.

<sup>&</sup>lt;sup>561</sup> CRB 67 citing Texas Instruments, Inc. v. Hyundai Elecs. Indus., 49 F.Supp.2d 893, 912 (E.D. Tex. 1999) ("Texas Instruments"); In re Recombinant DNA Tech. Patent & Contract Litig., 850 F.Supp. 769, 775 (S.D. Ind. 1994) ("Recombinant DNA"); Philips, 424 F.3d 1186, n. 1. <sup>562</sup> CIB 132.

<sup>&</sup>lt;sup>563</sup> CIB 132-33 citing CRX-221C (Hausman Rebuttal) at O71-94; Mangum, Tr. 1761.

<sup>&</sup>lt;sup>564</sup> CIB 133 citing *Philips*, *supra*.

<sup>&</sup>lt;sup>565</sup> *Id.* at 1196.

specified field of use regardless where in the world the products are manufactured, assembled, shipped, sold or used.<sup>566</sup> SanDisk asserts that its worldwide portfolio licensing achieves substantial procompetitive benefits in the form of ease of administration, worldwide freedom of design and operation, and patent peace with licensees.<sup>567</sup>

Respondents counter SanDisk and Staff's argument that tying cannot be per se patent misuse, citing to *Certain Set-Top Boxes*.<sup>568</sup>

As to the issue of whether or not tying can or cannot constitute per se patent misuse, the undersigned agrees with SanDisk and Staff that in *Philips*, the Federal Circuit called into question whether tying arrangements should be analyzed under per se patent misuse.<sup>569</sup> As the Federal Circuit did not specifically hold that such an analysis is improper, the undersigned agrees with Respondents that the issue may be raised. While the undersigned agrees that the issue may be raised, the undersigned does not find Respondents' arguments to be persuasive.

The undersigned agrees with SanDisk and Staff that SanDisk offers a portfolio licensing of patents, which is different from tying the sale of two physical products. The undersigned also agrees with SanDisk and Staff that SanDisk has shown that there are many procompetitive benefits and efficiencies from requiring a world-wide license, rather than a U.S.-only license. For example, SanDisk has shown evidence that it is not feasible for SanDisk to offer a "country-by-country" license because it is difficult, if not impossible, to track sales of Respondents' products where

<sup>&</sup>lt;sup>566</sup> CIB 133.

<sup>&</sup>lt;sup>567</sup> CIB 134.

<sup>&</sup>lt;sup>568</sup> RRB 41-42 citing *Certain Set-Top Boxes*, Inv. No. 337-TA-454, Final Initial Determination (November 8, 2002).

<sup>&</sup>lt;sup>569</sup> *Philips*, 424 F.3d at 1186, n. 1.

SanDisk possesses patent rights over those products.<sup>570</sup> In addition, portfolio licenses can eliminate the potential for future disputes between the parties and avoid litigation.<sup>571</sup> Furthermore, the undersigned agrees with SanDisk and Staff that Respondents have not sufficiently shown that there are two separate products that are tied.

Accordingly, the undersigned finds that Respondents have not shown that SanDisk's licensing policy constitutes improper tying of its U.S. patent rights to worldwide royalty payments such that it would constitute per se patent misuse.

## 2. Rule of Reason

Respondents assert that SanDisk's worldwide licensing scheme creates a threat of harm and restriction on trade, constituting an improper tying arrangement under the rule of reason analysis. According to Respondents, SanDisk has failed to provide any evidence that a worldwide license is necessary. Respondents assert that SanDisk has not performed any valuation of the worldwide royalty rate that it charges under its standard licensing terms or what royalty rate it may be able to charge for a U.S.-only license. Respondents argue that SanDisk's failure to provide any evidence of Respondents' need for foreign rights ends the inquiry into whether there are any efficiencies to be gained from a worldwide license. Respondents further argue that the costs associated with SanDisk's worldwide royalty payments exceed any alleged efficiencies.

Respondents argue that in a standard SanDisk license agreement, [

] Because

<sup>&</sup>lt;sup>570</sup> CRX-221C (Hausman Rebuttal) at Q. 70, 72.

<sup>&</sup>lt;sup>571</sup> *Philips*, 424 F.3d at 1192-93.

there is an obligation to pay a royalty payment even if the licensee designs around SanDisk's patent, Respondents argue that there is a decreased motivation to innovate, which threatens product variety and consumer choice.<sup>572</sup> Furthermore, Respondents assert that there is a harm to consumers because of potential price increases, which are either passed onto consumers in the RS3 market, a decrease in funding for product development, or the decision by certain companies to exit the market.<sup>573</sup>

Respondents argue that there are less restrictive alternatives than a worldwide royalty, such as a U.S.-only license. Respondents assert that certain Respondents are able to track which sales are made in the U.S., which would make calculation of a U.S.-only license feasible.<sup>574</sup>

Respondents assert that SanDisk has provided no evidence of any need by any of the Respondents for any of SanDisk's foreign patent rights. Therefore, Respondents assert that, because there is no evidence of a demonstrated need, SanDisk's claims that there are procompetitive benefits to a worldwide license are unfounded.<sup>575</sup>

SanDisk asserts that Respondents have failed to prove any of the required elements of a rule of reason patent misuse claim. Specifically, SanDisk asserts that Respondents are asking the undersigned to assume that SanDisk's licenses extend the power of its patents. According to SanDisk, the evidence shows that its licenses do not extend its power over any non-patented technologies or products.<sup>576</sup> Furthermore, SanDisk asserts that Respondents have failed to prove

<sup>&</sup>lt;sup>572</sup> RIB 84.

<sup>&</sup>lt;sup>573</sup> RIB 85.

<sup>&</sup>lt;sup>574</sup> RIB 86-87.

<sup>&</sup>lt;sup>575</sup> RRB 42-43.

<sup>&</sup>lt;sup>576</sup> CRB 74 citing *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 704 (Fed. Cir. 1992) ("*Mallinckrodt*").

anticompetitive effects or establish the absence of efficiencies resulting from SanDisk's licenses.<sup>577</sup>

Staff agrees with SanDisk that the evidence does not support a finding of patent misuse based on improper tying under the rule of reason analysis.<sup>578</sup>

Respondents counter SanDisk's arguments regarding the "market." According to Respondents, SanDisk is improperly collapsing the two separate markets of its U.S. patents and foreign patents into one market. Respondents argue that rights to U.S. patents covering a particular technology are a properly defined product market for assessing a tying arrangement.<sup>579</sup>

Respondents also assert that SanDisk overstates the holding in *Philips*. According to Respondent, in *Philips*, the Federal Circuit assessed a tying claim of alleged "non-essential" U.S. patents included as part of a patent portfolio and did not assess conditioning a license to U.S. patents on licensing foreign patents.<sup>580</sup> Similarly, Respondents assert that SanDisk's reliance on *Texas Instruments* is also misplaced. According to Respondents, in *Texas Instruments* the parties were engaged in concurrent litigation in several foreign countries, whereas here SanDisk has not even alleged that any of the Respondents infringe any of its foreign patents.<sup>581</sup>

Respondents argue that SanDisk improperly dismisses the threat of harm and restraint on competition from raising rivals' costs and limiting their ability to compete, which support a finding of patent misuse. Respondents argue that because SanDisk has never determined what a royalty rate would be for a U.S.-only license, SanDisk cannot claim that there is no harm from charging a

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<sup>&</sup>lt;sup>577</sup> CRB 74 citing *Minebea Co. v. Pabst*, 444 F.Supp.2d 68 (D.D.C. 2006) ("*Minebea*"); CRB

<sup>&</sup>lt;sup>578</sup> SIB 94-95.
<sup>579</sup> RRB 43 citing *Certain Set-Top Boxes*, Inv. No. 337-TA-454.
<sup>580</sup> RRB 43-44.
<sup>581</sup> RRB 44.

worldwide license royalty rate.582

SanDisk counters Respondents' reliance on *PSC*, which SanDisk argues only emphasizes Respondents' failure of proof in this investigation.<sup>583</sup>

The undersigned agrees with SanDisk and Staff that the evidence does not show that SanDisk extends its licensing power over any non-patented technologies or products. Furthermore, as already found above, Respondents have failed to establish the absence of efficiencies resulting from SanDisk's portfolio licenses. Accordingly, the undersigned finds that Respondents have not shown that SanDisk's licensing policy constitutes an improper tying arrangement under a rule of reason analysis.

#### **B. Double Royalties**

Respondents assert that the unique structure of SanDisk's standard license agreement results in the impermissible double payment of royalties for the same patents on the same products. According to Respondents, SanDisk enters into licenses with many flash memory device manufacturers, that either cover flash memory devices or flash memory systems. Respondents assert that, because one "use" of a flash memory chip is in a flash memory system and because the license includes the "uses" of flash memory chips, licensed flash memory chips include a license relating to flash memory systems, as well as flash memory devices, which has already been paid for. Respondents assert that SanDisk's charge of a royalty on flash memory systems constitutes a double royalty on the licensed flash memory chips.<sup>584</sup>

Respondents argue that flash memory chips, standing alone, have no meaningful independent

<sup>&</sup>lt;sup>582</sup> RRB 44.

<sup>&</sup>lt;sup>583</sup> CRB 74-75.

<sup>&</sup>lt;sup>584</sup> RIB 88.

value other than in conjunction with a controller or controller functionality that interfaces with the memory chip to enable sending or retrieving information stored on the memory chip.<sup>585</sup> Respondents argue that SanDisk's licensing scheme, which charges a royalty on the full price of the flash memory system from the flash memory system manufacturers, after having charged a royalty on the memory chips from the memory manufacturers, results in SanDisk's double royalties at different levels of commerce. Respondents argue that because of the lack of independent value of licensed memory chips outside of a flash memory system, the royalty paid by SanDisk's flash memory system. When SanDisk charges a royalty on the full price of the flash memory system. When SanDisk charges a royalty on the full price of the flash memory system, Respondents argue that this is a double royalty on the flash memory chip.<sup>586</sup> Respondents assert that the double royalty increases the price to consumers for RS3 products, which is harmful to consumers, and therefore constitutes patent misuse.<sup>587</sup>

SanDisk asserts that, in order to prove patent misuse based on double royalties, Respondents must show the following four elements: (1) collection of two royalties for the same set of patent rights; (2) the resulting extension of the scope of the patent grant; (3) causing anticompetitive effect; and (4) under the rule of reason, the absence of pro-competitive benefits.<sup>588</sup> According to SanDisk, Respondents have not established any of the elements. First, SanDisk asserts that it collects royalties for two distinct sets of technologies, covered by two sets of patent rights, which are licensed to different groups of users for the manufacture of different products. Specifically, SanDisk asserts that

<sup>&</sup>lt;sup>585</sup> RIB 89-90.

<sup>&</sup>lt;sup>586</sup> RIB 90.

<sup>&</sup>lt;sup>587</sup> RIB 90-91.

<sup>&</sup>lt;sup>588</sup> CIB 143 citing *Mallinckrodt*, 976 F.2d at 708.

one set relates primarily to technologies used entirely inside memory chips, while the other set relates mainly to technologies involving the integration fo the controller, the memory chips, the firmware and the other parts of a memory system.<sup>589</sup> As an example, SanDisk points to the [

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Second, SanDisk asserts that Respondents have failed to prove that SanDisk's licensing program extends beyond the scope of its patent grant because SanDisk only collects royalties for: (1) those Flash memory chips that use SanDisk's chip technology and, independently of the licensing arrangement, would be subject to SanDisk's Flash memory chip patents, and (2) those systems that use SanDisk's Flash memory and, independently of the licensing arrangement, would be subject to SanDisk's Flash memory system patents.<sup>591</sup>

Third, SanDisk asserts that Respondents have failed to prove the existence of an antitrust market involving unpatented goods in which competing technologies are excluded and competition is foreclosed. According to SanDisk, anticompetitive harm requires proof of injury to competition as a whole, not just injury to one company. In addition, higher prices do not necessarily constitute anticompetitive harm.<sup>592</sup>

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<sup>&</sup>lt;sup>589</sup> CIB 145 citing CRX-220C (Harari Rebuttal) at Q. 47,83-86; CRX-226C (Thompson Witness Statement) at Q. 47-58; JX-146C (Chernicoff Dep.) at 50-52.

<sup>&</sup>lt;sup>590</sup> [

<sup>&</sup>lt;sup>591</sup> CIB 146-47 citing CRX-226C (Thompson Witness Statement) at Q. 123-24.

<sup>&</sup>lt;sup>592</sup> CIB 147-48 citing U.S. v. Microsoft, 253 F.3d 34, 58 (D.C.C. 2001) ("Microsoft") and (continued...)

Finally, SanDisk asserts that its licensing program is procompetitive because it ensures that the appropriate amount of royalties is paid at each level.<sup>593</sup>

Staff agrees with SanDisk that Respondents have failed to establish patent misuse based on double royalties. According to Staff, the evidence shows that the royalties collected by SanDisk from the flash memory chip manufacturers pay for a different set of patent rights than the royalties that SanDisk seeks to collect from Respondents in this investigation.<sup>594</sup> For example, Staff notes that it is undisputed that the licenses that SanDisk has granted to the flash memory chip manufacturers includes a "field of use" provision that limits the licensed field of use to only flash memory chips, and, therefore, does not include the sale and importation of Respondents' accused products.<sup>595</sup>

Respondents assert that SanDisk's citations and application of the law on double royalties is wrong, particularly, SanDisk's reliance on *Mallinckrodt* and *C.R. Bard*, which do not even address double royalties. Respondents assert that a case that is directly on point is *PSC*.<sup>596</sup> As to SanDisk's argument that flash memory chips have other uses other than in the accused memory systems, Respondents counter that in *PSC*, the fact that a double royalty may not be collected in every instance does not absolve the misuse conduct of the patent holder.<sup>597</sup> In addition, Respondents counter SanDisk's argument that it only collects royalties for flash memory systems that use SanDisk's flash memory system patent because there is evidence that SanDisk collects a royalty

<sup>&</sup>lt;sup>592</sup>(...continued)

Rambus Inc. v. U.S.I.T.C., 522 F.3d 456, 464 (D.C.C. 2008) ("Rambus").

<sup>&</sup>lt;sup>593</sup> CIB 149.

<sup>&</sup>lt;sup>594</sup> SIB 99-100 citing *Mineabea*, *supra*.

<sup>&</sup>lt;sup>595</sup> SIB 100 citing CRX-226C (Thompson Witness Statement) at Q. 67-68, 80; SRB 27.

<sup>&</sup>lt;sup>596</sup> RRB 46-47 citing *PSC Inc. v. Symbol Technologies, Inc.*, 26 F.Supp.2d 505 (W.D.N.Y. 1998) ("*PSC*").

<sup>&</sup>lt;sup>597</sup> RRB 48.

under its standard license agreement whether or not a flash memory system is covered by any of SanDisk's patents.<sup>598</sup> Specifically, Respondents cite to evidence that[

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[

SanDisk asserts that Respondents' double royalty argument misses the fundamental point that

and royalty provisions specify that the type of product manufactured determines for which patents and rights royalties are paid. SanDisk asserts that [

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] According to SanDisk, the field of use

Put simply, Respondents argue that SanDisk is collecting double royalties as follows. First, SanDisk collects a first royalty from its licensed memory manufacturers. Second, SanDisk collects a "second" royalty from the flash memory system product manufacturers when they incorporate the flash memory chip into a flash memory system. In Respondents' view, SanDisk is extracting two payments for the same product on the same patents, which imposes an unreasonable restraint on competition by either increasing the cost for flash memory systems, or decreasing the profit margin of flash memory system manufacturers.

In the undersigned's view, while there is evidence that SanDisk has patents that overlap between its field of use for flash memory devices and flash memory systems, the evidence shows that chip manufacturers and system manufacturers pay for a different set of rights. The undersigned

<sup>&</sup>lt;sup>598</sup> RRB 48 citing Thompson, Tr. 1385-87.

<sup>&</sup>lt;sup>599</sup> RRB 48-49 citing RX-455 § 5.14.

<sup>&</sup>lt;sup>600</sup> CRB 73-74.

agrees with SanDisk and Staff that Respondents' double royalty argument fails because SanDisk's licenses to systems manufacturers [

] The evidence shows that the field of use and royalty provisions specify that the type of product manufactured determines for which patents and rights royalties are paid.<sup>601</sup> Accordingly, the undersigned finds that Respondents have not shown that SanDisk's licensing policy results in the impermissible double payment of royalties for the same patents on the same products.

#### VII. Patent Exhaustion

#### A. **Positions of the Parties**

Imation argues that SanDisk has licensed the manufacture of non-volatile memory chips (licensed flash memory chips), which are incorporated into Imation's accused downstream flash memory products. These licensed chip manufacturers are said to include [

] It is asserted that these licenses grant the flash memory chip manufacturers unrestricted rights to make, use, and sell their flash memory chips under SanDisk's entire patent portfolio, including all of the patents-in-suit in this investigation. Imation states that SanDisk seeks to exclude Imation's accused downstream flash memory products because they contain unlicensed controllers alleged to infringe the patents-in-suit in this investigation. Imation argues that this activity is precluded under the doctrine of patent exhaustion.

Imation argues that the United States Supreme Court in Quanta<sup>602</sup> reaffirmed the

<sup>601</sup> Г

602 Quanta, supra.

]

longstanding doctrine of patent exhaustion as articulated in *Universal Lens*.<sup>603</sup> Imation asserts that under that doctrine, for the patents-in-suit to be exhausted, a showing of an authorized sale of a patented article must occur and the article accused of infringement must sufficiently embody the patent. It is stated that the license that covers the flash memory chips operates as an authorized sale for downstream products that contain the memory chips. Imation also argues that the licensed flash memory chips necessarily embody the patents-in-suit because: (1) the chips are the most material and necessary component of the accused flash memory products at issue in this investigation; and (2) their reasonable and intended use is to be finished under the SanDisk patents covered by the licenses, including the '011 and '424 patents. Therefore, it is argued that SanDisk's rights in the '011 and '424 patents are exhausted by virtue of the unconditional licenses that cover the licensed flash memory chips contained in the accused products.

Imation asserts that SanDisk's license agreements with [

] Even if SanDisk were to prove that

the agreements have such provisions, Imation argues that this would, at best, give SanDisk contractual remedies against its licensees, but has no effect on the exhaustion of the patents.

With respect to the '011 patent, Imation asserts that because claim 8 requires the presence of "flash EEPROM" and "flash EEPROM arrays," the claimed method cannot be practiced without

<sup>603</sup> United States v. Univs. Lens, Inc. 316 U.S. 241 (1942) ("Universal Lens").

flash memory. Also, Imation argues that the flash memory chip described in claim 8 is the same flash memory chip that is contained in the accused Imation products. Finally, it is asserted, it is undisputed that the flash memory chips contained in the accused Imation products are licensed under SanDisk's patent portfolio, which includes the '011 patent. Imation argues that it follows that one cannot practice claim 8 of the '011 patent without the licensed flash memory.

Imation also argues that the reasonable and intended use of the licensed flash memory chips is to practice SanDisk's licensed patents including claim 8 of the '011 patent. It is argued that SanDisk has presented no evidence whatsoever in support of its assertion that the '011 patent is not exhausted or that there are substantial non-infringing uses of the licensed flash memory other than incorporation into flash memory systems that practice both the '011 and '424 patents.

Imation states that the licensed flash memory chips are not required to completely practice the patents such that everything inventive about the patents are embodied in the chips. Imation argues that the test is whether the licensed article embodies essential features of the patented invention even if the licensed article only partially practices the patent.

With respect to SanDisk's argument that the sale of licensed flash memory chips by the licensees were not authorized because SanDisk's license agreements with [

## ]First, Imation states that SanDisk raised this argument

for the first time in its initial post-hearing brief and therefore the undersigned is urged to not consider this argument because it was not set forth in SanDisk's pre-hearing brief as required by Ground Rule 8.2. In the alternative, if the undersigned does consider this argument on the merits, Imation argues that there is nothing in the licensing agreements that supports SanDisk's position. Imation's arguments with respect to claim 17 of the '424 patent are similar to its arguments regarding the '011 patent. It states that the '424 patent relates to "metablock operation," which is said to be a method for storing data in "metablocks" within a memory system and then updating portions of that data. Imation asserts that the licensed flash memory chips embody essential features of claim 17 and that the reasonable and intended use of the licensed flash memory chips is to practice SanDisk's licensed patents, including claim 17 of the '424 patent. Imation states that the testimony of Dr. Rhyne as to substantial uses of flash memory chips other than to practice claim 17 of the '424 patent is not supported by the evidence in this proceeding. It is stated that the only other uses cited by Dr. Rhyne were not current examples or applications. Imation makes similar arguments with respect to dependent claims 24 and 30 of the '424 patent.

In addition, with respect to both patents, Imation argues that it is specifically licensed to import its accused products. Imation asserts that the two patents, as part of SanDisk's overall portfolio of patents, are included in cross-licenses with [ ]Imation also argues that it has an implied license to import its accused products.

SanDisk argues that its licenses of its chip-related patent claims to chip manufacturers does not exhaust its rights with respect to systems manufacturers. SanDisk states that its chip licensees manufacture and sell free-standing Flash memory *chips* only. It is asserted that these chips do not embody the inventive features of the patents-in-suit, and have significant non-infringing uses. The patents-in-suit, the '011 and the '424 patents, are said to be system patents rather than chip patents. SanDisk asserts that just because Imation uses licensed chips in the products it imports and sells, this does not give Imation the right to import and sell systems that contain the licensed chips.

It is argued that Imation has failed to sustain its burden of proving that free-standing flash

memory chips embody the essential features of the inventions of the '424 and '011 patents. Specifically, SanDisk argues that the '424 patent relates to management of data in a flash memory system, and the '011 patent relates to storing encrypted data and the information useful to decrypt such data (*e.g.*, decryption algorithm) in a non-volatile memory card. It is asserted that the essential features of these patents are performed outside the memory chip by a controller and/or software. SanDisk argues that the creative or inventive aspect of implementing these patents, which involves integrating the chip with a controller and other parts, begins after the chips are sold.

SanDisk argues that the chips have other reasonable uses other than incorporation into infringing systems. SanDisk rejects Imation's argument that SanDisk has filed to show noninfringing uses for flash memory chips.

Finally, SanDisk argues Imation has not shown that [ ] were authorized to sell chips for incorporation into unlicensed systems.

Staff argues that the licensed flash memory chips supplied by [ ] do not sufficiently embody the asserted patents because they have substantial uses other than incorporation into flash memory systems that practice SanDisk's asserted patents. Staff asserts that the licensed flash memory chips have not been shown to substantially embody the asserted patents.

## **B.** Discussion and Conclusion

As indicated above, patent exhaustion is an affirmative defense. For such a showing to be made, it must be demonstrated that the licensed item substantially embodies the essential aspects of the patents in question, in this case the '011 and the '424 patents.<sup>604</sup> Otherwise the first sale of the licensed item itself does not exhaust the patent in question and subsequent downstream products are

<sup>604</sup> *Quanta*, 128 S.Ct. at 2128 - 2129.

not immune from infringement allegations even though those downstream products contain the licensed item.<sup>605</sup>

In this instance, the licensed item is a flash memory chip. With respect to the '011 patent, it is clear that a flash memory chip does not substantially embody the essence of that patent. The '011 patent requires a flash EEPROM memory card that includes both encoded memory data and a decryption algorithm that can be read from the memory card.<sup>606</sup> A flash memory chip, standing alone, does not embody those elements of claim 8 of the '011 patent. The licenses in question cover only flash memory chips.<sup>607</sup>

In addition, Imation has not shown that there are no non-infringing uses for flash memory. Imation's arguments that SanDisk and Staff have failed to show that there *are* non-infringing uses is not persuasive. As the party who raised the affirmative defense of patent exhaustion, the burden is upon Imation to prove all elements of patent exhaustion. Accordingly, Imation has failed to demonstrate patent exhaustion by a preponderance of the evidence.<sup>608</sup>

With respect to the '424 patent, Imation's arguments are similarly unpersuasive. The '424 patent relates to the management of data.<sup>609</sup> More specifically, claim 17 pertains to a method of updating Flash memories. A flash memory chip does not embody a number of key elements of claim

<sup>&</sup>lt;sup>605</sup> Id.

 $<sup>^{606}</sup>$  JX-3 (the '011 patent), claim 8, col. 15 - 16. It should be noted that in a previous section of the initial determination, claim 8 of this patent was determined to invalid due to obviousness. See Section V(D)(2). If that determination is upheld by the Commission, there would be no need to consider patent exhaustion in the context of claim 8 of the '011 patent. Therefore the analysis of patent exhaustion in terms of claim 8 of the '011 patent necessarily assumes, for the purpose of analysis only, the validity of claim 8 of the '011 patent.

<sup>&</sup>lt;sup>607</sup> See, for example, IIB at 38.

<sup>&</sup>lt;sup>608</sup> Jazz Photo I, 264 F.3d at 1102.

<sup>&</sup>lt;sup>609</sup> JX-2 (the '424 patent).

17, such as features linking at least one block from at least two sub-arrays and updating pages of original data by programming replacement data into pages within blocks, each as described in detail in claim 17 of the '424 patent.<sup>610</sup>

Similarly, the '424 patent contains claim 24 and 30, which pertain to a method to efficiently update some, but not all, pages of data in a memory block of a flash memory system. A flash memory chip alone omits a number of key features of these claims, such as the features of programming a second a plurality of a total number of pages in a second block with updated data and a logical page address, reading and assembling data from pluralities of pages and selecting the updated data from pages most recently programmed, causing updated data to be programmable in pages of a second block having different offset positions than those of pages in the first block, and consisting of an enclosed card having an electrical connector along one edge to connect with a host system, each as described in claims 20, 24 and 30 of the '424 patent.<sup>611</sup> The absence of these features means that a flash memory chip, standing alone, cannot program, update and omit data and manage addresses in the manner described in claims 24 and 30.

As with the '011 patent, Imation's assertion that SanDisk and Staff have not shown affirmatively that there are in fact non-infringing uses for flash memory chips, is not persuasive. It is Imation's burden, as the party raising the affirmative defense of patent exhaustion, to make the appropriate showing that there are no non-infringing uses for flash memory chips. Imation has not persuasively made such a showing. Accordingly its argument is rejected.<sup>612</sup>

For all of the reasons set forth above, Imation's argument of patent exhaustion as to the '011

<sup>&</sup>lt;sup>610</sup> *Id.*, claim 17, col. 14 - 15.

<sup>&</sup>lt;sup>611</sup> CRX-225C (Rhyne Rebuttal) at Q. 9-15.

<sup>&</sup>lt;sup>612</sup> For the same reasons, Imation's argument that it has an implied license is also rejected.

and '424 patents is rejected.

# VIII. Domestic Industry - Economic Prong

As stated earlier, on October 2, 2008, the undersigned issued an initial determination granting SanDisk's motion for summary determination that it has satisfied the economic prong of the domestic industry requirement with respect to U.S. Patent Nos. 6,426,893; 6,763,424; and 7,137,011.<sup>613</sup>

<sup>&</sup>lt;sup>613</sup> See Order No. 46 (October 2, 2008).

### **CONCLUSIONS OF LAW**

- 1. The Commission has subject matter jurisdiction in this investigation.
- 2. The Commission has personal jurisdiction over Respondents.
- 3. Respondents Phison, SMI, and Skymedi's accused products do not infringe claims 17, 24, or 30 of U.S. Patent No. 6,763,424 in violation of 35 U.S.C. § 271(a).
- 4. Respondent Imation's accused products do not infringe claim 8 of U.S. Patent No. 7,137,011 in violation of 35 U.S.C. § 271(a).
- 5. An industry in the United States exists with respect to SanDisk's products that is practiced by U.S. Patent Nos. 6,763,424 and 7,137,011, as required by 19 U.S.C. § 1337(a)(2) and (3).
- Claims 17, 24, and 30 of U.S. Patent No. 6,763,424 are not invalid under 35 U.S.C. § 102 or § 103.
- 7. Claim 8 of U.S. Patent No. 7,137,011 is invalid under 35 U.S.C. § 103 for obviousness based on the Maniscalco prior art reference in combination with the Izawa prior art reference and the knowledge of a person of ordinary skill in the art.
- 8. U.S. Patent Nos. 6,763,424 and 7,137,011 are not invalid and/or unenforceable based on patent misuse, patent exhaustion, licensing, or prosecution laches.

#### **INITIAL DETERMINATION**

Based on the foregoing opinion, findings of fact, conclusions of law, the evidence, and the record as a whole, and having considered all pleadings and arguments, including the proposed findings of fact and conclusions of law, it is the Administrative Law Judge's Initial Determination that a violation of Section 337 of the Tariff Act of 1930, as amended, has not been found in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain flash memory controllers, drives, memory cards, and media players and products containing same, in connection with claims 17, 24, and 30 of U.S. Patent No. 6,763,424 and claim 8 of U.S. Patent No. 7,137,011. Furthermore, the Administrative Law Judge hereby determines that a domestic industry in the United States exists that practices U.S. Patent Nos. 6,763,424 and 7,137,011.

The Administrative Law Judge hereby CERTIFIES to the Commission this Initial Determination, together with the record of the hearing in this investigation consisting of the following: the transcript of the evidentiary hearing, with appropriate corrections as may hereafter be ordered by the Administrative Law Judge; and further the exhibits accepted into evidence in this investigation as listed in the attached exhibit lists.

Pursuant to 19 C.F.R. § 210.42(h), this Initial Determination shall become the determination of the Commission unless a party files a petition for review pursuant to 19 C.F.R. § 210.43(a) or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the Initial Determination or certain issues therein.

#### **RECOMMENDED DETERMINATION ON REMEDY AND BOND**

Pursuant to Commission Rules 210.36(a) and 210.42(a)(1)(ii), the Administrative Law Judge is to consider evidence and argument on the issues of remedy and bonding and issue a recommended determination thereon.

## IX. Remedy and Bonding

## A. Limited Exclusion Order

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order instructs the U.S. Customs Service to exclude from entry all articles that are covered by the patent at issue and that originate from a named respondent in the investigation. The Federal Circuit has held that the Commission has "no statutory authority to issue an LEO against downstream products of non-respondents."<sup>614</sup>

SanDisk requests that a permanent limited exclusion order be issued excluding Respondents' infringing Flash memory controllers, drives, memory cards and media players, and products containing same from the United States. Furthermore, SanDisk requests that the limited exclusion order should exclude Respondents' infringing devices from entering the United States for all purposes, including, without limitation, testing, sampling, sale, promotion, and demonstration purposes.<sup>615</sup> In addition, SanDisk requests that the limited exclusion order include a certification provision.<sup>616</sup>

Respondents assert that, if a violation is found the remedy should consist of: (1) a limited exclusion order only as to any specific respondents found in violation, and (2) a cease and desist

<sup>&</sup>lt;sup>614</sup> *Kyocera*, 545 F.3d at 1345.

<sup>&</sup>lt;sup>615</sup> CIB 158.

<sup>&</sup>lt;sup>616</sup> CIB 158.

order only as to specific system company respondents if they are found in violation and if they have commercially significant domestic inventory. Respondents assert, however, that [

] Therefore, Respondents assert that, to the extent it is determined that an exclusion order is warranted, the supply and importation into the U.S. of component parts of a flash memory system product or that are stipulated not to infringe any of the asserted patents, should not be included in the exclusion order.<sup>617</sup> Respondents agree that, if there is an exclusion order, it should include a certification provision to assist Customs.<sup>618</sup>

Staff agrees that, if a violation is found, that there be a limited exclusion order to exclude accused infringing products of all the named Respondents.<sup>619</sup>

The undersigned agrees with the parties that, if a violation is found, that there be a permanent limited exclusion order to exclude the accused infringing products of the named respondents in this investigation.

## B. Cease and Desist Order

Under Section 337(f)(1), the Commission may issue a cease and desist order in addition to, or instead of, an exclusion order. Cease and desist orders are warranted primarily when the respondent maintains a commercially significant inventory of the accused products in the United States.<sup>620</sup>

<sup>&</sup>lt;sup>617</sup> RIB 91-92.

<sup>&</sup>lt;sup>618</sup> RIB 92-93.

<sup>&</sup>lt;sup>619</sup> SIB 104.

<sup>&</sup>lt;sup>620</sup> Certain Crystalline, 15 U.S.P.Q.2d at 1277-79.

SanDisk requests a cease and desist order against Respondents [

]<sup>621</sup> Respondents dispute that SanDisk has met

its burden in proving that any of the system company respondents have commercially significant inventories in the United States. Respondents argues that, to the extent SanDisk demonstrates that any respondent maintains commercially significant inventory in the United States, SanDisk has not presented any evidence to show that this inventory is not licensed under the patents, because licensed products should not be counted toward the assessment of whether SanDisk has met its burden as to a commercially significant inventory.<sup>622</sup>

The undersigned agrees that the evidence shows that [

] and that a cease and desist order is warranted against these Respondents.

# C. Bond During Presidential Review Period

If the Commission enters an exclusion order or cease and desist order, parties may continue to import and sell their products during the pendency of the Presidential review under a bond in an amount determined by the Commission to be "sufficient to protect the Complainants from any injury."<sup>623</sup> SanDisk asserts that the parties have stipulated that [

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<sup>&</sup>lt;sup>621</sup> CIB 159 citing CX-1861C (Kingston), CX-1109C (Kingston), CX-1082C (Dane-Elec), CX-1459C (Imation), CX-1158C (LG), CX-1178C (PQI), CX-1858C (Transcend) and CX-1859C (Apacer).

<sup>&</sup>lt;sup>622</sup> RIB 95-96.

<sup>&</sup>lt;sup>623</sup> 19 U.S.C. § 1337(e); 19 C.F.R. § 210.50(a)(3).

<sup>&</sup>lt;sup>624</sup> CIB 159 citing CX-1863C.

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The Commission frequently sets the bond by attempting to eliminate the difference in sales prices between the patented domestic product and the infringing product.<sup>628</sup> In the absence of reliable price information, the Commission has used other methods to determine an appropriate bond. For example, where a price comparison is unworkable, the Commission has determined that a bond of 100% is appropriate.<sup>629</sup> In other instances where a direct comparison between a patentee's product and the accused product was not possible, the Commission has set the bond at a reasonable royalty rate.<sup>630</sup>

In this case, [

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

<sup>628</sup> See Certain Microsphere Adhesives, Commission Opinion at 24.

<sup>629</sup> See, e.g., Certain Variable Speed Wind Turbines and Components Thereof, Inv. No. 337-TA-376, U.S.I.T.C. Pub. No. 3003, Comm'n Op. at 27-28 and 40 (U.S.I.T.C., September 23, 1996) ("Certain Wind Turbines").

<sup>630</sup> See, e.g., Certain Digital Satellite System (DSS) Receivers and Components Thereof, Inv. No. 337-TA-392, U.S.I.T.C. Pub. No. 3418, Initial and Recommended Determinations at 245, vacated on other grounds, Comm'n Determination (May 13, 1999), 2001 WL 535427 (U.S.I.T.C., October 20, 1997) ("Certain DSS Receivers").

<sup>&</sup>lt;sup>625</sup> CIB 159-60.

<sup>&</sup>lt;sup>626</sup> RIB 97.

<sup>&</sup>lt;sup>627</sup> SIB 106.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets indicating any portion asserted to contain confidential business information. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

Charles E. Bullock Administrative Law Judge

## APPENDIX OF EXHIBIT LISTS

#### ITC 337-TA-619

## Appendix A SanDisk Corporation's JX-List

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JX-012     Withdrawn       JX-013     Withdrawn       JX-014     Withdrawn	<u>JX-010</u>		<u> </u>		Withdrawn	· · · · · · · · · · · · · · · · · · ·	
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JX-016						
010				Withdrawn		
JX-017	Ĺ	100	86	Samsung K9XXG09UXM Datasheet [Exh. 21 to Kan Fan Depo, (5/26/2008		10/29/2008
JX-018		104, 279	902	Micron 4Gb, 8Gb, and 16Gb x8 NAND Flash Memory Features; NAND Flash Memory (Exh. 28 to Kan Fan Dep. (5/26/2008))	SD-1-2269943-2270023	11/5/2008
JX-019				Withdrawn		
JX-020				Withdrawn		
JX-021				Wilhdrawn		
JX-022				Wilhdrawn	·	
JX-023		115	90	Furino Declaration Exhibit 504 re TOne USB Flash Drive 2GB - pictures of disassembled TOne drive [Exh. 53 to Zhang Depo. (5/30/2008)]	SD-I-0016193-0016203	11/5/2008
JX-024	 	115	949	Pholographs of Flash Memory Drives and Chips [Zang Dep. Ex. 53 ]	SD-I-0016193-0016203	11/5/2008
JX-025	. 			Withdrawn		
JX-026				Withdrawn		
JX-027		144	133	SM324 data book Ver: 0.93, Nov. 2005 [Exh. 36 to Mueller Depo.]	COR_00090221-00090237	11/5/2008
JX-028		194	871	1/22/2007 Kingston Global Flash Conference Presentation [Exh. 9 to Sun Depo.]	KTC00130183-00130337	11/5/2008
JX-029		195	869	Kingston Flash Market Update Q1-2007 [Exh. 10 to Sun Depo.]	KTC00396712-00396748	11/5/2008
JX-030		197	870	2007-07-24 Version of Kingston Fissh Product Roadmap and Industry Outlook [Exh. 12 to Sun Depo.]	KTC00292923-00292945	11/5/2008

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JX-031				Withdrawn		
JX-032		261	900	Samsung Electronics Corporation's Datasheet re K9XXG08UXM Advanced Flash Memory [Hsu Dep. Ex, 13]		29/2008
JX-033		275, 347	912	Document entitied "Phison PS3006 Controller Version 1.3", November 16, 2007 [Exh. 57 to Hsu Depo.]	PEC00004861-00004906 10/	29/2008
JX-034				Withdrawn		
JX-035		<u>301, 307</u>	892	Joint Proposed Claim Construction Chart dated 05/14/2008	- 11	/5/2008
JX-036		301 <u>, 3</u> 07	924	2007_Products to USA_with Price.xis	PEC-N-000008 10/	29/2008
JX-037		303	873	Untitled Phison Information Management Division Shipping document extracted from ERP [Exh. 226 to Tsay Depo.]	11	/5/2008
JX-038		304	874	Untitled Phison Information Management Division Shipping document extracted from ERP [Exh. 226 to Tsay Depo.]	11	/5/2008
JX-039		307	875	2007-Products to USA-with Price - Phison Confidential- [Exh. 243 to Tsay Depo.]	11	/5/2008
JX-040	<u> </u>			Withdrawn		
JX-041	┝━┨			Wilhdrawn		
JX-042		308	876	2008-04-30 Products to USA with Price [Exh. 244 to Tsay Depo.]	10/	29/2008
JX-043		343	906	Document Entitled "Phison CBI" with handwriting [Exh. 212 to Yang Depo.]	11	1/5/2008
JX-044		344	907	Document Entitled "Phison CBI" with handwriting [Exh. 213 to Yang Depo.]	13	1/5/2008
JX-045		345	908	Document Entitled "Phison CBI" with handwriting (Exh. 214 to Yang Depo.)		1/5/2008

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## Appendix A SanDisk Corporation's JX-List

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JX-046	34	6 909	Document Entitled "Phison CBI" with handwriting [Exh. 215 to Yang Depu	0.]	11/5/2008
JX-047			Withdrawn		
JX-048	34	9 911	Document entitled "Phison CBI" with handwriting [Exh. 220 to Yang Depo	.1	10/29/2008
JX-049	35	4 24	Part numbering rule [Exh. 12 to Gao Depo. (6/2/2008)]	PQIN0000002	11/5/2008
JX-050	35	5 25	Part numbering rule [Exh. 13 to Gao Depo. (6/2/2008)]	PQIN0000003	11/5/2008
JX-051	35	6 22	Numbering principle or rule [Exh. 15 to Geo Depo. (6/2/2008)]	PQIN0000005	11/5/2008
JX-052	35	7 26	BOM & docs. for product production [Exh. 36 to Gao Depo. (6/2/2008)]	PQIN00026819-00026848	11/5/2008
JX-053	35	8 27	Coding rule for DOM [Exh. 46 to Gao Depo. (6/4/2008)]	PQIN0000006	11/5/2008
JX-054	35	9 28	Updated coding rule [Exh. 50 to Gao Depo. (6/4/2008)]	PQIN0000007	11/5/2008
JX-055	36	1 29	Screenshots from PQI website (My Drive) [Exh. 39 to Wang Depo. (6/3/2008)]		11/5/2008
JX-056	36	2 30	Printout from PQI website (My Drive) (Exh. 40 to Wang Depo. (6/3/2008)]		11/5/2008
JX-057	36	3 31	My Drive user manual [Exh. 41 to Wang Depo. (6/3/2008)]		11/5/2008
JX-058	36	4 32	Screenshols from PQI website (Ur-Smart) (Exh. 44 to Wang Depo. (6/3/2008))		11/5/2008
JX-059	36	5 33	Screenshots from PQI website (USB Notebook) [Exh. 45 to Wang Depo. (6/3/2008)]		11/5/2008
JX-060	37	6 789	2/16/2007 - CF+ and CompactFlash Specification Revision 4.1 [Exh. 13] Tomlin Depo.]	SD-1-2267309-2267501	11/5/2008

# Appendix A

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# SanDisk Corporation's JX-List

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JX-061		450	9	1603 Design Specification, Rev. 10, [Exh. 11-A - IPN 1603 / EPN 2981 / EPN SK6621 to Vincent Cheng Depo. (5/29/2008)]		10/29/2008
JX-062		456	10	SK6281USB Flash Drive Controller Data Sheet, Rev. 4.21 [Exh. 20 - IPN 1603 / EPN 2981 / EPN SK6621 to C.Y. Chang Depo. (5/21/2008)]	SKY_00000338-00000348	10/29/2008
JX-063		460	11	SK6621 SD2.0/MMC4.2 Memory Card Controller Data Sheet, Rev. 1.3 [Exh. 24 to C.Y. Chang Depo. (5/21/2008)]	SKY_00000498-00000523	10/29/2008
JX-064		501	20	Stipulation Between Skymedi Corporation and SanDisk Corporation, July 24, 2008 [Exh. 148 to Skymedi Depo.]		11/5/2008
JX-065	 	502	14	SK6626[AD] SD2.0 Memory Card Controller Data Sheet, Rev. 1.4 [Exh. 149 – IPN 1606E / EPN SK6626AD / SS6626AD to Skymedi Depo.]	SKY_20002804-20002826	11/5/2008
JX-066		503	17	SK6626[AE] SD2.0/MMC4.2 Memory Card Controller Data Sheet, Rev. 1.5 [Exh. 150 – IPN 1606F / EPN SK6626AE to Skymedi Depo.]	SKY_20002827-20002851	11/5/2008
JX-067	ļ	505	18	SS6626[AE] SD2.0/MMC4.2 Memory Card Controller Data Sheet, Rev. 1.5 [Exh. 152 to Skymedi Depo.]	SKY_20002875-20002899	11/5/2008
JX-068	c	506	15	SS6626[AD] SD2.0 Memory Card Controller Data Sheet, Rev. 1.4 [Exh. 153 to Skymedi Depo.]	SKY_20002852-20002874	11/5/2008
JX-069	c	507	16	1606F Design Specification, Rev. 8 [Exh. 154 IPN 1606F / EPN SK6626AE to Skymedi Depo.	SKY_20002609-20002803	11/5/2008
JX-070	c	508	13	1606E Design Specification, Rev. 7 [Exh. 155 IPN 1606E / EPN SK6626AD / SS6626AD to Skymedi Depo.]	SKY_20002427-20002608	11/5/2008
JX-071		520	993	Transcend Company Profile 2007 Q4 [Deposition of Ray Chu, Exh. 5]	TSD-ITC 0000119-0000216	11/5/2008
JX-072				Wilhdrawn		
JX-073				Withdrawn		
JX-074				Withdrawn	·	
JX-075				Withdrawn		

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JX-076			Withdrawn		
JX-077			Wilhdrawn		
JX-078	887	899	CV of Dr. Paul S. Min		10/29/2008
JX-079	889	396	List of Materials Relied Upon by Dr. Paul S. Min, Ph.D. re Infringement of U.S. Patent No. 7,137,011		11/5/2008
JX-080			Withdrawn		
JX-081	897	851	CV of Jerry Hausman [Ex. 1 to the Expert Report of Jerry Hausman]		11/5/2008
JX-082	898	852	Trial and Deposition testimony history of Jerry Hausman [Exh. 2 to the Exper Report of Jerry Hausman]		11/5/2008
JX-083	899	853	List of documents considered by Jerry Hausman [Exh. 3 to the Expert Report of Jerry Hausman]		11/5/2008
JX-084			Wilhdrawn		
JX-085			Withdrawn		
JX-086			Wilhdrawn		
JX-087			Wilhdrawn		
JX-088			Withdrawn		
JX-089	1454	1000	Imation's Chart of Components Contained in Accused Imation/Memorex Products	IMA-309902-309906	11/5/2008
JX-090			Wilhdrawn		

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JX-097	C_		Deposition Designation of Arthur Chih		11/5/2008
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JX-098	<u> c</u>		Deposition Designation of Ben Chen		11/5/2008
JX-099	c_		Deposition Designation of Ben Tzou		11/5/2008
JX-100	┥		Withdrawn		
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JX-101	c		Deposition Designation of Byoung Kang		10/31/2008
JX-102	c		Deposition Designation C.K. Chang		10/31/2008
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JX-103	c		Deposition Designation C.Y. Chang		11/5/2008
JX-104			Withdrawn		
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JX-105	c		Deposition Designation Chris Chiu		11/5/2008
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JX-106	с	Deposition Designation Christopher Thomas	
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JX-107	c	Deposition Designation Daniel Auctair	11/5/2008
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JX-108	с	Deposition Designation Darwin Christian Chen	11/5/2008
JX-109	c	Deposition Designation David Sun	11/5/2008
JX-110	C	Deposition Designation Deok Hyun Ha	11/5/2008
JX-111	с		
<u>JV-111</u>	1	Deposition Designation Donald Sun	11/5/2008
JX-112		Withdrawn	
JX-113	c	Deposition Designation E. Earle Thompsons	11/5/2008
JX-114		Deposition Designation Eliyhou Harari	11/5/2008
JX-115	<u> c</u>	Deposition Designation Ellis Lee	11/5/2008
JX-116	c		
0///10	1	Deposition Designation Eric Liu	11/5/2008
JX-117	c	Deposition Designation Frankie Chiu	10/31/2008
JX-118	c	Deposition Designation Geraid Parsons	10/31/2008
JX-119		Withdrawn	
JX-120	C	Deposition Designation Honda Shih	11/5/2008

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JX-121	с		Deposition Designation Horace Chen		11/5/7008
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JX-122	С		Deposition Designation J.Y. Yang		11/5/2008
JX-123	с		Deposition Designation Jackie Hsu		11/5/2008
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JX-124	c		Deposition Designation James Lee		10/31/2008
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JX-125	С		Deposition Designation Jason Chien		10/31/2008
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JX-126	с	4			
3/-120	ř-		Deposition Designation Jerry Tsai		11/5/2008
JX-127	C		Deposition Designation John S. Mangan		11/5/2008
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JX-129	C		Deposition Designation Jong Woo Hong		11/5/2008
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JX-130			Withdrawn		
JX-131	c		Deposition Designation Katy Tsay		
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JX-132	С		Deposition Designation Kevin Conley	· · · · · · · · · · · · · · · · · · ·	10/31/2008
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JX-133			Withdrawn		
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	Ĕ	<u>├───</u>	Deposition Designation Lucille Wang	<u> </u>	11/5/2008
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JX-135		L I	Withdrawn		

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JX-137	<u> </u>			Withdrawn		
JX-138	с	L		Deposition Designation Ming-Jen Llang		11/5/2208
JX-139	С		- Na	Deposition Designation Myeong Seop Lee		11/5/2008
JX-140				Withdrawn		
JX-141	с			Deposition Designation Nigel Doong		10/31/2008
JX-142				Withdrawn		
JX-143				Withdrawn		
JX-144				Withdrawn		
JX-145	с			Deposition Designation Ray Chu		11/5/2008
JX-146	c			Deposition Designation Richard Chemicoff		10/31/2008
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JX-147				Withdrawn		
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JX-150	c			Deposition Designation Roy Kung		11/5/2008

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JX-151	c		Opposition Destruction Provide Mathematic	
0/(-101	M		Deposition Designation Sanjay Mehrotra	11/5/2008
JX-152			Withdrawn	
JX-153	c		Deposition Designation Scott Hsiao	11/5/2008
JX-154	c		Deposition Designation Shirley Lee	11/5/2008
JX-155	c		Deposition Designation Steven Swenson	11/5/2008
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JX-156	с		Deposition Designation Steven Wang	11/5/2008
JX-157	с		Deposition Designation Thomas Northfield	11/5/2008
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JX-158	c		Deposition Designation Tosuke Tauchida	11/5/2008
JX-159	c		Deposition Designation Tung Yu Kao	11/5/2008
JX-160	с		Deposition Designation Tzu Ju Huang	11/5/2008
JX-161	с		Deposition Designation Vincent Cheng	11/5/2006
114 4 6 6				
JX-162			Withdrawn	
JX-163	с		Deposition Designation Yao Bao (Nancy) Yu	11/5/2008
JX-164			Withdrawn	
JX-165	с		Deposition Designation of Yu Fong Lin	11/5/2008

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JX-166	С			Deposition Designation of Yung Ching Wang	11/5/2008
JX-167			ļ	Toshiba Stipulation	11/5/2008
JX-168				Stipulation Regarding Phison's 2251 and 3016 Controllers (dated October 23, 2008)	11/5/2008
JX-169				Stipulation Regarding Flash Memory Products Produced by or on Behalf of Toshiba (between SanDisk and Dane-Elec)	
JX-170				Stipulation Regarding Phison's 2251 and 3016 Controllers (dated November 3, 2008)	11/5/2008
JX-171	c			Stipulation Regarding the Importation of Certain CF Cards Accused of Infringing Claims 25 & 27 of U.S. Patent No. 6,426,893	11/5/2008
JX-172	c_			Stipulation Regarding the Importation of Certain Flash Memeory Products Accused of Infringing Claims 25 & 27 of U.S. Patent No. 6,426,893	11/5/2008
<u>JX-173</u> JX-174	c c			Deposition Designations for J.Y. Yang (Vo. 6)	
JX-174 JX-175	č		1	PS3006 Source Code Deposition Designation of Johnson Huang (Vol. 2)	

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CX-0065		"About Apacer" pages from Apacer's web site [C. Chang Dep. Ex. 8]		Chang, Chia Kun	Remedy/Bonding	11/5/2008
		Presentation Material: Apacer Company Profile [C. Chang Dep. Ex.			Infringement, Domestic Industry, Importation,	
CX-0066	C	71	AP-ITC 0273692-0273714	Chang, Chia Kun	Remedy/Bonding	11/5/2008
		Apacer's Amended and Supplemental Responses to SanDisk Interrogatories 5-6, 17, 19, 24, 80, 83-84, 86, 90, 121-122 and 124				
CX-0067	c	[C. Chang Dep. Ex. 11]		Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2008
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CX-0068	ļ	"Products: USB Flash Drives" pages from Apacer web site [C. Chang Dep. Ex. 12]		Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2008
CX-0069	с	Presentation Material: eFlash - Product Introduction SSD (Solid State Drive), Technical Notes FAE [C. Chang Dep. Ex. 13]	AP-ITC 0199395-0199456	Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2008
CX-0070	c	Presentation Material: IStorage, AML (Ver. 4.1) [C. Chang Dep. Ex. 15]	AP-ITC 0249369-0249381	Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2008
		·				
CX-0071	с	USB 2.0 Flash Controller Specification UCP236-CLFG, Version 1.0 [C. Chang Dep. Ex. 20]	AP-ITC 0242801-0242817	Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2009
	1		0242801-0242817	Chang, Chia Kon	Remedyboliung	11/5/2008
CX-0072		Presentation Material: 2007 Handy Roadmap, Pamela/Ellie, 2006			Infringement, Importation,	
0/-0072	٣	ver. 1.3, Dec. 2006 [C. Chang Dep. Ex. 21]	AP-ITC 0260623-0260626	Chang, Chia Kun	Remedy/Bonding	11/5/2008
04 0070	1	"Products: Flash Cards" pages from Apacer web site [C. Chang			Infringement, importation,	
CX-0073	+	Dep. Ex. 25		Chang, Chia Kun	Remedy/Bonding	11/5/2008
		Presentation Material: Apacer MP3/MP4 Product Line Reviewing,			nfringement, Importation,	,
CX-0074	C_	PM: Tiffany, Released Date: 2008/1/17 [C. Chang Dep. Ex. 26]	AP-ITC 0270256-0270271	Chang, Chia Kun	Remedy/Bonding	11/5/2008
		Apacer's Amended and Supplemental Responses to SanDisk Interrogatories 8, 14-15, 19, 85, 87-89, 92-83 and 121-122 [C.			nfringement, Importation,	
CX-0075	C	Chang Dep. Ex. 27]		Chang, Chia Kun	Remedy/Bonding	11/5/2008

		Chang Deposition Exhibit 28 (Apacer Customer/Sales/Inventory Table) [C. Chang Dep. Ex. 28]	AP-ITC 0005784-0005915	Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2008
CX-0077	с	Chang Deposition Exhibit 29 (Apacer Customer/Sales/Inventory Table) [C. Chang Dep. Ex. 29]	AP-ITC-N 00001-000198	Chang, Chia Kun	Infringement, Importation, Remedy/Bonding	11/5/2008
CX-0078		Withdrawn				
CX-0079		Withdrawn				
CX-0080		Wilhdrawn				
CX-0081		Withdrawn				
CX-0082		Withdrawn			·····	
CX-0083		Wilhdrawn				
	с	Table: PS2134 (CH) [Kung Dep. Ex. 37]			Infringement, Importation,	
		Market Requirement Specification, Apacer MP3 Player, AU232,	AP-ITC 0260492-0260501	Kung, Roy	Remedy/Bonding	11/5/2008
CX-0085		Version 1.0 [Kung Dep. Ex. 39] Presentation Material: Apacer MP3 Player Product Plan, PM:	AP-ITC 0101333-0101337	Kung, Roy	Remedy/Bonding	11/5/2008
CX-0086	C		AP-ITC 0181932-0181946	Kung, Roy	Remedy/Bonding	11/5/2008
CX-0087	с	41]	AP-ITC 0224973-0224985	Kung, Roy	Remedy/Bonding	11/5/2008
CX-0088	c_	Bill of Material Approved Sheet for 80.HED22.1C10C, HS2.0 AH421 2GB [Kung Dep. Ex. 42] Packaging for Professional Photo Series Flash Cards (100X, 66X),	AP-ITC 0239133-0239134 AP-ITC 0004992 AP-ITC 0004999	Kung, Roy	Infringement, Importation, Remedy/Bonding	11/5/2008
CX-0089	c	packaging for Mobile Series Flash Cards and data sheet for AH421 - ReadyBoost (Speed Up Your PC) [Kung Dep. Ex. 43]		Kung, Roy	Infringement, Importation	11/5/2008
CX-0090		Wilhdrawn				

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CX-0091	Withdrawn				
CX-0092					
07-0092	Withdrawn				
CX-0093	Withdrawn		· · · ·	-	
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CX-0094	Withdrawn				
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CX-0095	Wihdrawn			· · · · · · · · · · · · · · · · · · ·	
CX-0096	Wilhdrawn				
CX-0097	Wilhdrawn	-		v	
CX-0098	Wilhdrawn				
CX-0099	Wilhdrawn				
	TTINGUT				
CX-0100	Wilhdrawn				
CX-0101	Wilhdrawn			·	
CX-0102	Wilhdrawn				10/20/2008
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CX-0103	Wilhdrawn		· · · · · · · · · · · · · · · · · · ·		
			. 5		
CX-0104	Wilhdrawn				
01/ 04/07	Hynix Flash Memory HY27UK08BGFM Series Data Sheet (Fan Dep.				
CX-0105	C Ex. 29	SD-I-0917136-0917181	Fan, Kan	Infringement, Importation	10/29/2008

CX.					
CX-0106	Withdrawn				
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CX-0107	Withdrawn		-		
CX-0108	Withdrawn				
	(TRO) BWIT		· · · · · ·		
CX-0109	14/04 /				
CV-0109	Withdrawn				
CX-0110	Wilhdrawn				
CX-0111	Withdrawn				
CX-0112	Withdrawn				
CX-0113	Withdrawn	х			
CX-0114	Withdrawn				
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CX-0115	Withdrawn				· ·
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CX-0116	Withdrawn				10/00/0000
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CX-0117	Withdrawn				
CX-0118	Withdrawn				
CX-0119	Withdrawn				
CX-0120	Withdrawn			<u> </u>	

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CX-0121	Wilhdrawn				
CX-0122	Withdrawn				
CX-0123	Withdrawn				
CX-0124	Withdrawn				
_CX-0125	Wilhdrawn				
CX-0126	Withdrawn				
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CX-0127	Withdrawn				
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<u>GA-0133</u>	Wilhdrawn				
CX-0134					
07-0134	Withdrawn			<u> </u>	
CX-0135					
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CX-0136	Withdrawn				·
CX-0137	Withdrawn				
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CX-0145	Wilhdrawn				
CX-0146	Wilhdrawn				
CX-0147	Wilhdrawn				
CX-0148	Withdrawn				
CX-0149	Wilhdrawn		Northfold Themes		
	Table listing controller used in implicite flash moves in the		Northfield, Thomas		
CX-0150	Table listing controllers used in Imation's flash memory products C [Northfield Dep. Ex. 12]	IMA-000034-000036		Infringement	11/5/2008

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				Northfield, Thomas		
CX-0151		Table: Flash Approved Supplier List (Current as of 10/1/08) [Northfield Dep. Ex. 13]				
0/0101	1		IMA-233152-233171	Northfield, Thomas	Infringement; importation	11/5/2008
		Table: Flash Approved Supplier List (Current as of 9/5/07)				
CX-0152	c	[Northfield Dep. Ex. 14]	IMA-225766-225775		Infringement; importation	11/5/2008
1. A.	ŀ			· ·		
CX-0153		Wilhdrawn				
<u> </u>				Northfield, Thomas		
- CX-0154	C_	Phison Clip 2231 Technical Assessment [Northfield Dep. Ex. 23]	IMA-050230-050235		Infringement	11/5/2008
CX-0155		Withdrawn				
				Northfield, Thomas		
CX-0156		Table: Summary of Products Sold with Encryption Software				
CA-0150	٣	[Northfield Dep. Ex. 26]		Northfield, Thomas	Infringement	10/29/2008
		License Agreement between encryptX Corporation and imation				
CX-0157	c	Corp. [Northfield Dep. Ex. 27]	IMA-000160-000180		Infringement	11/5/2008
CX-0158		Withdrawn				
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CX-0159	+	Withdrawn				
CX-0160		Withdrawn				
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CX-0161		tenne	e e e e e e e e e e e e e e e e e e e			
0101	╈	Withdrawn				
CX-0162	$\perp$	Wilhdrawn				
l	1	· · · · ·		Swenson, Steven		
CX-0163	c	Table: Project "Durability" - Product Launch Plan [Swenson Dep. Ex. 7]	IMA-000395-000398		Demadu/beadin-	
	1-				Remedy/bonding	11/5/2008
CX-0164	+	Wilhdrawn		·	·	
CX-0165		Withdrawn				

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	55.		NEW CONTRACTOR	ingentrationality of the information devices and the particular sector of the sector o			
CX-0166		Withdrawn					
				Tsuchida, Yosuke			
CX-0167		Stipulation Regarding Importation for Accused Products by Imation/Memorex [Tsuchida 2]					
0/0107	<u> </u>			Tsuchida, Yosuke	Importation		11/5/2008
CX-0168	С	Importation Chart [Tauchida 3]			Importation		11/5/2008
				Lee, Shirley			
CX-0169	c	Chart identifying Imation's Accused Products [Lee Dep. Ex. 2]	IMA-315143-315151		Infringement		11/21/2008
				[	In a Mainert		11/21/2008
04 04 70						N	
CX-0170		Wilhdrawn					
CX-0171	ļ	Withdrawn					
CX-0172		Withdrawn					
01 0170							
CX-0173		Wilhdrawn					
CX-0174		Wilhdrawn					
CX-0175		Withdrawn					
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CX-0176	1.						
GA-0176		Withdrawn					
CX-0177		Withdrawn	· · · · · · · · · · · · · · · · · · ·	Chan Bar			
				Chen, Ben			
CX-0178	c_	Flash Media Label Specification Work Instruction for UK & US Market, W-PKI-007.10, Revision 10 [B. Chen Dep. Ex. 45]			Infringement		11/5/2008
						1	
CX-0179		Withdrawn					
07-0113	t	r Frankling Byrn		<u> </u>	+	1	
<u>CX-0180</u>	1	Withdrawn	<u> </u>	L	<u> </u>	<u> </u>	

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				Chen, Ben		
CX-0181	c ·	Flash Finished Goods Part Number Decoder, DW-DES-004.001, Revision 001 [8. Chen Dep. Ex. 48]			Infringement; importation	11/5/2008
						X, J, 2008
CX-0182		Withdrawn			4.	
0/10/01	+	TYANA AWA	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·
CX-0183	+	Withdrawn				
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CX-0184	<u> </u>	Wilhdrawn				
CX-0185		Withdrawn				
	ŀ	- Three diffi		Chen, Darwin		
010100			·			
CX-0186	C	Kingston 2007 Product Shipments [D. Chen Dep. Ex. 5]			Importation; remedy/bonding	11/5/2008
CX-0187		Wilhdrawn				-
CX-0188		Withdrawn				· ·
	T			Sun, David		
CX-0189		One Source Report for Kingston Technology Company, Inc. [Sun				
07-0109	┼──	Dep. Ex. 3]		Sun, David	Remedy/bonding	11/5/2008
		Kingston Technology Company, Inc. company profile [Sun Dep. Ex.				
CX-0190	┣	41			Remedy/bonding	11/5/2008
				Sun, David		
CX-0191		Gale company profiles for Kingston Technology Company, Inc. [Sun Dep. Ex. 5]			Remedy/bonding	11/5/2008
				Sun, David	· · ·	
CX-0192	lc	Kingston Digital Media Global Meeting Summary [Sun Dep. Ex. 7]	KTC00253857			11/5/2008
	Ť	State of the second state of the state of the second state of the	pri 600403037		Infringement; importation	11/5/2008
CX-0193	╉	Withdrawn		· · · · · · · · · · · · · · · · · · ·		
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CX-0194		Wilhdrawn				
CX-0195	1	Withdrawn				

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CX-0196	Withdrawn				
CX-0197	Withdrawn				
CX-0198	Withdrawn				
OX 0400					
CX-0199	Withdrawn				
CX-0200	Withdrawn				
CX-0201	Withdrawn				·
CX-0202	Withdrawn				
CX-0203	Withdrawn				
CX-0204	Withdrawn				·
CX-0205	Wilhdrawn				
CX-0206					
CA-0200	Withdrawn			······	· · · · · · · · · · · · · · · · · · ·
CX-0207	Wilhdrawn				
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CX-0208	Withdrawn				
CX-0209	Withdrawn				
CX-0210	Withdrawn		- -		

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CX-0211	Withdrawn				
CX-0212	Wilhdrawn				
CX-0213	Withdrawn		· .		
CX-0214	Withdrawn				
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CX-0215	Withdrawn				
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CX-0218	Wilhdrawn		•		
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CX-0219	Withdrawn				
CX-0220	Withdrawn	-			·
CX-0221	Withdrawn				- -
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CX-0241		Wilhdrawn				-
				Lee, Meong Seop		
CX-0242	c	Letter identifying LGE's witnesses by topic number (MS Lee Dep. Ex. 2)			Infringement; importation;	
	1-				remedy/bonding	10/29/2008
CX-0243		Withdrawn		Lee, Meong Seop		
				Las, many Sanh		
CX-0244		Printout of LGE's web sile [MS Lee Dep. Ex. 5]	SD-1-2270379-2270556		Infringement; importation	11/5/2008
CX-0245		Withdrawn				
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01/ 00/0						
CX-0246	┼──	Wilhdrawn		Kang, O Byoung		
		LGE brochure: Store Your Mind, Confidence in Multimedia, Total				
_CX-0247	<u>c</u>	Media Product [OB Kang Dep. Ex. 3]	LGE-ITC-00000200-00000218		Infringement; importation	11/5/2008
				Kang, O Byoung		
CX-0248	c	LGE brochure: LG Total Media Product [OB Kang Dep. Ex. 4]	LGE-ITC-00000217-00000221		Infringement: importation	11/5/2008
CX-0249	1	Withdrawn				
	1	TTERMENTI		Kang, O Byoung		
		Table identifying procurement of specific flash memory chips by LG			Infringement; importation;	
CX-0250	c	(OB Kang Dep. Ex. 6)	LGE-ITC-00003363-00003366	Kang, O Byoung	remedy/bonding	11/5/2008
		Table listing costs associated with purchase of Silicon Motion, Inc.'s				
CX-0251	c	controllers (OB Kang Dep. Ex. 7)	LGE-ITC-00003405		Remedy/bonding	11/5/2008
				Kang, O Byoung		
CX-0252	c	LGE brochure: LG USB Drive, Smart Drive, Storage Drive [OB Kang Dep. Ex. 8]	LGE-ITC-00002407-00002425		Infringement; importation	11/5/2008
				[·		
CX-0253	1	Withdrawn				
000200	+	ITTATIONAWA	· · · · · · · · · · · · · · · · · · ·	Hau, Jackie		
		Respondent Phison Electronics Corporation's Responses to	· · ·		Wilness background / identification as corporate	
_CX-0254	lc_	SanDisk Notice of Depo [J. Hsu Dep. Ex. 2]		Hsu, Jackie	representative	11/5/2008
ļ					Witness background / Identification as corporate	
CX-0255	c	Fish & Richardson Letter to Mr. Yoon [J. Heu Dep. Ex. 3]			representative	11/5/2008

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				Hau, Jackie	Witness background / Identification as corporate	
CX-0256	C	E-mail rs: Phison Depos [J. Hsu Dep. Ex. 3A]			representative	11/5/2008
CX-0257		Withdrawn				
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CX-0258		Withdrawn				
CX-0259		Withdrawn				
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CX-0260		Wilhdrawn	4	,		
07-0200	<u>†</u>	AAILUGLAMU				
CX-0261	<b> </b>	Withdrawn				
				Heu, Jackie		
CX-0262	c	List of Phison USB Controllers (J. Hsu Dep. Ex. 18)				14/5/2002
	1			Hsu, Jackie	Importation / Remedy	11/5/2008
<b>A</b> 14 3000						
CX-0263	C_	List of Phison CompactFlash Controllers [J. Hsu Dep. Ex. 19]	· ·	Hsu, Jackie	Importation / Remedy	11/5/2008
CX-0264	c	List of Phison MMC Controllers [J. Hsu Dep. Ex. 20]			Importation / Remedy	11/5/2008
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CX-0265		Withdrawn				
07-0203	+	a a finicia				
CX-0266	<u> </u>	Wilhdrawn				
				Hsu, Jackie		
CX-0267		CF+ and CompactFlash Specification Rev. 3.0 [J. Hau Dep. Ex. 23]	SD-1-1349322-1349506		1	10/20/2008
0/( 0201	1	or - and compact issues operation rev. 3.v [3. hsu bep. Ex. 23]	50-1-1343322-1349506	Hsu, Jackie	Infringement	10/29/2008
		The MultiMediaCard System Specification Version 4.2 (J. Hau Dep.				
CX-0268	C	Ex. 24]	SD-I-0839814-0839989		Infringement	11/5/2008
				Hsu, Jackie		
CX-0269	c	Phison PS3006 Introduction [J. Hsu Dep. Ex. 25]	PEC00511210-00511213		Infringement	11/5/2008
	T			Hsu, Jackle		
CX-0270	<u>IC</u>	Project No. PS2136 AG-AND/2X8/TCS/INT/4CE [J. Hau Dep. Ex. 32	1		Infringement	11/5/2008

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				Hau, Jackie		
CX-0271	c	2K Page Drawing (J. Hsu Dep. Ex. 45)				·
			-		Infringement	11/5/2008
CX-0272		Withdrawn				
_CX-0273		Withdrawn				
CX-0274		Wilhdrawn				
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_CX-0275		Withdrawn		Hsu, Jackie		
		Toshiha NAND Data Shoot for Bad No. THERNING AD 107000 LL		1100, 50000		(
CX-0276	С	Toshiba NAND Data Sheet for Part No. TH58NVG4D4CTG00 [J. Hsu Oep. Ex. 68]	PEC00502039-00502105		Infringement	11/5/2008
				Hsu, Jackie		
CX-0277	c	Samsung Flash Memory K9XXG08UXA [J. Hsu Dep. Ex. 59]		-		
	1	Sumaring Train memory Readed and J. Hau Dep. Ex. 54	SD-I-2094952-2095001	Hsu, jackle	Infringement	11/5/2008
CX-0278	C_	Hynix 16Gb NANO Flash HY27UK08BGFM [J, Hsu Dep. Ex. 60]	SD-I-0917138-0917181	ļ	Infringement	10/29/2008
						· · ·
CX-0279		Wilhdrawn				
				Wang, Steven		
CX-0280	c	Flash Support List for the PS3002 Flash Memory Controller [S. Wang Dep. Ex. 74]	PEC00452027-00452036			11/5/2008
	1		FE000402027-00402036	Wang, Steven	Infringement	11/5/2008
01/ 0004						
CX-0281	C_	Directory for DVD [S. Wang Dep. Ex. 79]		Wang, Steven	infringement	11/5/2008
CX-0282	c	Wish 37X BOM list [S. Wang Dep. Ex. 80]			Infringement	11/5/2008
				Wang, Sleven		
CX-0283	С	PS2231 AG-AND/2 X8/TCS/INT/4-CE [S. Wang Dep. Ex. 61]	PEC00274762-00274764		Infringement	11/5/2008
	T	a sector and the sector of the		Wang, Slaven	Infringement	11/5/2008
CX-0284	C	PS2231 ULGA 2 X 8/TCS/INT [S. Wang Dep. Ex. 82]	PEC00243158-00243160	Wang, Steven	Infringement	11/5/2008
_CX-0285	C	PS2231 AG-AND/2 X8/TCS/INT/4-CE [S. Wang Dep. Ex. 83]	PEC00245295-00245297		Infringement	11/5/2008

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				Wang, Steven		
CX-0286	с	PS2231 2X 8/TCS/INT [S. Wang Dep. Ex. 84]	000000000000000000000000000000000000000		)	44/5/2022
<u> </u>	Ť	- OLLOT EX ON CONTENT IS. Thang Dep. EX. 64	PEC00263500-00263502	Wang, Steven	Infringement	11/5/2008
CX-0287	С	PS2231 2X8/TCS/INT [S. Wang Dep. Ex. 85]	PEC00333949-00333952		Infringement	11/5/2008
				Wang, Steven		
CX-0288	с	PS2231 ULGA 2X8/TCS/INT [S. Wang Dep. Ex. 86]	PEC00266157-00266159	1	Infringement	11/5/2008
				Wang, Steven		
CX-0289	C	PS2231 2X 8/TCS (S. Wang Dep. Ex. 87)	PEC00335033-00335035	Wang, Steven	Infringement	11/5/2008
				wwng, Steven		
CX-0290	с	PS2231 AG-AND/2X 8/TCS/INT [S. Wang Dep. Ex. 88]	PEC00302491-00302493		Infringement	11/5/2008
				Wang, Steven		
010000						
CX-0291	С	PS2231 AG-AND/2 X 8/TCS/INT [S. Wang Dep. Ex. 69]	PEC00297281-00297283	Wang, Steven	Infringement	11/5/2008
			•	Trany, otoron		
CX-0292	С	PS2231 2X8/INT/4-CE *2 [S. Wang Dep. Ex. 90]	PEC00307760-00307762		infringement	11/5/2008
				Wang, Steven		
CX 0202						
CX-0293	C	PS2231- 48PAG-AND/2X8/TCS/INT/4-CE [S. Wang Dep. Ex. 92]	PEC00376919-00376921	Wang, Steven	Infringement	11/5/2008
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CX-0294	С	PS2231 ULGA2X8/TCS/INT [S. Wang Dep. Ex. 93]	PEC00314993-00314995		Infringement	11/5/2008
		· · · · · · · · · · · · · · · · · · ·		Wang, Steven		
CX-0295	c	PS2231 ULGA2X8/TCS/INT [S. Wang Dep. Ex. 94]	DC000348038 00048040		1-61	11/5/2008
07-0235	٣	PORAST OLGAZAGITCOMIN (S. WAIN DED. EX. BI	PEC00318038-00318040	Wang, Steven	Infringement	11/3/2000
CX-0296	С	PS2231 AG-AND/2X8/TCS/INT/4-CE [S. Wang Dep. Ex. 95]	PEC00347334-00347336		Infringement	11/5/2008
				Wang, Steven		
CX-0297	c	P52231 2X8/TCS/AG-AND/INT/4-CE/LGA [S. Wang Dep. Ex. 96]	PEC00340986-00340989		Infringement	11/5/2008
	1	and the second s		Wang, Staven		
		PS2231 AG-AND/2X8/TCS/INT/4-CE Reference 37X14OGG1-MA	PEC00337626-00337629;			
CX-0298	<u>c</u>	[S. Wang Dep. Ex. 98]	PEC00335036	Wang, Steven	Infringement	11/5/2008
			н. —	Triang, Garon		
CX-0299	c	Phison Bill of Materials w/misc. [S. Wang Dep. Ex. 99]	PEC00052762-00132543		Infringement	11/5/2008
CX-0300	1	Wilhdrawn	<u> </u>			

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CX-0301		Withdrawn			· · ·		
				Lee, Ellis	· ·	·	
CX-0302	c	Printout of file entitled 20080430_Products to USA_ with price.xis [E. Lee Dep. Ex. 170]					
	Ť				Importation / Remedy	11/	5/2008
CX-0303		Withdrawn	· · · · · · · · · · · · · · · · · · ·				
CX-0304		Withdrawn					
		E-mail String beginning with, From Kuang to Michael Wu, et al.,		Teay, Katy			
CX-0305	с	dated 07/27/07 (K. Tsay Vi Dep. Ex. 228)	PEC00468003-00468004		infringement	11/	5/2008
				Taay, Katy		·	
CX-0306	c	List of Customers and Locations (K. Tsay VI Dep. Ex. 229)	PEC00468005-00468015		Importation	11/	/5/2008
		·					
CX-0307		Withdrawn					
		- Thread way					
CX-0308	╉──	Withdrawn	·	Tsay, Kaly			
		US Clients (ship to US) with Product Type_20072008toApril.xis					
CX-0309	C_	[Kaly Tsay Dep. Ex. 245]			Importation / Remedy	11/	/5/2008
	·	Respondent Phison Electronics Corporation's Third Supplemental Responses to Complainant SanDisk Corporation's First Set of		Tsay, Katy			
CX-0310	c	Interrogatories [Katy Tsay Dep. Ex. 247]			Importation	. 11/	/5/2008
CX-0311		Withdrawn					
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CX-0312		Wilhdrawn					
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CX-0313	+	Withdrawn		+	+		
CX-0314	+	Withdrawn					
CX-0315		Withdrawn			1		

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CX-0316		Withdrawn				
	$\square$			Tsay, Kaly		
CX-0317	C	Spreadsheet in Chinese (Katy Tsay Dep. Ex. 256)	PEC00509536-00509547		Importation	11/5/2008
	1	March 24 to March 20 Miles He Officered Days And We are		Tsay, Katy		
CX-0318	c	March 24 to March 30 Weekly Shipment Report.xis [Katy Tsay Dep. Ex. 257]			Importation	11/5/2008
				Tsay, Kaly		
CX-0319		April 28, 2008 Commercial Invoice, Packing List, Air Cargo Air Waybill [Katy Tsay Dep. Ex. 258]	•			
0/-0310	۴	TYRYUM (Naty 1 Bay Dep. EX. 200)		Tsay, Katy	Importation	11/5/2008
		Respondent Phison Electronics Corporation's Response to				
CX-0320	C	Compleinant and Notice of Investigation [Katy Tsay Dep. Ex. 260]			Importation	11/5/2008
CX-0321		Withdrawn				
				Taay, Katy		
CX-0322	c	December 13, 2007 E-mail [Katy Tsay Dep. Ex. 264]				
ONOSEE	Ť		PEC00503823	Tsay, Katy	Importation	11/5/2008
		September 28, 2007 Fax Cover Sheet; Phison Invoice; Electronic Integrated Circuit Worksheet; Korean DRAM Certification [Katy Tsay				
CX-0323		Dep. Ex. 265]	PEC00883247-00883250	Tsay, Katy	Importation	11/5/2008
				i ady, italy		
CX-0324	с	November 19, 2007 NVIDIA Corporation Purchase Order [Katy Tsay Dep. Ex. 266]	PEC00528743-00528744		Importation	11/5/2008
CX-0325		Withdrawn				
0/-0020	1			Tsay, Katy		· .
CX-0326	C	Phison SATA SSD [Katy Tsay Dep. Ex. 271]	PEC00530236-00530250	Tsay, Katy	Infringement	11/5/2008
				i bey, naty		
CX-0327	c	Phison SATA SSD [Katy Tsay Dep. Ex. 272]	PEC00529518-00529528		Infringement	11/5/2008
				Tsay, Katy		
CX-0328	c	Phison SATA SSD (Katy Tsay Dep. No. 273)	BECOD896702 00898714		Infringement	11/5/2008
07-0320	Ť	r meun en n eau (nely 1 say Dep. No. 2/3]	PEC00886703-00886714	Tsay, Katy	Infringement	11/5/2000
					1	
CX-0329	<u> </u>	Phison SATA SSD [Katy Tsay Dep. No. 274]	PEC00860012-00860022		Infringement	11/5/2008
CX-0330		Withdrawn				

		Ren - James and The Construction of the Annual States and the Construction of the Cons	Carrier and Carrier and Carrier and Carrier	a process and the second s		
CX-0331		Enabling Next Generation NAND Applications Through Controller Technology Powerpoint Presentation with Notes from MemCon 2007		Chen, Horace		
CA-0351	<del>۲</del> -	[H. Chen Dep. Ex. 286]		Chen, Horace	Infringement	11/5/2008
		hub 16, 2007 Bhinne LISA Minelds Clather Decord Mit Charles D				
CX-0332	c	July 16, 2007 Phison USA Weekly Status Report [H. Chen Dep. Ex. 287]	PEC00455427-00455428		Importation	11/5/2008
	Γ			Chen, Horace		
•		July 27, 2007 Phison USA Weekly Status Report [H. Chen Dep. Ex.				
CX-0333	C		PEC00004772-00004773		Importation	11/5/2008
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CX-0334		Withdrawn				
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CX-0335	<u> </u>	Withdrawn				
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מנינה עת		1404 1				
CX-0336	+	Withdrawn		Yang, J.Y.		
	1			rang, s, t i		
CX-0337	c	Working Draft American National Standard, Project T10/1417-D [Yang Dep. Ex. 11]	SD-1-2268874-2269018		Infringement	11/5/2008
	Τ			Yang, J.Y.		
		USB 2.0 Flash Controller Specification PS2231, Ver. 1.6 [Yang Dep.				
CX-0338	<u>c</u>	Ex. 202]	PEC00002543-00002563	<u> </u>	Infringement	10/29/2008
<i>.</i>						
CX-0339		Withdrawn				
	1			Yang, J.Y.		
			·-			
CX-0340	С	Data Structure & Management Mechanism [Yang Dep. Ex. 204]	PEC00000673-00000678		Infringement	10/29/2008
-				Yang, J.Y.		
CX-0341	c					
07-0341	٣	Technical Workshop [Yang Dep. Ex. 205]	PEC00035872-00035888	Yang, J.Y.	Infringement	10/29/2008
CX-0342	c	Phison PS2231 Source Code [Yang Dep. Ex. 206]	PEC2.00001-005961		Infringement	11/5/2008
				1		11/3/2000
CX-0343	_	Withdrawn				
CX-0344		Wilhdrawn				
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CX-0345		Wilhdrawn				

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CX-0346		Withdrawn		· · · · · · · · · · · · · · · · · · ·		10/29/2008
OX 03.47						
CX-0347		Wilhdrawn		Yang, J.Y.	<u> </u>	
OX 0040				- · · ·		
CX-0348	<u> </u>	Phison PS3008 Source Code [Yang Dep. Ex. 219]	PEC2.01198-001544		infringement	11/5/2008
CX-0349		Anne document			(	
		Wilhdrawn				
CX-0350		Withdrawn				· ·
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CX-0351		Wilhdrawn				
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CX-0352		Wilhdrawn				
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CX-0353		Wilhdrawn				
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CX-0354		Withdrawn	· ·			
CX-0355		Withdrawn				
CX-0356		Withdrawn				
CX-0357		Withdrawn	·			
CX-0358		Wilhdrawn		L		
CX-0359		Withdrawn	·	Vu Norge	· · · · ·	
		Exhibit C: Chart re PQI products imported into the United States (Yu		Yu, Nancy	Infringement; importation;	
CX-0360	c	PQI Dep. Ex. 51]		<u> </u>	remedy/bonding	11/5/2008

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CX-0361		Wilhdrawn			· · · ·	
CX-0362		Withdrawn				
CX-0363		Wilhdrawn				
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CX-0364		Withdrawn				
CX-0365		Withdrawn				
				Yu, Nancy		
CX-0366	c	List of certain PQI products (Pen Drive and I-Stick) imported into the United States [Yu PQI Dep. Ex. 47]	PQI_00000405-00000442	. 13	Infringement; importation;	
	Ť	Sined States [10 PG( De), EX. 47]	PCI_0000405-00000442	Yu, Nancy	remedy/bonding	11/5/2008
CX-0367	c	List of certain PQI products (CF Cards) imported into the United States [Yu PQI Dep. Ex. 48]			Infringement; Importation;	
	Ť		PQI_00000375-00000389	Yu, Nancy	remedy/bonding	11/5/2008
CX-0368	c	List of certain PQt products (MMC Cards) imported into the United States [Yu PQI Dep. Ex. 49]	PQI_00000393-00000404		Infringement; Importation; remedy/bonding	- 11/5/2008
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CX-0369		Withdrawn				
CX-0370		Withdrawn				
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CX-0371		Withdrawn				
CX-0372		Withdrawn				
CX-0373		Wilhdrawn				
CX-0374		Withdrawn				
CX-0375		Withdrawn				

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CX-0376		Withdrawn				
CX-0377		Withdrawn				
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CX-0378		Wilhdrawn				
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CX-0379		Withdrawn				
CX-0380	с	List of Silicon Motion CompactFlash/SSD Controllers [Doong SM Dep. Ex. 21]	SD-1-3266409	Doong, Nigel	Importation / Remedy	10/29/2008
	Ť		50-1-7200-108		imponation / Neniedy	10/23/2000
CX-0381	с	List of Silicon Motion MMC Controllers [Doong SM Dep. Ex. 22]	SD-I-3266410	Danna Missi	Imagedellan ( Bamada)	10/20/2008
	Ť	HIS OF ONE OF WORKER WIND CONTROLISTS [DUDING SHI DED. EX. 22]	30-1-32004 10	Doong, Nigel	Importation / Remedy	10/29/2008
CX-0382	c	List of Silicon Motion USB Controllers (Doong SM Dep. Ex. 23)				10/00/2020
_07-0302	Ĕ	List of Smitchi Molion USB Controllers [Doorg SM DBp. EX. 23]	SD-I-3266411	Doong, Nigel	Importation / Remedy	10/29/2008
CX-0383	c	List of Silicon Motion MP3/PMP/Digital Frame Controllers [Doong SM Dep. Ex. 24]	00 1 0000 440			10/20/2020
07-0505	M	3M Uap. Ex. 24j	SD-I-3266412	Doong, Nigel	Importation / Remedy	10/29/2008
01 0004						
CX-0384	$\vdash$	Wilhdrawn		1		
		SM221 CompactFlash Controller DataBook, Ver AC3 [Doong SM				
CX-0385	C	Dep. Ex. 27]	SMI-ITC 0004344-0004402	Doong, Nigel	Infringement	10/29/2008
CX-0386	C	SM222 CompactFlash Controller DataBook [Lee SM Dep. Ex. 28]	SMI-ITC 0001032-0001059	Lee, James	Infringement	10/29/2008
CX-0387	C	SM223 CompactFlash Controller Datasheet [Lee SM Dep. Ex. 29]	SMI-ITC 0001080-0001172	Lee, James	Infringement	11/5/2008
		SM223 SSD/CF Controller Datasheet, Rev. 1.0 [Lee SM Dep. Ex.				
CX-0388	c	29A]	SMIHTC 1577982-1578073	Doong, Nigel	Infringement	10/29/2008
		SM263 HS MMC Memory Card Controller DateBook, Ver AE3 (Lee				
CX-0389	<u>c</u>	SM Dep. Ex. 30]	SMI-ITC 0008593-0008633	Lee, James	Infringement	11/5/2008
		SM267 MMC4.2 memory Card Controller DataBook, Ver. 3.4 [Lee				
CX-0390	С	SM Dep. Ex. 31]	SMI-ITC 0004558-0004592	Lee, James	Infringement	10/29/2008

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CX-0391	<u> </u>	Wilhdrawn	·			
CX-0392	c	SM321 USB 2.0 Flash Media Controller, Ver1.6 [Lee SM Dep. Ex. 33]	SMI-ITC 0009155-0009169	Lee, James	Infringement	10/29/2008
CX-0393	c	SM321E, USB2.0 Flash Media Controller, DataBook, Ver. 1.1 [Lee SM Dep. Ex. 34]	SMI-ITC 0009298-0009303	Lee, James	Infringement	11/5/2008
CX-0394	с	SM324, USB2.0 Flash Memory Controller DataBook, Ver 1.02 [Lee SM Dep. Ex. 35]	SMI-ITC 0001495-0001518	Lee, James	Infringement	10/29/2008
		SM340, USB2.0 Digital Audio Player Controller, Ver. 1.0 [Lee SM				
CX-0395	c	Dep. Ex. 36]	SMI-ITC 2455205-2455221	Lee, James	Infringement	10/29/2008
				-		
CX-0396	c	Zoom CF Flash Support List (10/02/2007) [Doong SM Dep. Ex. 49]	SMI-ITC 0002722-0002724	Doong, Nigel	Infringement	11/5/2008
CX-0397		Withdrawn				
CX-0398	c	Dyna Flash Support List [Ooong SM Dep. Ex. 51]	SMI-ITC 0405251-0405253	Doong, Nigel	Infringement	11/5/2008
CX-0399	<u> </u>	SMI Flash Support List [Doong SM Dep. Ex. 52]	SMI-ITC 1781655-1781557	Doong, Nigal	Infringement	11/5/2008
CX-0400	lc_	Zoom CF Flash Support List (01/31/2007) [Doong SM Dep. Ex. 53]	SMI-ITC 1090802	Doong, Nigel	Infringement	11/5/2008
CX-0401	+-	Withdrawn				
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CX-0402		Withdrawn			+	·
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_CX-0403_	+	Withdrawn			+	
CX-0404	+	Withdrawn		. <u> </u>	+	
0.00						
CX-0405	C	Presentation entitled, Dyna Family Products [Lee SM Dep. Ex. 73]	USB_00045896-00045929	Lee, James	Infringement	11/5/2008

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CX-0406		Withdrawn				
CX-0407	<b> </b>	Withdrawn	· · · · · · · · · · · · · · · · · · ·			
CX-0408	<u> </u>	Withdrawn				
- -		Note to Customers re SMI UFD Controller- SM325AB Wear Leveling				
CX-0409	<u>c</u>	Algorithm Introduction [Lee SM Dep. Ex. 77]	SMI-ITC 1390635-1390839	Lee, James	Infringement	10/29/2008
		Note to Customers & SNU SSD Contrained DUDDa up of the				
CX-0410	c	Note to Customers re SMI SSD Controller- SM223 Wear Leveling Algorithm Introduction (Lee SM Dep. Ex. 78)	SMI-ITC 1318371-1318375	Lee, James	Infringement	10/29/2008
_CX-0411	<u>c</u>	Nole to Customers re SMI CF/SSD Controller- SM222/SM223 Table Re-Link after Sudden Power Down (Lee SM Dep. Ex. 79)	SMI-ITC 1318376-1318379	Lee, James	Infringement	10/29/2008
CX-0412	c	Presentation entitled, When and Where the Bad Block will be Happen [Lee SM Dep. Ex. 60]	SMI-ITC 1398477-1398480	Lee, James	Infringement	10/29/2008
CX-0413	c	Note to Customers re SM222 Rev. AD Product Change Notice (Lee SM Dep. Ex. 81]	SMI-ITC 1302057-1302058	Lee, James	Infringement	10/29/2008
		Application Note re SM324 Rev. BC Bad Block Reservation				
CX-0414	c	Application Note to SM324 Rev. BC Bad Block Reservation Application Note [Lee SM Dep. Ex. 82]	SMI-ITC 2128259-2128261	Las, James	Infringement	10/29/2008
CX-0415	c	Issue Report re SM324BC [Lee SM Dep. Ex. 85]	SMI-ITC 1369545-1369548	Les, James	Infringement	10/29/2008
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CX-0416	ļ	Withdrawn				
CX-0417	<b> </b>	Wilhdrawn				
CX-0418	c	Datasheet page re 1CE pin and 2 pin & 4 CE pin flash setup [Lee SM Dep. Ex. 89]	SMI-ITC 0007389	Lee, James	Infringement	10/29/2008
CX-0419	c	SM325 High Speed USB2.0 Flash Memory Controller DataBook, Ver. 1.03. [Lee SM Dep. Ex. 96]	SMI-ITC 2342482-2342520	Lee, James	Infringement	10/29/2008
CX-0420	c	SMI M324 Hidden Block & Command Define [Lee SM Dep. Ex. 100]	SMI-ITC 1241041-1241070	Lee, James	Infringement	10/29/2008

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CX-0421	c	Handwritten drawing of 2K page [Lee SM Dep. Ex. 103]		Lee, James	Infringement	10/29/2008
				Lag, Janua	nining drivert	10/23/2000
CX 0400						
CX-0422	C	SM324 Firmware Code module *cardmode.c" [Lee SM Dep. Ex. 116]	SM-ITC-SC 0001.00993-0001.00996	Lee, James	Infringement	11/5/2008
	1					
CX-0423		Wilhdrawn				
CX-0424	с	SM324 Firmware Code module-"public.c" [Lee SM Dep. Ex. 119]	SM-ITC-SC 0001.01216-0001.01253	Les, James	Infringement	10/29/2008
	1					
CX-0425	с	SM324 Firmware Code module- "ritecmd.c" [Lee SM Dep. Ex. 122]	SM-ITC-SC 0001.01575-0001.01583		Infringement	10/29/2008
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CX-0426		Wilhdrawn	· · · · ·			
0/-0420		WINNING				
		Distributorship Agreement between Silicon Motion and Nu Horizon				
CX-0427	lc_	Electronics (Doong SM Dep. Ex. 154)	SMI-ITC 2451511-2451524	Doong, Nigel	Infringement	11/5/2008
		Distributorship Agreement Between Silicon Motion and All American		· ·		
CX-0428	С		SMI-ITC 2451430-2451447	Doong, Nigel	Infringement / Importation	11/5/2008
CX-0429	с	Sample Request Form- SM267A MMC card [Doong SM Dep. Ex. 169]	SMI-ITC-N 23915056.1-23915056.2	Doong, Nigel	Infringement / Importation	11/5/2008
		· · · · · · · · · · · · · · · · · · ·				
CX-0430		Withdrawn				
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CX-0431						
07-0431	+	Withdrawn				· · ·
		Sample Request Form- SM223AC PCBA + Frame [Hsiao SM Dep.				
CX-0432	C	Ex. 175]	SMI-ITC 2391078	Hsiao, Scott	Infringement / Importation	11/5/2008
		Sample Request Form- SM223AC + SATA Silicon image Bind				
CX-0433	c_	Phison; Hyperstone [Hsigo SM Dep. Ex. 176]	SMI-ITC 2391067	Hsiao, Scott	Infringement / Importation	11/5/2008
			•			
CX-0434	c	Sample Request Form SM223-AB evaluation board [Hsiao SM Dep. Ex. 184]	SMI-ITC 1061276.XLS	Hsiao, Scott	Infringement / Importation	11/5/2008
	1				brun Manual ( ) pibrura (0)	11/3/2005
		Sample Request form Demo Board with CF interface and with Flash				
CX-0435	C	[Helao SM Dep. Ex. 185]	SMI-ITC 1061288.XLS	Hsiao, Scott	Infringement / Importation	11/5/2008

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CX-0436	c	Sample Request Form SM325 demo boards [Heiao SM Dep, Ex. 190]	SMI-ITC 2391080	Haiao, Scott	Infringement / Importation	11/5/2008
CX-0437	с	Sample Request Form SM223AB demo board [Hsiao SM Dep. Ex. 193]	SMI-ITC 1532831	Hsiao, Scott	Infringement / Importation	11/5/2008
CX-0438	c	Sample Request Form SM223AC demo board [Doong SM Dep. Ex. 194]	SMI-ITC 1532833	Doong, Nigel	Infringement / Importation	11/5/2008
CX-0439	c	Customer Shipping List (Doong SM Dep. Ex. 202)	SMI-ITC ND 0000001-0000024	Doong, Nigel	Importation / Remedy	11/5/2008
				inconig, ragor	inpotential ( ) ( ) ( )	
CX-0440	c	Sample Shipments (Halao SM Dep. Ex. 209)	SMI-ITC SH1 0000001-0000012	Haiao, Scott	Importation / Remedy	11/5/2008
CX-0441	c_	Demo Kits [Helao SM Dep. Ex. 210]	SMI-ITC SH2 0000001-0000020	Hsiao, Scott	Importation / Remedy	11/5/2008
_CX-0442		Wilhdrawn				
CX-0443		Withdrawn				•
CX-0444		Withdrawn				
	c	Respondent Skymedi Corporation's Responses to SanDisk Corporation's First Notice of Deposition of Skymedi Corporation [Chang SKX Dep. Ex. 2]		Chang, C.Y.	Witness Background/Identification as corporate representative	11/5/2008
ÇX-0446	с	Letter to Stafford from Chinoy [Chang SKX Dep. Ex. 3]		Chang, C.Y.	Witness Background/identification as corporate representative	10/29/2008
CX-0447		Withdrawn				
CX-0448			· · · · · · · · · · · · · · · · · · ·			
<u>CA-0448</u>	$\vdash$	Wihdrawn .				
CX-0449		Wilhdrawn				
CX-0450		Wilhdrawn				

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CX-0451	с	Skymedi SK6201, USB2.0 Flash Drive Controller, Rev. 1.08 [Chang SKX Dep. Ex. 14]	SKY_00000256-00000284	Chang, C.Y.	infringement	10/29/2008
_CX-0452	с	Skymedi SK6202 USB 2.1 Flash Drive Controller, Rev. 1.02 [Chang SKX Dep. Ex. 15]	SKY_00000285-00000311	Chang, C.Y.	Infringement	10/29/2008
CX-0453	с	Skymedi SK6202 Privacy-enhanced UFD Controller, Rev. 0.10 [Chang SKX Dep. Ex. 16]	SKY_00000312-00000324	Chang, C.Y,	Infringement	10/29/2008
CX-0454	с	Skymedi SK62038x Privacy-enhanced UFD Controller, Rev. 2.00 [Chang SKX Dep. Ex. 17]	SKY_00003277-00003288	Chang, C.Y.	Infringement	10/29/2008
<u>CX-0455</u>	с	Skymedi SK62118x, Enhanced UFD Controller, Rev. 0.10 (Chang SKX Dep. Ex. 18)	SKY_00000325-00000337	Chang, C.Y.	Infringement	10/29/2008
CX-0456		Withdrawn				
_CX-0457	c	Skymedi SK6602, SD1.1/MMC4.0 Memory Card Controller, Rev. 1.04 [Chang SKX Dep. Ex. 21]	SKY_00006313-00008352	Chang, C.Y.	infringement	10/29/2008
CX-0458	c	Skymedi SK6612, SD1.1/MMC4.1 Memory Card Controller, Rev. 1.91 [Chang SKX Dep. Ex. 22]	SKY_00006662-00006703	Chang, C.Y.	Infringement	10/29/2008
CX-0459	с	Skymedi SK6618, MS/SD 2.0/MMC4.2 with USB2.0 Dual Interface Controller, Rev. 1.0 [Chang SKX Dep. Ex. 23]	SKY_0000471-00000497	Chang, C.Y.	Infringement	10/29/2008
CX-0460		Wilhdrawn				
_CX-0461	с	Skymedi SK6625, SD2.0/MMC4.2 Memory Card Controller, Rev. 2.0 [Chang SKX Dep. Ex. 25]	SKY_10000842-10000865	Chang, C.Y.	Infringement	10/29/2008
CX-0462	c	Skymedi SK6626, SD2.0/MMC4.2 Memory Card Controller, Rev. 1.0 [Chang SKX Dep. Ex. 26]	SKY_00012765-00012789	Chang, C.Y.	Infringement	10/29/2008
CX-0463	c	Skymedi SK6802, MMC4.0 Memory Card Controller, Rev. 1.0 [Chang SKX Dep. Ex. 27]	SKY_00000549-00000588	Chang, C.Y.	Infringement	10/29/2008
CX-0464	c	Skymedi KTC680, SD1.1/MMC4.1 Memory Card Controller, Rev. 10 [Chang SKX Dep. Ex. 28]		Chang, C.Y.	Infringement	10/29/2008
CX-0465	с	Skymedi KTC681, SD2.0/MMC4.2 Memory Card Controller, Rev. 1.0 [Chang SKX Dep. Ex. 29]		Chang, C.Y.	Infringement	10/29/2008

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		Introduction to Flash Data Management Part 2 by Johnson Huang				
	Ť		SKY_10000302-10000318	Chang, C.Y.	Infringement	10/29/2008
CX-0467	с	Skymedi 6203Bx Privacy-enhanced UFD Coniroller, Rev. 2.01 [Chang SKX Dep. Ex. 31]		Chang, C.Y.	Infringement	10/29/2008
CX-0468	с	Skymedi 6211Bx Enhanced UFD Controller Rev 3.00 [Chang SKX Dep. Ex. 32]				
0/10400	۴			Chang, C.Y.	Infringement	10/29/2008
CX-0469	с	Skymedi 8288 USB2.0 Flash Drive Controller, Rev 3.10 [Chang SKX Dep. Ex. 33]		Chang, C.Y.	Infringement	10/29/2008
CX-0470	c	Skymedi SK6626 SD2.0/MMC4.2 Memory Card Controller Rev. 1.1 [Chang SKX Dep. Ex. 34]		Chang, C.Y.	infringement	10/29/2008
CX-0471		Withdrawn				
CX-0472		Withdrawn	•			
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CX-0473	c	Skymedi MMC4.0 Controller Design Specification [Chang SKX Dep. [Ex. 44]	·			
07.0470	٣	<u>[, , , , , , , , , , , , , , , , , , , </u>		Chang, C.Y.	Infringement	10/28/2008
CX-0474	c	Skymedi, 1806 Design Specification [Chang SKX Dep. Ex. 48]	SKY_00012372-00012727	Chang, C.Y.	Infringement	- 10/29/2008
CX-0475		Wilhdrawn				
<u>CX-0476</u>		Wilhdrawn				
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CX-0477		Wilhdrawn				
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CX-0478		Withdrawn				10/29/2008
CX-0479		Withdrawn				10/29/2008
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CX-0480	c	Infroduction to Flash Data Management, Johnson Huang [Chang [SKX'Dep. Ex. 59]	SKY_00527777	Chang, C.Y.	Infringement	10/29/2008

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		Universal Serial Bus Mass Storage Class, Bulk-Only Transport,		_		
CX-0481	c	Revision 1.0 [Chiu SKX Dep. Ex. 70]	SD-1-0420751-0420772	Chiu, Chris	Infringement	11/5/2008
CX-0482	c	Working Draft American National Standard, Project T10/1417-D, Revision 16 [Chiu SKX Dep. Ex. 71]	SD-I-2268874-2269018	Chiu, Chris	Importation	11/5/2008
						11/5/2008
CX-0483	с	Micron Draft Purchase Order [Chiu SKX Dep. Ex. 74]	SKY_00000637-00000642			
				Chiu, Chris	infringement	11/5/2008
CX-0484	с	Compatibility List table [Chiu SKX Dep. Ex. 76]				
				Chiu, Chris	Infringement	10/29/2008
CX-0485	c	Chumedi Beference Desta (011, 000, 0, 0, 000)				
0// (100	<u> </u>	Skymedi Reference Design [Chiu SXX Dep. Ex. 76]	SK-PE-D-320-01.PDF	Chiu, Chris	Infringement	11/5/2008
CX-0486	с	Skymedi Flash Support List for SK6281 USB Controller [Chiu SKX				
0400	<u> </u>	Dep. Ex. 77]		Chiu, Chris	Infringement	10/29/2008
<u> </u>		Samsung K9HBGO8U1M NAND Flash Memory Datasheet (Chiu				
CX-0487	C	SKX Dep. Ex. 78		Chiu, Chris	Infringement	11/5/2008
CX-0488	<u>c</u>	Test File document [Chiu SKX Dep. Ex. 79]		Chiu, Chris	Infringement	11/5/2008
		SK6281AB R-W Performance Capacity List_20070426_K.xis [Chiu				
CX-0489	c	SKX Dep. Ex. 80]		Chiu, Chris	infringement	10/29/2008
CX-0490	c	Samaung K9WAG08U1A [Chiu SKX Dep. Ex. 81]	SD-I-2094952-2095001	Chiu, Chris	Infringement	11/5/2008
CX-0491	c	Skymedi Flash Support List 20060728 [Chiu SKX Dep. 83]		Chiu, Chris	infringement	10/29/2008
CX-0492	L	Withdrawn				
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CX-0493	c	Skymedi Flash Support List for the 6621, 6625 and 6628 SD/MMC controllers [Chiu SKX Dep. 86]		Chiu, Chris	Infringement	10/29/2008
CX-0494	c	Skymedi Flash Support List for the 6602, 6612 SD/MMC and 6201 USB controllers [Chiu SKX Dep. Ex. 87]		Chiu, Chris	Infringement	10/29/2008
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CX-0495	c	*SK281.cfg* file [Tsai SKX Dep. Ex, 119]		Jerry Tsal	Importation	11/5/2008

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CX-0496	c	Copies of FedEx shipping forms [Tsai SKX Dep. Ex. 121]		Jerry Tsel	Importation	11/5/2008
<u>CX-0497</u>	<u>c</u>	Shipping Data 2007-2008 7/14 [Chih SKX Dep. Ex. 130]		Arthur Chih	Importation	11/5/2008
		Detail Shipment Information, Updated Q2 2008 [Chih SKX Dep. Ex.				
CX-0498	<u>c</u>	131]		Arthur Chih	Importation	11/5/2008
CX-0499						
07-0499	Ŭ.	Shipmeni to U.S.A., Amount [Chih SKX Dep. Ex. 132]	<u></u>	Arthur Chih	Importation	11/5/2008
CX-0500	с	2008 BP New Design in [Chilt SKX Dep. Ex. 134]	eky 10096400			
	Ē		SKY_10020800	Arthur Chih	Infringement	11/5/2008
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CX-0514		Withdrawn				
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CX-0515						
07-0010		Wilhdrawn	· · · · ·	Chiu, Frankie		
01 0510		Table listing customer code, customer name, invioice date, invoice number, brand, unit MSP, price, quantity, ext. price and margin (Chiu				
CX-0516		Dep. Ex. 3]	TSC-ITC 0000807-0000901		Importation; remedy/bonding	11/5/2008
CX-0517		Withdrawn				
CX-0518		Withdrawn	·			·
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CX-0519		Withdrawn				
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CX-0520		Withdrawn	·	Chu, Ray		
		Transcend's Amended and Supplemental Responses to SanDisk's		Chu, Kay	· · ·	
CX-0521	с	Interrogatories 116 and 118 [Chu Dep. Ex. 6]			Infringement; Importation	11/5/2008
				Chu, Ray		
CX-0522	c_	CompactFlash Guide, First Edition [Chu Dep. Ex. 8]	TSC-ITC 0009256-0009279		infringement; remedy/bonding	11/5/2008
	[	11198 Flash Ddust ages from Transcende Osline Drug with 1		Chu, Ray		
CX-0523		"USB Flash Drive" page from Transcend's Online Store web site [Chu Dep. Ex. 23]			Infringement; importation	11/5/2008
CX-0524	Ŀ	Withdrawn				
	ŀ			Tzou, Ben		
CX-0525	c	Exhibit A to Transcend's Amended and Supplemental Responses to SanDisk's Interrogatories 118 and 118 [Tzou Dep. Ex. 4]			Infringement; Importation	11/21/2008

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CX-0527	с	CF76/60/120 Print Codes Rules [Tzou Dep. Ex. 6]			Remedy/bonding	11/5/2008
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CX-0534		Withdrawn				
				Ryan, Ronan P.		
CX-0535	c	Table listing Store 'n' Go sales for 2007 (Ryan Dep. Ex. 18)	VB 000001-000021		Infringement; remedy/bonding; validity	11/5/2008
CX-0536		Withdrawn				
CX-0537		Withdrawn				
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Appendix A SanDisk Corporation's CX-List

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CX-0575		Withdrawn		·		· · · · · · · · · · · · · · · · · · ·
CX-0576		Withdrawn				
CX-0577	c	Accused Dane-Elec Flash Memory Product Table	DE 0018080	Rhyne, Thomas	Infringement	10/29/2008
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CX-0578	┼	Binary/MLC NAND System Specification		Rhyne, Thomas	Infringement	10/29/2008
CX-0579	+	Withdrawn				
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CX-0580	<u>c</u>	Complaint Ex. 144A		Rhyne, Thomas	Domestic Industry	10/29/2008
CX-0581	C	Complaint Ex. 1448		Rhyne, Thomas	Domestic Industry	10/29/2008
CX-0582	c					
CA-0362	۴	Complaint Ex. 144C		Rhyne, Thomas	Domestic Industry	10/29/2008
CX-0583	c	Complaint Ex. 144D		Dhung Thomas		10/70/2000
011 0000	ř			Rhyne, Thomas	Domestic Industry	10/29/2008
CY-0584		Flash Design Manual	н			10/20/2008
07-0304	۲			Rhyne, Thomas	Infringement	10/29/2008
CX-0585		Withdrawn				10/29/2008
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CX-0586	c	Layout Report	SD-1-3266329-3266388	Rhyne, Thomas	Infringement	10/29/2008
CX-0587	<b> </b>	Withdrawn				
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CX-0588	1	Micron Technical Note TN-29-28		Rhyne, Thomas	Infringement	10/29/2008
CX-0589	c	mlc2KB3.c (Phison Source Code)		Rhyne, Thomas	Infringement	10/29/2008
CX-0590	c	K9XXG08UXM Samsung Datasheet [Phison Depo Ex. 13]		Rhyne, Thomas	Infringement	10/29/2008
CX-0591	<u> </u>	Withdrawn				
CX-0592	c	Phison Stipulation		Rhyne, Thomas	Infringement	10/29/2008
CX-0593	$\bot$	Withdrawn				10/29/2008
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CX-0594	c	SD Specification Ver. 2.00	SD-1-2673375-2673558	Rhyne, Thomas	Domestic Industry	11/21/2008
CX-0595	c	System Project Engineering, Ultra II MLC/Extreme III (Falcon) Project	SD-1-0425625-0425642	Rhyne, Thomas	Domestic Industry	10/29/2008
CX-0596	c	Toshiba Datasheet		Rhyne, Thomas	Infringement	10/29/2008
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CX-0597		Wilhdrawn				
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CX-0601		Rhyne Expert Report Ex. C (NAND Identification Table)		Rhyne, Thomas	Infringement	10/29/2008
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CX-0612		Withdrawn				10/29/2008
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CX-0614	10	Table)		Rhyne, Thomas	Infringement	10/29/2008
		Rhyne Expert Report Ex. Q (Accused Kingston Flash Memory	·			
CX-0615	С	Product Table)		Rhyne, Thomas	Infringement	10/29/2008

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CX-0616	c	Rhyne Expert Report Ex. R		Rhyne, Thomas	Infringement	10/29/2008
CX-0617	c	Rhyne Expert Report Ex. S (Accused Verbatim Flash Memory Product Table)		Rhyne, Thomas	Infringement	10/29/2008
CX-0618	c	Rhyne Expert Report Ex. T (Accused Apacar Flash Memory Product Table)		Rhyne, Thomas	Infringement	10/29/2008
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CX-0619	c	Rhyne Expert Report Ex. U (Accused LGE Flash Memory Product Table)		Rhyne, Thomas	infringement	10/29/2008
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CX-0620	c	Rhyne Expert Report Ex. V (Accused Transcend Flash Memory Product Table)		Rhyne, Thomas	Infringement	10/29/2008
CX-0622	c	Imation/Memorex Website photos		Min, Paul	Infringement	10/29/2008
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CX-0624		Wilhdrawn				
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CX-0625		Withdrawn				
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CX-0626	c	Flash Task Team Final WW Portfolio Summary, December 5, 2007 [Northfield Dep. Ex. 31]	IMA-273187-273195	Min, Paul	Infringenerat	11/5/2008
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Appendix A SanDisk Corporation's CX-List

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CX-0648	Withdrawn				
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CX-0733		Withdrawn			 
CX-0734		Wilhdrawn		<u> </u>	·
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CX-0735	<u> </u>	Withdrawn			
CX-0736		Withdrawn			

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	13A		All and a second se	E. Manuale of the second se		
CX-0737	Ļ	Withdrawn				
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CX-0738		Withdrawn		5.		
CX-0739	lc	Subpoena - Symwave, inc. [Symwave Dep. Ex. 1]		Thomas Christopher Todd		11/5/2000
	Γ			Thomas, Christopher Todd	Importation / Infringement	11/5/2008
CX-0740	c	CBM1183/CBM1180/CBM2080 Flash Compatibility List (Symwave Dep. Ex. 2)				
0/10/144	ľ		SYM 0005-0008	Thomas, Christopher Todd	Importation / Infringement	11/5/2008
CX-0741	ľ	Withdrawn			1	
07-0741	<del> </del>	Windrawn		· ·	· · · · · · · · · · · · · · · · · · ·	
CX-0742						
CA-0/42	+	Withdrawn				
CX-0743	╂──	Wilhdrawn		ļ	{	
CX-0744		Wilhdrawn				
CX-0745	<u> c</u>	Schematic - CBM2080 Generic Solution [Symwave Dep. Ex. 7]	SYM 0067-0068	Thomas, Christopher Todd	Importation / Infringement	11/5/2008
CX-0746	┢	Withdrawn				
CX-0747	IC_	CBM1190/CBM2090 Flash Compatibility List [Symwave Dep. Ex. 9]	SYM 0001-0004	Thomas, Christopher Todd	Importation / Infringement	11/5/2008
		As between SanDisk and Phison, a stipulation concerning the				
CX-0748	c	As between SanDisk and Skymedi, a subulation concerning the		N/A	Infringement	10/29/2008
		designation of skymedi representative products, importation into the United States of certain Skymedi accused products, and information				
CX-0749	c	and assistance provided by Skymedi to its customers concerning		N/A	Infringement / Importation	10/29/2008
		As between SanDisk and all Respondents, a stipulation				
CX-0750	c	concerning the economic prong of the domestic industry requirement with respect to the Asserted Patents.		N/A	Domestic Industry	11/21/2008
CX-0751	1	Withdrawn				

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	加州	的现在是我们的好想了。我们们也能够到了你的多问题。		Marina Second Schlerendenna (		
CX-0752		As between SanDisk and Respondents, Corsair, PQI and Imation, a stipulation concerning the technical prong of the domestic industry requirement with respect to claim 8 of the '011 patent.	4 	N/A		11/2/2008
		requirements in the part of the of the of the parent.			Domestic Industry	11/3/2008
CX-0753		Wilhdrawn				
CX-0754		As between SanDisk and Imation, a sigulation concerning the importation into the United States, sale for importation into the United States, and/or sale after importation into the United States, of Imation's accused products.				
0//0/04	ř		· · · · · · · · · · · · · · · · · · ·	IN/A	Importation	11/21/2008
CX-0755		Withdrawn				
CX-0756		Wilhdrawn				
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CX-0757	c	Chang, C. Y. Deposition Transcript Vol. 1		Chang, CY	Infringement/ importation/ remedy bonding	10/29/2008
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CX-0758	с	Chang, C. Y. Deposition Transcript Vol. 2	· · · · · · · · · · · · · · · · · · ·	Chang, CY	Infringement/ Importation/ remedy bonding	10/29/2008
						· · · · · · · · · · · · · · · · · · ·
CX-0759	c	Chang, C. Y. Deposition Transcript Vol. 3		Chang, CY	Infringement/ Importation/ remedy bonding	10/29/2008
CX-0760	с	Chang, C. Y. Deposition Transcript Vol. 4		Chang, CY	Infringement/ importation/ remedy bonding	10/29/2008
CX-0761	c	Chang, C. Y. Deposition Transcript Vol. 5		Chang, CY	Infringement/ Importation/ remedy bonding	10/29/2008
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CX-0762		Withdrawn				
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CX-0763		Withdrawn				
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CX-0764		Wilhdrawn	·			
CX-0765		Withdrawn				
CX-0766		Withdrawn				

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CX-0767		Withdrawn				
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CX-0768		Wilhdrawn				
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CX-0770		Wilhdrawn	•			,
00-0110		AAIIUQLEMU				
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CX-0771		Withdrawn				
CX-0772		Withdrawn				
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CX-0773	<u>c</u>	Cheng, Vincent Deposition Transcript Vol. 1		Cheng, Vincent	Infringement / Importation	10/29/2008
CX-0774	с	Cheng, Vincent Deposition Transcript Vol. 2		Cheng, Vincent	Infringement / Importation	10/29/2008
CX-0775		Chien, Jason Deposition Transcript				
	Ť			Chien, Jason	Infringement / Importation	10/29/2008
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CX-0776	<u> </u>	Chih, Arthur Deposition Transcript		Chih, Arthur	infringement / importation	10/29/2008
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CX-0777	c	Chiu, Chris Deposition Transcript		Chiu, Chris	Infringemeni	10/29/2008
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CX-0778	$\vdash$	Wilhdrawn				
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CX-0779	1	Withdrawn		•	ļ	
CX-0780		Wilhdrawn				
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CX-0781	1	Withdrawn	1	1		

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CX-0782	с	Doong, Nigel Deposition Transcript Vol. 1		Doong, Nigel	- Infringement / Importation	10/29/2008
CX-0783	с	Doong, Nigel Deposition Transcript Vol. 2		Doong, Nigal	Infringement / Importation	10/29/2008
						10/23/2000
CX-0784	c	Doong, Nigel Deposition Transcript Vol: 3		Doong, Nigel	1-4-1	10/20/2019
	Ē			Doolig, Niger	Infringement / Importation	10/29/2008
CX-0785	с	Doong, Nigel Deposition Transcript Vol. 4				
	Ĕ	Boong, Ngar Daposition Transcript Yor, 4		Doong, Nigel	Infringement / Importation	10/29/2008
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CX-0786	-	Withdrawn				10/29/2008
CX-0787	┼──	Withdrawn				10/29/2008
CX-0788	┣──	Wilhdrawn		·		10/29/2008
CX-0789	ļ	Withdrawn				10/29/2008
CX-0790	Ļ	Withdrawn				10/29/2008
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CX-0791		Withdrawn				10/29/2008
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CX-0794	1	Withdrawn				
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CX-0795	+-	Withdrawn				
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CX-0797	Withd	rawn				
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CX-0799	Withd	rawn				10/29/2008
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CX-0800	Withd	irawn				10/29/2008
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CX-0801	Withd	rawn				10/29/2008
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CX-0802	Withd	rawn				10/29/2008
CX-0803	Withd	rawn				10/29/2008
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CX-0810	Withd	irawn				10/29/2008
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CX-0812	Wilhdrawn				
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CA-0010	Withdrawn				
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CX-0821	Withdrawn				10/29/2008
CX-0822	Wilhdrawn				10/29/2008
CX-0823	Withdrawn				10/29/2008
CX-0824	Withdrawn				10/29/2008
CX-0825	Wilhdrawn				
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CX-0826	Withdrawn				10/29/2008

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CX-0827	-	Vilhdrawn				
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CX-0834		Withdrawn				
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CX-0839		Wilhdrawn				
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CX-0840	-	Withdrawn				· · · · · · · · · · · · · · · · · · ·
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CX-0842	Withdrawn				
CX-0843	Wilhdrawn			·	
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CX-0845	Withdrawn	·			
CX-0846		·			
CA-0640	Withdrawn				·
CX-0847	Withdrawn				
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CX-0848	Wilhdrawn				
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CX-0849	Withdrawn			<i>,</i>	
CX-0850	Withdrawn				
CX-0851	Withdrawn				
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CX-0856	Withdrawn			1	

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CX-0857	Withdrawn			-	
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CX-0858	Withdrawn				
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CX-0860	Withdrawn				10/20/2020
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CX-0861	Withdrawn		*	· · · ·	
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CX-0862	Withdrawn				
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CX-0863	Withdrawn				
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CX-0864					
07-0004	Withdrawn	 			
CX-0865			-		
07-0005	Wilhdrawn				
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CX-0866	Wilhdrawn	 ·····			10/29/2008
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CX-0867	Withdrawn				10/29/2008
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CX-0868	Withdrawn				10/29/2008
_CX-0869	Withdrawn				10/29/2008
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CX-0870	Wilhdrawn	·····			10/29/2008
CX-0871	Withdrawn				

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CX-0872	Withdrawn				
CX-0873	Wilhdrawn				
<u>CX-0874</u>	Wilhdrawn				10/29/2008
CX-0875	Withdrawn				10/29/2008
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CX-0877	Withdrawn	·			10/29/2008
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CX-0879	Wilhdrawn				
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CX-0880	Withdrawn				
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CX-0887		Wilhdrawn			····	
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CX-0888	$\vdash$	Withdrawn		 		
CX-0890	с	Min Exh. E: Federal Information Processing Standards Publication 197	e	Min, Paul/ Rhyns, Thomas	Infringement, Validity, Domestic Industry, Enforceability	10/29/2008
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CX-0891		Withdrawn				
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CX-0892		Withdrawn				
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CX-0893		Withdrawn			· · · · · · · · · · · · · · · · · · ·	
CX-0894		Wilhdrawn				
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CX-0897		Withdrawn				
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CX-0901	<b> </b>	Withdrawn				
CX-0902	1	Withdrawn	<u> </u>		L	<u> </u>

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CX-0903	Withdrawn				
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CX-0905	Withdrawn	· · · · · · · · · · · · · · · · · · ·			
CX-0906	Withdrawn			·	
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CX-0910	Withdrawn				
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CX-0912	Wilhdrawn				
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07-0314				<u> </u>	
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CX-0916	Withdrawn				
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CX-0917	Withdrawn				
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CX-0918	Withdrawn		i		
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CX-0919	Withdrawn				· · · ·
CX-0920	Wilhdrawn			2	
CX-0921	Withdrawn				
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CX-0927	Withdrawn				
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CX-0931	Withdrawn				
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Appendix A SanDisk Corporation's CX-List

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CX-0933	Withdrawn				
CX-0934	Withdrawn				
CX-0935	Withdrawn				
CX-0936	Withdrawn				
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CX-0937	Wilhdrawn				
CX-0938	Withdrawn				
CX-0939	Withdrawn				
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CX-0941	Withdrawn				
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CX-0942	Withdrawn				
CX-0943	Withdrawn				
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CX-0944	Withdrawn				
CX-0945	Withdrawn				
CX-0946	Withdrawn				
CX-0947	Wilhdrawn				

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CX-0948	Withdrawn				
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CX-0949	Withdrawn				
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CX-0950	Wilhdrawn				
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CX-0951	Wilhdrawn				
	Holograd David Due Mars Olivera Olivera Olivera				
CX-0952	Universal Serial Bus Mass Storage Class Specification Overview, Rev. 1.1 at 4-5	SD-I-0420773-0420779	Min, Paul/ Rhyne, Thomas	Domestic Industry	10/29/2008
CX-0953	Withdrawn				
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CX-0954	Withdrawn				•
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CX-0955	Withdrawn				
CX-0956	Withdrawn				
CX-0957	Withdrawn				
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CX-0958	Wilhdrawn				
CX-0959	Wilhdrawn				
CX-0960	Withdrawn				
CX-0961	Wilhdrawn				
CX-0962	CF+ and CompactFlash Specification Rev. 4.1	SD-1-2267309-2267501	Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008

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CX-0963	Micron NAND Datasheet	SD-1-2269943-2270023	Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
CX-0964	Withdrawn				
CX-0965	Withdrawn				
CX-0966	With down				
07-0900	Withdrawn				
CX-0967	Withdrawn				- 10/29/2008
CX-0968	Toshiba NAND Datasheet	SD-1-2269950	Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
CX-0969	Hynix H27UH08AG5B Data Sheet	PEC00502089	Min, Paul/ Rhyns, Thomas	Infringement	10/29/2008
CX-0970	SCSI Block Commands	SD-I-2268934-2268938	Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
				minigerion	10/25/2000
CX-0971					
0/-09/1	Wilhdrawn				
CX-0972	Withdrawn				·
CX-0973	Withdrawn				
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CX-0974	Withdrawn				
CX-0975	MultiMediaCard System Specification Ver. 4.2	SD-I-0839839-0839840	Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
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CX-0976	Withdrawn				
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CX-0978		Withdrawn				
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CX-0989		Withdrawn				
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CX.0004		A File design	,			
CX-0991		Withdrawn				
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CX-0992	1	Withdrawn		1		

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CX 0000					
CX-0993	Withdrawn				
CX-0994	Wilhdrawn	•			
CX-0995	Wilhdrawn				
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CX-1000	Withdrawn	· · ·	н. - С		
CX-1001	Withdrawn				
CX-1002	Withdrawn				
CX-1003					
CX-1003	Withdrawn				
CX-1004	Wilhdrawn				
CX-1005	Wilhdrawn				
CX-1006	Withdrawn				
				infringement/ importation/	
CX-1007	C Paul S. Min, PhD. Witness Statement	l	Min, Paul	Domestic Industry	10/29/2008

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Infringement/ Importation/ Domestic industry CX-1008 C Thomas Rhyne, PhD. Witness Statement Rhyne, Thomas 10/27/2008 CX-1009 Withdrawn 10/29/2008 CX-1010 Withdrawn 10/29/2008 CX-1011 Wilhdrawn 10/29/2008 CX-1012 Withdrawn 10/29/2008 CX-1013 Withdrawn CX-1014 Withdrawn CX-1015 Withdrawn CX-1016 Withdrawn CX-1017 Withdrawn CX-1018 Wilhdrawn CX-1019 Withdrawn CX-1020 Withdrawn CX-1021 Wilhdrawn . . CX-1022 Withdrawn

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CX-1023		Wilhdrawn				
CX-1024		Wilhdrawn				
CX-1025		Wilhdrawn				
CX-1026	с	Apacer's Amended Ex. A to its 8-29-08 Supplemental Interrogatory Responses (Sept. 2, 2008)		Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
						20/23/2000
CX-1027	с	Apacar's Amended Supp. Responses to Interrogatories 1-3, 7, 121- 122, 124 (Aug. 29, 2008)		Min, Paul/ Rhyne, Thomas	Infringement; remedy	10/29/2008
		Respondents Apacer Technology, inc. and Apacer Memory America, Inc.'s Responses to Complainant SanDisk Corporation's First Set of			Importation; infringement; validity; enforceability; domestic industry;	
CX-1028	<u>C</u>	Interrogatories (Nos, 1-106) (Jan, 14, 2008)		Min, Paul/ Rhyne, Thomas	remedy/bonding	· 10/29/2008
						ŕ
CX-1029		Withdrawn				
CX-1030	_	Withdrawn Respondents Apacer Technology, Inc. and Apacer Memory America,				
CX-1031	с	Inc.'s Third Amended Supplamental Responses to Completinant SanDisk Corporation's First Set of Interrogatories (Noc. 1-3) (Apr. 4, 2008)		Min, Paul/ Rhyne, Thomas	1-63	10/29/2008
	-			Min, Faur Rhyne, Thomas	Infringement	10/29/2008
CX-1032		Withdrawn				
						· · ·
CX-1033		Withdrawn	4. 			
CX-1034		Withdrawn				
CX-1035		Withdrawn				
		Respondents Apacer Technology, Inc. and Apacer Memory America, Inc.'s Amended & Supplemental Responses to Complainant SanDisk Corporation's Interrogatories (Nos. 1-3, 7, 14, 121-122, 124-			Infringement; remedy;	
CX-1036	C_	125) with Exhibits A, B and C (Aug. 15, 2008) Respondents Apacer Technology, Inc. and Apacer Memory America,		Min, Paul/ Rhyne, Thomas	affirmative defenses	10/29/2008
CX-1037	c	Inc.'s Amended & Supplemental Responses to Complainant SanDisk Corporation's Interrogatories (Nos. 1-4, 7, 14, 121-122, 124) with Exhibits A, B and C (July 28, 2008)		Min, Paul/ Rhyne, Thomas	infringement; remedy	10/29/2008

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CX-1038		Withdrawn				
CX-1039		Withdrawn				
CX-1040	<u> </u>	Withdrawn				
CX-1041		Withdrawn				
CX-1042	1	Respondents Apacer Technology, Inc. and Apacer Memory America, Inc.'s Responses to Complainent SanDisk Corporation's Seventh Set of Interrogatories (No. 126-127) (Aug. 8, 2008)		Min, Paul/ Rhyne, Thomas	Importation; affirmative	11/21/2008
CX-1043		Withdrawn				
CX-1044		Withdrawn				
CX-1045		Withdrawn				
CX-1046	<b> </b>	Wilhdrawn				
CX-1047	<u> </u>	Wilhdrawn				
CX-1048		Withdrawn				
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CX-1049	–	Withdrawn				
CX-1050	┝	Withdrawn				
CX-1051		Wilhdrawn				
CX-1052		Withdrawn	L		<u> </u>	

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		Manual Astronomic and Astronomic Astronomic Astronomics	- Final metric and the state of the second	New Million on Links	
CX-1053	Withdrawn				
CX-1054	Wilhdrawn				
CX-1055	Withdrawn				
CX-1056	Withdrawn				
CX-1057	Wilhdrawn				
CX-1058	Withdrawn				
CX-1059	Wilhdrawn				
CX-1060	Wilhdrawn				
CX-1061	Withdrawn				
CX-1062	Wilhdrawn				
CX-1063	Wilhdrawn			-	
CX-1064	Wilhdrawn	•			
CX-1065	Wilhdrawn	·		·	
CX-1066	Withdrawn				
CX-1067	Withdrawn		·		

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CX-1068		AA//thidee		ж.	
01-1008		Wilhdrawn			
CX-1069		Withdrawn	· ·		
CX-1070		Withdrawn			
CX-1071		Withdrawn			
CX-1072		Withdrawn			
CX-1073		Withdrawn			
CX-1074		Withdrawn			
CX-1075		Withdrawn			
CX-1076				· · · · · · · · · · · · · · · · · · ·	
07-1070		Withdrawn			·
CX-1077		Wilhdrawn			
CX-1078		Mill I			
CX-1079		Withdrawn Dane-Elec Corp. USA, Dane Memory S.A. and Deantusaiocht Dane- Elec TEO's Third Supplemental Responses to Complainant SanDisk			
CX-1079		Corp.'s First Set of Interrogatories (No. 1-106) (June 12, 2008) Dane-Elac Corp. USA, Dane Memory S.A. and Deantuseiocht Dane- Elec TEO's Supplemental Responses to Complainant SanDiak Corp.'s Fourth Set of Interrogatories (No. 111) (June 12, 2008)	Min, Paul/ Rhyne, Thomas	Importation; infringement	10/29/2008
	c	Dane-Elec Corp. USA, Dana Memory S.A. and Deantusaiocht Dane- Elec TEO's Responses to Complainant SanDisk Corp.'s First Set of Interrogatories (No. 1-106) (Mar. 10, 2008)	 Min, Paul/ Rhyne, Thomas	Infringement Importation; infringement; validity; enforceability; domestic industry;	10/29/2008
CX-1082		Dane-Elec Corp. USA, Dane Memory S.A. and Deantussiocht Dane- Elec TEO's Responses to Complainant SanDisk Corp.'s First Set of Interrogatories (No. 1-106) (Apr. 23, 2008)	Min, Paul/ Rhyne, Thomas Min, Paul/ Rhyne, Thomas	remedy/bonding Importation; infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/200

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CX-1083		Dane-Elec Corp. USA, Dane Memory S.A. and Deantusalocht Dane- Elec TEO's Supplemental Responses to Complainant SanDisk Corp.'s Second Set of Interrogatories (No. 107-109) (Apr. 23, 2008)		Min, Paul/ Rhyne, Thomas	Infringement; importation	10/29/2008
CX-1084		Corp.'s Second Set of Interrogatories (No. 107-109) (Apr. 23, 2008) Dane-Elec Corp. USA, Dane Memory S.A. and Deantusalocht Dane- Elec TEO's Second Supplemental Responses to Complainant SanDisk Corp.'s First Set of Interrogatories (No. 1-106) (May 14, 2008)			infringement; importation;	
0,41004	<u>ٽ</u>	2008)		Min, Paul/ Rhyne, Thomas	remedy/bonding	10/29/2008
CX-1085		Wilhdrawn				
CX-1086		Withdrawn		ļ		
CX-1087		Withdrawn				
						· · · · · · · · · · · · · · · · · · ·
CX-1088		Wilhdrawn				
CX-1089		Dane-Elec Corp. USA, Dane Memory S.A. and Deantuselocht Dane- Elec TEO's Fourth Supplemental Responses to Complement SanDisk Corp.'s First Set of Interrogatories (No. 1-106) (Aug. 4, 2008)			Infringement; Importation; validity; enforceability; remedy/bonding; domestic	
CA-1009	<u> </u>			Min, Paul/ Rhyne, Thomas	industry;	11/21/2008
CX-1090		Withdrawn				
CX-1091		Wilhdrawn				
CX-1092		Withdrawn				
ONTOOL		TTUDIAMI				
CX-1093		Wilhdrawn				
CX-1094	C	Supplement A to Dane's Fourth Supplemental Responses to SanDisk's First Set of Interrogatories (Aug. 12, 2008)		Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
		·				10/20/2023
CX-1095		Wilhdrawn				
CX-1096		Wilhdrawn				
	c	Respondents Kingston Technology Company, Inc. Kingston Technology Corporation, Memosun, Inc., and Payton Technology Corporation's Second Supplemental Responses to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 4-9, 14-15,		Min, Paul/ Rhyne, Thomas	Importation; infringement; remedy/bonding	11/5/2008

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新进行LE_12-2		Respondents Kingston Technology Company Inc. Kingston	an in the second s	instantiona provincial provincial and the	EN REPAIRS	
		Technology Corporation, Third Supplemental Responses to				
CX-1098	1 .	Complainant SanDisk Corporation's First Set of Interrogatories (Nos.15,16,17,18, 81, 88, 91, 93, 94, 94(g)) (May 9, 2008)			Infringement; Importation;	
		(intel 2, 2012) 20, 20, 20, 20, 20, 2000)		Min, Paul/ Rhyne, Thomas	remedy/bonding	11/5/2008
CX-1099						
CX-1099		Wilhdrawn				
CX-1100		Withdrawn				
CX-1101		Withdrawn Respondents Kingston Technology Company, Inc. Kingston		-		
		Technology Corporation, a Fourth Supplemental Responses to				
CX-1102	IC	Completinent SanDisk Corporation's First Set of Interrogatories (Nos. 1, 2, 3) (May 13, 2008)		Min, Paul/ Rhyne, Thomas	Infringement; Importation	10/29/2008
		Respondents Kingston Technology Company, Inc. Kingston Technology Corporation, a Fifth Supplemental Responses to	· · · · · · · · · · · · · · · · · · ·			
CX-1103		Complainant SanDiak Corporation's First Set of Interrogatories (Nos. 7) (May 19, 2008)		Min, Paul/ Rhyne, Thomas	Infringement	11/5/2008
					ananyunura	11/0/2000
CX-1104		Wilhdrawn				
CX-1105		14/04 J.				
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CX-1106		Withdrawn			·····	······
CX-1107		Wilhdrewn				
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CX-1108		Withdrawn				
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CX-1109		Withdrawn				
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CX-1110		Wilhdrawn				
CX-1111		Withdrawn				
CX-1112		Wilhdrawn				
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CX-1113	ļ	Wilhdrawn				
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CX-1114		Withdrawn			· · · · · · · · · · · · · · · · · · ·	
· ·						
CX-1115		Wilhdrawn				
CX-1116		Wilhdrawn	<u> </u>	·		
CX-1117	T	Withdrawn				
CX-1118		Respondents Kingston Technology Company, Inc., Kingston Technology Corporation, Response to Complainant SanDisk Corporation's Fifth Set of Interrogatories (No. 127) (May 16, 2008)				
0.1110	Ĕ	Corporation's Finn Set of interrogatories (No. 127) (May 16, 2008)		Min, Paul/ Rhyne, Thomas	infringement	11/5/2008
CX-1119		Withdrawn			¥ .	
	t		······································			
CX-1120		Withdrawn				
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CX-1121		Withdrawn	4			
CX-1122	ļ	Wilhdrawn				
CX-1123	<u> </u>	Wilhdrawn				· · · · · · · · · · · · · · · · · · ·
CX-1124	_	Wilhdrawn				
CX-1125	+	Wilhdrawn				
CX-1126	┼─	Withdrawn		<u> </u>		
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CX-1127	1	Withdrawn	1	1	L	L

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CX-1128	<b> </b>	Withdrawn				
CX-1129	с	Imation's 8/19 supplemental responses to SanDisk's roggs (Aug. 19, 2008)		Min, Paul/ Rhyne, Thomas	Infringement; importation	11/21/2008
CX-1130	c	Imation's 8/25 supplemental responses to SanDisk's roggs (Aug. 26, 2008)				
CX-1131				Min, Paul/ Rhyne, Thomas	Infringement; importation	11/21/2008
08-1131	+	Withdrawn				
CX-1132		Withdrawn				
CX-1133		Wilhdrawn				
CX-1134		Wilhdrawn				
CX-1135	c	Respondents imation Corp., imation Enterprises Corp., Memorex Products, Inc.'s Response to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 1-106) (Jan. 7, 2008)	· · ·	Min, Paul/ Rhyne, Thomas	Importation; infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1136	с	Respondents Imation Corp., Imation Enterprises Corp., Memorex Products, Inc.'s First Supplemental Response to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 1-8) (Jan. 29, 2006)		Min, Paul/ Rhyne, Thomas	Infringement; importation	10/29/2008
CX-1137		Wilhdrawn				
CX-1138		Wilhdrawn				
CX-1139		Wilhdrawn				
CX-1140	c	LGE's Responses to SanDisk's First Set of Interrogatories (Nos. 1- 106) to Respondent Flash Memory Products Companies (Jan. 7, 2008)		Min, Paul/ Rhyne, Thomas	Importation; infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1141		Respondents LG Electronics, inc. and LG Electronics U.S.A., inc's Sixth Amended and Supplemental Responses to Complainant SanDisk Corporation's First Set of Interrogationes (Nos. 1-106) to Respondent Flash Memory Product Companies	· ·	Min, Paul/ Rhyne, Thomas	importation; infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1142		LG Electronics, Inc. and LG Electronics U.S.A., Inc's Fourth Supplemental Responses to Complainant SanDisk Corporation's Second Set of Interrogatories (Nos. 107-109) (Sept. 2, 2008)		Min, Paul/ Rhyne, Thomas	Infringement; Importation	10/29/2008

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CX-1143	с	LG Electronics, Inc. and LG Electronics U.S.A., Inc's Responses to Complainant SanDisk Corporation's Third Set of Interrogetories (Nos. 110-117) (Apr. 18, 2008)		Min, Paul/ Rhyne, Thomas	Affirmative defenses	10/29/2008
CX-1144	с	LG Electronics, inc. and LG Electronics U.S.A., Inc's Response and Objections to Complainant SanDisk Corporation's Fourth Set of Interrogatories (Nos. 118) (May 16, 2008)		Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
CX-1145	с	LG Electronics, Inc. and LG Electronics U.S.A., Inc's First Supplemental Responses and Objections to Complainant SanDisk Corporation's Fifth Set of Interrogatories (Nos. 119) (July 31, 2008)		Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
CX-1146	с	LG Electronics, Inc. and LG Electronics U.S.A., Inc's Response and Objections to Compleinant SanDisk Corporation's Fifth Set of Interrogatories (No. 119) (May 19, 2008)		Min, Paul/ Rhyne, Thomas	Infringement	10/29/2008
CX-1147	с	Respondents LG Electronics, Inc. and LG Electronics U.S.A., Inc's Response and Objections to Complainant SanDisk Corporation's Seventh Set of Interrogatories (Nos. 121-122) (Aug. 3, 2008)		Min, Paul/ Rhyne, Thomas	Importation; affirmative	10/29/2008
CX-1148	c	LGE's First Amended and Supplemental Responses to SanDisk's First Set of Interrogatories (Nos. 1-106) to Respondent Flash Memory Products Companies (Mar. 14, 2008)		Min, Paul/ Rhyne, Thomas	Importation; Infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1149	c	LGE's Responses to SanDisk's Second Set of Interrogatories (Nos. 107-109) (Apr. 14, 2008)				10/29/2008
CX-1150	c	LGE's Second Amended and Supplemental Responses to SanDisk's First Set of Interrogatories (Nos. 1-106) to Respondent Flash Memory Products Companies (May 10, 2008)		Min, Paul/ Rhyne, Thomas Min, Paul/ Rhyne, Thomas	Infringement; importation Importation; infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1151	c	LGE's Third Amended and Supplemental Responses to SanDisk's First Set of Interrogatories (Nos. 1-106) to Respondent Flash Memory Products Companies (May 19, 2008)			Importation; infringement; validity; enforceability; domestic industry;	
CX-1152	-	LGE's Supplemental Responses to SanDisk's Second Set of Interrogatories (Nos. 107-109) (May 19, 2008)		Min, Paul/ Rhyne, Thomas Min, Paul/ Rhyne, Thomas	remedy/bonding	10/29/2008
CX-1153	c	LGE's Second Supplemental Responses to SanDisk's Second Set of Interrogalories (Nos. 107-109) (July 11, 2008)		Min, Paul/ Rhyne, Thomas	Infringement; importation	10/29/2008
CX-1154		LGE's Fourth Amended and Supplemental Responses to SenDisk's First Set of Interrogatories (Nos. 1-106) to Respondent Flash Memory Products Companies (July 11, 2008)			Importation; infringement; validity; enforceability; domestic industry;	
CX-1155		LGE's Responses to SanDisk's Sixth Set of Interrogatories (July 11, 2008)		Min, Paul/ Rhyne, Thomas	remedy/banding	10/29/2008
CX-1156		LGE's Fifth Amended and Supplemental Responses to SanDisk's First Set of Interrogatories (Nos. 1-106) to Respondent Flash Memory Products Companies (July 24, 2008)		Min, Paul/ Rhyne, Thomas	Affirmative defenses Importation; infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1157		Withdrawn	4 •	Min, Paul/ Rhyne, Thomas	nennedyrboriding	

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		Amended and Supplemental Response and Objections to				
CX-1158	c	Complainant SanDisk Corporation's Seventh Set of Interrogatories (Nos. 121-122) (Aug. 15, 2008)		Min, Paul/ Rhyne, Thomas	Importation; affirmative defenses	11/21/2008
		Respondent Phison Electronics Corporation's Responses to	,		Importation; infringement; validity; enforceability;	
CX-1159	c	Complainant SanDisk's First Set of Interrogatories (Nos. 1-111) (Jan. 7, 2008)		Min, Paul/ Rhyne, Thomas	domestic industry; remedy/bonding	10/29/2008
CX-1160	ļ	Withdrawn				
CX-1161	_	Withdrawn				
		Respondent Phison Electronics Corporation's Second Supplemental Responses to Complainant SanDisk's First Set of Interrogatories	¥5 .			
CX-1162	c	(Nos. 4, 8-10, 13, 26-27, 76, 85,99) (Apr. 9, 2008)		Min, Paul/ Rhyne, Thomas	Importation; infringement; remedy/bonding	10/29/2008
			· •			
CX-1163	┢	Withdrawn				
		Respondent Phison Electronics Corporation's Fourth Supplemental Responses to Complainant SanDisk's First Set of Interrogatories				
CX-1164	C	(Nos. 4, 13, 28,93) (June 4, 2008		Min, Paul/ Rhyne, Thomas	Importation; remedy/bonding	11/5/2008
			,			
CX-1165		Wilhdrawn				
		Respondent Phison Electronics Corporation's Sixth Supplemental Responses to Complainant SanDisk's First Set of Interrogatories			Remedy/bonding; domestic	
CX-1166	C	(Nos. 100-111) (July 24, 2008)		Min, Paul/ Rhyne, Thomas	industry	10/29/2008
					· · ·	
CX-1167	┼─	Withdrawn			<u> </u>	
CX-1168	+	Withdrawn				
CX-1169						
0.1109		Wilhdrawn				
CX-1170		Wilhdrawn				
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CX-1171	ŀ	DARlindenum				
<u><u><u>v</u><u>v</u><u>n</u><u>n</u></u></u>	+	Wilhdrawn			<u> </u>	
CX-1172		Withdrawn				
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CX-1173		Withdrawn					
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CX-1174							
<u>UX-1174</u>	+-	Withdrawn					
CX-1175	<u> </u>	Withdrawn					
		Response of Respondents Power Quotient International Co., Ltd.; Power Quotient International (HK) CO., Ltd.; Syscom Development			Importation; infringement; validity; enforceability;		
CX-1176	C	Co., Ltd.; and PQI Corporation's to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 1-106) to the		· · · ·	domestic industry;		
0/11/0	٣	Corporation & First Set of Interrogationes (Nos. 1-106) to the		Min, Paul/ Rhyne, Thomas	remedy/bonding		10/29/2008
<u>CX-1177</u>		Withdrawn Second Supplemental Response of Respondents Power Quotient					
		International Co., Ltd.; Power Quotient International (HK) CO., Ltd.;			Importation; Infringement; validity; enforceability;		
CX-1178	c	Syscom Development Co., Ltd.; and PQI Corporation's to Complainant SanDisk Corporation's First Set of Interrogatories (Nos.	·	Min, Paul/ Rhyne, Thomas	domestic industry; remedy/bonding		11/21/2008
	Τ	Third Supplemental Response of Respondents Power Quotient International Co., Ltd.; Power Quotient International (HK) CO., Ltd.;	· ·		Importation; Infringement;		
01/ 4470		Syscom Development Co., Ltd.; and PQI Corporation's to		l	validity; enforceability; domestic industry;		
CX-1179	C	Complainant SanDisk Corporation's First Set of Interrogatories (Nos. Fourth Supplemental Response of Respondents Power Quotient		Min, Paul/ Rhyne, Thomas	remedy/bonding importation; infringement;		11/5/2008
		International Co., Ltd.; Power Quotient International (HK) CO., Ltd.; Syscom Development Co., Ltd.; and PQI Corporation's to			validity; enforceability;		
CX-1180	c	Complainant SanDisk Corporation's First Set of Interrogatories (Nos.		Min, Paul/ Rhyne, Thomas	domestic industry; remedy/bonding		10/29/2008
CX-1181	1	Withdrawn					
	+	Supplemental Response of Certain Respondent Flash Memory			·		
		Product Companies to Complainant SanDisk Corporation's First and Second Set of interrogatories (4) to the Respondent Flash Memory					
CX-1182		Product Companies (Aug. 15, 2008)		Min, Paul/ Rhyne, Thomas	Importation		11/21/2008
CX-1183		Withdrawn					
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CX-1184		Withdrawn					
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CX-1185	+	Withdrawn			<u> </u>	<u> </u>	
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CX-1186		Wilhdrawn					
		Second Supplemental Response for Respondent Power Quotient International Co., Ltd.; Power Quotient International (HK) CO., Ltd.;			· ·		
CX-1187	c	Syscom Development Co., Ltd.; and PQI Corporation's Response to Complainant SanDisk Corporation's Third Set of Interrogatories		Min, Paul/ Rhyne, Thomas	Infringement; Importation		11/5/2008
L 00-110/	10	Toronhierant seriorsy colhournous ruito ser or intertodatories	1	Imm, raus ruyne, inomas	Innundement, imborration		11/3/2000

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CX-1188		Withdrawn				
CX-1189		Wilhdrawn				
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CX-1190		Withdrawn				
CX-1191		Withdrawn				
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CX-1192		Wilhdrawn				
0// //02		Respondents Power Quotient International Co., Ltd., Power Quotient			Importation; Infringement;	
CV 4402		International (HK) Co., Ltd., Syscom Development Co., Ltd., and PQI Corporation's Response to Complainant SanDisk Corporation's First			validity; enforceability; domestic industry;	
CX-1193	6	Set of Requests for Admissions (Nos. 1-41)		Min, Paul/ Rhyne, Thomas	remedy/bonding	11/21/2008
CX-1194		Wilhdrawn		<u> </u>	Importation; infringement;	· · · · · · · · · · · · · · · · · · ·
		Respondents Silicon Motion's Responses and Objections to Complainant SanDisk's First Set of Interrogatories (Nos, 1-111) to			validity; enforceability; domestic industry;	
CX-1195	C	Respondent Controller Companies (Jan. 14, 2008) Respondents Silicon Motion Technology Corp., Silicon Motion, Inc.		Min, Paul/ Rhyne, Thomas	remedy/bonding	10/29/2008
		(Talwan), Silicon Motion, Inc. (California) and Silicon Motion International, Inc.'s First Amended and Supplemental Responses			infringement; importation;	
CX-1196		and Objections to Complainant SanDisk First Set of Interrogatories		Min, Paul/ Rhyne, Thomas	remedy/bonding	11/21/2008
CX-1197		Withdrawn				
		Respondents Silicon Motion Technology Corp., Silicon Motion, Inc. (Taiwan), Silicon Motion, Inc. (Californis) and Silicon Motion				
CX-1198	c	international, Inc.'s Third Amended and Supplemental Responses and Objections to Complainant SanDisk First Set of Interrogatories		Min, Paul/ Rhyne, Thomas	Infringement; importation	10/29/2008
CX-1199		Withdrawn				
CX-1200		Withdrawn				
CX-1201		Withdrawn				
0/1-1201	1				<u> </u>	
CV 4202		14/16- dec				
CX-1202		Withdrawn	L	L	1	

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CX-1203		Withdrawn	-	· ·		
_CX-1204	с	Responses and Objections of Skymsdi Corporation to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 1-111) to Respondent Controller Companies (Jan. 22, 2008)		Min, Paul/ Rhyne, Thomas	Importation; Infringement; validity; enforceability; domestic industry; remedy/bonding	10/29/2008
CX-1205		Wilhdrawn				
CX-1206		Withdrawn				
	Ι					
CX-1207	<u> </u>	Withdrawn				
CX-1208	+	Withdrawn				
CX-1209		Wilhdrawn				
CX-1210	<u> </u>	Wilhdrawn				
	·					
CX-1211	ļ.,	Withdrawn				
CX-1212		Withdrawn				
CX-1213	c	Respondente Transcend Information Inc.'s First Amended & Supplemental Responses to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 1-106) (Feb. 4, 2008)		Min, Paul/ Rhyne, Thomas	Importation; infringement	11/21/2008
	1			Initia Paul Pulyne, Inoinas		11/21/2008
CX-1214		Wilhdrawn				
		Respondents Transcend Information (nc. (Taiwan), Transcend Information in. (California) and Transcend Information Maryland Inc.'s Third Amended and Supplemental Responses to Complainant				
CX-1215		SanDisk Corporation's First Set of Interrogatories (Nos. 1-3) (Apr. 4,	· · · · · · · · · · · · · · · · · · ·	Min, Paul/ Rhyne, Thomas	Infringement; importation	10/29/2008
CX-1216		Wilhdrawn				
	1	Respondents Transcend Information Inc. (Taiwan), Transcend				
		Information In. (California) and Transcend Information Maryland Inc.'s Amended and Supplemental Responses to Complainant	]			
CX-1217	C	SanDisk Corporation's Interrogatories (Nos. 1-4, 7-8, 14-15, 24-26,		Min, Paul/ Rhyne, Thomas	Infringement; importation	10/29/2008

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	н. - А					
CX-1218		Withdrawn				
CX-1219		Withdrawn				· · · · · · · · · · · · · · · · · · ·
CX-1220		Withdrawn				
ÇX-1221		Withdrawn		-		
CX-1222		Wilhdrawn				
CX-1223	-	Wilhdrawn				
CX-1224		Wilhdrawn	·			
CX-1225		Wilhdrawn				
CX-1226		Wilhdrawn				
04 4007						
CX-1227		Wilhdrawn	<b>`</b>			
CX-1228						
CA-1220	-	Wilhdrawn			<u> </u>	
CX-1229		14////				
07-1229	<u> </u>	Withdrawn				
CIX 4000		14/06-4				
CX-1230		Withdrawn			<u> </u>	
OV 4004						
CX-1231	-	Withdrawn Respondents Transcend Information Inc. (Taiwan), Transcend			<u></u>	
ON 1000		Information Inc. (California), and transcend Information Maryland Inc. 8 Response to Complainant SanDisk Corporation's Seventh Set			Importation; affirmative	11/21/2008
CX-1232	IC.	of Interrogatories (Nos. 120-121) (Aug. 8, 2008)		Min, Paul/ Rhyne, Thomas	defenses	11/21/2008

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A State of the second se **WWW**和小学習的生活。 CX-1233 Withdrawn CX-1234 Withdrawn CX-1235 Withdrawn CX-1236 Withdrawn CX-1237 Withdrawn CX-1238 Withdrawn 10/29/2008 CX-1239 Withdrawn CX-1240 Withdrawn CX-1241 Withdrawn importation; infringement; Respondent Verbatim Corporation's Responses to Complainant validity; enforceability; SanDisk Corporation's First Set of Interrogatories (Nos. 1-106) (Jan. domestic industry; CX-1242 C 7, 2008) Min, Paul/ Rhyne, Thomas remedy/bonding 10/29/2008 Respondent Verbatim Corporation's Supplemental Responses to Complainant SanDisk Corporation's First Set of Interrogatories (Nos. 5-10, 12, 14-15, 17, 19, 25-26, 80-81, 83-84, 86, 90-92, 94) (Mar. importation; infringement; CX-1243 C 28, 2008) Min, Paul/ Rhyne, Thomas remedy/bonding 10/29/2008 Respondent Verbatim Corporation's Supplemental Responses to Complainant SanDisk Corporation's Second Set of Interrogatories (Nos. 107-109) (Apr. 14, 2008) CX-1244 C Min, Paul/ Rhyne, Thomas Infringement; importation 10/29/2008 Respondent Varbatim Corporation's Supplemental Responses to Complainant SanDisk Corporation's Third Set of Interrogatories CX-1245 C (Nos 110) (May 21, 2008) Min, Paul/ Rhyne, Thomas Infringement 10/29/2008 Respondent Verbatim Corporation's Supplemental Responses to Complainant SanDisk Corporation's Fourth Set of Interrogatories CX-1246 C (May 21, 2008) Min, Paul/ Rhyne, Thomas 10/29/2008 Infringement Respondent Verbatim Corporation's Supplemental Responses to Complainant SanDisk Corporation's Fifth Set of Inferrogatories (May 21, 2008) CX-1247 IC. 10/29/2008 Min, Paul/ Rhyne, Thomas Infringement

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CX-1248		Respondent Verbstim Corporation's Supplemental Responses to Compleinant SanDisk Corporation's Sixth Set of Interrogatories (July 11, 2008)		Min, Paul/ Rhyne, Thomas	Affirmative defenses	10/29/2008
CX-1249	с	Respondent Verbatim Corporation's Supplemental Responses to Complainant SanDisk Corporation's Seventh Set of Interrogatories (Aug. 5, 2008)		Min, Paul/ Rhyne, Thomas	Affirmative defenses	10/29/2008
CX-1250	+	Withdrawn				
CX-1251		Withdrawn				
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CX-1253		Withdrawn				
CX-1254		Wilhdrawn				
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CX-1255	c	SMI-HTC-NAT 00001/SMI Ship Plans 01-01-2007 - 07-31-2008.xls (updated version of Silicon Motion Depo, Ex, 202)	SMI-ITC-NAT 00001	Hsiao, Scott	Importation	11/5/2008
CX-1256	c	SMI-ITC-NAT 00001/SMI Sample Shipments 01-01-2007 - 07-31- 2008.xls (updated version of Silicon Motion Depo. Ex, 209)	SMI-ITC-NAT 00001	Hsiao, Scott	Importation	11/5/2008
CX-1257	С	SMI-ITC-NAT 00001/SMI Demo Kits Shipments 01-01-2007 - 07-31- 2008.xis (updated version of Silicon Motion Depo. Ex, 210)	SMI-ITC-NAT 00001	Hsiao, Scott	Importation	11/5/2008
CX-1258	┼─	Withdrawn				
CX-1259		Wilhdrawn				
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CX-1260	+	Withdrawn				
CX-1261		Withdrawn				
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CX-1305	Withdrawn				·
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CX-1307	Wilhdrawn	L	L	1	

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CX-1322	Wilhdrawn	• .			

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CX-1382	U ISilicon Mol	ion SM324 Flash Memory Con	Iroller Dalabook	LGE-ITC-00001140-00001163	Min, Paul/ Rhyne, Thomas	Infringement	11/5/2008

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CX-1383	Withdrawn				
CX-1384	Withdrawn				
CX-1385	Wilhdrawn				
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CX-1386	Wilhdrawn				
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CX-1387	Withdrawn				
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CX-1400		Wilhdrawn		 	
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CX-1413		Wilhdrawn				
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CX-1418						
<u>CA-1410</u>		Withdrawn				
CX-1419		2004 Product Line chart	50 I NAT 000045			
0,1415	<u> </u>		SD-I-NAT-000046	Waitze, Todd	Domestic industry	11/3/2008
CX-1420	С	2004 USB Flash Drive Chart	SD-I-NAT-000046	Wallze, Todd	Domestic industry	11/3/2008
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CX-1421	c	2005 Product Line chart	SD-I-NAT-000046	Walize, Todd	Domestic industry	11/3/2008
CX-1422	c	2005 USB Flash Drive Chart	SD-1-NAT-000048	Waltze, Todd	Domestic industry	11/3/2008
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CX-1423	c	2006 Product Line Chart	SD-I-NAT-000046	Walize, Todd	Domestic industry	11/3/2008
CX-1424	c	2006 USB Flash Drive Chart	SD-I-NAT-000045	Walize, Todd	Domestic industry	11/3/2008
CX-1425	C_	2007 Product Line Chart	SD-I-NAT-000048	Wallze, Todd	Domestic Industry	11/3/2008
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CX-1426	C	2007 USB Flash Drives Charl	SD-I-NAT-000046	Waltze, Todd	Domestic industry	11/3/2008
CX-1427	1	Withdrawn	L	1	J	1

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Appendix A SanDisk Corporation's CX-List

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CX-1429	Wilhdrawn			 -
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CX-1431	Withdrawn			 
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CX-1443		Withdrawn				
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CX-1445		Wilhdrawn				
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CX-1453		List of Imation products, active and phase-out	IMA-000129-000149	Min, Paul/ Rhyne, Thomas	Importation	11/5/2008
CX-1454		Withdrawn				
CX-1455		Withdrawn				
CX-1456	ļ	Withdrawn				· · · · · · · · · · · · · · · · · · ·
CX-1457		Withdrawn				

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CX-1458		Withdrawn				
<u>CX-1459</u>	c	Spreadsheel detailing imation's US inventory as of June 18, 2008	IMA-309911-309924	Min, Paul/ Rhyne, Thomas	Inventory	11/21/2008
CX-1460		Withdrawn				
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CX-1461		Withdrawn				
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CX-1471		LARGE ALLOW				
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CX-1472	1	Withdrawn	I	1	1	

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CX-1487	Withdrawn	,		1		

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Appendix A SanDisk Corporation's CX-List

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CX-1491	Withdrawn				
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CX-1499	Wilhdrawn				
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CX-1500	Withdrawn				
CX-1501	Withdrawn				
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cX-1510       Withdrawn						
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Appendix A SanDisk Corporation's CX-List

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CX-1583		Indrawn				· · · · · · · · · · · · · · · · · · ·
CX-1584	16/2	'. Ihdrawn				
CA-1004	- IVVII.		·		· · · · · · · · · · · · · · · · · · ·	
CX-1585	wit	lhdrawn				
CX-1586	WI	Ihdrawn				
CX-1587	Wit	thdrawn				
CX-1588	wit	Indrawn	-			
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CX-1589	wit	Indrawn				
CX-1590	Wit	thdrawn				
CX-1591	Wi	thdrawn				
CX-1592	wa	ihdrawn				

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CX-1593		Withdrawn				
CX-1594		Wilhdrawn				
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CX-1595		Wilhdrawn				
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CX-1596		Wilhdrawn	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	
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CX-1597		Wilhdrawn			·····	
CX-1598		14///L J				·
CV-1040	<u>†</u>	Withdrawn				
CX-1599		Withdrawn				
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CX-1600		Wilhdrawn				
CX-1601		Withdrawn				
CX-1602		Withdrawn				
CX-1603		Withdrawn				
CX-1604		Withdrawn			·····	
CX-1605		Wilhdrawn		<u> </u>		
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CX-1606	÷	Withdrawn			· · · · · · · · · · · · · · · · · · ·	
01/ 45/57		· ·				
CX-1607	1	Withdrawn	<u>.</u>	1	<u> </u>	

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CX-1608	Wilhdrawn				
CX-1609	Wilhdrawn				
CA-1009	YVIIIIdrawn				
CX-1610	Wilhdrawn	-			
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CX-1611	Wilhdrawn				
CX-1612	Withdrawn				
CX-1613	Withdrawn				
CX-1614	Withdrawn				
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CX-1615	Wilhdrawn				
CX-1616	Withdrawn				
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CX-1617	Withdrawn				
CX-1618	Withdrawn				· · · ·
CX-1619	Withdrawn				
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CX-1620	Withdrawn				
CX-1621	Wilhdrawn		·		
CX-1622	Withdrawn				

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CX-1623	Withdrawn			
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CX-1624	Wilhdrawn			
CX-1625	Wilhdrawn			
CX-1626	Withdrawn		ļ	
CX-1627	Wilhdrawn			 
CX-1628	Withdrawn			
CX-1629	Withdrawn			
CX-1630	Wilhdrawn			· · · · · · · · · · · · · · · · · · ·
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CX-1631	Withdrawn			 
CX-1632				
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CX-1634	Wilhdrawn			
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CX-1635	Withdrawn			
CX-1636	Wilhdrawn			
CX-1637	Withdrawn			

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CX-1638 Withdrawn CX-1639 Withdrawn CX-1640 Withdrawn CX-1641 Withdrawn CX-1642 Withdrawn CX-1643 Withdrawn CX-1644 Withdrawn . CX-1645 Withdrawn CX-1646 C Imation Drive Manager Software User's Manual Min, Paul Infringement 10/29/2008 CX-1647 Withdrawn CX-1648 Withdrawn CX-1649 Withdrawn CX-1650 Wilhdrawn CX-1651 Withdrawn

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CX-1652

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CX-1653	<b> </b>	Withdrawn				
CX-1654		Wilhdrawn	·			
CX-1655	c	Withdrawn				•
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CX-1656		Hynix NAND Dalasheet HY27SF161G2M	CHIC 002.001787-1833	Rhyne, Thomas	Infringement	10/29/2008
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CX-1657	+	Withdrawn				
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CX-1658	c	Hynix NAND Datasheet HY27UF081G2A	SD-I-090916887-932	Rhyne, Thomas	Infringement	10/29/2008
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CX-1659	c	Hynix NAND Dalasheel HY27UF081G2M	CHI_00022439-00022488	Rhyne, Thomas	Infringement	10/29/2008
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CX-1660	–	Hynix NAND Datasheet HY27UF081G2M	CHIC 002.001787-1833	Rhyne, Thomas	Infringement	10/29/2008
CX-1661		Withdrawn			-	
CX-1662	tc-	Hynix NAND Datasheet HY27UF082G2A	SD-1-0916933-916979	Rhyne, Thomas	Infringement	10/29/2008
CX-1663	+	Hynix NAND Datasheet HY27UF082G2M	CHI_00022755-00022807	Rhyne, Thomas	Infringement	10/29/2008
		· · ·				
CX-1664	tc-	Hynix NAND Dalasheet HY27UF084G2M	SD-I-0916980-917030	Rhyne, Thomas	Infringement	10/29/2008
CX-1665	- c	Hynix NAND Datasheet HY27UG082G2M	PEC00852353-00852397	Rhyne, Thomas	Infringement	10/29/2008
			•			
CX-1666	c	Hynix NAND Datasheet HY27UG084G2M	ADA_00393572-00393619	Rhyne, Thomas	Infringement	10/29/2008
CX-1667		Hynix NAND Datasheet HY27UG088G5B	PEC00979931-00979983	Rhyne, Thomas	Infringement	10/29/2008

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			C. B. State and State		Weinight States	
CX-1668		Hynix NAND Datasheet HY27UG088G5M	SD-1-0917031-917062	Rhyne, Thomas	Infringement	10/29/2008
	C					-
CX-1669	1	Hynix NAND Datasheet HY27UH084G2M	CHIC 002.002501-2547	Rhyne, Thomas	Infringement	10/29/2008
CX-1670		Hynix NAND Datasheet HY27UH088G2M	SD-I-0017712-0017765	Rhyne, Thomas	Infringement	10/29/2008
	С					19/19/1000
CX-1671		Hynix NAND Datasheet HY27US08121A	CHI_00023325-00023372	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1672		Hynix NAND Datasheet HY27US08121M	CHI_00023237-00023281	Rhyne, Thomas	Infringement	10/29/2008
	С				•	
CX-1673		Hynix NAND Datasheet HY27US08561M	CHI_00022487-00022532	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1674		Hynix NAND Datasheet HY27UW08BGFM	PEC00852027-00852063	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1675		Hynix NAND Datasheet HY27UW08CGFM	KTC00209343-00209385	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1676		Hynix NAND Datasheet HY27UU08AG5A,HY27UU08AGDA	SKY_10975448-10975497	Rhyna, Thomas	Infringement	10/29/2008
	С					
CX-1677		Hynix NAND Datasheet HY27UU08AG5M,HY27UU09AGDM	KTC00209215-00209259	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1678		Hynix NAND Datasheet HY27UV08AG5M	KTC00209260-00209297	Rhyne, Thomas	infringement	10/29/2008
	С				-	
CX-1679		Hynix NAND Datasheet HY27UV08BG(5/D/F)M	CHI_00022910-00022954	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1680		Hynix NAND Datasheet HY27UH08AG(5/D)M	CHI_00022062-00022114	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1681	<u> </u>	Intel NAND Datasheet JS29F04G08AANB1	PEC00991785-00991854	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1682		Intel NAND Datasheet JS29F08G08CANB1	PEC00955749-00955818	Rhyne, Thomas	Infringement	10/29/2008

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	C					
CX-1683		Intel NAND Datasheet JS29F16G08FANB1		Physe Themes		10/20/2009
	1	Indi Alito Datasilos 30231 100001 Altur	PEC00991785-00991854	Rhyne, Thomas	Infringement	10/29/2008
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CX-1684		Withdrawn				
CX-1685		Samsung NAND Datasheet K9F1208U0A	SD-I-1907987-1908030	Rhyne, Thomas	Infringement	10/29/2008
		· · · · · · · · · · · · · · · · · · ·				
CX-1686		Samsung NAND Datasheet K9F1208U0B	SD-I-2094364-2094408	Bhuno Thomas	Infilment	10/20/2008
	$\uparrow$		<u> </u>	Rhyne, Thomas	Infringement	10/29/2008
A						
CX-1687	c	Samsung NAND Datasheet K9F1208U0C	SD-I-2094408-2094446	Rhyne, Thomas	Infringement	10/29/2008
CX-1688	1	Samsung NAND Dalasheel K9F1208U0M	CHI_00028504-00028537	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1689		Samsung NAND Datasheet K9F1G08U0A	CHI_00067686-00067725	Rhyne, Thomas	Infringement	10/29/2008
	Τ					10/20/2000
CX-1690	1					
07-1090	tc	Semsung NAND Dalasheet K9F1G08U0B	SD-I-2094520-2094555	Rhyne, Thomas	infringement	10/29/2008
CX-1691		Samsung NAND Datasheet K9F1G08U0M	PQ1_00007808-00007848	Rhyne, Thomas	Infringement	10/29/2008
CX-1692		Samsung NAND Datasheet K9F2G08U0M	SD-1-2094596-2094634	Rhyne, Thomas	infringement	10/29/2008
	С					
CX-1693		Sameung NAND Datasheet K9F4G08U0A	CHI_00014646-00014668	Chung Thomas	h-6	
	C		0111_00014040-00014000	Rhyne, Thomas	Infringement	10/29/2008
OV 4004						
CX-1694	tc	Samsung NAND Datasheet K9F4G08U0M	CHI_00028799-00028841	Rhyne, Thomas	Infringement	10/29/2008
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CX-1695		Samsung NAND Datasheet K9F5608U0C	PQI_00005916-00005958	Rhyne, Thomas	Infringement	10/29/2008
				•		
CX-1696		Samsung NAND Datasheet K9F5608U0D	SD-1-2094704-2094738	Rhyne, Thomas	Infringement	10/29/2008
CX-1697	1 .	Samsung NAND Datasheet K9F8G08U0M	SD-1-2094739-2094792	Rhyne, Thomas	Infringement	10/29/2008

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CX-1698		Samsung NAND Datasheet KBG4G08U0A	SKY_00038118-00038161	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1699		Samsung NAND Datasheet K9G8G08U0M	ADA_00392013-00392054	Dhung Themes	1- <b>6</b> -1	
	С		ADA_00392013-00392054	Rhyne, Thomas	Infringement	10/29/2008
CX 1700						
CX-1700	c	Samsung NAND Datasheet K9G8G08U0A	SKY_00035870-00035714	Rhyne, Thomas	Infringement	10/29/2008
CX-1701	tc-	Samsung NAND Datasheet K8GAG08U0M	KTC00210808-00210860	Rhyne, Thomas	Infringement	10/29/2008
			}			
CX-1702		Samsung NAND Datasheet K9WBG08U1M	PQI_00017794-00017856	Rhyne, Thomas	Infringement	10/29/2008
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CX-1703		Samsung NAND Datasheet K9HAG08U1M	SD-I-1907725-1907767	Rhyne, Thomas	Infringement	10/29/2008
	С					r.
CX-1704		Samsung NAND Datasheet K9HBG08U1A	SKY_00036138-00036186	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1705		Samsung NAND Datasheet K9HBG08U1M	CX 487	Rhyne, Thomas	infringement	10/29/2008
	C					
CX-1706		Samsung NAND Datasheet K9HCG08U1M	CHI_00035578-00035637	Rhyne, Thomas	Infringement	10/20/2009
	С			Provine, montas .	Infringement	<u>10/29/2008</u>
CX-1707	1	Samsung NAND Datasheet K9HCG08U5M	KTC00210808-00210860	Dhuna Thaman		10/20/2020
	1-		N100021000000210800	Rhyne, Thomas	Infringement	10/29/2008
CX-1708		Samsung NAND Datasheel K9K4G08U0M				
0/11/00	1		SD-I-2094864-2094901	Rhyne, Thomas	Infringement	10/29/2008
CX-1709						
CX-1103	c	Samsung NAND Datasheet K9K8G08U0A	SD-1-2094952-2095001	Rhyne, Thomas	Infringement	10/29/2008
CX-1710	c	Samsung NAND Datasheet K9K8G08U0M	SKY_00037769-00037812	Rhyne, Thomas	Infringement	10/29/2008
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CX-1711	c	Samsung NAND Datasheet K9K8G08U1A	CHI_00014646-00014688	Rhyne, Thomas	Infringement	10/29/2008
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CX-1712		Semsung NAND Datasheet K9K8G08U1M	CHI_00026799-00026841	Rhyne, Thomas	Infringement	10/29/2008

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CX-1713		Samsung NAND Datasheel K9KAG08U0M	SD-1-0017547-0017614	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1714		Samsung NAND Datasheet K9L8G08U0A	USB_00071809-00071853	Rhyne, Thomas	Infringement	10/29/2008
CX-1715		Samsung NAND Datasheet K9L8G08U0M	SD-I-1907725-1907767	Rhyne, Thomas	Infringement	10/29/2008
	C					
CX-1716		Samsung NAND Datasheet K9LAG08U0A	SKY_00036138-00036186	Rhyne, Thomas	Infringement	10/29/2008
	С				annigenen	20/23/2000
CX-1717		Samsung NAND Datasheet K9LAG08U0M	ADA_00390211-00390258	Rhyne, Thomas	Infringement	10/29/2008
	С			Turyina, thomas		10/23/2008
CX-1718		Samsung NAND Datasheet K9LAG08U1M	ADA_00392013-00392054	Rhyne, Thomas	Infringement	10/29/2008
	C			Initiation in the second se		10/29/2008
CX-1719		Semsung NAND Datasheet K9LBG08U0M	CHI_00035578-00035637	Rhyne, Thomas	Infringement	10/29/2008
	C		00000000		amingenen.	10/23/2008
CX-1720		Samsung NAND Datasheet K9LBG08U1M	KTC00210808-00210860	Rhyne, Thomas	Infringement	10/29/2008
	С					10/25/2000
CX-1721		Samsung NAND Datasheel K9MBG08U5M	SKY_00037769-00037812	Rhyne, Thomas	Infringement	10/29/2008
	c		<u>6.0.00037103-00037012</u>		anna)2ement	10/29/2008
CX-1722		Samsung NAND Datasheet K9MDG08U5M	CHI_00035578-00035637	Rhyne, Thomas	Infringement	10/29/2008
				Fugne, thomas		10/25/2000
CX-1723		Samsung NAND Datasheet K9NBG08U5A	SD-1-2094952-2095001	Rhyne, Thomas	Infringement	10/29/2008
	c			TUTUM TURINER	The age of the second s	20/27/2008
CX-1724		Samsung NAND Datasheet K9NBG08U5M	PEC00854360-00854409	Rhyne, Thomas	Infringement	10/29/2008
		,				
CX-1725		Samsung NAND Datasheet K9KAG08U1M, K9F8G08U0M, K9F8G08B0M	SD-1-2094739-2094792	Rhyne, Thomas	Infringement	10/29/2008
	<b> </b>				(The second seco	
CX-1726		Samsung NAND Datasheet K9K2G08R0B	SD-1-2094793-2094824	Rhyne, Thomas	Infringement	. 10/29/2008
CX-1727		Samsung NAND Datasheet K9K2G08U0M, K9K2G08Q0M, K9K2G08U0M, K9K2G16Q0M, K9K2G16U0M	SD-1-2094825-2094863	Rhyne, Thomas	Infringement	10/29/2008

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CX-1728		Samsung NAND Dalasheet K9W8G08U1M, K9K4G08Q0M, K9K4G16Q0M, K9K4G08U0M, K9K4G16U0M	SD-I-2094864-2094901	Rhyne, Thomas	Infringement	10/29/2008
CX-1729		Samsung NAND Datasheet K9WAG08U1M, K9K8G08U0M	SD-I-2094902-2094951	Rhyne, Thomas	Infringement	10/29/2008
CX-1730		Samsung NAND Datasheet K9WAG08U1A, K9K8G08U0A, K9NBG08U5A	SD-I-2094952-2095001	Rhyne, Thomas	Infringement	10/29/2008
CX-1731	С	Toshiba NAND Datasheet TC58128FT	CHI_00031017-00031049	Rhyne, Thomas	Infringement	10/29/2008
CX-1732	C	Toshiba NAND Datasheet TC58256AFT	PEC00856160-00856192	Rhyne, Thomas	Infringement	10/29/2008
CX-1733	С	Toshiba NAND Datasheet TC58612FTi	SKY_00050327-00050369	Rhyne, Thomas	Infringement	10/29/2008
CX-1734	С	Toshiba NAND Datasheet TC58DVG02A1FT00				
CX-1735	С		TAEC0000110-0000153	Rhyne, Thomas	Infringement	10/29/2008
	c	Toshiba_NAND Datasheet TC58DVG04B1FT00	TAEC0000154-0000198	Rhyne, Thomas	Infringement	10/29/2008
_CX-1736	С	Toshiba NAND Datasheel TC58NVG0S3AFT05	CHI_00031611-00031642	Rhyne, Thomas	Infringement	10/29/2008
CX-1737	c	Toshiba NAND Datasheet TC58NVG3D1DTG50	TAEC0000270-0000329	Rhyne, Thomas	Infringement	10/29/2008
<u>CX-1738</u>	c	Toshiba NAND Datasheet TH58NVG2D4BTG00	TAEC0000232-0000269	Rhyne, Thomas	infringement	10/29/2008
<u>CX-1739</u>	c	Toshiba NAND Datasheet TH58NVG3D4BTG00	TAEC0000370-0000429	Rhyne, Thomas	Infringement	10/29/2008
<u>CX-1740</u>	c	Toshiba NAND Datasheet TH58NVG3D4CTG00	TAEC0000330-0000369	Rhyne, Thomas	Infringement	10/29/2008
CX-1741	c	Toshiba NAND Datasheet TH58NVG4D4CTG00	TAEC0000430-0000469	Rhyne, Thomas	Infringement	10/29/2008
CX-1742		Toshiba NAND Datasheet TH58NVG4D4CTG20	TAEC0000470-0000534	Rhyne, Thomas	Intringement	10/29/2008

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	С					
CX-1743		Toshiba NAND Datasheet TH58NVG5D4CTG20		<b>n</b> . <b>.</b>		
97-11-10	С		TAEC0000535-0000601	Rhyne, Thomas	Infringement	10/29/2008
CX-1744	c	Toshiba NAND Datasheet TC58NVG3D4CTG00	USB_00031462-00031526	Rhyne, Thomas	Infringement	10/29/2008
	ľ					
CX-1745		Toshiba NAND Datasheet TC58NVG2D4BTG00	PEC00953171-00953230	Rhyne, Thomas	Infringement	10/29/2008
	С					
CX-1746		Toshiba NAND Datasheet TC58NVG1D4BTG00				
	С		PEC00953415-00953467	Rhyne, Thomas	Infringement	10/29/2008
		Toshiba NAND Datasheet				
CX-1747	lc-	TH58NVG4D4CTG00/TH58NVG4D9CTG00	PEC00502039-00502105	Rhyne, Thomas	Infringement	10/29/2008
	ľ					
CX-1748		Toshiba NAND Datasheet TC58NVG1D48FT00	SKY_00049638-00049690	Rhyne, Thomas	infringement	10/29/2008
CX-1749		Micron NAND Datasheet MT29H8G08ACAH1, MT29H18G08ECAH1, MT29H32G08GCAH2	SD-1-2269935-2269942	Dhana Thanas	h_f	10/20/2020
	С		00-1-2209930-2209942	Rhyne, Thomas	Infringement	10/29/2008
CX-1750	+	Charts showing components used in Kingston's accused products	,,,,,,,	Chen, Ben	Infringement	10/29/2008
	1	Micron NAND Datasheet MT29F2G08AACWP,				
CX-1751		MT29F4G08BACWP, MT29F8G08FACWP	SD-I-2270024-2270081	Rhyne, Thomas	Infringement	10/29/2008
CX-1752		Withdrawn				
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CY 4752						
CX-1753	┼──	Withdrawn				
_CX-1754	–	Withdrawn				
CX-1755		Withdrawn			·	
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CX-1756		Wilhdrawn				
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CX-1757		Withdrawn				

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CX-1758		Wilhdrawn	·			
CX-1759		Wilhdrawn				
CX-1760		Wilhdrawn				
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CX-1761	C	B. Chen Depo Exhibit 32 Bill of Materials	KTC-N-00005	Chen, Ben	infringement	11/5/2008
OV 1780						
CX-1762		B. Chen Depo Exhibit 33 Bill of Materials	KTC-N-00005	Chen, Ben	Infringement	11/5/2008
CX-1763						
GA-1703		B. Chen Depo Exhibit 34 Bill of Materials	KTC-N-00005	Chen, Ben	Infringement	11/5/2008
CX-1764		B. Chen Depo Exhibit 35 Bill of Materials				
0/ 1/04	ľ		KTC-N-00005	Chen, Ben	infringement	11/5/2008
CX-1765	c	B. Chen Depo Exhibit 36 Bill of Materials	KTC-N-00005	Chen, Ben	lufele sement	11/5/2008
<u></u>	Ť				Infringement	11/5/2008
CX-1766	c	B. Chen Depo Exhibit 37 Bill of Materials	KTC-N-00005	Chen, Ben	Infringement	11/5/2008
	Τ	· · · ·				11/ 3/ 2008
CX-1767		Withdrawn	· ·			
CX-1768	c	LG logo MS Lee depo ex. 18		Lee, Myeong Seop	Remedy/ Bonding	11/5/2008
CX-1769	c	6/4/08 letter to McCrum from Diagrande designating Apacer 30(b)(6) witnesses Chang depo ex. 4		Chang, Chia Kun	All	11/5/2008
CX-1770	c	Bill of Materials for Apacer product Chang depo ex. 19	AP-ITC 0273919-0273920	Chang, Chia Kun	infringement; Importation	11/5/2008
CX-1771	c	Skymedi, Flash Data Management, Ver. 0.9	SKY_00006154-00006223	Chang, CY / Rhyne, Thomas	Infringement	10/29/2008
CX-1772		Withdrawn				

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					UMELTIN MARKEN	
CX-1773		Withdrawn				
CX-1774	<u> </u>	Withdrawn				
		Imation - USB Flash Devices page from Imation web site [Northfield				
CX-1775	с	Dep. Ex. 5]		Northfield, Thomas A	Infringement/ Importation	.11/5/2008
		Memorex Flash Drives: Traveldrives & Thumbdrives Products from				
CX-1776	c_	Memorex web site [Northfield Dep. Ex. 6]		Northfield, Thomas A	Infringement/ Importation	11/5/2008
CX-1777	c_	Table: UFD SKU Analysis - US B2C [Northfield Dep. Ex. 8]	IMA-000129	Northfield, Thomas A	Infringement	11/5/2008
CX-1778		Withdrawn				
		Bill of Material for TS1GCF80 with 29-7342 for 1GB Compact Flash				
CX-1779	c	Card (3.3V, 1Gx8) HY27UG088G5M) [Chu Dep. Ex. 9]	TSC-ITC 0006578-0006579	Chu, Ray	Infringement	11/5/2008
		Bill of Material for TS1GBF80 with 29-7342 for 1GB Compact Flash				
CX-1780	c_	Card (3.3V, 1Gx8) K9K8G08U0A, K9K8G08U0M) [Chu Dep. Ex. 10]	TSC-ITC 0006580-0006581	Chu, Ray	Infringement	11/5/2008
		Bill of Material for TS8GCF133 with 29-7520 for 8GB Compact Flash				
CX-1781	c	Card (3.3V, BGbxB) [Chu Dep. Ex. 11]	TSC-ITC 0029216-0029217	Chu, Ray	Infringement	11/5/2008
		Bill of Material for TS1GJF110 with 29-6500 for 1GB JetFlash (3.3V,				
CX-1782	c	512Mx8) [Chu Dep. Ex. 14]	TSC-ITC 0003598-0003597	Chu, Ray	Infringement	11/5/2008
		Bill of Material for TS18GSSD34E-M with 29-7510 for 16GB				
CX-1783	c	SSD34E (3.3V, 4Gx8, SEC) [Chu Dep. Ex. 18]	TSC-ITC 0348338-0348340	Chu, Ray	Infringement	11/5/2008
		Bill of Material for TS8GDOM40V-S with 29-7640 for 8GB 40Pins				
CX-1784	c	IDE Flash Module (3.3v, 8Gx8) [Chu Dep. Ex. 19]	TSC-ITC 0346108-0346107	Chu, Ray	Infringement	11/5/2008
		Presentation: Analyst Day, SanDisk Financial information and				
CX-1785	c	projections	SD-1-3265951-3266126	Waltze, Todd	Remedy; Confidential	11/3/2008
CX-1786	+	Withdrawn				
CX-1787		Withdrawn				

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CX-1788 Withdrawn US Market Shares, Digital Audio Players, Analysis and Presentation, May 2008 CX-1789 С 11/3/2008 SDI-I-3266314-3266328 Waitze, Todd Remedy; Confidential CX-1790 Withdrawn CX-1791 Withdrawn CX-1792 Withdrawn CX-1793 Withdrawn <u>CX-1794</u> Withdrawn CX-1795 Withdrawn CX-1796 Withdrawn CX-1797 Withdrawn CX-1798 Withdrawn CX-1799 Withdrawn CX-1800 Withdrawn CX-1801 Withdrawn CX-1802 Withdrawn

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CX-1803		Wilhdrawn				
CX-1804		Withdrawn				
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CX-1805		Withdrawn				
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CX-1806	C	Talwan Palent 221217		Rhyne, Thomas	Domestic Industry	10/29/2008
CX-1807		Wilhdrawn				
CX-1808		Phison CB14 with additional handwriting [Yang Dep. Ex. 207]		Yang, JY	Infringement	10/29/2008
			. •			
CX-1809		Wilhdrawn				
<u>CX-1810</u>	C	PQIN000001.XLS [Keo Dep. Ex. 11]		Kao, Pluto	Infringement/ Importation	11/5/2008
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CX-1811		Wilhdrawn				
01/ 4040						
CX-1812		Withdrawn	· · ·			
04 4640						
CX-1813	+	Wilhdrawn				·
CX-1814		SK6826 SD2.0/MMC4.2 Memory Card Controller data sheet [Chang				
<u>UA-1014</u>	1	Dep. Ex. 150]	SKY_20002827-20002851	Cheng, Vincent	Infringement/ Importation	10/29/2008
OV 1817						
UX-1015	10	Phison Deposition Exhibit 210		Rhyne, Thomas	Infringement/ Importation	10/29/2008
CX-1816		AA/Ub.dom				
<u>UN-1010</u>	+	Withdrawn	,		<b> </b>	
CV 1817						
CX-1817	1	Withdrawn	L	<u></u>	1	

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Appendix A SanDisk Corporation's CX-List

CX-1818		Withdrawn				
CX-1819	_	Withdrawn				
CX-1820	_	Wilhdrawn				
CX-1821		Withdrawn				
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CX-1822	<u> </u>	Wilhdrawn				
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CX-1823	<u> </u>	Withdrawn	·			
CX-1824		Withdrawn				
CX-1825		Wilhdrawn				
		· · ·				
CX-1826	$\vdash$	Wilhdrewn				
· ·		SK6628 SD2.0/MMC4.2 Memory Card Controller data sheet [Cheng				
CX-1827		Dep. Ex. 152	SKY_20002875-20002899	Cheng, Vincent	Infringement/ Importation	10/29/2008
CX-1828		1806F Design Specification [Chang Dep. Ex. 154]	SKY_20002609-20002803	Cheng, Vincent	Infringement/ Importation	10/29/2008
01 4800			· .			
CX-1829	10	Stipulation between SanDisk and Imation re: encryption	<u> </u>		Infringement	10/29/2008
07 1000						
CX-1830	+	Withdrawn				
CX-1831	C	Screen captures from Imation Pocket with ImationLock		Min, Paul	Infringement	10/29/2008
CX-1832	IC	Screen captures from Imation Swivel and Drive Manager		Min, Paul	Infringement	10/29/2008

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CX-1833 C Scre CX-1834 C Scre	sen captures from Imation Pivot and Encryption Manager		Min, Paul	infringement	10/29/2008
_CX-1834 C Scre	een captures from Imation Traveldrive and Portable Vault			infringement	10/29/2008
				1	
			Min, Paul	Infringement	10/29/2008
CX-1835 C Imat				RULLI BULLION	10/29/2008
	tion Encryption Manager Quick Start Guide		Min David	1.4.1	
			Min, Paul	Infringement	10/29/2008
CX-1836 C Scre	een captures from Imation Mini Traveldrive and U3		141. B. 1		
			Min, Paul	Infringement	10/29/2008
CX-1837 C Scre	een captures from Memorex Rotodrive and SecureTD				
			Min, Paul	infringement	10/29/2008
CX-1838 With		1			
	hdrawn		*		
_CX-1839 With	hdrawn				
CX-1840 With	hdrawn				
CX-1841 C Scre	een captures from SanDisk Cruzer Micro	·	Min, Paul	Infringement	10/29/2008
_CX-1842 With	hdrawn				
	E's 9/24/08 Fifth Supplemental Responses and Objections to				
CX-1B43 C San	Disk's Second Set of Interrogatories		Min, Paul/ Rhyne, Thomas	Infringement/ Importation	11/21/2008
CX-1844 Will	hdrawn				
				* .	
CX-1845 With	hdrawn				
CX-1846 With	hdrawn				
CX-1847 With	Ihdrawn				

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CX-1848		Withdrawn				
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CX-1849		Withdrawn				
CX-1850		Withdrawn				
07-1030		Witchrawn		······································		
CX-1851		Withdrawn		,		
CX-1852		Withdrawn				
CX-1853		Withdrawn				
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CX-1854		Wilhdrawn				
CX-1855		Withdrawn				
CX-1856		Withdrawn				
AV 105-						
CX-1857	$\vdash$	Withdrawn				
CX-1858	c	Transcend's amended/supplemental responses to SanDisk interrogatories 1-4, 7, 14, 115-116 and 118 dated October 9, 2008			importation/infringement/rem edy	11/21/2008
-			**************************************			11/21/2008
CY 1850		Apacer's amended/supplemental responses to SanDisk			importation/infringement/rem	
CX-1859	<u> </u>	Interrogatories 1-4, 7, 14, 121-122 and 124 dated October 9, 2008			edy	11/21/2008
CX-1860		Withdrawn				

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CPX-001	Wilhdrawn			······	
CPX-002	Withdrawn				
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CPX-003	Withdrawn				
CPX-004	Wilhdrawn				
CPX-005	Wilhdrawn				
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CPX-006	Wilhdrawn				
CPX-007	Withdrawn				
CPX-008					
CFA-000	Wilhdrawn		·		
CPX-009	Withdrawn				
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CPX-010	Withdrawn	· · · · ·			·
CPX-011	Wilhdrawn				
CPX-012	Withdrawn				
CPX-013	Withdrawn				
CPX-014	Withdrawn			]	
UFA-014					
CPX-015	Wilhdrawn				
CPX-016	Wilhdrawn		1		· ·

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CPX-017	Withdrawn				
CPX-018	Withdrawn				
CPX-019	Withdrawn				
CPX-020	Wilhdrawn				
CPX-021	Wilhdrawn	·			
CPX-022	Withdrawn				
CPX-023	Wilhdrawn				
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CPX-024	Withdrawn				
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CPX-025	Withdrawn				
CPX-026	Withdrawn				
CPX-027	Withdrawn				
CPX-028		·			
UFA-020	Withdrawn			1	
CPX-029	Withdrawn				
CPX-030	Withdrawn				
CPX-031	Withdrawn				
087-031	YYIIKIRWA	·		<u> </u>	
CPX-032	Withdrawn				

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CPX-033 Withdrawn CPX-034 Withdrawn CPX-035 Withdrawn CPX-036 Withdrawn CPX-037 Atom Flash Drive 2GB Min, Paul/ Rhyne, Thomas Infringement / Importation 10/29/2008 CPX-038 Withdrawn CPX-039 Withdrawn CPX-040 Clip Flash Drive USB 2 8GB Min, Paul/ Rhyne, Thomas infringement / Importation 10/29/2008 CPX-041 Withdrawn CPX-042 Withdrawn CPX-043 Withdrawn CPX-044 Memorex Mini Travel Drive USB 2.0 (32509353) 512 MB Min, Paul/ Rhyne, Thomas Infringement / Importation 10/29/2008 CPX-045 Withdrawn CPX-046 Wilhdrawn CPX-047 Memorex TravelDrive CL 8GB Min, Paul/ Rhyne, Thomas Infringement / Importation 10/29/2008 . CPX-048 Withdrawn

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CPX-049	Nano Flash Drive 8GB		Min, Paul/ Rhyne, Thomas	Infringement / Importation	10/29/2008
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CPX-050	Withdrawn				
CPX-051	Wilhdrawn				10/29/2008
CPX-052	Withdrawn				
CPX-053	Withdrawn				
CPX-054	Pocket Flash Drive 8GB		Min, Paul/ Rhyne, Thomas	Infringement / Importation	10/29/2008
CPX-055	Withdrawn				
CPX-056	Swivel Flash Drive 8GB		Min, Paul/ Rhyne, Thomas	Infringement / Importation	10/29/2008
CPX-057	Swivel Pro Flash 8GB		Min, Paul/ Rhyne, Thomas	Infringement / Importation	10/29/2008
CPX-058	Withdrawn				
CPX-059	Memorex RotoDrive 3PK, 1GB		Min, Paul/ Rhyns, Thomas	Infringement / Importation	10/29/2008
CPX-060					
CPX-060	Wilhdrawn				
CPX-061	14/III. desum	[		[	
	Withdrawn		· · ·		
CPX-062	Wilhdrawn	N States States			
CPX-063	Withdrawn .				
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CPX-064	Wilhdrawn				
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CPX-065	Wilhdrawn			 
CPX-066	Wilhdrawn			
CPX-067				
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CPX-068	Wilhdrawn		·	
CPX-069	Wilhdrawn	·		
CPX-070	Withdrawn	····		
CPX-071	Wilhdrawn			
CPX-072	Wilhdrawn			
01/1012				
CPX-073	Withdrawn			
CPX-074	Wilhdrawn			
CPX-075				
	Withdrawn			
CPX-076	Wilhdrawn			
CPX-077	Withdrawn			
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CPX-078	Wilhdrawn			
CPX-079	Wilhdrawn			·
CPX-080	Withdrawn			

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. CPX-081 Withdrawn CPX-082 Withdrawn CPX-083 Withdrawn CPX-084 Withdrawn CPX-085 Withdrawn CPX-086 Withdrawn CPX-087 Withdrawn CPX-088 Withdrawn CPX-089 Withdrawn CPX-090 Withdrawn CPX-091 Wilhdrawn CPX-092 Withdrawn . CPX-093 Withdrawn CPX-094 Withdrawn . CPX-095 Wilhdrawn CPX-096 Withdrawn

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CPX-097	Withdrawn				
CPX-098	Withdrawn				
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CPX-099	Wilhdrawn				
CPX-100	Withdrawn				· · · · · · · · · · · · · · · · · · ·
CPX-101	Withdrawn				
CPX-102	Withdrawn	•			-
CPX-103	Withdrawn				
CPX-104	Wilhdrawn				
CPX-105	Withdrawn				
007 100				•	
CPX-106	Wilhdrawn				
CPX-107	Withdrawn				
CPX-108	Withdrawn	· · · · · · · · · · · · · · · · · · ·			
CPX-109	Wilhdrawn				
01/108					
CPX-110	Withdrawn				
CPX-111	Withdrawn .				
CPX-112	Affile descue				
UPA-112	Withdrawn		1	1	

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CPX-113	Withdrawn				
CPX-114	Wilhdrawn				
CPX-115	Withdrawn				
CPX-116	Withdrawn				
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CPX-117	Withdrawn				
CPX-118	Withdrawn	·			
CPX-119	Withdrawn				
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CPX-120	Wilhdrawn			-	
CPX-121	Withdrawn				
CPX-122	Withdrawn				· · · · · · · · · · · · · · · · · · ·
CPX-123	Withdrawn				
CPX-124	Withdrawn				
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CPX-125	Wilhdrawn				
CPX-126	Wilhdrawn				
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CPX-127	Withdrawn				
CPX-128	Wilhdrawn				

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CPX-129	Withdrawn				
CPX-130	Wilhdrawn				· · · ·
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CPX-131	Withdrawn				
CPX-132	Withdrawn	·			· · · · · · · · · · · · · · · · · · ·
CPX-133	Withdrawn				
CPX-134	Withdrawn				
CPX-135	Withdrawn				
CPX-136	Wilhdrawn				
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CPX-137	Withdrawn			-	
CPX-138	Withdrawn				
CPX-139	Withdrawn		•		
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CPX-140	Wilhdrawn				
CPX-141	Withdrawn			·	
CPX-142	Withdrawn				
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CPX-143	Withdrawn				
CPX-144	Withdrawn			<u> </u>	L

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CPX-145	Withdrawn				
CPX-146	Wilhdrawn		·		
CPX-147	Wilhdrawn			-	
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_CPX-148	Withdrawn				
CPX-149	Withdrawn				
CPX-150	Withdrawn .		·		
CPX-151	SanDisk Cruzer Micro		Min, Paul	Domestic Industry	10/29/2001
CPX-152	Wilhdrawn				· .

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CON .		NAMES OF ACT		
CDX-01	424 Patent: Sequential Block	Rhyne, Thomas	Infringement	10/29/2008
001/00				
CDX-02	424 Patent: Random Block	Rhyne, Thomas	Infringement	10/29/2008
CDX-03	424 Palent: Metablock with Eight Pages per Block	Dhung Themes		
00/100	TELET CONTRACTOR AND ENDER PORT DOCK	Rhyne, Thomas	Infringement	10/29/2008
CDX-04	424 Patent: Phison Type-1 Updating	Rhyne, Thomas	Infringement	10/29/2008
			o dan gernera	10/17/2000
CDX-05	424 Patent: Phison Type-1 Updating	Rhyne, Thomas	Infringement	10/29/2008
	•			
CDX-06	424 Patent: Phison Type-1 Úpdating	Rhyne, Thomas	Infringement	10/29/2008
_CDX-07	424 Patent: Phison Type-1 Updating	Rhyne, Thomas	Infringement	10/29/2008
-				
CDX-08	424 Patent: Phison Type-1 Updating	Rhyne, Thomas	Infringement	10/29/2008
CDX-09	424 Patent: One Page Regardless of Plans	Rhyna, Thomas	Infringement	10/29/2008
			HARING BOTHER I	10/23/2000
CDX-10	424 Patent: One More Page Regardless of Plane	Rhyne, Thomas	Infringement	10/29/2008
			·	
CDX-11	424 Patent: One More Page Regardless of Plane	Rhyne, Thomas	Infringement	10/29/2008
CDX-12	424 Patent: One More Page Regardless of Plane	Rhyne, Thomas	Infringement	10/29/2008
CDX-13	424 Patent: Two More Pages Regardless of Planes	Rhyne, Thomas	Infringement	10/29/2008
CDX-14	424 Patent: Five More Pages Regardless of Planes	Rhyne, Thomas	Infringement	10/29/2008
	424 Patent: Sixteen Total Pages Regardless of Planes			
CDX-15		Rhyne, Thomas	Infringement	10/29/2008
	Withdrawn			
CDX-16				10/29/2008

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# Appendix A SanDisk Corporation's CDX-List

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	Withdrawn			
CDX-17				10/29/2008
	Withdrawn			
CDX-18				10/29/2008
	Withdrawn			
CDX-19				10/20/2008
	Withdrawn			10/29/2008
CDX-20				• • • • •
	Withdrawn			10/29/2008
CDX-21	Withdrawn			10/29/2008
CDX-22	Wilhdrawn			10/29/2008
CDX-23				
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CDX-24				
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CDX-25				
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CDX-26				
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CDX-27	Withdrawn			
CDX-28	Withdrawn			
CDX-29	Wilhdrawn			
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CDX-30				
	Encryption method block diagram			
CDX-31		Min, Paul	Infringement	10/29/2008
	Encryption method block diagram			
CDX-32		Min, Paul	Infringement	10/00/000
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## Appendix A SanDisk Corporation's CDX-List

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- 1			Encryption method block diagram			
	CDX-33		·	Min, Paul	Infringement	10/29/2008
			Photo of SanDisk Cruzer Micro			
	CDX-34			Min, Paul	Domestic industry	10/29/2008

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CRX-0001		Withdrawn				
CRX-0002		Withdrawn			· · · ·	
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CRX-0003		Withdrawn				
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CRX-0004	╉──	Withdrawn			ļ	
CRX-0005		Withdrawn				
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CRX-0006	<u> </u>	Withdrawn				
		SanDisk Analyst Day presentation, dated February 25,	SD-I-3265951-3266126			
CRX-0007	c	2008		Hausman, Jerry	Affirmative Defenses	11/4/2008
						11, 1, 2000
CRX-0008		Withdrawn				
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CRX-0009		Withdrawn				
0107-0003	+		•			
		Gartner Dataquest Insight: Consumer Removable				
CRX-0010	10	Solid-State Storage Competitive Landscape, 2007	SD-I-3270846-3270868	Hausman, Jerry	Affirmative Defenses	11/4/2008
CRX-0011		Withdrawn				
		•				
CRX-0012	+	Withdrawn				
CRX-0013		Withdrawn				
		Department of Justice and Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual			· · · · · ·	
CRX-0014		Property, April 6, 1995		Hausman, Jerry	Affirmative Defenses	11/4/2008
			1		•	
CRX-0015		Withdrawn				
		APENNISTIMUSE				

# Appendix A

# SanDisk Corporation's CRX List

		1643年1月1日的時期以外非常常的思想。	Markan ( ) 1			
						·
CRX-0016	<u> </u>	Withdrawn				
CRX-0017	c	Amended Complaint, Amended Exhibit 99		Hausman, Jerry	Affirmative Defenses	10/31/2008
CRX-0018	С	Amended Complaint, Amended Exhibit 101	·	Hausman, Jerry	Affirmative Defenses	10/31/2008
			· ·			
CRX-0019	ļ	Withdrawn				
		Presentation: Demand Creation Through Innovation, SanDisk Analyst Day, February 26, 2007 [Harari Dep.	SD-I-1265724-1265900			
CRX-0020	C	Ex. 16]		Harari, Eli	Affirmative Defenses	11/21/2008
CRX-0021		Withdrawn	KTO 00500004 00500004			
		Presentation: Card License Program, October 24, 2007	KTC 00562924-00562931			
CRX-0022	С	[Mehrotra Dep. Ex. 104]		Merhrotra, Sanhay	Affirmative Defenses	11/5/2008
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CRX-0023	<u> </u>	Withdrawn		ļ		
CRX-0024	–	Withdrawn				
CRX-0025		Withdrawn				
CRX-0026	╂	Withdrawn				
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CRX-0027	┢─	Withdrawn	·			
CRX-0028		Withdrawn				
UN-0020	$\vdash$		SD-I-1265924-1265943			
CRX-0029		NASDAQ 20th Investor Program, Dec. 4, 2007 [Mehrotra Dep. Ex. 107]		Hausman, Jerry	Affirmative Defenses	11/21/2008
0101-0020	Ĕ		· · · · · · · · · · · · · · · · · · ·	I IQUATION, JULY	Animalive Delenses	11/21/2000
CRX-0030		Withdrawn				
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CRX-0031	Withdrawn				
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CRX-0032	Withdrawn				······································
CRX-0033	Withdrawn		•		
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CRX-0034	Withdrawn				
CRX-0035	Withdrawn				
CRX-0036	Withdrawn				
CRX-0037	Withdrawn				
CRX-0038	Alfah.d.a				
CRA-0030	Withdrawn				
CRX-0039	Withdrawn				
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CRX-0040	Withdrawn				
CRX-0041	Withdrawn	······································			
CRX-0042	Withdrawn	·			
CRX-0043	Withdrawn	~			
CRX-0044	Patent Family Report for U.S. Patent No. 6,763,424		Thompson, Earle	Affirmative Defenses	10/31/2008
0111-0044	Fatent Farmy Report IOF U.S. Patent IND. 0,703,424		Thompson, cane	Animative Defenses	10/31/2008
CRX-0045	Withdrawn				

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CRX-0046		Withdrawn				
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CRX-0047		Withdrawn				
	-	English translation of the Taiwanese counterpart to the				
CRX-0048	Ç	'424 patent		Hausman, Jerry	Affirmative Defenses	10/31/2008
CRX-0049		Withdrawn				
CRX-0050		VA PAL 4-				
CRA-0050		Withdrawn		·		
CRX-0051						
0001		Withdrawn				
CRX-0052		Withdrawn		T		
0107-0032			SD-I-0081413-0081452			
CRX-0053	с	US Flash Card and UFD Market Shares – 15 Month Period Ending with May 2007		Hausman, Jerry/Harari, Eli	Affirmative Defenses	11/2/2008
	-				Anirmative Delenses	11/3/2008
CRX-0054		Withdrawn		· · · · · ·		
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CRX-0055		Withdrawn				
•		SanDisk's Ultra II CompactFlash Cards Win Prestigious	SD-I-0098040-0098041			
CRX-0056		Digital Imaging Award for Speed and Performance		Conley, Kevin	Validity	10/31/2008
		SanDisk Cruzer Titanium Wins Two Editors' Choice	SD-I-0098042-0098043			
CRX-0057		Awards		Min, Paul/ Rhyne, Thomas/Harari, Eli	Validity	11/3/2008
CRX-0058		Withdrawn				
	,					
CRX-0059		Withdrawn				
			SD-1-0098072	Min, Paul/ Rhyne,		
CRX-0060		Accolades - Awards for 2003		Thomas/Harari, Eli	Validity	11/3/2008

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CRX-0061	Withdrawn				
CRX-0062	Withdrawn				· · · · · · · · · · · · · · · · · · ·
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CRX-0063	Withdrawn				
CRX-0064	Withdrawn		·		
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CRX-0065	Withdrawn				
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CRX-0066	Withdrawn	·			
CRX-0067					
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CRX-0068	Withdrawn				
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CRX-0069	Withdrawn				
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CRX-0070	Withdrawn				
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CRX-0072	Withdrawn				
CRX-0073	Withdrawn				
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CRX-0075	Withdrawn			•	

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CRX-0079	Withdrawn				-
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CRX-0081	Withdrawn				
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CRX-0082	Withdrawn				
0107-0002					
CRX-0083	Withdrawn				
CRX-0084	Withdrawn				
CRX-0085	Withdrawn				
		SD-I-0916126-0916184		· · · · · · · · · · · · · · · · · · ·	
CRX-0086	Sales and Revenue figures [Ex. I to Min Rebuttal Report]		Min, Paul/ Rhyne, Thomas	Validity	11/21/2008
CRX-0087	Withdrawn				
CRX-0088	Withdrawn				
CRX-0089	Withdrawn				
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Marketing of 1 (1999) and 1999 CRX-0106 Withdrawn . CRX-0107 Withdrawn CRX-0108 Withdrawn CRX-0109 Withdrawn CRX-0110 Withdrawn CRX-0111 Withdrawn CRX-0112 Withdrawn CRX-0113 Withdrawn CRX-0114 Withdrawn Press Release: SanDisk Takes Security to a New level SD-I-2036418-2036419 with Powerful Encryption Software for Its Cruzer USB Min, Paul/ Rhyne, CRX-0115 Flash Drives, dated September 27, 2004 [Ex. C to Min Thomas/Harari, Eli 11/3/2008 Validity CRX-0116 . Withdrawn CRX-0117 Withdrawn E-mail from Ken Castle re Press Release dated SD-I-2347462-2347464 . September 19, 2005 re SanDisk to Ship Units of its First Min, Paul/ Rhyne, "U3 Smart" Flash Drive That Creates a Portable Secure CRX-0118 C 11/21/2008 Thomas Validity CRX-0119 Withdrawn CRX-0120 Withdrawn

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CRX-0136	•	Withdrawn	•			
CRX-0137		Withdrawn				
		Press Release: SanDisk Wins EISA Award - Named European Memory Card of the Year 2004-2005, dated			r.	
CRX-0138		August 24, 2004	SD-I-0098101	Conley, Kevin	Validity	10/31/2008
CRX-0139		Withdrawn				
CRX-0140		Withdrawn				
CRX-0141		Withdrawn				
CRX-0142	<u> </u>	Withdrawn				
CRX-0143		Withdrawn				
		SanDisk/Hynix Patent Cross License Agreement dated		Hausman, Jerry /		
CRX-0144	с	March 20, 2007 [Chernicoff Dep. Ex. 13]	SD-I-2180056-2180076	Partlow, Gene	Affirmative Defenses	10/31/2008
			•			
CRX-0145		Withdrawn				
		SanDisk/Intel Patent Cross License Agreement dated		Hausman, Jerry /		
CRX-0146	c	October 12, 1995	SD-1-0300353-0300370	Partlow, Gene	Affirmative Defenses	10/31/2008
			•			
CRX-0147	<b> </b>	Withdrawn				
CRX-0148	<b> </b>	Withdrawn	<u> </u>			
CRX-0149	<b> </b>	Withdrawn				
CRX-0150	<u> </u>	Withdrawn				

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CRX-0151		SanDisk/PNY Limited Patent Cross License Agreement	SD-1-0909137-0909158	Hausman, Jerry / Partlow, Gene	Affirmative Defenses	10/31/2008
CRX-0152		Withdrawn				
CRX-0153		Withdrawn				
CRX-0154	C	SanDisk/Ritek Limited Patent Cross License Agreement dated June 30, 2007	SD-1-0300372-0300392	Hausman, Jerry / Partlow, Gene	Affirmative Defenses	10/31/2008
CRX-0155		SanDisk/Samsung First Amendment to Second Settlement and Patent Cross License Agreement dated December 12, 2002	SD-1-0300394-0300399	Hausman, Jerry / Partlow, Gene	Affirmative Defenses	10/31/2008
CRX-0156	с	SanDisk/Samsung Second Settlement and Patent Cross License Agreement dated August 14, 2002	SD-1-0300402-0300446	Hausman, Jerry / Partlow, Gene	Affirmative Defenses	10/31/2008
CRX-0157		Withdrawn				
CRX-0158		Withdrawn				
CRX-0159		Withdrawn				
CRX-0160		Withdrawn				
CRX-0161		Withdrawn				
CRX-0162		Tech News, "Sandisk Wins EISA Award-Named 'European Memory Card Of The Year 2004-2005'," dated August 17, 2004	SD-1-0098065	Conley, Kevin	Validity	10/31/2008
CRX-0163		Withdrawn				
CRX-0164		Withdrawn				
CRX-0165		Withdrawn				

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CRX-0166 Withdrawn CRX-0167 Withdrawn CRX-0168 Withdrawn CRX-0169 Withdrawn CRX-0170 Withdrawn CRX-0171 Withdrawn . CRX-0172 Withdrawn CRX-0173 Withdrawn -----CRX-0174 Withdrawn CRX-0175 C SanDisk/Toshiba Patent Cross License Agreement Hausman, Jerry / Partlow, Gene SD-I-0300486-0300513 Affirmative Defenses 10/31/2008 ÷ CRX-0176 Withdrawn CRX-0177 Withdrawn CRX-0178 Withdrawn CRX-0179 Withdrawn CRX-0180 Withdrawn

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		U.S. Patent No. 4,115,914	SD-I-2035537-2035548			
CRX-0181				Rhyne, Thomas/Harari,		
0101-0101	+	SunDisk Notebook #2		Eliyhou	Affirmative Defenses	11/3/2008
		Suidisk Notebook #2	SD-I-0068541-0068694			
CRX-0182	lc			Rhyne, Thomas/Harari,		
	Ť			Eliyhou	Affirmative Defenses	11/3/2008
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CRX-0183		Withdrawn				
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CRX-0184		Withdrawn				
			N/A			
		Rebuttal Witness Statement of Dr. Eli Harari dated		Rhyne, Thomas/Harari,		
CRX-0185	C	November 6, 2006		Eliyhou	Affirmative Defenses	11/3/2008
		haffile days	•			
CRX-0186	+	Withdrawn				L
		Email re SanDisk press release regarding SanDisk Sues	SD-1-3282850-3282853			
CRX-0187		to Enforce Memory System Patents dated October 24, 2007	1	Rhyne, Thomas/Harari,		
010/-0107	+	SanDisk 10K for the fiscal year ended December 30,		Eliyhou	Affirmative Defenses	11/3/2008
		2007	SD-I-2266309-2266467			
CRX-0188			-	Rhyne, Thomas/Harari, Eliyhou	Affirmative Defenses	10/31/2008
					Annihative Delenses	10/31/2008
CRX-0189		Withdrawn				
		Kingston Technology Company, Inc. Company Profile,				
CRX-0190	C	April 2, 2008 [Sun Dep. Ex. 4]		Sun, David	Afirmative Defenses	11/5/2008
						,
CDX 0404		SanDisk/CompactFlash Association License and				54 C
CRX-0191	10	Sublicense Agreement	SD-I-2261728-2261737	Partiow, Gene	Affirmative Defenses	11/5/2008
		Articles Supers Due Dath Lubers March 20, 0000 10				
CRX-0192		Article: Sun vs. Sun, Seth Lubove, March 20, 2000, [Sun Dep. Ex. 30]				
0107-0192	14	Article: Kingston Technology licenses Sun Microsystems		Sun, David	Affirmative Defenses	11/5/2006
		memory patents; Licensing agreement for products				
CRX-0193	lc	manufactured by Kingston for use in high-performance		Sun, David	Afirmative Defenses	11/5/2008
	1-	Article: Kingston Manufactures Silicon Graphics			Palinative Detenses	11/ 5/2000
		Patented Origin-Onyx2 Server Memory, December 30,				
CRX-0194	C	1997 [Sun Dep. Ex. 34]		Sun, David	Afirmative Defenses	11/5/2008
		Article: Kingston announces business unit sale to Delta				
CRX-0195	C	Products, September 26, 1997 [Sun Dep. Ex. 35]		Sun, David	Afirmative Defenses	11/5/2008

的复数形式 计分析 网络拉拉拉拉拉拉拉拉拉 **新加加利用**的新 Screenshots from SanDisk website re: About SanDisk CRX-0196 C Corporation [Sun Dep. Ex. 37] Sun, David Afirmative Defenses 11/5/2008 E-Mail from David Sun to Donald Sun re: Flash Update, CRX-0197 C September 7, 2007 [Sun Dep. Ex. 46] KTC00460947-00460948 Sun, David Afirmative Defenses 11/5/2008 Memo from David Sun to Richard Chernicoff re: card KTC00225086, KTC00562924 license agreement, October 26, 2007 [Sun Dep. Ex. 58] 00562931 CRX-0198 C Sun, David Afirmative Defenses 11/5/2008 CRX-0199 Withdrawn CRX-0200 Withdrawn CRX-0201 Withdrawn CRX-0202 Withdrawn CRX-0203 Taiwanese Patent 249,713 . Parsons, Gerald Affirmative Defenses 11/5/2008 Taiwan counterpart to '424 (not translated) [Parsons CRX-0204 C Dep. Ex. 17] Parsons, Gerald Affirmative Defenses 10/31/2008 Jerry Hausman Curriculum Vitae [Hausman Report Ex. CRX-0205 C 11 Affirmative Defenses Hausman, Jerry 11/4/2008 CRX-0206 Withdrawn CRX-0207 C Kingston Product Roadmap KTC 00292923-00292945 Hausman, Jerry Affirmative Defenses 11/21/2008 CRX-0208 Withdrawn CRX-0209 Withdrawn . CRX-0210 Withdrawn

Appendix A	
SanDisk Corporation's CRX List	

CRX-0211 European Patent 13352394 Thompson, Earle Affirmative Defenses 10/31/2008 CRX-0212 Withdrawn . CRX-0213 Withdrawn -CRX-0214 Withdrawn CRX-0215 Withdrawn CRX-0216 Withdrawn CRX-0217 Withdrawn CRX-0218 Withdrawn CRX-0219 C Rebuttal Witness Statement of Kevin Conley . Conley, Kevin 10/31/2008 Validity Validity/Affirmative CRX-0220 C Rebuttal Witness Statement of Dr. Eliyhou Harari Harari, Eli Defenses 11/3/2008 CRX-0221 C Rebuttal Witness Statement of Jerry Hausman 11/4/2008 Hausman, Jerry Affirmative Defenses CRX-0222 Withdrawn Rebuttal Witness Statement of Dr. Paul S. Min regarding validity of U.S. Patent 7,137,011 CRX-0223 C Min, Paul 11/4/2008 Validity CRX-0224 Withdrawn 10/27/2008 Rhyne, Thomas Validity CRX-0225 C Rebuttal Witness Statement of Dr. V. Thomas Rhyne

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CRX-0226	c	Rebuttal Witness Statement of Earle E. Thompson		Thompson, Earle	Affirmative Defenses	10/31/2008
CRX-0227		Letter from Thomas Ventrone to Michael Gruenglas et al. dated May 16, 2008 re SanDisk/Samsung matter	SD-1-3284962-3284963	Partlow, Gene/Thompson, Earle	Affirmative Defenses	11/4/2008
CRX-0228		Final Award in SanDisk/Samsung matter dated December 31, 2003	SD-I-3284964-3285005	Partlow, Gene/Thompson, Earle	Affirmative Defenses	11/4/2008
CRX-0229		Withdrawn				
CRX-0230		European Patent 1031992		Thompson, Earle	Affirmative Defenses	10/31/2008

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
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RX-43		WITHDRAWN		1	
RX-44		WITHDRAWN			
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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-79		WITHDRAWN			
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RX-110	1	WITHDRAWN			
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RX-112		WITHDRAWN			
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RX-114		WITHDRAWN			
RX-115	T	WITHDRAWN			
RX-116	1	WITHDRAWN			T

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Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-117		Ray Mercer Curriculum Vitae (Exh. 1 to Mercer Expert Report on Invalidity and Unenfirceability)			11/3/2008
RX-118		WITHDRAWN			
RX-119		Dennis G. Abraham et al., Transaction Security System (from IBM), IBM Systems Journal, June 1991 ("Abraham") (Exh. 3 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-120		Izawa et al., Digital Still Video Camera Using Semiconductor Memory Card, IEEE Transactions On Consumer Electronics, vol. 36, no. 1, February 1990 (Exh. 5 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-121		P. Harrop, The Electronic Purse, IEE Review June 1992 ("Harrop") (Exh. 6 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-122		Hiro Shogase, The Very Smart Card: A Plastic Pocket Bank, IEEE Spectrum (October 1988) ("Shogase") (Exh. 7 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-123		Patrice Peyret et al., Smart Cards Provide Very High Security And Flexibility In Subscribers Management, IEEE Transactions on Consumer Electronics, Vol. 36, No. 3, August 1990 ("Peyret") (Exh. 8 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-124		J.D. Tygar et al., Dyad: A System For Using Physically Secure Coprocessors, IP Workshop Proceedings, Carnegie Mellon University School of Computer Science Technical Report CMU-CS-91-140R (May 4, 1991) ("Tygar") (Exh. 9 to Mercer Expert Report on Invalidity	Invalidity and Unenforceability	Ray Mercer	11/3/2008

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-125		Electronics, Apr. 1988, 93-97 ("Maniscalco") (Exh. 10 to Mercer Expert Report on Invalidity and Unenforceability)		Ray Mercer	11/3/2008
RX-126	U	V.M. Cordonnier, Smart Cards: Present And Future Applications And Techniques, Electronics and Communication Engineering Journal (October 1991) ("Cordonnier") (Exh. 11 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-127		S.W. Smith and S. Weingart, Building A High- Performance, Programmable Secure Coprocessor, Computer Networks 31:831-860 (1999) ("Smith") (Exhibit 12) (Exh. 12 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-128		Telequip Corporation Introduces The Crypta Plus Card, PR Newswire (January 9, 1995) ("1995 Crypta Plus Press Release") (Exh. 12 to Mercer Expert Report on Invalidity and Unenforceability) (Exh. 13 to Mercer Expert Report on Invalidity and Unenforceability	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-129		Crypta Plus W/ RSA, Business Wire (January 31, 1994) at http://cypherpunks.venona.com/date/1994/02/ msg00375.html ("1994 Crypta Plus Press Release") (Exh. 14 to Mercer Expert Report on Invalidity and Unenforceability)	Unenforceability	Ray Mercer	11/3/2008
RX-130		U.S. Patent No. 5,623,637 (Exh. 15 to Mercer Expert Report on Invalidity and Unenforceability)	Invalidity and Unenforceability	Ray Mercer	11/3/2008
RX-131		WITHDRAWN			
RX-132		WITHDRAWN			
RX-133		WITHDRAWN			
RX-134		WITHDRAWN			

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-135		WITHDRAWN			
RX-136		WITHDRAWN			
RX-137		WITHDRAWN			
RX-138		WITHDRAWN			
RX-139		WITHDRAWN			
RX-140		WITHDRAWN		1	
RX-141		WITHDRAWN			1
RX-142		WITHDRAWN			
RX-143		WITHDRAWN		1	
RX-144		WITHDRAWN			
RX-145		WITHDRAWN			
<u>RX-146</u>		WITHDRAWN			
RX-147		WITHDRAWN			
RX-148		WITHDRAWN			
RX-149		WITHDRAWN			
RX-150		WITHDRAWN			
RX-151		WITHDRAWN			
RX-152		WITHDRAWN			1
RX-153		WITHDRAWN			
RX-154		WITHDRAWN			
RX-155		WITHDRAWN			
RX-156		WITHDRAWN			
RX-157		WITHDRAWN			
RX-158		WITHDRAWN			
RX-159		WITHDRAWN			
RX-160		WITHDRAWN			
RX-161		WITHDRAWN			
RX-162		WITHDRAWN			
RX-163		WITHDRAWN			
RX-164		WITHDRAWN			
RX-165		WITHDRAWN			
RX-166		WITHDRAWN			
RX-167		WITHDRAWN			1
RX-168		WITHDRAWN			1
RX-169		WITHDRAWN			1
RX-170		WITHDRAWN			
RX-171		WITHDRAWN	·		
RX-172		WITHDRAWN			
RX-173		WITHDRAWN			

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-174		WITHDRAWN			
RX-175		WITHDRAWN			
RX-176		WITHDRAWN			
RX-177		WITHDRAWN		· ·	
RX-178		WITHDRAWN			
RX-179		WITHDRAWN			
RX-180		WITHDRAWN			
RX-181		WITHDRAWN			
RX-182		WITHDRAWN			
RX-183		WITHDRAWN			
RX-184		WITHDRAWN			
RX-185		WITHDRAWN			
RX-186	[	WITHDRAWN			
RX-187	Ι	WITHDRAWN		· · · · · · · · · · · · · · · · · · ·	
RX-188	1	WITHDRAWN			
RX-189		WITHDRAWN			
RX-190	1	WITHDRAWN			
RX-191		WITHDRAWN			
RX-192	<u> </u>	WITHDRAWN			+
RX-193		WITHDRAWN			
RX-194	1	WITHDRAWN			
RX-195	<u> </u>	WITHDRAWN			
RX-196		WITHDRAWN			
RX-197	<u> </u>	WITHDRAWN			
RX-198		WITHDRAWN			
RX-199		WITHDRAWN			
RX-200		WITHDRAWN	· · · · · · · · · · · · · · · · · · ·		
RX-201		WITHDRAWN			
RX-202		WITHDRAWN		1	+
RX-202		WITHDRAWN			÷ · · ·
RX-203	<del> </del>	WITHDRAWN		· · · ·	
RX-204 RX-205	+	WITHDRAWN			+
RX-205					
RX-206 RX-207	<u> </u>	WITHDRAWN		·	
		WITHDRAWN			+
RX-208		WITHDRAWN			
RX-209	<u> </u>	WITHDRAWN			
RX-210	ļ	WITHDRAWN			
RX-211	L	WITHDRAWN		ļ	
RX-212	1	WITHDRAWN		]	

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admilled
RX-213		WITHDRAWN			
RX-214		WITHDRAWN			
RX-215		WITHDRAWN			
RX-216		WITHDRAWN			
RX-217		WITHDRAWN			
RX-218		WITHDRAWN			
RX-219		WITHDRAWN			
RX-220		WITHDRAWN		· ·	
RX-221		WITHDRAWN			
RX-222		WITHDRAWN			
RX-223		WITHDRAWN			
RX-224		WITHDRAWN			
RX-225		WITHDRAWN			
RX-226		WITHDRAWN	·····	· · · · · · · · · · · · · · · · · · ·	
RX-227		WITHDRAWN			
RX-228	-	WITHDRAWN			
RX-229		WITHDRAWN			
RX-230		WITHDRAWN			
RX-231		WITHDRAWN			
RX-232		WITHDRAWN		-	
RX-233		WITHDRAWN			
RX-234		WITHDRAWN			
RX-235		WITHDRAWN			
RX-236		WITHDRAWN			
RX-237		WITHDRAWN			
RX-238		WITHDRAWN			
RX-239		WITHDRAWN			1
RX-240		WITHDRAWN	· · ·		
RX-241		WITHDRAWN			
RX-242		WITHDRAWN		1	1
RX-243		WITHDRAWN		1	1
RX-244		WITHDRAWN			1
RX-245		WITHDRAWN			1
RX-246		WITHDRAWN	·····	1	
RX-247		WITHDRAWN		<b></b>	†
RX-248		WITHDRAWN		1	1
RX-249		WITHDRAWN		1	· ·
RX-250		WITHDRAWN			1
RX-251		WITHDRAWN			

Exhibit No.	CBI	Description		Purpose	Sponsoring Witness	Admitted
RX-252		WITHDRAWN				
RX-253		WITHDRAWN	1			
RX-254		WITHDRAWN		· · ·		
RX-255		WITHDRAWN	Ī			1
RX-256		WITHDRAWN	Ì			<u> </u>
RX-257		WITHDRAWN	Ĩ			
RX-258		WITHDRAWN	T			
RX-259		WITHDRAWN				
RX-260		WITHDRAWN				
RX-261		WITHDRAWN				
RX-262		WITHDRAWN				
RX-263		WITHDRAWN				ł
RX-264		WITHDRAWN				<u> </u>
RX-265		WITHDRAWN				
RX-266		WITHDRAWN			· · · · · · · · · · · · · · · · · · ·	
RX-267		WITHDRAWN				<u>}</u>
RX-268		WITHDRAWN				1
RX-269		WITHDRAWN				
RX-270		WITHDRAWN				<u> </u>
RX-271		WITHDRAWN				
RX-272		WITHDRAWN	ł		······	
RX-273		WITHDRAWN				1
RX-274		WITHDRAWN				
RX-275		WITHDRAWN				<u> </u>
RX-276		WITHDRAWN		······································		
RX-277		WITHDRAWN				<u></u>
RX-278	1	WITHDRAWN		<u> </u>		1
RX-279		WITHDRAWN		· · · ·		
RX-280		WITHDRAWN				<del> </del>
RX-281		WITHDRAWN				
RX-282	<u> </u>	WITHDRAWN				
RX-283		WITHDRAWN				+
RX-284	<u> </u>	WITHDRAWN				
RX-285		WITHDRAWN				†
RX-285	<u> </u>	WITHDRAWN				
RX-287	<u> </u>	WITHDRAWN				
RX-287	ł	WITHDRAWN			· · · · · · · · · · · · · · · · · · ·	
RX-289		WITHDRAWN				1
RX-289 RX-290						
KX-290	I	WITHDRAWN			I	

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Exhibit No.	CBI	Description	Purpose	Sponsoring Willness	Admitted
RX-291		WITHDRAWN			
RX-292		WITHDRAWN			1
RX-293		WITHDRAWN			
RX-294		WITHDRAWN			
RX-295		WITHDRAWN			
RX-296		WITHDRAWN			
RX-297		WITHDRAWN			
RX-298		WITHDRAWN			<b>+</b>
RX-299		WITHDRAWN			
RX-300		WITHDRAWN	·		
RX-301		WITHDRAWN			<b>†</b>
RX-302		WITHDRAWN			<u> </u>
RX-303		WITHDRAWN			
RX-304		WITHDRAWN			
RX-305		WITHDRAWN			
RX-306		WITHDRAWN			
RX-307	1	WITHDRAWN			
RX-308		WITHDRAWN			
RX-309		WITHDRAWN			
RX-310	1	WITHDRAWN			
RX-311		WITHDRAWN		······································	
RX-312		WITHDRAWN			
RX-313		WITHDRAWN			1
RX-314	1	WITHDRAWN		······	
RX-315	<u> </u>	WITHDRAWN			
RX-316	1	WITHDRAWN		······································	
RX-317	1	WITHDRAWN			
RX-318	С	Direct Witness Statement of Ray Mercer	Invalidity	Ray Mercer	11/3/2008
RX-319		WITHDRAWN	- Intrandity		1.110/2000
RX-320	1	WITHDRAWN	-		
RX-321	1	WITHDRAWN			+
RX-322		WITHDRAWN			
RX-323		WITHDRAWN			
RX-324	<u> </u>	WITHDRAWN			
RX-325	1	WITHDRAWN			
RX-326	<u> </u>	WITHDRAWN			
RX-327		WITHDRAWN			
RX-328		WITHDRAWN			+
RX-329	+	WITHDRAWN			
111-328	L			L	

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Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-330		WITHDRAWN			
RX-331		WITHDRAWN			
RX-332		WITHDRAWN		1	
RX-333		WITHDRAWN			
RX-334		WITHDRAWN			
RX-335		WITHDRAWN			
RX-336		WITHDRAWN			1
RX-337		WITHDRAWN		T	
RX-338		WITHDRAWN			<u> </u>
RX-339		WITHDRAWN		-	
RX-340		WITHDRAWN			
RX-341		WITHDRAWN			
RX-342		WITHDRAWN			<u> </u>
RX-343		WITHDRAWN			<u> </u>
RX-344	1	WITHDRAWN			<u> </u>
RX-345	-	WITHDRAWN			
RX-346		WITHDRAWN			
RX-347		WITHDRAWN			
RX-348		WITHDRAWN			<u>}</u>
RX-349		WITHDRAWN			
RX-350		WITHDRAWN			
RX-351	t	WITHDRAWN			<u> </u>
RX-352	t	WITHDRAWN			
RX-353		WITHDRAWN			
RX-354		WITHDRAWN			<u> </u>
RX-355		WITHDRAWN		1	
RX-356		WITHDRAWN			
RX-357		WITHDRAWN			<u> </u>
RX-358	t	WITHDRAWN	·······		
RX-359	<u> </u>	WITHDRAWN			}
RX-360	<u> </u>	WITHDRAWN		+	<u> </u>
RX-361		WITHDRAWN		+	<u> </u>
RX-362	ł	WITHDRAWN		·	t
RX-363	<u> </u>	WITHDRAWN			<u> </u>
RX-364		WITHDRAWN		+	<u> </u>
RX-365	<u> </u>	WITHDRAWN			<u> </u>
RX-366	<u> </u>	WITHDRAWN		+	
	<u> </u>				
RX-367	<u> </u>	WITHDRAWN			
RX-368		WITHDRAWN	L	1	<u> </u>

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Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-369		WITHDRAWN			
RX-370		WITHDRAWN			
RX-371		WITHDRAWN			
RX-372		WITHDRAWN		·	
RX-373		WITHDRAWN			
RX-374		WITHDRAWN			
RX-375		WITHDRAWN			
RX-376		WITHDRAWN			1
RX-377		WITHDRAWN			
RX-378		WITHDRAWN			
RX-379		WITHDRAWN			T .
RX-380		WITHDRAWN			
RX-381		WITHDRAWN			
RX-382		WITHDRAWN			
RX-383		WITHDRAWN			
RX-384		WITHDRAWN			
RX-385		WITHDRAWN			
RX-386		WITHDRAWN			
RX-387		WITHDRAWN			
RX-388		WITHDRAWN			
RX-389		WITHDRAWN			
RX-390		WITHDRAWN			
RX-391		WITHDRAWN			
RX-392		WITHDRAWN			1
RX-393		WITHDRAWN			1
RX-394		WITHDRAWN			1
RX-395		WITHDRAWN			
RX-396		WITHDRAWN			
RX-397		WITHDRAWN	· · ·		1
RX-398		WITHDRAWN			
RX-399	Τ	WITHDRAWN			
RX-400		WITHDRAWN			
RX-401	1	WITHDRAWN			
RX-402		WITHDRAWN		1	T
RX-403	1	WITHDRAWN			
RX-404	T	WITHDRAWN			
RX-405	1	WITHDRAWN			
RX-406	1	WITHDRAWN			
RX-407	1	WITHDRAWN			

h.

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-408		WITHDRAWN			
RX-409		WITHDRAWN			
RX-410		WITHDRAWN			
RX-411		WITHDRAWN		•	
RX-412		WITHDRAWN			· ·
RX-413		WITHDRAWN			
RX-414		WITHDRAWN			
RX-415		WITHDRAWN			
RX-416		WITHDRAWN			
RX-417		WITHDRAWN			
RX-418		WITHDRAWN			
RX-419		WITHDRAWN			
RX-420		WITHDRAWN			· · · · · · · · · · · · · · · · · · ·
RX-421		WITHDRAWN			
RX-422		WITHDRAWN			
RX-423	<u> </u>	WITHDRAWN			
RX-424		WITHDRAWN			
RX-425		WITHDRAWN			······································
RX-426		WITHDRAWN			
RX-427	<u> </u>	WITHDRAWN			
RX-428		WITHDRAWN			
RX-429		WITHDRAWN			
RX-430		WITHDRAWN			
RX-431		WITHDRAWN			
RX-432		WITHDRAWN			
RX-433		WITHDRAWN			
RX-434		WITHDRAWN			
RX-435		WITHDRAWN			
RX-436	<u> </u>	WITHDRAWN			
RX-437		WITHDRAWN			
RX-438	c	10/12/1995 - Cross-License Agreement	Express or implied	Daniel Auclair; Richard	11/5/2008
100-400		Between SanDisk and Intel Corporation [Exh.	license; Patent	Chernicoff; Earle Thompson	11/3/2000
		70 to Auclair Depo.; Exh. 11 to Chernlcoff	misuse	Chemicon, Eane mompson	
		Depo.] [SD-I-0300352 - SD-I-0300370]	Innouse		
		[Depo.j [3D-1-0300352 - 3D-1-0300370]			
RX-439		WITHDRAWN		· · ·	
RX-440		WITHDRAWN			
RX-441	I	WITHDRAWN			
RX-442	t	WITHDRAWN			

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-443		WITHDRAWN			
RX-444		WITHDRAWN			
RX-445		WITHDRAWN			
RX-446		WITHDRAWN			
RX-447	С	7/1/1998 - Patent Cross License Agreement	Express or implied	Daniel Auclair; Earle	10/31/2008
			license; Patent	Thompson	
		Technology [Exh. 79 to Auclair Depo., Exh.	misuse	•	
		152 to Thompson Depo.] [SD-I-2100053 - SD-			
		1-2100074]			
RX-448	C	7/18/2000 - Patent Cross License Agreement	Express or implied	Daniel Auclair; Earle	10/31/2008;
		Between SanDisk and TDK Corp [Exh. 82 to	license; Patent	Thompson	11/05/2008
		Auclair Depo.; Exh. 153 to Thompson Depo.]	misuse		
		[SD-I-2100075 - SD-I-2100090]			
RX-449		WITHDRAWN			
RX-450		WITHDRAWN			
RX-451		WITHDRAWN			
RX-452		WITHDRAWN			
RX-453	1	WITHDRAWN			
RX-454	1	WITHDRAWN			
RX-455		1/3/2008 - E-mail from Mr. Ladra to Most of	Express or implied	Richard Chernicoff	10/29/2008;
		the Other Respondents in the Case,	license; Patent		10/31/2008;
		Attaching a Limited Patent Cross-License	misuse		11/05/2008
		Agreement [Exh. 14 to Chernicoff Depo]			1 // 00/2000
RX-456		WITHDRAWN			
RX-457	С	7/30/1997 - Patent Cross License Agreement	Affirmative	Richard Chernicoff; Sanjay	10/31/2008
		Between SanDisk Corp and Toshiba Corp	Defenses	Mehrotra; Earle Thompson	
		[Exh. 8 to Chernicoff Depo.; Exh. 113 to			
		Mehrotra Depo.; Exh. 133 to Thompson			
		Depo.] [SD-I-0300485 - SD-I-0300513]			
RX-458	1	WITHDRAWN			
RX-459	1	5/23/2008 - Letter from Mr. Yoon, Counsel for	Express or implied	Richard Chernicoff; Gerald	11/5/2008
	1	SanDisk, to all Counsel [Exh. 5 to Chernicoff	license; Patent	Parsons	
	1	Depo.; Exh. 3 to Parsons Depo.]	misuse		
	<u> </u>	Depo.; Exh. 3 to Parsons Depo.]	misuse		

#### ITC INV. NO. 337-TA-619

Exhibit No	ÇŖI	Description	Purpose	Sponsoring Witness	Admitted
₹Х-460		4/30/2008 - Respondents Kingston, MemoSun, Payton, and Phison's Notice of Deposition of Complainant SanDisk Corporation [Exh. 2 to Chernicoff Depo.; Exh. 2 to Mangan Depo.; Exh. 91 to Mehrotra Depo.; Exh. 121 to Thompson Depo.; Exh. 1 to Tomlin Depo.; Exh. 1 to Parsons Depo; Exh. 3 to Conley Depo.]	Witness Background/Identific ation as corporate representative	Richard Chernicoff; Gerald Parsons; John Mangan; Sanjay Mehrotra; Earle Thompson; Andy Tomlin; Kevin Conley	11/5/2008
RX-461		5/2/2008 - Kingston, Phison's Second Notice of Deposition of Complainant SanDisk Corporation [Exh. 3 to Chernicoff Depo.; Exh. 2 to Parsons Depo.; Exh. 92 to Mehrotra Depo.; Exh. 122 to Thompson Depo.; Exh. 2 to Tomlin Depo.; Exh. 4 to Conley Depo.; Exh. 2 to Harari Depo.]	Witness Background/Identific ation as corporate representative	Richard Chernicoff; Gerald Parsons; John Mangan; Sanjay Mehrotra; Earle Thompson; Andy Tomlin; Kevin Conley; Eliyhou Harari	11/5/2008
RX-462	С	12/12/2002 - Agreement Between SanDisk and Samsung [Exh. 10 to Chernicoff Depo., Exh. 143 to Thompson Depo.] [SD-I-0300394 - SD-I-0300400]	Affirmative Defenses	Richard Chernicoff; Earle Thompson	11/5/2008
RX-463	С	8/14/2002 - Cross-License Agreement Between SanDisk and Samsung Corporation [Exh. 9 to Chernicoff Depo.] [SD-I-0300401 - SD-I-0300446]	Affirmative Defenses	Richard Chernicoff; Earle Thompson	11/5/2008
RX-464	C	1/2/2008 - Limited Patent Cross License Agreement Between SanDisk and PNY Technologies, Inc. [Exh. 157 to Thompson Depo.; Exh. 15 to Chernicoff Depo.; Exh. 21 to Harari Depo.] [SD-I-0909137 - SD-I- 0909158]	Affirmative Defenses	Richard Chernicoff; Earle Thompson; Ellyhou Harari	10/31/2008; 11/05/2008
RX-465	С	1/11/2008 - Patent Cross-License Agreement Entered Into With Supertron Memory [Exh. 16 to Chernicoff Depo.; Exh. 164 to Thompson Depo.] [SD-I-1786720 - SD-I-1786741]		Richard Chernicoff; Earle Thompson	10/31/2008

Exhibit No	<u>Ç</u> B1	Description	Purpose	Sponsoring Witness	Admitted
RX-466	C		Express or implied	Richard Chernicoff; Earle	10/31/2008
		Between Renesas Technology and SanDisk	license; Patent	Thompson	
		[Exh. 151 to Thompson Depo.; Exh. 12 to	misuse		
		Chernicoff Depo.] [SD-I-2100152 - SD-I-			
		2100164]			
RX-467	С	2/2/2000 - E-mail string, top e-mail to 9	Non-Infringement	Kevin Conley	11/5/2008
		various individuals from Ed Cuellar [Exh. 1 to			
		Conley Depo.] [SD-I-1850372 - SD-I-			
	<u> </u>	1850374]			
RX-468	<u> </u>	WITHDRAWN			
RX-469		WITHDRAWN			
RX-470	C	11/17/1997 - Document entitled "SunDisk	Non-infringement;	Kevin Conley	11/5/2008
		SDP-32 MBit 'Mizer' Logical Format Rev 7.3"	Lack of domestic		
		[Exh. 9 to Conley Depo.] [SD-I-2105944 - SD-	Industry		
	<u> </u>	I-2105975]			
RX-471		WITHDRAWN			
RX-472		WITHDRAWN			
RX-473		WITHDRAWN			
RX-474		WITHDRAWN			
RX-475	С	7/30/1998 - E-mail to various individuals from	Non-infringement;	Kevin Conley	11/5/2008
		Yoram Cedar [Exh. 18 to Conley Depo.] [SD-I-	Invalidity re U.S.		
		1859110 - SD-I-1859113]	Patent 6,763,424 &		
			U.S. Patent		
			6,426,893		
RX-476		WITHDRAWN			
RX-477		WITHDRAWN			
RX-478		WITHDRAWN			
RX-479	C	5/20/1996 - SanDisk Proprietary	Non-infringement;	Kevin Conley	11/5/2008
		Memorandum to Carlos G., John M., Steve	Invalidity re U.S.		
		G., 12 Kevin C., Jeff C. and Sanjay M. from	Patent 6,763,424 &		
	·	Dan G. [Exh. 25 to Conley Depo.] [SD-I-	U.S. Patent		
		1736871 - SD-I-1736880]	6,426,893		
RX-480	T	WITHDRAWN	I		ŀ
RX-481	С	4/1/2003 - E-mail from Alan Sinclair to Kevin	Non-infringement;	Kevin Conley	11/5/2008
	1	Conley [Exh. 29 to Conley Depo.] [SD-I-	Invalidity re U.S.		
	l	1902403 ]	Patent 6,763,424 &		
			U.S. Patent		
	1		6,426,893		

Exhibit No	CRI	Description	<u>Purpose</u>	Sponsoring Witness	Admitted
RX-482	C	2002-2003 - "Adaptive Metablocks" - [Exh. 30		Kevin Conley	11/5/2008
:		to Conley Depo.] [SD-I-1902420 - SD-I-	Invalidity re U.S.		
		1902445]	Patent 6,763,424 &		
		· ·	U.S. Patent		
			6,426,893		
RX-483		WITHDRAWN	·		
RX-484		WITHDRAWN			
RX-485		WITHDRAWN			
RX-486		WITHDRAWN			
RX-487		WITHDRAWN			
RX-488		WITHDRAWN	<u></u>	· ·	
RX-489		WITHDRAWN			
RX-490		WITHDRAWN		· · · · · · · · · · · · · · · · · · ·	
RX-491		WITHDRAWN		1	
RX-492		12/24/2007 - Card License Program -	Express or implied	Harari, Eliyhou	10/29/2008;
		SanDisk [Exh. 20 to Harari Depo.]	license; Patent		11/05/2008
			misuse		
RX-493	С	12/8/2006 - E-mail string from Eli Harari [Exh.		Eliyhou Harari	11/5/2008
		22 to Harari Depo.] [SD-I-3224980 - SD-I-	Express or implied		
		3224981]	license; Patent		
	1		misuse		
RX-494	С	7/19/2007 - FD Wire Q2 2007 SanDisk Corp.	Equitable defenses;	Eliyhou Harari	11/5/2008
		Earnings Conference Call [Exh. 23 to Harari	Express or implied		1
		Depo.] [SD-I-3269823 - SD-I-3269842]	license; Patent		
	1		misuse		Į
RX-495	С	11/6/2007 - SanDisk vs STM - Answer to	Equitable defenses;	Eliyhou Harari	11/5/2008
		Second Amended Complaint and	Express or implied		
		Counterclaims [Exh. 24 to Harari Depo.] [SD-I			4
		3134969 - SD-I-3135009]	misuse; Non-		
			infringement;		
			Invalidity re U.S.		
			Patent 6,763,424 &		
			U.S. Patent		
			6,426,893		
RX-496	t c	2/22/2007 - E-mail string from Eli Harari [Exh.		Eliyhou Harari	11/5/2008
	Ĭ	25 to Harari Depo.] [SD-I-3269929]	Express or implied		
		Le to i latan peperi (op-r-organa)	license; Patent	1	
	1		<b>)</b>	1	
	1		misuse	l	

Exhibit No.	CBI	Description	Furpose	Sponsoring Witness	Admitted
RX-497	C	8/16/2007 - E-mail string from Eli Harari [Exh.	Equitable defenses;	Eliyhou Harari	11/5/2008
		28 to Harari Depo.] [SD-I-3213226]	Express or implied	-	
i			license; Patent		
			misuse		
RX-498	С	10/29/2006 - E-mail string from Dov Moran	Equitable defenses;	Eliyhou Harari	11/5/2008
		[Exh. 29 to Harari Depo.] [SD-I-3147765 - SD-	Express or implied	-	
		I-3147766]	license; Patent		
	<u> </u>		misuse		
RX-499		WITHDRAWN	-		
RX-500		WITHDRAWN			
RX-501		WITHDRAWN			
RX-502		WITHDRAWN			
RX-503		WITHDRAWN			
RX-504		WITHDRAWN			
RX-505		WITHDRAWN			
RX-506		WITHDRAWN			
RX-507		WITHDRAWN			
RX-508		WITHDRAWN			
RX-509		WITHDRAWN			
RX-510		WITHDRAWN			
RX-511		WITHDRAWN			
RX-512		WITHDRAWN			
RX-513		WITHDRAWN			
RX-514		WITHDRAWN			
RX-515		WITHDRAWN			
RX-516		WITHDRAWN			
RX-517		WITHDRAWN			
RX-518		WITHDRAWN			
RX-519		WITHDRAWN			
RX-520		WITHDRAWN			
RX-521		WITHDRAWN		İ	
RX-522		WITHDRAWN			
RX-523		WITHDRAWN			
RX-524	1	WITHDRAWN		1	
RX-525		WITHDRAWN		1	
RX-526	C	5/27/2008 - Letter to Hatsumi/Toshiba From	Affirmative	Sanjay Mehrotra; E. Earle	10/31/2008
		Thompson/SanDisk [Exh. 105 (corrected	Defenses	Thompson	
	1	exhibit) to Mehrotra Depo.] [KTC00570665]			
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ITC INV. NO. 337-TA-619

Exhibit No.	CBI	Description	Purpose	2 Sponsoring Witness	Admitted
RX-527		WITHDRAWN			
RX-528		WITHDRAWN			
RX-529		WITHDRAWN	· · ·		
RX-530		WITHDRAWN			
RX-531		WITHDRAWN			
RX-532		WITHDRAWN			
RX-533		WITHDRAWN			
RX-534		WITHDRAWN			
RX-535		WITHDRAWN		·	
RX-536		WITHDRAWN			
RX-537		WITHDRAWN			
RX-538		WITHDRAWN			+
RX-539		WITHDRAWN			
RX-540		WITHDRAWN			
RX-541		WITHDRAWN			
RX-542		WITHDRAWN			
RX-543	С	Limited Patent Cross License Agreement	Affirmative	Sanjay Mehrotra; Gene	10/31/2008;
		[Exh. 95 to Mehrotra Depo.] [SD-I-1258229 -	Defenses	Partiow	1/05/2008
		SD-I-1258248]			1/05/2000
RX-544	<u> </u>	WITHDRAWN			
RX-545		WITHDRAWN			
RX-546		WITHDRAWN			
RX-547	1	WITHDRAWN			
RX-548	С	11/29/2006 - Email - Subject: "Confidential"	Express or implied	Sanjay Mehrotra	11/5/2008
		[Exh. 109 to Mehrotra Depo.] [SD-I-3134179]	license: Patent	Canjay werrouta	11/0/2000
			misuse; Domestic		
			industry		
RX-549	C	11/14/2000 - Agreement Between SanDisk	Express or implied	Sanjay Mehrotra; Earle	10/31/2008
		Corp and Lexar Media, Inc. [Exh. 114 to	license; Patent	Thompson	10/3/12000
		Mehrotra Depo.; Exh. 145 to Thompson	misuse; Domestic	Thompson	
		Depo.] [SD-I-2100091 - SD-I-2100096]	Industry		
RX-550		WITHDRAWN			
RX-551	<u> </u>	WITHDRAWN	<u> </u>		
RX-552	<u> </u>	WITHDRAWN			
RX-553	<u>}</u>	WITHDRAWN		+	
RX-554		WITHDRAWN	<b> </b>		
RX-555	<u> </u>	WITHDRAWN			
RX-556		WITHDRAWN	<u> </u>		
RX-557	1	WITHDRAWN	L		1

Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-558		WITHDRAWN			
RX-559		WITHDRAWN			
RX-560		WITHDRAWN			
RX-561		WITHDRAWN			
RX-562		WITHDRAWN			
RX-563		WITHDRAWN			
RX-564		WITHDRAWN			
RX-565		WITHDRAWN			
RX-566		WITHDRAWN			
RX-567		WITHDRAWN			
RX-568		WITHDRAWN			1
RX-569		WITHDRAWN			
RX-570		WITHDRAWN			
RX-571		WITHDRAWN			
RX-572		WITHDRAWN		· · ·	
RX-573		WITHDRAWN			
RX-574		WITHDRAWN			
RX-575		WITHDRAWN			
RX-576		WITHDRAWN			
RX-577		WITHDRAWN			
RX-578		WITHDRAWN			·
RX-579		WITHDRAWN			
RX-580		WITHDRAWN			
RX-581		WITHDRAWN			
RX-582		WITHDRAWN			
RX-583		WITHDRAWN	· · · · ·		
RX-584		WITHDRAWN	_		
RX-585		10/13/1998 - U.S. Patent 5,822,781	Invalidity re U.S.	Niles Kynett	11/3/2008
		[PEC00012238 - PEC00012279]	Patent 6,763,424		
RX-586		WITHDRAWN			
RX-587		WITHDRAWN			
RX-588		WITHDRAWN			
RX-589		WITHDRAWN			T
RX-590		WITHDRAWN			
RX-591		WITHDRAWN			
RX-592		WITHDRAWN			
RX-593	1	WITHDRAWN		T	
RX-594		WITHDRAWN			
RX-595	T	WITHDRAWN		1	

Exhibit No.	CB!	Description	Purpose	Sponsoring Witness	Admitted
RX-596		WITHDRAWN			
RX-597		WITHDRAWN	_		
RX-598		WITHDRAWN		[	
RX-599		WITHDRAWN			
RX-600		WITHDRAWN			
RX-601		WITHDRAWN			1
RX-602		WITHDRAWN			1
RX-603		WITHDRAWN			
RX-604		WITHDRAWN			1
RX-605		WITHDRAWN			
RX-606		WITHDRAWN			
RX-607		WITHDRAWN			
RX-608		WITHDRAWN	······		
RX-609		WITHDRAWN	·		
RX-610		WITHDRAWN	·····	······································	
RX-611		WITHDRAWN			
RX-612		WITHDRAWN			
RX-613		11/16/1999 - U.S. Patent 5,987,563	Invalidity re U.S.	Richard Pashley; Niles	11/3/2008
		[PEC00016051 - PEC00016060]		Kynett	11/0/2000
RX-614		WITHDRAWN		1	
RX-615		WITHDRAWN		1	
RX-616		WITHDRAWN			- <u> </u>
RX-617		WITHDRAWN		1	
RX-618		WITHDRAWN		1	
RX-619		WITHDRAWN			
RX-620		WITHDRAWN			
RX-621		WITHDRAWN		1	
RX-622		4/17/2001 - U.S. Patent 6,219,752	Invalidity re U.S.	Niles Kynett	11/3/2008
		[PEC00023199 - PEC00023222]	Patent 6,763,424		1110,2000
RX-623		WITHDRAWN			
RX-624		WITHDRAWN			
RX-625		2/17/1998 - U.S. Patent 5,719,808	Invalidity re U.S.	Niles Kynett	11/3/2008
1 V \-UAV		[PEC00025159 - PEC00025174]	Patent 6,763,424		11/0/2000
RX-626		WITHDRAWN	1 dioni 0,100,724	1	
RX-627		WITHDRAWN		1	-
RX-628		4/20/2004 - U.S. Patent 6,725,321	Invalidity re U.S.	Niles Kynett	11/3/2008
101-010		[PEC00025875 – PEC00025914]	Patent 6,763,424	I WIGO I YHOU	1 10/2000

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-629		WITHDRAWN			
RX-630		WITHDRAWN			
RX-631		WITHDRAWN			
RX-632		WITHDRAWN			
RX-633		WITHDRAWN			
RX-634		WITHDRAWN			
RX-635		WITHDRAWN			
RX-636		WITHDRAWN			
RX-637		WITHDRAWN			
RX-638		WITHDRAWN			
RX-639		WITHDRAWN			
RX-640		WITHDRAWN		· ·	
RX-641		WITHDRAWN		1	1
RX-642		WITHDRAWN			
RX-643		WITHDRAWN			
RX-644		WITHDRAWN		1	
RX-645	1	WITHDRAWN		1	
RX-646		WITHDRAWN		1	
RX-647		WITHDRAWN			
RX-648		WITHDRAWN			
RX-649	1	WITHDRAWN			
RX-650	1	WITHDRAWN			
RX-651		WITHDRAWN			
RX-652	T	WITHDRAWN			
RX-653	1	WITHDRAWN			
RX-654		WITHDRAWN			
RX-655		WITHDRAWN			
RX-656		WITHDRAWN	· · · · · · · · · · · · · · · · · · ·		1.
RX-657	1	WITHDRAWN			
RX-658		WITHDRAWN			
RX-659	1	5/6/1997 - U.S. Patent 5,627,783	Invalidity re U.S.	Niles Kynett	11/3/2008
	1	[PEC01091058 - PEC01091081]	Patent 6,763,424		11/0/2000
RX-660	<u> </u>	WITHDRAWN			-
RX-661		WITHDRAWN			1
RX-662	1	10/28/1997 - U.S. Patent 5,682,499	Invalidity re U.S.	Niles Kynett	11/3/2008
		[PEC01091181 - PEC01091196]	Patent 6,763,424		1 1/0/2000
RX-663		WITHDRAWN			
RX-664		WITHDRAWN			
RX-665		WITHDRAWN	·····		
100-000	L				

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-666		WITHDRAWN			1
RX-667		WITHDRAWN			1
RX-668		WITHDRAWN			
RX-669		WITHDRAWN			
RX-670		WITHDRAWN			-
RX-671		WITHDRAWN	······································		1
RX-672		WITHDRAWN			
RX-673		WITHDRAWN			+
RX-674		WITHDRAWN		······································	+
RX-675	1	WITHDRAWN			
RX-676	1	WITHDRAWN			
RX-677		WITHDRAWN			
RX-678		WITHDRAWN			+
RX-679	T	WITHDRAWN			1
RX-680	1	WITHDRAWN			
RX-681	1	WITHDRAWN			
RX-682	1	WITHDRAWN			+
RX-683	1	9/11/2001 - U.S. Patent 6,288,862	Invalidity re U.S.	Niles Kynett	11/3/2008
		[PEC01091675 - PEC01091686]	Patent 6,763,424	Thes Ryneu	11/3/2000
RX-684		WITHDRAWN	1 dtoint 0,100,424		
RX-685	1	WITHDRAWN			
RX-686		WITHDRAWN		······································	
RX-687		WITHDRAWN			
RX-688	1	WITHDRAWN			
RX-689		WITHDRAWN			+
RX-690		WITHDRAWN			
RX-691		WITHDRAWN			+
RX-692	1	WITHDRAWN			
RX-693		WITHDRAWN			
RX-694	t	WITHDRAWN			
RX-695	<u> </u>	WITHDRAWN		+	
RX-696	1	WITHDRAWN			
RX-697	<u> </u>	WITHDRAWN			
RX-698	t	WITHDRAWN		+	
RX-699	<u> </u>	WITHDRAWN	·····		
RX-700	+	WITHDRAWN			
RX-701	<u> </u>	6/24/2003 - U.S. Patent 6,584,579	Invalidity re U.S.	Niles Kynett	11/3/2008
12-701		[PEC01092165 - PEC01092232]	Patent 6,763,424		1 (13/2000
RX-702	1	WITHDRAWN			

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Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-703		WITHDRAWN			
RX-704		WITHDRAWN			
RX-705		WITHDRAWN			1
RX-706		WITHDRAWN			
RX-707		WITHDRAWN			
RX-708		WITHDRAWN		1	
RX-709		WITHDRAWN			1
RX-710		WITHDRAWN	· · · · ·		1
RX-711		WITHDRAWN			
RX-712		WITHDRAWN			
RX-713		WITHDRAWN			
RX-714		WITHDRAWN			
RX-715		WITHDRAWN		······································	
RX-716		WITHDRAWN			
RX-717		WITHDRAWN			
RX-718		WITHDRAWN	1		
RX-719		WITHDRAWN			
RX-720		WITHDRAWN			
RX-721		WITHDRAWN			
RX-722		WITHDRAWN			
RX-723		WITHDRAWN			
RX-724		WITHDRAWN			
RX-725		WITHDRAWN			1
RX-726	С	SanDisk Card License Program - 10/24/2007	Express or implied license; Patent misuse	Earle Thompson	11/5/2008
RX-727		WITHDRAWN	1		
RX-728	С	1/4/2008 - Agreement Between SanDisk and	Express or implied	Earle Thompson	10/31/2008
		[Kaser Corp [Exh. 163 to Thompson Depo.]	license; Patent		
		[SD-I-0909116 - SD-I-0909136]	misuse		
RX-729		WITHDRAWN			
RX-730	1	WITHDRAWN		· · · · · · · · · · · · · · · · · · ·	
RX-731		WITHDRAWN	T		
RX-732		WITHDRAWN			
RX-733	1	WITHDRAWN	1		
RX-734	1	WITHDRAWN			
RX-735	t	WITHDRAWN			
RX-736	1	WITHDRAWN		1	1

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Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-737	С	1/8/2008 - Limited Patent Cross License	Affirmative	Earle Thompson	10/31/2008
		Agreement Between SanDisk and TSR	Defenses		
		Silicon Resources, Inc. [Exh. 158 to			
		Thompson Depo.] [SD-I-1786678 - SD-I-			
		1786698]			
RX-738	C	1/9/2008 - Limited Patent Cross License	Affirmative	Earle Thompson	10/31/2008
	1	Agreement Between SanDisk and Add-On	Defenses	1	
		Computer Peripherals, LLC [Exh. 162 to			
		Thompson Depo.] [SD-I-1786699 - SD-I-			
DV 700	Ļ	1786719]			
RX-739	<u> </u>	WITHDRAWN			
RX-740	ļ	WITHDRAWN			
RX-741		WITHDRAWN			
RX-742	<u> </u>	WITHDRAWN			
RX-743		WITHDRAWN			
RX-744	С	1/17/2008 - Limited Patent Cross License	Affirmative	Earle Thompson	10/31/2008
			Defenses		
		Media Corporation [Exh. 160 to Thompson			
		Depo.] [SD-I-2100165 - SD-I-2100185]			
RX-745	t c	1/17/2008 - Limited Patent Cross License	Affirmative	Earle Thompson	10/31/2008
		Agreement Between SanDisk and EDGE	Defenses		
		Tech Corporation [Exh. 159 to Thompson			
		Depo.] [SD-I-2100186 - SD-I-2100207]			
RX-746	С	1/16/2008 - Limited Patent Cross License	Affirmative	Earle Thompson	10/31/2008
		Agreement Between SanDisk and Welldone	Defenses		
		Company [Exh. 161 to Thompson Depo.] [SD-			
		I-2100208 - SD-I-2100228]			
RX-747		WITHDRAWN			
RX-748		WITHDRAWN			
RX-749		WITHDRAWN			
RX-750	С	9/10/2004 - "Operating Agreement of Flash	Express or Implied	Earle Thompson	10/31/2008
		Partners, Ltd. Between Toshiba and	License; Patent		
		SanDisk" [Exh. 140 to Thompson Depo.] [SD-	misuse		
		I-2272121 - SD-I-2272171			

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-751	С	9/10/2004 - "Amendment No. 3 to Patent Cross License Agreement" [Exh. 138 to Thompson Depo.] [SD-I-2272300 - SD-I- 2272302]	Express or Implied License; Patent misuse	Earle Thompson	10/31/2008
RX-752	С	5/9/2000 - "Amendment to Patent Cross License Agreement" Between SanDisk and Toshiba [Exh. 134 to Thompson Depo.] [SD-I- 2272579 - SD-I-2272585]	Express or Implied License; Patent misuse	Earle Thompson	10/31/2008
RX-753	С	4/10/2002 - "New Master Agreement By and	Express or Implied License; Patent misuse	Earle Thompson	10/31/2008
RX-754	С	4/10/2002 - "New Operating Agreement Between Toshiba and SanDisk" [Exh. 137 to Thompson Depo.] [SD-I-2272757 - SD-I- 2272795]	Express or Implied License; Patent misuse	Earle Thompson	10/31/2008
RX-755	С	4/10/2002 - "Amendment No. 2 to Patent Cross License Agreement [Exh. 136 to Thompson Depo.] [SD-I-2272908 - SD-I- 2272911]	Express or Implied License; Patent misuse	Earle Thompson	10/31/2008; 11/05/2008
RX-756		WITHDRAWN			
RX-757		WITHDRAWN			
RX-758	С	8/23/2005 - Slide presentation titled Standard & Poor's [Exh. 193 to Thompson Depo.] [SD-I 3249844 - SD-I-3249924]		Earle Thompson	11/5/2008
RX-759		WITHDRAWN			
RX-760		WITHDRAWN	T T		
RX-761		WITHDRAWN			1
RX-762		WITHDRAWN			
RX-763		WITHDRAWN			
RX-764		WITHDRAWN			
RX-765		WITHDRAWN			
RX-766	С	11/14/2006 - Correspondence from Jay Shim (VP - Samsung) to Charles Van Orden (SanDisk) re negotiations [Exh. 216 to Thompson Depo.] [SD-I-3148130 - SD-I- 3148131]	Express or Implied license; patent misuse	Earle Thompson	11/4/2008; 11/05/2008

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-767	С	11/29/2006 - Email String beginning with - Subject: "Confidential" [Exh. 217 to Thompson Depo.] [SD-I-3134179 - SD-I- 3134219]	Express or Implied license; patent misuse	Earle Thompson	11/5/2008
RX-768	С	1/11/2007 - Correspondence from Jay Shim (VP - Samsung) to Earle Thompson [Exh. 218 to Thompson Depo.] [SD-I-3153816]	Express or Implied license; patent misuse	Earle Thompson	11/5/2008
RX-769	С	2/15/2007 - Correspondence from Jay Shim (VP - Samsung) to Earle Thompson [Exh. 219 to Thompson Depo.; Exh. 26 to Harari Depo.] [SD-I-3153815]	Express or Implied license; patent misuse	Earle Thompson; Eliyhou Harari	11/5/2008
RX-770	С	6/20/2007 - SamSung / SanDisk Meeting - Seoul [Exh. 220 to Thompson Depo.] [SD-I- 3130320 - SD-I-3130337]	Express or Implied license; patent misuse	Earle Thompson	11/5/2008
RX-771	С	7/4/2007 - E-mail Correspondence from Jay Shim attaching SanDisk Proposal [Exh. 221 to Thompson Depo.] [SD-I-3214649 - SD-I- 3214658]	Express or Implied license; patent misuse	Earle Thompson	11/5/2008
RX-772		WITHDRAWN			
RX-773	С	11/14/2007 - E-mail Correspondence from Sanjay Mehrotra to Eli Harari attaching Samsung Concerns.pdf and SanDisk termsheet.pdf [Exh. 223 to Thompson Depo.; Exh. 27 to Harari Depo.] [SD-I-3244984 - SD- I-3244997]	Express or Implied license; patent misuse	Earle Thompson; Eliyhou Harari	11/5/2008
RX-774		WITHDRAWN			
RX-775	C	9/10/2004 - Various License Agreements Entered Into Between Toshiba and SanDisk [Exh. 139 to Thompson Depo.; Exh. 7 to Chernicoff Depo.] [SD-I-2272049 - SD-I- 2272106]	Express or Implied license; patent misuse	Earle Thompson; Richard Chernicoff	10/31/2008; 11/05/2008
RX-776	С	6/30/2007 - Limited Patent Cross License Agreement Between SanDisk and Ritek Corporation [Exh. 156 to Thompson Depo.; Exh. 110 to Mehrotra Depo.] [SD-I-0300371 - SD-I-0300392]	Express or Implied license; patent misuse	Earle Thompson; Sanjay Mehrotra	10/31/2008; 11/05/2008

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-777	С	6/1/2008 - Kingston Competitive Analysis [Exh. 13 to Harari Depo.] [SD-I- 3266127 - SD-I- 3266139]	Affirmative Defenses	Eliyhou Harari	10/31/2008
RX-778		WITHDRAWN			
RX-779		WITHDRAWN			
RX-780	С	7/15/2008 - E-mail from Michael Pape to Mr. Yoon [Exh. 5 to Tomlin Depo.]	Witness Background/Identific ation as corporate representative	Andy Tomlin	11/5/2008
RX-781		WITHDRAWN			-
RX-782	С	Demonstrative Exhibit Titled "Block 0" [Exh. 8 to Tomlin Depo.]	Non-Infringement Defenses; Invalidity re U.S. Patent 6,763,424 & U.S. Patent 6,426,893; Domestic Industry	Andy Tomlin	11/5/2008
RX-783	C	Demonstrative Exhibit Titled [Exh. 9 to Tomlin Depo.]	Non-Infringement Defenses; Invalidity re U.S. Patent 6,763,424 & U.S. Patent 6,426,893; Domestic Industry	Andy Tomlin	11/5/2008
RX-784	С	Demonstrative Exhibit Titled "Block 10" [Exh. 10 to Tomlin Depo.]	Non-Infringement Defenses; Invalidity re U.S. Patent 6,763,424 & U.S. Patent 6,426,893; Domestic Industry	Andy Tomlin	11/5/2008
RX-785		WITHDRAWN			

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-786	С		Non-Infringement	Andy Tomlin	11/5/2008
		to Tomlin Depo.] [SD-I-0802973 - SD-I-	Defenses; Invalidity		
		0803062]	re U.S. Patent		
	[		6,763,424 & U.S.		
		٦.	Patent 6,426,893;		
			Domestic Industry		
RX-787		WITHDRAWN			
RX-788		WITHDRAWN			
RX-789		WITHDRAWN			
RX-790		WITHDRAWN			
RX-791		WITHDRAWN			1
RX-792		WITHDRAWN			
RX-793		WITHDRAWN			
RX-794		WITHDRAWN			
RX-795		WITHDRAWN			1
RX-796		WITHDRAWN			
RX-797		WITHDRAWN			
RX-798		WITHDRAWN		1	
RX-799		WITHDRAWN			
RX-800		WITHDRAWN		1	
RX-801		WITHDRAWN			
RX-802	C	11/14/2000 - Agreement between SanDisk	Affirmative	Eliyhou Harari	10/31/2008
		and Lexxar Corporation [SD-I- 2100097 - SD-	Defenses	-	
		I- 2100100]			
RX-803		CV of Russell W. Mangum III [Ex. 1 to the	Express or implied	Russell Mangum III	11/4/2008
		2008-08-08 Expert Report of Dr. Russell	license; Patent	-	
		Mangum III]	misuse		
RX-804	С	Documents Received for Expert Report of Dr.	Express or implied	Russell Mangum III	11/4/2008
		Russell W. Mangum, III Regarding	license; Patent		
		Complainant SanDisk's Licensing Practices	misuse		
		[Exh. 2 to the 2008-08-08 Expert Report of			
·		Dr. Russell Mangum III]			
RX-805		Comparison Chart of RS3 Flash Drives and	Express or implied	Russell Mangum III	11/4/2008
		External hard drives by storage capacity	license; Patent		
		[Exh. 3 to the 2008-08-08 Expert Report of	misuse		
		Dr. Russell Mangum III]			

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-806	С	Kingston Flash Memory Profits - Global	Express or implied	Russell Mangum III	11/4/2008
		Consolidated - [Exh. 4 to the 2008-08-08	license; Patent		
	,	Expert Report of Dr. Russell Mangum III]	misuse		
RX-807	С	Kingston Flash Memory Profits - US [Exh. 5	Express or implied	Russell Mangum III	11/4/2008
		to the 2008-08-08 Expert Report of Dr.	license; Patent	-	
		Russell Mangum III]	misuse		
RX-808	С	Kingston Flash Memory Profits - Net of	Express or implied	Russell Mangum III	11/4/2008
		SanDisk Royalty [Exh. 6 to the 2008-08-08	license; Patent		
		Expert Report of Dr. Russell Mangum []]	misuse		
RX-809	С	Exhibit 7: Kingston Flash Memory Profits,	Express or implied	Russell Mangum III	11/4/2008
		Excl. SD, US (Company 1 & 5 Domestic)	license; Patent		
			misuse		
RX-810	С	Kingston Flash Memory Profits Excl. SD - US	Express or implied	Russell Mangum III	11/4/2008
		& Net of SanDisk Royalty (80% & 50%	license; Patent		
	]	devices) [Exh. 8 to the 2008-08-08 Expert	misuse		
		Report of Dr. Russell Mangum III]			
RX-811		WITHDRAWN			
RX-812		WITHDRAWN			
RX-813		WITHDRAWN	Ť		
RX-814		WITHDRAWN			
RX-815		CV of V. Niles Kynett [Exh. 8 to the Expert	Invalidity re U.S.	Niles Kynett	11/3/2008
		Report of V. Niles Kynett]	Patent 6,763,424		{
RX-816		WITHDRAWN		1	
RX-817		WITHDRAWN			
RX-818		WITHDRAWN		1	
RX-819		WITHDRAWN			
RX-820	1	WITHDRAWN			
RX-821		CV of Dr. Vivek Subramanian [Exh. 1 to the	Non-Infringement	Vivek Subramanian	11/3/2008
		Rebuttal Expert Report on Non-Infringement	Defenses		
		of Vivek Subramanian]			
RX-822	1	Dr Vivek Subramanian List of Publications	Non-Infringement	Vivek Subramanian	11/3/2008
		and Patents [Exh. 2 to the Rebuttal Expert	Defenses		
		Report on Non-Infringement of Vivek			
	Į	Subramanian]			
RX-823	1	List of Documents Considered by Dr Vivek	Non-Infringement	Vivek Subramanian	11/3/2008
	l ·	Subramanian [Exh. 3 to the Rebuttal Expert	Defenses		110/2000
		Report on Non-Infringement of Vivek			
	1	Subramanian]		1	
	L		1		

Exhibit No	CBI	Description	Purposa	Sponsoring Witness	Admitted
RX-824	С	2008-08-22 Declaration of JY Yang Regarding the Operation of Phison's 2231 and 3006 Flash Memory Controllers [Exh. 5 to the Rebuttal Expert Report on Non- Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-825	С	2008-08-05 Declaration of James Lee Iso Rebuttal Expert Report of Vivek Subramanian [Exh. 6 to the Rebuttal Expert Report on Non- Infringement of Vivek Subramanian]		Vivek Subramanian	11/3/2008
RX-826		"Definition of 'a'" - Compact Oxford English Dictionary 3rd Ed 2005 [Exh. 7 to the Rebuttal Expert Report on Non-Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-827	C	Phison 3006 Writesectors [Exh. 8 to the Rebuttal Expert Report on Non-Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-828	С	Phison - 2231 - flash2b0 [Exh. 9 to the Rebuttal Expert Report on Non-Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-829	С	Phison - 2231 - partialWB5 [Exh. 11 to the Rebuttal Expert Report on Non-Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-830	C	Phison - 3006 - ReadSectors [Exh. 12 to the Rebuttal Expert Report on Non-Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-831	С	Phison - 3006 - ClearMCToNewBlock [Exh. 13 to the Rebuttal Expert Report on Non- Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-832	C	Phison - 2231 - rwsecrb2 [Exh. 14 to the Rebuttal Expert Report on Non-Infringement of Vivek Subramanian]	Non-Infringement Defenses	Vivek Subramanian	11/3/2008
RX-833		WITHDRAWN			
RX-834		WITHDRAWN			
RX-835	C	The NPD Group, Inc., 2008 Report of top producer brands of consumer flash products through US retail and etail [KTC 00571717 - KTC 00571720]	Express or implied license; Patent misuse	Russell Mangum III	10/29/2008
RX-836	1	WITHDRAWN	1		

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Exhibit No	C₿I	Description	Purpose	Sponsoring Witness	Admitted
RX-837		Christopher Falan Yinug, "The Rise of the Flash Memory Market: It's Impact on Firm Behavior and Global Semiconductor Trade Patterns," United States International Trade Commission, Journal of International Commerce and Economics, July 2007 [KTC 00571793-816	Express or implied license; Patent misuse	Russell Mangum III	11/4/2008
RX-838		Kingston, Flash Memory Guide, "http://www.kingston.com/products/pdf_files/F lashMemGuide.pdf" [KTC 00571777-571789]	Express or implied license; Patent misuse	Russell Mangum III	10/29/2008
RX-839	С	October 2005 - Stock Analysis Presentation [SD-I- 3208907- SD-I- 3208968]	Express or implied license; Patent misuse	Russell Mangum III; Eliyhou Harari	10/31/2008
RX-840	С	Web-Feet Research, Inc., Flash Memory Applications and Markets: 2005-2010 - Niebel, Alan [SD-I- 00910704 - SD-I- 00910918]	Express or implied license; Patent misuse	Russell Mangum III; Eliyhou Harari	10/31/2008
RX-841		Tiger Direct "http://www.tigerdirect.com" [KTC 00571721-571776]	Express or implied license; Patent misuse	Mangum III, Russell	11/4/2008
RX-842	С	2007-06-04 - Gartner/Dataquest Insight: Final 2006 Memory Market Share Rankings [SD-I- 0933294-933316]	Express or implied license; Patent misuse	Russell Mangum III; Eliyhou Harari	10/31/2008
RX-843		WITHDRAWN			
RX-844		"Industrial Organization, A Strategic Approach", by Jeffrey Church and Roger Ware, 2000	Express or Implied license; Patent misuse	Russell Mangum III	11/4/2008
RX-845		"Modern Industrialization" by Dennis Carlton and Jeffrey Perloff, 4th Edition, 2005	Express or implied license; Patent misuse	Russell Mangum III	11/5/2008
RX-846		WITHDRAWN			
RX-847	С	Kingston - Flash Memory Income Statements [KTC 00571714-00571716]	Express or implied license; Patent misuse	Russell Mangum III; Darwin Chen	10/29/2008
RX-848	С	2004 Kingston Flash Competitive Analysis [KTC00100191-KTC00100194]	Express or implied license; Patent misuse	Russell Mangum III	10/29/2008
RX-849	1	WITHDRAWN			

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	j Admitted
RX-850		WITHDRAWN			1
RX-851		WITHDRAWN			
RX-852		WITHDRAWN			
RX-853		WITHDRAWN			
RX-854	С	2007-01-02 Letter correspondence from Earle Thompson to Jay Shim [SD-I-3271003 - SD-I- 3271005]	Affirmative defenses	Earle Thompson	11/4/2008
RX-855		WITHDRAWN			
RX-856	1	WITHDRAWN			
RX-857	1	WITHDRAWN			
RX-858		WITHDRAWN			
RX-859	[	WITHDRAWN			
RX-860		List of documents considered - Appendix C to the Expert Report on Claim Construction by Dr. Vivek Subramanian	Claim Construction; Noninfringement; Invalidity	Vivek Subramanian	11/3/2008
RX-861		Excerpts from the 5,663,901 FH [Exh. I to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Noninfringement; Invalidity	Vivek Subramanian	11/3/2008
RX-862	,	1989-02-16 An Experimental 4Mb CMOS EEPROM with a NAND Structured Cell [Exh. K to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Noninfringement; Invalidity	Vivek Subramanian	11/3/2008
RX-863	1	WITHDRAWN			- [
RX-864	1	WITHDRAWN			
RX-865		WITHDRAWN			
RX-866	1	WITHDRAWN			1
RX-867		WITHDRAWN			
RX-868	1	WITHDRAWN			
RX-869	1	WITHDRAWN			
RX-870	<b> </b>	WITHDRAWN			1
RX-871	<u>† – – – – – – – – – – – – – – – – – – –</u>	WITHDRAWN			
RX-872	†	WITHDRAWN			
RX-873	t	WITHDRAWN		· ·	1
RX-874		WITHDRAWN			
RX-875	<u> </u>	WITHDRAWN			-
RX-876	<u> </u>	WITHDRAWN			
RX-877	<u> </u>	WITHDRAWN			- <u> </u>

Exhibit No.	CRI	Description	Purpose	Sponsoring Witness	Admitted
RX-878		WITHDRAWN			1
RX-879		WITHDRAWN			
RX-880		WITHDRAWN			
RX-881		WITHDRAWN			
RX-882	С	Joint Proposed Claim Construction Chart	Non-Infringement	Vivek Subramanian	11/3/2008
	L	dated 05/14/2008	Defenses		
RX-883		WITHDRAWN			
RX-884		WITHDRAWN			
RX-885	С	E-mail (redacted) from James Yoon to Roger	Affirmative defenses	Earle Thompson	10/31/2008
		Borovoy et al. with attached SanDisk cross			
		license agreement [SD-I-1258228 - SD-I-			
		1258248]			
RX-886		WITHDRAWN			
RX-887		WITHDRAWN		· ·	
RX-888		WITHDRAWN			
RX-889		WITHDRAWN			
RX-890		WITHDRAWN			
RX-891		WITHDRAWN			
RX-892		WITHDRAWN			
RX-893		WITHDRAWN			
RX-894	С	Phison Electronics Corporation's PS2231	Non-Infringement	Yang, JY	11/5/2008
		source code [PEC2.00001 - PEC2.00597;	Defenses		
		Yang Dep. Ex. 209]			
RX-895		WITHDRAWN			
RX-896		WITHDRAWN			
RX-897		WITHDRAWN			
RX-898		WITHDRAWN		······································	
RX-899		WITHDRAWN	1		
RX-900		WITHDRAWN		· · · · · · · · · · · · · · · · · · ·	
RX-901		WITHDRAWN			+
RX-902		WITHDRAWN			
RX-903	С	Exhibit 207: Phison CBI - diagram re "Mother	Non-Infringement	JY Yang	11/5/2008
		Block" and "Child Block"	Defenses	o , rung	
RX-904	С	Exhibit 208: Phison CBI - diagram re "Mother	Non-Infringement	JY Yang	11/5/2008
		Block" and "Child Block"	Defenses		11/0/2000
RX-905	С	Exhibit 210: Phison CBI - diagram re "Mother	Non-Infringement	JY Yang	11/5/2008
	Ĭ	Block" and "Child Block"	Defenses		11002000
RX-906		WITHDRAWN	1001011303	· · ·	
RX-907		WITHDRAWN			
11/1-301	L		l	l	

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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-908		WITHDRAWN			
<b>RX-909</b>		WITHDRAWN			
RX-910	С	Document Entitled "Phison CBI" with	Non-Infringement	JY Yang	11/5/2008
		handwriting [Exh. 216 to Yang Depo.]	Defenses	, , , , , , , , , , , , , , , , , , ,	
RX-911		WITHDRAWN			
RX-912		WITHDRAWN			
RX-913		WITHDRAWN	· · · · ·		
RX-914		WITHDRAWN			
RX-915		WITHDRAWN		· · · · · · · · · · · · · · · · · · ·	
RX-916		WITHDRAWN			
RX-917	<u> </u>	WITHDRAWN			ļ
RX-918	С	Import 2007 FINAL.XLS file [ from KTC-N- 000004]	Remedy & Bonding	Donald Sun; Darwin Chen	10/29/2008
RX-919	<u>}</u>	WITHDRAWN			
RX-920	C	Kingston-Toshiba Imports_2007-2008.xls [	Demodel & Dev II		
		from KTC-N-000012]	Remedy & Bonding	Donald Sun; Darwin Chen	10/29/2008
RX-921		WITHDRAWN			
RX-922		WITHDRAWN			
RX-923		WITHDRAWN			
RX-924		WITHDRAWN			
RX-925		WITHDRAWN			
RX-926		WITHDRAWN			1
RX-927		WITHDRAWN			<b> </b>
RX-928		WITHDRAWN			
RX-929	1	WITHDRAWN			
RX-930		Excerpts from The American Heritage Dictionary for the English Language 2000 Ed. [Exh. D to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Non-infringement; Invalidity	Vivek Subramanian	11/3/2008
RX-931		Excerpts from IEEE 100 The Authroitative Dictionary of IEEE Standards Terms - 7th Edition [Ex. E to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Non-infringement; Invalidity	Vivek Subramanian	11/3/2008
RX-932		Excerpts from The American Heritage Dictionary for the English Language Third Ed. 2000 [Ex. F to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Non-infringement; Invalidity	Vivek Subramanian	11/3/2008

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Exhibit No.	CBI	Description	Pulpose	Sponsoring Witness	Admitted
RX-933		The Computer Glossary - The Complete Illustrated Desk Reference - 5th Edition [Ex. J to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Non-infringement; Invalidity	Vivek Subramanian	11/3/2008
RX-934		Excerpts from Webster's Ninth New Collegiate Dictionary 1991 [Ex. M to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Non-infringement; Invalidity	Vivek Subramanian	11/3/2008
RX-935		Excerpts from Howard W. Sams & Company Modern Dictionary of Electronics - 6th Edition [Ex. P to the Expert Report on Claim Construction of Dr. Vivek Subramanian]	Claim Construction; Non-infringement; Invalidity	Vivek Subramanian	11/3/2008
RX-936	С	Direct Witness Statement of Ellis Lee	Patent Misuse, Express or Implied License, Importation	Ellis Lee	10/29/2008
RX-937	С	Direct Witness Statement of Dr. V. Niles Kynett	Invalidity re U.S. Patent 6,763,424	Niles Kynett	11/3/2008
RX-938	С	Direct Witness Statement of Dr. Russell Mangum	Patent Misuse Defenses; Express or Implied License	Russell Mangum III	11/3/2008
RX-939		WITHDRAWN			
RX-940		WITHDRAWN			
RX-941	С	Direct Witness Statement of Darwin Chen	Importation, Patent Misuse, Express or Implied License	Darwin Chen	10/29/2008
RX-942		WITHDRAWN			
RX-943		CV of Dr. Ray Mercer, Ph.D. [App. A to The Rebuttal Expert Report of Dr. Ray Mercer, Ph.D. on Non-Infringement of U.S. Patent Nos. 6,426,893 and 6,763,424 by Heller Respondents]	Witness Background Information	Ray Mercer	11/5/2008
RX-944		Dr. Ray Mercer's List of Previous Cases, Testimony in the Last 8 Years [App. B to The Rebuttal Expert Report of Dr. Ray Mercer, Ph.D. on Non-Infringement of U.S. Patent Nos. 6,426,893 and 6,763,424 by Heller Respondents]	Witness Background Information	Ray Mercer	11/5/2008

Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-945		WITHDRAWN			
RX-946		WITHDRAWN			
RX-947		WITHDRAWN	· ·		
RX-948		WITHDRAWN			
RX-949		WITHDRAWN			······
RX-950		WITHDRAWN			
RX-951		WITHDRAWN			
RX-952		WITHDRAWN			
RX-953		WITHDRAWN			
RX-954		WITHDRAWN			
RX-955	C	Slide Presentation titled "YE 2007 Rate Comparisons" [SD-]-3284961]	Patent Misuse	E. Earle Thompson	11/4/2008
RX-956		WITHDRAWN			
RX-957	С	Redacted e-mail from Eliyahou Harari to Earle Thompson, Richard Chernicoff, Sanjay Mehrotra, and Jim Brelsford dated January 18, 2008 [SD-I-3265659 - 660]	Patent Misuse	Eliyahou Harari; E. Earle Thompson; Richard Chernicoff; Sanjay Mehrotra	11/4/2008
RX-958		WITHDRAWN			1
RX-959	С	E-mail from James Yoon to Anup Tikku dated March 13, 2008 with attachments [SD-I- 3283477 - 516]	Patent Misuse	Eliyahou Harari; E. Earle Thompson; Richard Chernicoff; Sanjay Mehrotra	10/31/2008
RX-960		WITHDRAWN			
RX-961		WITHDRAWN			
RX-962	·	WITHDRAWN			
RX-963		WITHDRAWN			
RX-964		WITHDRAWN			
RX-965		WITHDRAWN			
RX-966		WITHDRAWN			
RX-967	<u> </u>	WITHDRAWN	· · · · · ·		
RX-968		WITHDRAWN			
RX-969	<u> </u>	WITHDRAWN			
RX-970		Translation of JP3070539 [Expert Report of V. Niles Kynett, 8/8/08, Exhibit 33] [KYNETT-	Invalidity	V. Niles Kynett	11/3/2008
DV 074		RPT001967 - 2007]			
RX-971	<b> </b>	WITHDRAWN			
RX-972	Į	WITHDRAWN			
RX-973	Ļ	WITHDRAWN			
RX-974	1	WITHDRAWN	I		

Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-975		WITHDRAWN			
RX-976		WITHDRAWN			
RX-977		WITHDRAWN			
RX-978		WITHDRAWN			
RX-979		WITHDRAWN			
RX-980		WITHDRAWN			
RX-981		WITHDRAWN			
RX-982		WITHDRAWN			
RX-983		WITHDRAWN			
RX-984		WITHDRAWN		······	
RX-985		WITHDRAWN			
RX-986		WITHDRAWN			<u> </u>
RX-987		List of all Foreign Patents and Applications	Licensing and	E. Earl Thompson	10/31/2008;
		Corresponding to US Patent 6,763,424	Patent Misuse		11/05/2008
		[Deposition of E. Earle Thompson, 8/5/08,			
		Exhibit 2251			
RX-988	С	Corrected Witness Statement of Chia Kun	Licensing,	CK Chang	10/31/2008
		Chang	Remedies and		
			Patent Misuse		
RX-989	]	WITHDRAWN	1		
RX-990	С	Direct Witness Statement of Frankie Chiu	Licensing,	Frankie Chiu	10/31/2008
			Remedies and		
			Patent Misuse		
RX-991		WITHDRAWN			
RX-992	1	WITHDRAWN			
RX-993		WITHDRAWN			
RX-994		WITHDRAWN	1		
RX-995	С	Direct Witness Statement of Jason Chien	Licensing	Jason Chien	10/31/2008
RX-996		WITHDRAWN			
RX-997		WITHDRAWN			
RX-998		Direct Witness Statement of O-byoung Kang	Exhaustion, Implied	O-byoung Kang	10/31/2008
			license		
RX-999		WITHDRAWN	1	· · · · · · · · · · · · · · · · · · ·	
RX-1000	1 7	WITHDRAWN	1		
RX-1001		WITHDRAWN	1		
RX-1002		WITHDRAWN		l	
RX-1003		WITHDRAWN	1		
RX-1004	1	WITHDRAWN	1	1	
RX-1005	1	WITHDRAWN	1		

Exhibit No.	CBI	Description	Pulpose	Sponsoring Witness	Admitted
RX-1006		WITHDRAWN			
RX-1007		WITHDRAWN			
RX-1008		WITHDRAWN		1	
RX-1009		WITHDRAWN			1
RX-1010		WITHDRAWN			
RX-1011	С	Second Settlement and Patent Cross License Agreement between Sandisk Corporation and Samsung Electronics Co., Ltd., 8/14/02 (SD-I-	Patent Misuse	Eliyhou Harari	11/5/2008
		0300402 to SD-I-0300446)			
RX-1012		WITHDRAWN			1
RX-1013		WITHDRAWN		1	1
RX-1014		WITHDRAWN		1	
RX-1015		WITHDRAWN			+
RX-1016	T	WITHDRAWN			
RX-1017	1	WITHDRAWN			·
RX-1018		WITHDRAWN			
RX-1019		WITHDRAWN			
RX-1020	· · ·	WITHDRAWN			+
RX-1021	1	WITHDRAWN			1
RX-1022	С	Complainant SanDisk Corporation's Opening	Non-infringement	Thomas Rhyne	10/29/2008
		Claim Construction Brief	i i i i i i i i i i i i i i i i i i i	inolide Righe	10/20/2000
RX-1023	c	Complainant SanDisk Corporation's	Non-infringement	Thomas Rhyne	10/29/2008
		Responsive Brief on Claim Construction of	i ton iningomon		10/20/2000
		U.S. Patent Nos. 6,947,332; 6,426,893; and			
		7,137,011			
RX-1024		WITHDRAWN			+
RX-1025		WITHDRAWN			
RX-1026		WITHDRAWN			-
RX-1027		WITHDRAWN			
RX-1028	+	WITHDRAWN	<u> </u>		+
RX-1029		WITHDRAWN			
RX-1030	+	WITHDRAWN			
RX-1031		WITHDRAWN			
RX-1032		WITHDRAWN		+	
RX-1032	c	Samsung MMC Purchase order spreadsheet	Licensing	C.K. Chang	10/31/2008
		(AP-ITC 031457 - 0314458)			
RX-1034	С	POs and invoices for Samsung products (AP- ITC 0314018 - 0314047)	Licensing	C.K. Chang	10/31/2008

Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
RX-1035		WITHDRAWN			
RX-1036		WITHDRAWN			
RX-1037		WITHDRAWN			
RX-1038		International Publication No. WO 00/49488	Invalidity	Kevin Conley	
RX-1039	С	SanDisk 3rd Generation System Option Analysis 1.2	Invalidity	Kevin Conley	11/5/2008
RX-1040	С	SanDisk Rhodes 2 0.13 BB NAND Ultra ATA	Invalidity	Kevin Conley	11/5/2008
RX-1041		System Spec	<u> </u>		
RX-1041	С	WITHDRAWN			
	¢	Past, Present and Future of SanDisk NAND Products	Invalidity	Kevin Conley	11/5/2008
RX-1043	С	Email - SD-I-1884439	Invalidity	Kevin Conley	11/5/2008
RX-1044	С	Email - SD-I-1883272	Invalidity	Kevin Conley	11/5/2008
RX-1045	С	Email - SD-I-1883145	Invalidity	Kevin Conley	11/5/2008
RX-1046		WITHDRAWN			
RX-1047		WITHDRAWN			1
RX-1048	1	WITHDRAWN	İ		
RX-1049	С	Email - SD-I-1883557	Invalidity	Kevin Conley	11/5/2008
RX-1050	С	SDSC-SDUS Face to Face Meeting	Invalidity	Kevin Conley	11/5/2008
RX-1051	С	Email SD-I-1883876	Invalidity	Kevin Conley	11/5/2008
RX-1052	С	CyclicStorage Algorithms	Invalidity	Kevin Conley	11/5/2008
RX-1053	С	SDSC Company Overview	Invalidity	Kevin Conley	11/5/2008
RX-1054	С	SDSC IP Review, (SD-I-1884104 - 4127)	Invalidity	Kevin Conley	11/5/2008
RX-1055	С	Email SD-I-1884356	Invalidity	Kevin Conley	11/5/2008
RX-1056	C	Email Bates SD-I-1902053	Invalidity	Kevin Conley	1
RX-1057	C	Email SD-I-3283374	Invalidity	Kevin Conley	11/5/2008
RX-1058	Ċ	San Disk Metablocks	Invalidity	Kevin Conley	11/5/2008
RX-1059		WITHDRAWN			1
RX-1060	С	Email SD-I-1883399	Invalidity	Kevin Conley	11/5/2008
RX-1061		WITHDRAWN			1
RX-1062	C	Email SD-I-1883150	Invalidity	Kevin Conley	11/5/2008
RX-1063	c	Performance Post Mortem	Invalidity	Kevin Conley	11/5/2008
RX-1064	Ċ	SanDisk Invention Disclosure form	Invalidity	Kevin Conley	11/5/2008
RX-1065	Ċ	Interrogatories	Invalidity	Kevin Conley	11/5/2008
RX-1066	C	SanDisk Rhodes /Taver NAND	Invalidity	Kevin Conley	11/5/2008
RX-1067	c	Claims Pending in SDK0156.000US	Invalidity	Kevin Conley	11/5/2008
RX-1068	c	Parallel Extension to parial Block Programming	Invalidity	Kevin Conley	11/5/2008
RX-1069	С	AlgoRithm Representation	Invalidity	Kevin Conley	11/5/2008

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Exhibit No.	<u>  CB</u> I	Description	Purpose	Sponsoring Witness	Admitted
RX-1070	С	Conley Design Notebook	Invalidity	Kevin Conley	11/5/2008
RX-1071	С	SanDisk Sparta SDP3E	Invalidity	Kevin Conley	11/5/2008
RX-1072	С	SanDisk Strategies for Data Update	Invalidity	Kevin Conley	11/5/2008
RX-1073		WITHDRAWN			
RX-1074		US Patent No. 6,725,321	Invalidity	Kevin Conley	11/5/2008
RX-1075	1	WITHDRAWN			1.110/2000
RX-1076		WITHDRAWN		· · · · · · · · · · · · · · · · · · ·	+
RX-1077		WITHDRAWN			
RX-1078		WITHDRAWN			
RX-1079		WITHDRAWN			
RX-1080		WITHDRAWN			
RX-1081		WITHDRAWN			
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Exhibit No.	CBI	Description	Purpose	Sponsoring Witness	Admitted
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Exhibit No	CBI	Description	Purpose	Sponsoring Witness	Admitted

	<b>RESPONDENTS' DEMONSTRAT</b>	<b>VE EXHIBIT LI</b>	ST	1
Exhibit				-
No. CBI	Exhibit Description	Purpose	Sponsoring Witness	Admitted
RDX-0001	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0002	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0003	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0004	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0005	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0006	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0007	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidityre U.S.	Niles Kynett	1
	Witness Statement	Patent 6,763,424		11/3/2000
RDX-0008	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	1
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0009	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidityre U.S.	Niles Kynett	1
	Witness Statement	Patent 6,763,424		11/3/2008
RDX-0010	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidityre U.S.	Niles Kynett	1
	Witness Statement	Patent 6,763,424		11/3/200
RDX-0011	Demonstrative Ex to RX-937C - Dr. Kynett's	Invalidity re U.S.	Niles Kynett	<b></b>
	Witness Statement	Patent 6,763,424		11/3/200
RDX-0012	WITHDRAWN			1
RDX-0013	Figures 9, 10 & 11 from '321 Sinclair Patent	Invalidity re U.S.	Niles Kynett	11/3/2008
	with handwritten notations from Dr. Kynett	Patent 6,763,424		
RCD-001	Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas	
	• • • • • • • • • • • • • • • • • • • •	Patent 6,763,424		10/29/200
RCD-002	Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas	1
		Patent 6,763,424		10/29/200
RCD-003	WITHDRAWN			1
RCD-004	Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas	1
		Patent 6,763,424		10/29/200

RCD-005		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas	Т	
	<u> </u>		Patent 6,763,424	ingino, momuo	10/29/2008	
RCD-006		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
	<u> </u>		Patent 6,763,424		10/29/2008	
RCD-007	С	WITHDRAWN				
RCD-008		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas		
	<u> </u>		Patent 6,763,424		10/29/2008	
RCD-009		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
	<u> </u>		Patent 6,763,424		10/29/2008	
RCD-010		WITHDRAWN		<u>^</u>		
RCD-011		WITHDRAWN				
RCD-012		WITHDRAWN				
RCD-013		WITHDRAWN				
RCD-014		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
			Patent 6,763,424		10/29/2008	
RCD-015		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
			Patent 6,763,424		10/29/2008	
RCD-016		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
			Patent 6,763,424		10/29/2008	
RCD-017		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
			Patent 6,763,424		10/29/2008	
RCD-018		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas		
_			Patent 6,763,424		10/29/2008	
RCD-019		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas		
		•	Patent 6,763,424		10/29/2008	
RCD-020		WITHDRAWN		t.		
RCD-021		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
			Patent 6,763,424		10/29/2008	
RCD-022		Rhyne Cross Demonstrative	Infringementre U.S.	Rhyne, Thomas		
		-	Patent 6,763,424		10/29/2008	
RCD-023		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas		
	С		Patent 6,763,424		10/29/2008	
RCD-024	* <u></u>	WITHDRAWN				
RCD-025		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas		
	С	• • • • • • • • • • • • • • • • • • • •	Patent 6,763,424		10/29/2008	
RCD-026		Rhyne Cross Demonstrative	Infringement re U.S.	Rhyne, Thomas		
	С		Patent 6,763,424		10/29/2008	

		F	RESPONDENTS' REBUTTAL EXHIBIT LIST - INV. NO.			
RBX-1	· ·	CX-520	Complainant SanDiek Corporation's First Notice of Taking Deposition of Ray Chu, (Ray Chu	1 ASPECTATION COL		1 mar.
			Depo Exhibit 4)	Chu, Hay	Witness Background	
RAX-2			WITHDRAWN			11/5/2008
RRX-3			WITHDRAWN			
RRX-4			WITHDRAWN			
RAX-5		1	WITHDRAWN			
RRX-6			WITHDRAWN			
RAX-7	Τ	CX-0084	Complainant SanDisk Corporation's First Notice of Taking Deposition of Roy Kung, (Roy Kung Depo Exhibit 36)	Kung, Roy	Witness Background	
RRX-8	C	CX-1008	Exhibit A to Transcend's Amended Supplemental Responses to Interrogatories	Chiu, Frankie	Non-Infringement	
RRX-9	C	CX-1008	Exhibit A to Apacer's Amended Supplemental Responses to Interrogatories	Chang, C.K.	Non-Infringement	10/31/2008
RRX-10	C	CX-1008	Rebuttal Witness Statement of Chi-Heng (Frankle) Chiu	Frankle Chiu	Remedies, Non-	10/31/2008
					Infrincement	10/31/2008
RRX-11	C	CX-1008	Rebuttal Witness Statement of James Lee	James Loo	Non-Intringement	10/31/2008
<b>RRX-12</b>	C_	CX-1008	Rebuttal Witness Statement of Jason Chien	Jason Chien	Remedies, Non-	10/342008
001/ 40				÷	Intringement	10/31/2008
<b>RRX-13</b>	c	CX-1008	Rebuttal Witness Statement of Chia-Kun (C.K.) Chan	C.K. Chang	Remedies, Non-	
BBX-14	-lc-	CX-1008	Rebuttal Witness Statement of O-byoung Kang		Infringement	10/31/2008
RRX-14	- <u>c</u> -	CX-1008		Kang, O-byoung	Non-Intringement	10/31/2008
	_		Exhibit 1 to the Rebuttal Witness Statement of O-byoung Kang	Kang, O-byoung	Non-Infringement	10/31/2008
RRX-16	<u></u>	CX-1008	Exhibit 2 to the Rebuttal Witness Statement of O-byoung Kang	Kang, O-byoung	Non-Infringement	10/31/2008
RRX-17	c	CX-1008	Witness Statement of J.Y. Yang	Yang, J.Y.	Non-Intringement	10/29/2008; 10/31/2008
RRX-18	C	CX-1008	Witness Statement of Dr. Vivek Subramanian	Subramanian, Vivek	Non-Infringement	10/30/2008; 10/31/2008; 11/03/2008
RRX-19	с	CX-0480, CX- 0465, CX-1008, CX-1204	Y1SKYSC_001_20080506HDISouroCode.ra/6281VFW_Source_code\D1109.ra/D1109Vincl udeVdmREG.h	Chang, C.Y. / Mercer, Ray	Non-Infringement	11/5/2008
FIRX-20	c	CX-0480, CX- 0466, CX-1008, CX-1204	V1SKVSC_001_20080506HDISourcCode.ra/6281VFW_Source_code\D1109.ra/D1109\CO DE_BCOTVdmReed.c	Chang, C.Y. / Mercer, Ray	Non-Infringement	11/5/2008
<b>RRX-21</b>	C	- SA LEXT	WITHDRAWN			
BBX-22	c	1	WITHDRAWN			-+
RRX-23	c	CX-0480, CX- 0466, CX-1008, CX-1204	YASKYSC_001_20060506HDISouroCode.ren6281VFW_Source_codeVD1109.renD1109/CO DE_FDMVdmWrite.c	Chang, C.Y. / Mercer, Ray	Non-Infringement	11/5/2006
RRX-24	c	<u></u>	WITHDRAWN	<u> </u>		
BRX-25	-C		WITHDRAWN	<u> </u>		-
RRX-26	- lc	CX-0480, CX-			-	
	Ĭ		SKY_003/SKY_003.ra/1608_new.ra/SK6626_SS6626_AE\Code0721.ra/Code0721\includ eVdmREQ.h	Unang, C.Y. / Mercer, Flay	Non-Infringement	11/5/2006
<b>RRX-27</b>	C	I	WITHDRAWN	1 CT 1 CT 1 CT 1 CT 1 CT 1 CT 1 CT 1 CT		
RRX-28	c	CX-0480, CX- 0466, CX-1008, CX-1204	SKY_003:SKY_003.ra/1606_new.ra/SK6626_SS6626_AE\Code0721.ra/Code0721\CODE _BOOTVdmRead.c		Non-Infringement	11/5/2008
RRX-29	c	CX-0480, CX- 0466, CX-1008,	SKY_003/SKY_003.raf1806_new.raf/SK6626_SS6626_AEVCode0721.raf/Code0721/CODE _BOOTVdminitial.c	Chang, C.Y. / Mercer, Ray	Non-Infringement	11/5/2008
	1	CX-1204		}	3	1 1

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RRX-31	С	CX-0480, CX- 0466, CX-1008, CX-1204	SKY_003ISKY_003.ra/1606_new.re/SK6626_SS6626_AE\Code0721.ra/Code0721\CODE _FDM_MLCVdmWrite.c	Chang. C.Y. I Mercer. Ray	Non-Iniringement	11/5/2008
RRX-32	C	a(-0480, CX- 0466, CX-1008, CX-1204	SKY_003/SKY_003.ra/1606_new.ra/SK6626_SS6626_AE\Code0721.ra/Code0721\CODE _FDM_MLC\/dm0ther2.c	Chang, C.Y. EMercer. Ray	Non-Intringement	11/5/2008
RRX-33	С	0466, CX-1008, CX-1204	Witness Statement of C.Y. Chang	Chang, C.Y.	Non-Infringement	10/29/2008:
RRX-34	C	CX-0480, CX- 0466, CX-1008, CX-1204	Witness Statement of Ray Mercer on Non-Infringement of the '424 Patent by Sigmedi Flash Controllier Products	Mercer. Fuy	Non-Initingement	11/3/2001
RRX-35	C		WITHDRAWN			1 1/30/2000
ARX-36	c—	CX-0480, CX- 0466, CX-1008, CX-1204	Ray Mercer Rebutal Witness Statement	Merrar, Ray	Non-Infringement	1172/2005
				Mercer, Ray	<u> </u>	11/3/2008

		RESPONDENTS' REBUTTAL DEMONS		and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second sec	
RRDX-1	CX-1008	Replacement of data in a child block	Yang, J.Y.	Non-Infringement	
RRDX-2	CX-1008	Information stored within the firmware bytes in PS2251 controller mother block	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-3	CX-1008	Mother block storing 48 original data sectors (numbered 1 - 47)	Yang, J.Y.	Non-Infringement	10/29/20
ARDX-4	CX-1008	Consolidated mother and child blocks	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-5	CX-1008	Original mother block and update child block	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-6	CX-1008	Original mother block, update child block, and new mother block	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-7	CX-1008	Storing Original Data with a Logical Page Offset	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-8	CX-1008	One step consolidation for mother and child blocks	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-9	CX-1008	Information stored in the firmware bytes by the PS3016 controller	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-10	CX-1008	Series of three sucessive updates	Yang, J.Y.	Non-Infringement	10/29/20
RRDX-11	CX-1008	Fig. 12 of 424 patent	Subramanian, Vivek	Non-infringement	10/29/20
RRDX-12	CX-1008	Example for Hustrating usage of scratch pad block	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-13	CX-1008	Firmware bytes within a mother block of the PS2251 controller	Subramenian, Vivak	Non-Infringement	10/31/2
				International Constants	10/31/20
RRDX-14	CX-1008	Firmware bytes of a mother page created and utilized by a PS3016 controller	Subramanian, Vivek	Non-Infringement	10/31/20
RRDX-15	CX-1008	Storing Original Data with a Logical Page Offset	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-16	CX-1008	Consolidation in a system that uses logical page offsets in the mother block	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-17	CX-1008	Non-sequential updates in a system which does not use logical page offsets	Subramanian, Vivek	Non-Intringement	10/31/2
RRDX-18	CX-1008	Consolidation process for random child blocks in a system that does not store a logical page offset in the mother block.	Subramanian, Vivak	Non-Infringement	
RRDX-19	CX-1008	Fig. 8 of the '424 patent	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-20	CX-1008	Fig. 10 of the '424 patent	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-21	CX-1008	Logical page address within a sector of data in a Mother Block and a sector of a FAT Block	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-22	CX-1008	Blowup of Fig. 10 of the '424 patent	Subramenian, Vivek	Non-Infringement	10/31/2
RRDX-23	CX-1008	Fig. 11 of the '424 patent	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-24C	CX-1008	Pg. 24 of Ex. 1448 of SenDisk's Complaint	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-25	CX-1008	Scratch pad block, sequential update block, and an original block	Subramenian, Vivek	Non-Iniringement	10/31/2
RRDX-26	CX-1008	Demonstrative illustrating an update to sector no. 5	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-27	CX-1008	Demonstrative illustrating an update to sector no. 6	Subramanian, Vivek	Non-Infringement	10/31/2
RRDX-28	CX-1008	Demonstrative illustrating an update to sector no. ?	Subramanian, Vivek	Non-infringement	10/31/2
RRDX-29	CX-1008	Demonstrative Hustrating an update to sector no. 8	Subramanian, Vivek	Non-Infringement	10/31/
RRDX-30	CX-1008	Demonstrative illustrating an update to sector no. 10	Subramanian, Vivek	Non-Inkingement	10/31/
RRDX-31	CX-1008	Demonstrative illustrating an update to sector no. 14	Subramanian, Vivek	Non-Infringement	10/31/
RRDX-32	CX-1008	Sequence of writes from time 11 thru 15	Subramanian, Vivek	Non-Infringement	10/31//
RRDX-33	CX-1008	Chart of claim 20 of '424 patent	Subramanian, Vivek		10/31/2
RRDX-34		WITHDRAWN	STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND A STATEMENT AND	Non-Infringement	10/31/
RRDX-35	CX-1008	Compliators of '424 Patent ligures, specification language, and reproduced language from other exhibits part 2	Rhyne, Thomas	Non-Infringement	10/29/2
RRDX-36	1	WITHDRAWN			10/23/7
RRDX-37	1	WITHDRAWN	<u>}</u>		

RRDX-38	CX-1008	Compilations of '424 Patent figures, specification language, and reproduced language from other exhibits part 5	Rhyne, Thomas	Non-Infringement	10/29/2008
RRDX-39			Rhyne, Thomas	Non-Infringement	
RRDX-40C	CX-1008	Demonstrative exhibits related to Skymedia non-intringement of the '424 patent.	Marcar, Ray	Non-Infringement	11/5/2008
RADX-41	CX-1008	Reading the Logical Page Address in Each Page of Original Data Step (c)			10/29/2008
RRDX-42		WITHDRAWN		T	
RRDX-43		WITHDRAWN		1	
RRDX-44C	CX-1008	Demonstrative titled "W Block 1606F"	Rhyne, Thomas	Non-Infringement	10/28/2006; 10/29/2006
RRDX-45C	CX-1008	Demonstrative titled 'R Block 1606F"	Rhyne, Thomas	Non-Intringement	10/28/2008; 10/29/2008
ARDX-46		WITHDRAWN			
RRDX-47		WITHDRAWN			·
ARDX-48	CX-1008	Block diagram re user data, LBN=3, and logical page offset $\approx 4$	Subramenian, Vivek	Non-Infringement	10/31/2008
RRDX-49	CX-1008	Block diagram re user data, LON=3, and P	Subramanian, Vivek	Non-Infringement	10/31/2008

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# IN THE MATTER OF CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS CONTAINING SAME

### CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **CONFIDENTIAL FINAL INITIAL DETERMINATION** has been served upon, **Christopher G. Paulraj, Esq.**, Commission Investigative Attorney, and the following parties via overnight delivery where necessary on <u>April 10</u>, 2009.

Marilyn R./Abbott, Secretary JAC U.S. International Trade Commission 500 E Street, S.W., Room 112A Washington, DC 20436

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()Via First Class Mail
()Other:

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337-TA-619

### IN THE MATTER OF CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS CONTAINING SAME

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## FOR RESPONDENTS ACER INC., APACER TECHNOLOGY INC. & APACER MEMORY AMERICA, INC., TRANSCEND INFORMATION INC. (TAIWAN), TRANSCEND INFORMATION INC. (CALIFORNIA), TRANSCEND INFORMATION MARYLAND INC., SILICON MOTION INC. (CALIFORNIA) & SILICON MOTION, INC. (TAIWAN)

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### IN THE MATTER OF CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS CONTAINING SAME

#### **CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **PUBLIC INITIAL DETERMINATION** has been served upon, **Christopher G. Paulraj, Esq.**, Commission Investigative Attorney, and the following parties via first class mail and air mail where necessary on <u>May 5th</u>..., 2009.

Marilyn R./Abbott, Secretary U.S. International Trade Commission 500 E Street, S.W., Room 112A Washington, DC 20436

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337-TA-619

### IN THE MATTER OF CERTAIN FLASH MEMORY **CONTROLLERS, DRIVES, MEMORY CARDS, AND** MEDIA PLAYERS CONTAINING SAME

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337-TA-619

### IN THE MATTER OF CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY CARDS, AND MEDIA PLAYERS CONTAINING SAME

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# **UNITED STATES INTERNATIONAL TRADE COMMISSION** Washington, D.C.

In the Matter of

**CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, MEMORY** CARDS, AND MEDIA PLAYERS AND **PRODUCTS CONTAINING SAME** 

**Investigation No. 337-TA-619** 

# **NOTICE OF COMMISSION DETERMINATION NOT TO REVIEW AN INITIAL DETERMINATION FINDING FIVE RESPONDENTS IN DEFAULT**

# U.S. International Trade Commission. AGENCY:

Notice. **ACTION**:

**SUMMARY**: Notice is hereby given that the U.S. International Trade Commission has determined not to review the presiding administrative law judge's ("ALJ") initial determination ("ID") (Order No. 28) in the above-referenced investigation finding respondents Zotek Electronic Co., Ltd. (d/b/a Zodata Technology Limited) ("Zotek"); Add-On Technology Co. ("Add-On"); Behavior Tech Computer Corp. ("BTC"); Behavior Tech Computer (USA) Corp. ("BTC USA"); and Emprex Technologies Corp. ("Emprex") in default.

FOR FURTHER INFORMATION CONTACT: Michelle Walters, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-5468. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <u>http://www.usitc.gov.</u> The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at http://edis.usitc.gov. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on December 12, 2007, based on a complaint filed by SanDisk Corporation ("SanDisk"). The complaint alleges violations of section 337 of the Tariff Act of 1930 (19 U.S.C. § 1337) in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain flash memory controllers, drives, memory cards, media players, and

products containing the same by reason of infringement of various claims of five United States patents. The complaint names nearly fifty respondents.

On February 27, 2008, SanDisk filed a motion for an order to show cause and default against five respondents: Zotek; Add-On; BTC; BTC USA; and Emprex. On March 12, 2008, the ALJ issued Order No. 24 ordering these respondents to show cause why they should not be found in default for failing to respond to the complaint and notice of investigation. No response was received from any of these respondents.

On April 25, 2008, the ALJ issued the subject ID finding Zotek, Add-On, BTC, BTC USA, and Emprex in default. The ALJ also found that they had waived their rights to appear, to be served with documents, and to contest the allegations against them. No petitions for review of this ID were filed.

The Commission has determined not to review the ID.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in section 210.42 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.42).

By order of the Commission.

Marilyn R. Abbott Secretary to the Commission

Issued: May 14, 2008

### CERTAIN FLASH MEMORY CONTROLLERS, DRIVES, 337-TA-619 MEMORY CARDS, AND MEDIA PLAYERS AND PRODUCTS CONTAINING SAME

#### **PUBLIC CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached NOTICE OF COMMISSION DETERMINATION NOT TO REVIEW AN INITIAL DETERMINATION FINDING FIVE RESPONDENTS IN DEFAULT has been served by hand upon the Commission Investigative Attorney, Christopher G. Paulraj, Esq., and the following parties as indicated, on <u>May 14</u>.

Marilyn R. Abbott, Secretary U.S. International Trade Commission 500 E Street, SW Washington, DC 20436

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