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CLASSIFICATION OF CERTAIN ELECTRONIC MEMORY MODULES

(Item IX.4 on Agenda)

Reference documents :

NC0077E1 (HSC/23)

NC0090E2, Annex IJ/14, paragraph 6 (HSC/23 - Report)

NR0119E1 (RSC/22)

NR0133E2, Annex D/9 (RSC/22 - Report)

NC0271E1, paragraphs 46 to 48 (HSC/26)

NC0340E2, Annex E/1, paragraph 25 (HSC/26 - Report)

I. BACKGROUND

1. At its 22nd Session in September 2000, the Review Sub-Committee agreed to send a classification question relating to SIMMs (*Single Inline Memory Modules*) and DIMMs (*Dual Inline Memory Modules*) to the Harmonized System Committee in order to take the Committee's views into consideration in examining the possible amendment of Note 5 (B) to Chapter 85 (see Annex D/9 to Doc. NR0133E2 - RSC/22, Report).
2. After the above meeting, the South African Administration sent the Secretariat the following note concerning the articles at issue.

II. NOTE FROM THE SOUTH AFRICAN ADMINISTRATION

"TARIFF CLASSIFICATION OF SIMM MODULES , DIMM MODULES AND DRAM
MODULES :

3. The possible headings that should be considered are :

1. 85.42 - ELECTRONIC INTEGRATED CIRCUITS
2. 84.73 - PARTS OF AUTOMATIC DATA PROCESSING MACHINES
3. 85.48 - PARTS OF VARIOUS MACHINES

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- (a) DRAM – This is an acronym for Dynamic Random Access Memory. This is by far the most common type of memory chip, which comes in the form of a single module. These modules can either be fixed directly onto the memory board of a computer or combined with other modules on a printed circuit board, which in turn is slotted into the memory board. DRAM chips come primarily in three forms, namely DIP (Dual In-Line Package), SOJ (Small Outline J-Lead) and TSOP (Thin Small Outline Package). The DIP-style DRAM package was extremely popular when it was common for memory to be installed directly onto the board. They are through-hole components, which means that they are installed in holes extending into the surface of the board. They can be soldered into place or installed in sockets. SOJ and TSOP packages are surface-mounted components – i.e., they are mounted directly onto the surface of the printed circuit board. They grew in status with the advent of the SIMM.
- (b) SIMM – This is an acronym for a Single In-Line Memory Module. A typical SIMM consists of a number of DRAM chips on a small printed circuit board. This can be supplemented by other SIMM boards, which can be added according to the memory capacity required by the machine. This could sometimes become a rather cumbersome process, due to the fact that some machines require large memory upgrades. That is where the DIMM enters the picture.
- (c) DIMM – This is an acronym for a Dual In-Line Memory Module. These modules physically closely resemble SIMM-type memories. Like SIMMs, DIMMs are installed vertically into expansion sockets. The principal difference between the two is that on a SIMM, opposing pins on either side of the board are “tied” together to form one electrical contact, whereas on a DIMM, the opposing pins remain electrically isolated to form two separate contacts. DIMMs are often used in computer configurations that support a 64-bit or wider memory bus. These configurations are based on powerful new processors, such as Intel Pentium processors.
4. The different classification possibilities are :
- The traditional view is that these modules are “more” than mere integrated circuits when mounted onto a PC-board. This applies specifically to SIMM and DIMM modules, as they are “composite” in the sense that they are combinations of memories mounted onto PC-boards. Since in the past (and to a certain extent currently) these modules were used for automatic data processing machines, they were classified in subheading 8473.30 as parts for computers. This was supported by the small print exclusion at the bottom of page 1517 of the Explanatory Note to heading 85.42, as well as the guidelines contained in the small print at the top of page 1518 of the Explanatory Note to heading 85.42. The salient portions contained in the aforementioned Notes exclude “assemblies formed by mounting one or more discrete components on a support formed, for example, by a printed circuit and assemblies formed by adding to an electronic microcircuit either one or more microcircuits of the same or different types or one or more other devices, such as diodes, transformers, resistors”. This Note further gives guidelines on how to classify microcircuits such as these : “For example, an assembly consisting of a number of microcircuits mounted on an appropriate shaped carrier and designed as part of a digital data processing machine storage falls in heading 84.73“. This for all intents and purposes defined a DIMM or SIMM module, and that is why we have always classified them as such in the past. A DRAM is a completely different matter, as it is a single memory “chip” which fully satisfies the criteria for heading 85.42 as an electronic

microcircuit. An interesting point to note is that a SIMM or DIMM has exactly the same function as a DRAM - no more and no less. Should it therefore be classified in the same heading ? About five years ago, the South African Bureau of Standards was asked for its opinion and whilst it agreed that heading 85.42 applied to the DRAMs in question, it felt it would cause confusion to classify them in a different heading from the SIMM and DIMM modules. It was convinced that the SIMM and DIMM modules were excluded from heading 85.42 and thus intimated that for the sake of consistency, all three items should be classified in heading 84.73.

- Let us now consider the merits of heading 85.42, as this is the issue upon which the main arguments hinge. Heading 85.42 covers “ELECTRONIC INTEGRATED CIRCUITS AND MICROASSEMBLIES”. The first point to note is Note 5 to Chapter 85, which states, inter alia, “For the classification of the articles defined in this note, headings 85.41 and 85.42 shall take precedence over any other heading in the Nomenclature which might cover them by reference in particular to their function”. This Note would appear to be totally specific, and the memory modules in question will virtually automatically be classified in heading 85.42 under the terms thereof. However this is unfortunately not automatically the case. It must be borne in mind that for Chapter Note 5 to even enter the picture, the goods at issue must meet the terms of heading 85.42. The problem is namely whether the memories in question can still be considered to be integrated circuits, or whether they have evolved into assemblies of the type that are excluded from heading 85.42. Let us now examine the Explanatory Note to heading 85.42 in more detail. It becomes clear that the memories that do find a home in this heading are in fact monolithic integrated circuits manufactured using MOS technology (See page 1517 of the Explanatory Notes, last sentence under Item (1)). This is further backed up by the fact that various other Customs administrations that have made provision for memories within heading 85.42 have all done so within subheading 8542.13, which is specifically for monolithic integrated circuits. It is interesting to note this fact as the thrust of past rules has been that memory modules should be classified as microassemblies within subheading 8542.30. That is patently not the case.
 - Now we come to the last classification possibility, namely heading 85.48. This heading covers “ELECTRICAL PARTS OF MACHINERY, NOT SPECIFIED OR INCLUDED ELSEWHERE IN THE CHAPTER”. This heading is basically the “catch-all” item for multipurpose electrical parts that do not find application in one particular machine or apparatus, but in a multitude of them. This heading will come into play if heading 85.42 does not. If these memory modules are considered to be assemblies or “parts” excluded from heading 85.42, their specific application has to be looked at. If, for instance, they are solely or principally for use with computers, they will be classified in heading 84.73 as previously mentioned. If they are specific to another type of machine, they will be classified in the appropriate heading covering parts for that machine. If, however, they are suitable as imported for different types of machines, heading 85.48 will apply.
5. One point that we have however noticed is that all the SIMM and DIMM modules we have come across in our research appear to be standard and are not identifiable, for instance, by part number. They differ only in capacity. In other words if a particular machine requires a certain capacity, a SIMM or DIMM module of that particular capacity will be inserted. This will not however always be the case as “special” memories for specific applications obviously do exist, for instance on specially shaped PC-boards. The problem with classification in this heading is that it will always require proof that a memory module does not find application within a particular machine.

6. Let us now look in greater detail at the subheadings that have been created at subheading level by other administrations. These provisions, whilst mainly within the scope of subheading 8542.13, are not limited to that particular subheading. Certain administrations have also made a provision within subheading 8548.90, which covers "Multicombinational memories and modules, such as stackable DRAMs". By broad definition this would appear to include the SIMM and DIMM modules. Australia, however, has made specific provision for SIMM modules within subheading 8542.13.
7. During the course of our research into this matter we also consulted with experts in this particular field, namely SAMES (SOUTH AFRICAN MICRO-ELECTRONIC SYSTEMS). After explaining our quandary, we gave two of their technology and product development executives the relevant Explanatory Notes to read and asked for their comments. They agreed that these modules appeared to be excluded from heading 85.42, by virtue of the previously mentioned exclusion, but expressed concern that Australia had made specific provision for SIMM modules within heading 85.42. Their comments were therefore helpful, but not conclusive.
8. Another interesting point to note is that in a recent discussion document published by the WCO, it is stated that so-called "smart cards", which normally consist of a plastic card with an integrated circuit incorporated thereon, are excluded from heading 85.42 when imported with more than one integrated circuit on the card. If one has to draw an analogy between these "smart cards" and the memory modules, it would appear that a printed circuit board incorporating more than one memory "chip" or module would also be excluded from the said heading.
9. The views of the Committee in this regard would be highly appreciated, and could also significantly influence the possible amendment of Note 5 (B) to Chapter 85."

III. SECRETARIAT COMMENTS

10. The Secretariat would begin by pointing out that the South African Administration has submitted a sample of a DRAM memory module for examination by the Committee during its deliberations (see photocopy in the Annex to this document). As explained by the South African Administration in paragraph 3 above, the DRAM is the most common type of memory chip which comes in the form of a single module. The SIMM consists of a number of DRAM chips on a small printed circuit board in a single in-line module, while DIMMs are made up of DRAMs in a dual in-line modular configuration.
11. Classification of these products is controlled by Note 2 to Section XVI which provides in pertinent part that :
 - (a) Parts which are goods included in any of the headings of Chapters 84 or 85 ...are in all cases to be classified in their respective headings;
 - (b) Other parts, if suitable for use solely or principally with a particular kind of machine ... are to be classified with the machines of that kind ...
 - (c) All other parts are to be classified in heading ... as appropriate or, failing that, in heading ... 85.48.

12. Based on Note 2 we must first determine whether the products in question are specifically included in one of the headings of Chapters 84 or 85 and specifically, in this case, in heading 85.42.
13. There would appear to be no question that DRAMs should be classified in heading 85.42 in accordance with the provisions of Note 5 (B) to Chapter 85.
14. The question becomes more difficult when DRAMs are arrayed into SIMMs and DIMMs as explained by the South African Administration. As explained above, SIMMs and DIMMs are microassemblies of the moulded module type that have been mounted on a printed circuit board. Based on the information available to the Secretariat to this point, the Secretariat can see no reason why SIMMs and DIMMs should not be classified as microassemblies of heading 85.42 in accordance with the provisions of Note 5 (B) (c) to Chapter 85.
15. However, as pointed out by the South African Administration, the Explanatory Note to heading 85.42 excludes “assemblies formed by mounting one or more discrete components on a support formed, for example, by a printed circuit board ...”. The Explanatory Note goes on to state that “for example, an assembly of a number of electronic microcircuits mounted on an appropriate shaped carrier and designed as a part of a digital data processing machine storage falls in heading 84.73.”
16. Based on this Explanatory Note exclusion it could be argued that SIMMs and DIMMs that are suitable for use solely or principally with automatic data processing machines should be classified in heading 84.73. The Secretariat has been unable to determine the exact origin of this Explanatory Note text which was taken from the former CCCN.
17. The question thus becomes whether this Explanatory Note exclusion should apply to SIMMs and DIMMs or whether these products should be classified in heading 85.42 by application of Note 5 (B)(c) to Chapter 85. If the latter is the case, as believed by the Secretariat, a second issue becomes the need to clarify or rationalise the Explanatory Note to heading 85.42 with regard to these products.
18. Finally, the Secretariat would point out that the 2002 version of the HS will not affect the classification of DRAM, SIMM or DIMM memory modules.

IV. CONCLUSION

19. The Committee is invited to rule on the classification of the memory modules under examination, taking account of the note from the South African Administration and the Secretariat comments above, and to decide what further action should be taken to reflect its discussion.

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DRAM MEMORY MODULE

