

responsibilities among the various levels of government, as specified in Executive Order 13132, entitled *Federalism* (64 FR 43255, August 10, 1999). Executive Order 13132 requires EPA to develop an accountable process to ensure “meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.” “Policies that have federalism implications” is defined in the Executive order to include regulations that have “substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.” This final rule directly regulates growers, food processors, food handlers and food retailers, not States. This action does not alter the relationships or distribution of power and responsibilities established by Congress in the preemption provisions of section 408(n)(4) of FFDCFA. For these same reasons, the Agency has determined that this rule does not have any “tribal implications” as described in Executive Order 13175, entitled *Consultation and Coordination with Indian Tribal Governments* (65 FR 67249, November 6, 2000). Executive Order 13175, requires EPA to develop an accountable process to ensure “meaningful and timely input by tribal officials in the development of regulatory policies that have tribal implications.” “Policies that have tribal implications” is defined in the Executive order to include regulations that have “substantial direct effects on one or more Indian tribes, on the relationship between the Federal Government and the Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.” This rule will not have substantial direct effects on tribal governments, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this rule.

**VIII. Congressional Review Act**

The Congressional Review Act, 5 U.S.C. 801 *et seq.*, as added by the Small Business Regulatory Enforcement Fairness Act of 1996, generally provides that before a rule may take effect, the agency promulgating the rule must submit a rule report, which includes a copy of the rule, to each House of the Congress and to the Comptroller General

of the United States. EPA will submit a report containing this rule and other required information to the U.S. Senate, the U.S. House of Representatives, and the Comptroller General of the United States prior to publication of this final rule in the **Federal Register**. This final rule is not a “major rule” as defined by 5 U.S.C. 804(2).

**List of Subjects in 40 CFR Part 180**

Environmental protection, Administrative practice and procedure, Agricultural commodities, Pesticides and pests, Reporting and recordkeeping requirements.

Dated: April 29, 2005.

**Lois Rossi,**

*Director, Registration Division, Office of Pesticide Programs.*

■ Therefore, 40 CFR chapter I is amended as follows:

**PART 180—[AMENDED]**

■ 1. The authority citation for part 180 continues to read as follows:

**Authority:** 21 U.S.C. 321(q), 346a and 371.

■ 2. Section 180.464 is amended by revising the section heading and alphabetically adding a commodity to the table in paragraph (a) to read as follows:

**§ 180.464 Dimethenamid; tolerances for residues.**

(a) \* \* \*

Commodity	Parts per million
* * *	* *
Horseradish .....	0.01
* * *	* *

\* \* \* \* \*

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**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Parts 1, 2, 25, and 90**

[ET Docket No. 04-151, WT Docket No. 05-96, ET Docket No. 02-380, and ET Docket No. 98-237; FCC 05-56]

**Wireless Operations in the 3650-3700 MHz Band**

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule.

**SUMMARY:** This document adopted rules that provide for nationwide, non-exclusive, licensing of terrestrial operations, utilizing technology with a

contention-based protocol, in the 3650-3700 MHz band (3650 MHz) band. It also adopted a streamlined licensing mechanism with minimal regulatory entry requirements that will encourage multiple entrants and stimulate the rapid expansion of wireless broadband services—especially in rural America—and will also serve as a safeguard to protect incumbent satellite earth stations from harmful interference. The Report and Order (R&O) established licensing, service and technical rules that allow fixed and base-station-enabled mobile terrestrial operations. Finally, the R&O maintained the existing Fixed Satellite Service (FSS) and Fixed Service (FS) allocations and modified the Mobile Service (MS) allocation to delete the restriction against mobile operations in the 3650 MHz band. The R&O also maintained the international/intercontinental operation requirements for FSS earth stations.

**DATES:** Effective June 10, 2005, except for 47 CFR 90.203(o), 90.1323, which contain information collections that have not been approved by the Office of Management and Budget (OMB). The Commission will publish a document in the **Federal Register** announcing the effective date of those sections.

**FOR FURTHER INFORMATION CONTACT:** Gary Thayer, Office of Engineering and Technology, (202) 418-2290, or Eli Johnson, 418-1395, Wireless Telecommunications Bureau.

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission’s *Report and Order, and Memorandum Opinion and Order* ET Docket No. 04-151, ET Docket No. 02-380, ET Docket No. 98-237, WT Docket No. 05-96, FCC 05-56, adopted March 10, 2005 and released March 16, 2005. The full text of this document is available on the Commission’s Internet site at <http://www.fcc.gov>. It is also available for inspection and copying during regular business hours in the FCC Reference Center (Room CY-A257), 445 12th Street, SW., Washington, DC 20554. The full text of this document also may be purchased from the Commission’s duplication contractor, Best Copy and Printing Inc., Portals II, 445 12th St., SW., Room CY-B402, Washington, DC 20554; telephone (202) 488-5300; fax (202) 488-5563; e-mail [FCC@BCPIWEB.COM](mailto:FCC@BCPIWEB.COM).

**Summary of the Report and Order**

1. The Report and Order (R&O), adopted rules that provide for nationwide, non-exclusive, licensing of terrestrial operations, utilizing technology with a contention-based

protocol, in the 3650–3700 MHz band (3650 MHz) band. The Commission also adopted a streamlined licensing mechanism with minimal regulatory entry requirements that will encourage multiple entrants and stimulate the rapid expansion of wireless broadband services—especially in rural America—and will also serve as a safeguard to protect incumbent satellite earth stations from harmful interference. The Commission established licensing, service and technical rules that allow fixed and base-station-enabled mobile terrestrial operations. Finally, the Commission maintained the existing Fixed Satellite Service (FSS) and Fixed Service (FS) allocations and modified the Mobile Service (MS) allocation to delete the restriction against mobile operations in the 3650 MHz band. The R&O also maintained the international/intercontinental operation requirements for FSS earth stations.

2. The Commission affirmed its belief that the 3650 MHz band is well-suited to respond to the needs expressed by the growing number of entrepreneurial wireless internet service providers (WISPs), that currently bring broadband services to consumers, particularly those living in rural areas of the United States. Today, rural consumers often have fewer choices for broadband services than consumers in more populated areas. The licensing scheme that has been adopted for this band will provide an opportunity for the introduction of a variety of new wireless broadband services and technologies, such as WiMax. Furthermore, the decisions adopted in the R&O will allow further deployment of advanced telecommunications services and technologies to all Americans, especially in the rural heartland, thus promoting the objectives of Section 706 of the Telecommunications Act of 1996.

3. In the Memorandum Opinion and Order (MO&O), the Commission addressed several petitions for reconsideration and a motion for stay that were filed in response to the First Report and Order (3650 MHz Allocation Order) in ET Docket No. 98–237, 65 FR 69451, November 11, 2000. The Commission denied the petitions for reconsideration, and it also denied the emergency motion for stay.

4. In April 2004, the Commission released the Notice of Proposed Rulemaking (*Unlicensed Operation NPRM, or NPRM*), 69 FR 26790, May 14, 2004, and proposed to allow the operation of unlicensed devices in the 3650 MHz band. In the NPRM, the Commission tentatively concluded that permitting unlicensed devices to operate in the band would be the most

beneficial approach, but also sought comment on alternative licensed approaches as well.

5. The Commission noted that the record clearly supports use of the 3650 MHz band for a variety of FS and MS operations. The Commission concluded that it would serve the public interest to maintain primary FS and MS allocations and a secondary FSS allocation in the band and to devise a regulatory scheme that provides flexibility for a variety of new terrestrial uses. Further, it noted that the public interest would best be served by establishing minimal regulatory barriers to encourage multiple entrants in the 3650 MHz band and to stimulate the rapid expansion of broadband services—especially in America's rural heartland. At the same time, the Commission must ensure that incumbent grandfathered satellite earth stations and Federal Government radiolocation stations in this band are protected from harmful interference.

6. To accomplish these objectives, the Commission concluded that new terrestrial operations in the band should be licensed on a nationwide, non-exclusive basis, with all licensees registering their fixed and base stations in a common database. This streamlined licensing and registration process will provide additional spectrum to WISPs and other potential users suitable for backhaul and other broadband purposes such as community networks—at low entry costs and with minimal regulatory delay. While terrestrial licensees in this band will not have interference protection rights of primary, exclusive use licensees, the licensing scheme imposes on all licensees the mutual obligation to cooperate and avoid harmful interference to one another.

7. To ensure efficient and cooperative shared use of the spectrum, the Commission further required all terrestrial operations in the 3650 MHz band to use technology that includes a contention-based protocol. Such systems allow multiple users to share the same spectrum by defining the events that must occur when two or more devices attempt to simultaneously access the same channel and establishing rules by which each device is provided a reasonable opportunity to operate. Under this approach, terrestrial operations can operate in geographic areas of their own choosing and, because a contention-based protocol will control access to spectrum, terrestrial operations will avoid interference that could result from co-frequency operations. Interference caused by radiofrequency (RF) energy from a fixed or base station transmitter into a nearby fixed or base station

receiver will be addressed by the process the Commission adopted to register fixed and base stations so that they can operate at locations and with technical parameters that will minimize the potential for interference between stations. By requiring use of contention-based technologies, the Commission concluded that it does not have to limit terrestrial operations to outdoor-only or adopt other limiting measures to address possible contention among these new operations. The Commission also concluded that a contention-based protocol will allow the band to be used for a variety of base-station-enabled mobile terrestrial operations, thus providing additional flexibility in the use of the band, as many commenters requested.

8. The Commission concluded that licensing and registration of terrestrial fixed and base stations will also enable them to be easily identified and located to ensure the protection of incumbent FSS earth stations and Federal Government radiolocation stations. Under the approach adopted, new terrestrial operations will have to protect satellite earth station receive-mode operations and Federal Government radiolocation stations in the 3650 MHz band in substantial areas of the country. To simplify this process, the Commission established protection zones around the grandfathered FSS earth stations, similar to the protection areas already designated around the grandfathered radiolocation stations. New terrestrial operations are to avoid operating within these zones, but the Commission will allow new terrestrial operations to negotiate agreements with earth station operators for operations within these protection zones. The technical requirements the Commission placed on fixed and mobile operations, along with our licensing/registration regime, should allow as much flexibility as technically possible at this point, and both prevent interference to the protected earth stations and facilitate the quick resolution of any interference issues that may arise.

9. In short, the actions taken in the R&O for the 3650 MHz band should facilitate the rapid deployment of advanced telecommunications services and technologies to all Americans, thus promoting the objectives of Section 706 of the Telecommunications Act of 1996.

#### Allocation Issues

10. The Commission also maintained the existing FSS and FS allocations in the 3650 MHz band and modified the MS allocation to remove the “base station only” restriction. These allocations should ensure that the

potential widespread use of the band by new terrestrial operations will not be impeded by the introduction of new co-primary FSS earth stations.

11. As proposed in the *NPRM*, the Commission retained the international/intercontinental operating requirement on FSS earth stations by deleting the reference in the Table of Allocations to footnote U.S. 245 in the 3650 MHz band, and recasting it as a new “NG” footnote specifically for the 3650 MHz band. As noted in the *NPRM*, the Commission concluded that deletion of this restriction could result in more extensive FSS use and further curtail the use of this band by terrestrial operations. Finally, by providing for streamlined licensing of terrestrial operations under the existing allocations in the 3650 MHz band, the Commission resolved the questions posed in the *NPRM* regarding segmentation of the band. Among other benefits, the licensing approach the Commission adopted avoids splitting the band between licensed and unlicensed terrestrial operations, thus making the full 50-megahertz of spectrum in the 3650–3700 MHz band more attractive to potential service providers.

#### Licensing Provisions

12. The Commission believed that a non-exclusive nationwide licensing scheme, coupled with a fixed and base station registration requirement, will ensure open access to this spectrum for nominal application fees and allow effective and efficient use of this spectrum in response to market forces. This should allow opportunities for rapid deployment of broadband technologies and will advance our goal of bringing broadband services to all Americans including consumers living in less densely populated rural and suburban areas. The Commission also believed that the use of contention-based technologies will allow efficient use of this spectrum by multiple users without significant degradation of service. Thus, the Commission concluded that it is appropriate and in the public interest to have a licensing scheme that facilitates the sharing of this spectrum among multiple users. Such an approach will also allow licensees in this spectrum maximum flexibility to evolve their systems to meet uncertain future needs and requirements.

13. The Commission emphasized that the adopted licensing requirements for wireless operations in the 3650 MHz band are minimal in nature. The record in this proceeding indicated that service providers who typically operate on an

unlicensed basis under our part 15 of the Commission’s rules are interested in using this spectrum for the development of wireless broadband services, particularly in underserved and rural communities. The Commission did not impose any eligibility restrictions other than the foreign ownership restriction imposed by statute. The Commission also did not impose any in-band or out-of-band spectrum aggregation limits. As a result, the Commission noted, this band will be open to all potential wireless service providers, including those with limited resources.

14. While the licensing and registration requirements adopted for wireless broadband operations in the 3650 MHz band are minimal in nature, the Commission found that they nevertheless provide benefits to licensees and the public. For example, these requirements will ensure that all terrestrial wireless systems operating in the 3650 MHz band are identified, which should facilitate cooperation among users and ensure that the Commission can monitor the development and usage of this spectrum. Furthermore, while terrestrial licensees in this band will not have interference protection rights of primary, exclusive use licensees, the licensing scheme imposes on all licensees the mutual obligation to cooperate and avoid harmful interference to one another. Should a licensee become aware of harmful interference, even if not intentionally caused, it must act in good faith to help eliminate the interference. In addition, this licensing approach will protect grandfathered FSS earth station and Federal Government operations that will continue to operate in the band on a primary basis. In addition, under the licensing scheme adopted, two principal concerns identified by commenters—the need for high power operations and the need to identify users operating in this band—will be met. Further, the licensing scheme adopted will allow the Commission the opportunity to obtain contact information, should the need arise. Further, site registration will facilitate voluntary interference avoidance and mitigation efforts among users and enable both the Commission and the public to monitor the intensity of spectrum usage in the band.

15. The Commission recognized that some commenters advocated exclusive licensing for the 3650 MHz band. However, the Commission believed that on balance, the non-exclusive licensing approach adopted in the R&O, combined with technical safeguards, is more suitable to the unique characteristics of this band. The

Commission explained that although a non-exclusive approach may require voluntary coordination efforts to avoid in-band terrestrial interference, the licensing regime adopted in the R&O obligates licensees to cooperate to avoid harmful interference, and makes the information necessary to conduct such coordination available via a site registration database. Some commenters have also raised contention as an issue; the record indicated that this band is well-suited for high power broadband operations using contention-based technologies that facilitate sharing. The Commission believed that the licensing scheme and technical rules adopted will result in investments in this band. In addition, because of the limitations on the use of this band in coastal areas near FSS earth stations, and because of the lack of obvious pairing opportunities with other spectrum bands for duplex operations, much of the interest in development of the band is focused on smaller markets and less densely populated areas of the U.S. where there is less likelihood of congestion and interference. Even in those larger markets that will be open for terrestrial use, the Commission believed that licensees in the band will have the incentive to develop spectrum sharing practices based on the use of contention-based technologies that will promote efficient use of the band. In short, the Commission believed that its decision struck the best balance for all the competing interests in a manner that best serves the public interest.

#### Nationwide Non-Exclusive Licensing

16. Under the rules adopted by the Commission, each terrestrial licensee in the 3650 MHz band will have a non-exclusive nationwide license and be required to register its fixed and base stations. The licensee will be allowed to register all of its fixed and base stations under one license. A non-exclusive nationwide wireless license does *not* authorize operation of a fixed or base station in this band until that station is registered. Each wireless licensee will be authorized to operate on all 50 megahertz of the 3650 MHz band on a co-primary basis with other wireless licensees, and there will be no spectrum aggregation limits. As a result, wireless licensees in the 3650 MHz band will be able to use as much of this spectrum as needed for their operations as long as they comply with all applicable licensing, service, and operating rules. All wireless licensees in the 3650 MHz band will have equal rights to the use of this spectrum (*i.e.*, no priority for first-in users), but all these licensees will have a mutual obligation to

cooperate and avoid harmful interference to one another.

17. Applicant qualification for non-exclusive nationwide wireless licenses in the 3650 MHz band will be assessed in accordance with FCC Form 601 and Commission rules. There will be no limit to the number of non-exclusive nationwide wireless licenses that may be granted for this spectrum, and these licenses will serve as a prerequisite for registering individual fixed or base stations. The Commission notes that registration process is simple and streamlined. It will be done electronically. The initial filing date for these wireless licenses, along with directions on how to use the Universal Licensing System (ULS), will be announced in a future Wireless Telecommunications Bureau (WTB) Public Notice. The Commission notes that in order to keep the ULS licensing and registration data base accurate and up-to-date, it delegates to the WTB the authority to adopt rules regarding the reporting of data base information including reporting of any license or station transfers. The WTB will issue a Public Notice seeking comment on these issues, if needed.

#### Other Licensing Provisions

18. The *3650 MHz Service Rules NPRM* sought comment on licensing, operating and service rules related to wireless operations in the 3650 MHz band. In our subsequent *Unlicensed NPRM*, the Commission sought to refresh the record on these issues. The Commission addressed these issues in terms of how they relate to the non-exclusive nationwide licensing scheme with fixed and base station registration provisions for this spectrum.

19. *Rule Part and Regulatory Status.* The *3650 MHz Service Rules NPRM* sought comment on the rule part that should be utilized to govern wireless operations and services in the 3650 MHz band and noted that wireless broadband service licensees in the 3650 MHz band could be subject to other rule parts depending on the types of operations and services that they offered. Upon consideration of the record and given the non-exclusive nationwide nature of the licenses in the 3650 MHz band, the Commission decided to place the licensing, service, and operation provisions for this spectrum under a new subpart that will be entitled "3650 MHz Wireless Broadband Services," created in the existing part 90 of its rules. This rule part already contains licensing, service and operating provisions for the private land mobile radio (PLMR) services, including services that operate on

certain frequencies on a shared use basis. As with wireless services in the 3650 MHz band, this means that multiple licensees in these shared use bands operate on the same frequencies in the same geographic areas without exclusive spectrum usage rights and interference protections.

20. Licensees in the 3650 MHz band may provide services on a common carrier or non-common carrier basis and will have flexibility to designate their regulatory status based on any services they choose to provide. Wireless licensees in the 3650 MHz band will be able to provide all allowable services anywhere within their service area at any time, consistent with whatever regulatory status they choose.

21. While wireless licensees in the 3650 MHz band will be subject to specific licensing and operating provisions adopted in the R&O, other rules may also apply to these licensees depending on the type of service they provide. For instance, if a wireless licensee provides Commercial Mobile Radio Services (CMRS), which makes the licensee a common carrier, other obligations attach as a result of that decision under Title II of the Communications Act or the Commission's rules (e.g., universal service, CALEA).

22. *Spectrum Aggregation Limits, Eligibility, and Foreign Ownership Restrictions.* The *3650 MHz Service Rules NPRM* did not propose any in-band or out-of-band spectrum aggregation limits nor did it propose any eligibility restrictions on who can acquire a wireless license for this spectrum, other than the statutory foreign ownership restrictions. In this order, the Commission decided not to impose any spectrum aggregation limits, either in-band or out-of-band, or eligibility restrictions other than the statutory foreign ownership restrictions. All potential wireless service providers will have equal access to this band.

23. *License Term and Renewal Expectancy.* The *3650 MHz Service Rules NPRM* sought comment on a 10-year license term for wireless licenses in the 3650 MHz band and the standard that should be used for granting a renewal of that license. The Commission concluded that it is in the public interest to adopt a 10-year license term. The Commission's action is consistent with license terms adopted for other services including certain services in part 90. A ten-year license term will provide regulatory certainty and encourage investments in the band. At the end of 10 years, licensees will be required through ULS to renew their non-exclusive nationwide license for

wireless operations in the 3650 MHz band. Since there is no limit on the number of wireless licenses that will be granted for the 3650 MHz band, existing licensees can expect to receive license renewals as long as they are in compliance with the Commission's rules. In addition, renewal of a non-exclusive nationwide license will automatically renew registration of all fixed and base stations associated with that license.

24. *Performance Requirements.* The *3650 MHz Service Rules NPRM* sought comment on whether wireless licensees in the 3650 MHz band should be subject to any performance or build-out requirements. Build-out in this band will be driven by market demand and the ability to meet this demand will not be restricted by a limited number of wireless licenses or an exclusive licensing structure. As a result, the Commission found that there was no need to impose a performance or build-out requirement. Any interested party is free to meet this demand at any time, as long as it has a valid wireless license, registers its fixed and base stations, and complies with other applicable rules. Although the Commission did not impose a performance requirement, it required that licensees delete registrations for unused fixed and base stations in order to maintain database integrity and facilitate efficient coordination between licensees.

25. *Disaggregation, Partitioning, and Secondary Markets.* The *3650 MHz Service Rules NPRM* sought comment on whether wireless licensees in the 3650 MHz band should be able to partition their own service areas and disaggregate their respective spectrum. Typically, wireless licensees with exclusive licensing areas are permitted to partition and disaggregate and commenters supported allowing wireless licensees in the 3650 MHz band to be able to take advantage of these provisions.

26. The Commission found that its decision to license the 3650 MHz band for wireless services on a non-exclusive nationwide basis obviates the need to adopt partitioning and disaggregation provisions. Wireless licensees in the 3650 MHz band, however, may assign or transfer their non-exclusive nationwide licenses with all the fixed and base stations registered under those licenses. A licensee can transfer affixed or base station registered under its non-exclusive nationwide license to another non-exclusive nationwide licensee so long as the first licensee deletes the registered fixed or base station from its license and the second licensee registers the station under its license.

27. For similar reasons, the Commission concluded that it need not make its spectrum leasing rules applicable to wireless licensees in the 3650 MHz band. Accordingly, the spectrum leasing arrangements described in the *Secondary Markets Report and Order*, 68 FR 66252, November 25, 2003, are not applicable, and the Commission does not see a need to apply those spectrum leasing rules and policies to this spectrum at this time.

#### Statutory Compliance for Licensing Approach

28. The Commission's decision to adopt a licensing scheme that avoids mutual exclusivity comports with the competitive bidding approach set forth in the Commission's Balanced Budget Act proceeding. In the *BBA Report and Order*, 66 FR 33, January 2, 2001, the Commission established a framework for exercise of the Commission's auction authority, as expanded by the Balanced Budget Act. The *BBA Report and Order* affirmed that, in identifying which classes of licenses should be subject to competitive bidding, the Commission must pursue the public interest objectives set forth in section 309(j)(3). Although Balanced Budget Act did not amend section 309(j)(3)'s directive to consider certain public interest objectives in identifying classes of licenses and permits to be issued by competitive bidding, pursuant to that statute, section 309(j)(1) did include a reference to the Commission's obligation to avoid mutual exclusivity under section 309(j)(6)(E), which directs the Commission to use engineering solutions, negotiation, threshold qualifications, service regulations, or other means to avoid mutual exclusivity where it is in the public interest to do so. Accordingly, the *BBA Report and Order* affirmed that the Commission has a continuing obligation to attempt to avoid mutual exclusivity by the methods prescribed in section 309(j)(6) only when doing so furthers the public interest goals set forth in section 309(j)(3).

29. In adopting the appropriate licensing scheme for any particular spectrum band, the Commission has interpreted its statutory obligation in a manner consistent with the opinion of the U.S. Court of Appeals for the D.C. Circuit which stated, "Section 309(j)(6)(E) imposes an obligation only to minimize mutual exclusivity 'in the public interest' and 'within the framework of existing policies.'" The Commission's decision regarding the appropriate licensing scheme for this particular spectrum centers around the

unique characteristics of the 3650–3700 MHz band, including the need to protect grandfathered FSS earth station operations against harmful interference, the lack of pairing opportunities with other spectrum bands limiting the possibility of duplex operations, and the goal of enabling multiple users to share spectrum in the same geographic area without interference through the use of contention based technologies. As the record reflects, this band is well suited for high power broadband operations through such technology, and this approach is therefore likely to lead to the introduction of new and innovative broadband services in this band. With respect to the 3650 MHz band, the Commission determined that it serves the public interest and the Commission's policy objectives to promote the rapid deployment of broadband services to assign non-exclusive nationwide licenses for the use of this spectrum. Insofar as this licensing scheme will not result in mutual exclusivity, the use of competitive bidding is not required.

#### Technical Requirements

30. The Commission adopted the same magnitude of power limits for terrestrial operations proposed in the *NPRM*, but qualified the limit in terms of power density over a bandwidth. The Commission concluded that FSS protection zones that are somewhat modified from those proposed in the *NPRM* remain a viable tool for avoiding interference scenarios that might arise from FS/MS operations. The Commission concluded that mobile terrestrial operations could be accommodated while protecting grandfathered FSS and Federal Government stations so long as such operation is enabled by transmissions from a nearby fixed or base station. The Commission also concluded that technologies using a contention-based protocol are available that control access to spectrum and thereby mitigate the possibility of interference that could result from co-frequency operation of fixed and mobile stations, particularly in congested operating environments. In that connection, the Commission adopted equipment certification provisions to ensure that both fixed and mobile stations incorporate the requisite contention-based technologies. Interference caused by radiofrequency (RF) energy from a fixed or base station transmitter into a nearby fixed or base station received will be addressed by the process the Commission adopted to register fixed and base stations so that they can operate at locations and with technical parameters that will minimize

the potential for interference between stations. The Commission adopted out-of-band emission limits for terrestrial operations and specify criteria for operations in proximity to Canadian and Mexican borders. Finally, the Commission retained the same 80 km coordination zone already established in the rules for the protection of the three grandfathered Federal Government stations operating in the band.

31. The Commission decided to leave it up to the industry to determine flexible and efficient methods for meeting the technical requirements adopted. In particular, the Commission noted that industry would need to address issues such as contention-based protocols and base-station enabled mobile operations.

32. *Fixed Station Operating Power.* In the *NPRM*, the Commission proposed an EIRP limit of 25 Watts for fixed stations operating in the 3650 MHz band. The Commission adopted a *peak* power limit, expressed as a power density, of 25 Watts per 25 megahertz bandwidth, for the following reasons. First, the Commission noted that the majority of commenters generally support the use of 25 watts for fixed operations. Additionally, the Commission noted that the potential for a system to cause interference is related to bandwidth in addition to power. In this respect, the Commission recognized that different systems operating in the 3650–3700 MHz band may utilize various operating bandwidths. Consequently, the Commission believes that EIRP limits should be specified not simply as a maximum power, but rather in terms of power density (*i.e.*, power per unit of occupied bandwidth). By specifying the power limit in this way, protection of FSS earth stations is simplified because a single separation distance can be specified regardless of the bandwidth used. For example, a system using a bandwidth of 25 megahertz may use the full 25 Watts peak EIRP, but a system using only 1 megahertz bandwidth may only use 1 watt peak EIRP; in either case, the power density is equivalent. If the EIRP limit were not specified in this manner, a 1 megahertz system could use the full 25 watts, which, because all the power would be concentrated in a relatively small bandwidth, would result in much larger separation distances necessary to protect FSS earth stations, as compared to a system with 25 megahertz bandwidth. Therefore, the Commission adopted a fixed station peak power density of 25 Watts EIRP in any 25 megahertz band. Furthermore, to promote additional flexibility in system design, any combination of transmitter output power and antenna gain will be

permitted, so long as the peak 25 Watt/25 megahertz EIRP limit is not exceeded. The Commission believes that the power density requirement it adopted facilitates the goal of ensuring efficient use of the band. As detailed, this limit results in reasonably sized protection zones around FSS earth stations to maximize the area in which terrestrial licensees can operate while also providing enough power for these terrestrial operations to operate over sufficient ranges to provide service to a large number of users.

33. *Mobile station operations.* Mobile operations, including mobile-to-mobile, will be permitted under the rules we adopted in the R&O. The Commission noted, however, that mobile operations pose a greater risk of causing interference to FSS earth stations than fixed stations. Based on the record, the Commission concluded that, before it can transmit, a mobile station (including those operating in mobile-to-mobile mode) will be required to positively receive and decode an enabling signal transmitted by a base station. Thus, mere spurious emissions from other RF sources, such as another mobile transmitter, cannot enable a mobile to transmit. The Commission believes that this approach will ensure that spurious emissions from nearby devices will not inadvertently trigger the transmit ability of a mobile station. Furthermore, this approach will ensure that any mobile station will be within a reasonable distance of a base station and, thus, far from an FSS earth station (or federal government station) before it can transmit. The rules adopted will also allow for mobile-to-mobile operations. Beyond the basic requirement for the use of base station trigger, the Commission concluded that it should not adopt additional requirements regarding the characteristics of the signal needed to trigger mobile transmissions (e.g., signal level and content). Instead, the Commission decided to leave it up to the industry to determine flexible and efficient methods for meeting this requirement. The Commission noted, however, that meeting this requirement should not pose any undue burden upon manufacturers inasmuch as equipment deployed today already incorporates a similar mechanism.

34. *Mobile operating power.* In the NPRM, the Commission proposed to limit mobile devices to a peak EIRP of 1 Watt. Accordingly, the Commission concluded that a maximum peak EIRP of 1 Watt over a 25 megahertz bandwidth will provide a reasonable balance between interference protection goals and fostering the most flexible use

of mobile stations in the 3650 MHz band. In the same manner as the power limits for fixed stations, the Commission specified the mobile power limit in terms of bandwidth density in order to accommodate systems with various bandwidths while assuring predictable protection of incumbent stations. The Commission also noted that this power/bandwidth level is consistent with existing wireless mobile equipment operating in other bands, and with proposed wireless mobile systems under consideration by IEEE 802.16.

35. *Antennas.* In the NPRM, the Commission observed that sectorized and phased array antennas could be used to create highly spectrum efficient networks and could enable an application like a broadband local area network to serve a number of spatially separated clients from a single fixed antenna site. Such antennas allow systems to use spectrum more efficiently by making it possible to re-use a given frequency to communicate with different devices along non-overlapping paths. The Commission believes that allowing such flexibility encourages both new and novel antenna technologies that will foster more intensive spectrum use.

36. The Commission concluded that transmitters installed at fixed locations should not be prohibited from using any particular type of antenna design. As a general requirement, the EIRP in any antenna beam must be limited to 25 Watts per 25 megahertz. However, transmitters using sectorized, scanning spot-beam, or other antenna types with multiple beam capability shall be required to limit their EIRP in any direction to no more than the limit the Commission adopted for fixed systems (i.e., 25 Watts per 25 megahertz). Thus, the aggregate power transmitted simultaneously on overlapping beams will have to be reduced such that the EIRP in the area of overlap does not exceed the limit for a single beam. In addition, to allow flexibility in deployment of advanced antenna systems, including sectorized and adaptive array systems, the Commission will allow systems using these antennas to operate with an aggregate transmit output power transmitted simultaneously on all beams of up to 8 dB above the limit for an individual beam. The Commission believes that these rules will provide flexibility for licensees to employ a wide variety of advanced antennas to meet their needs while still ensuring protection to FSS earth stations. Applications for equipment authorization must include the algorithm that confirms that this requirement is met.

37. *Protection of terrestrial stations.* Under the licensing scheme being adopted for terrestrial transmitters in the 3650–3700 MHz band, it will be possible for both base and mobile stations to operate virtually anywhere—except near FSS earth stations and Federal stations. Mechanisms must therefore be in place to ensure operation on an interference-free basis. The Commission stated that it is concerned about two different kinds of interference in the 3650–3700 MHz band. The first could occur if the radiofrequency (RF) energy from a fixed or base station transmitter interferes with the performance of a nearby fixed or base station receiver. The second type of interference could take place if two or more stations are competing with each other for access to the spectrum. With regard to the former, the Commission will provide, at <http://wireless.fcc.gov/uls>, information regarding the location of all registered stations in the band. Parties seeking to register a new station should examine this database, and then make every effort to ensure that their station operates at a location, and with technical parameters, that would minimize the potential for mutual interference between both the new and existing stations.

38. The Commission believes the best way of preventing the second form of interference from occurring is to require systems operating in the 3650–3700 MHz band to incorporate a contention-based protocol. Such protocols can be characterized by having the following properties: Procedures for initiating new transmissions, procedures for determining the state of the channel (available or unavailable), and procedures for managing retransmissions in the event of a busy channel.

39. Systems using a contention-based protocol have been common for quite some time for both licensed and unlicensed systems. Because it is not according terrestrial licensees exclusive use of the spectrum in any area and because it desires to provide for widespread deployment of equipment, the Commission believes that a contention-based protocol is a reasonable, cost effective method for ensuring the ability of any user to access the spectrum. A contention based protocol also will have to ensure that all users will have a reasonable opportunity to operate, so that no operator can block others' access to the spectrum. Accordingly, the Commission required fixed, base and mobile equipment designed for use in the 3650 MHz band to incorporate some type of contention based protocol. Consistent with past

practice, the Commission did not specify a specific protocol, but left it to the industry and standards bodies to determine appropriate protocols. The incorporation of such a protocol will be a requirement of the equipment certification process, and equipment that appears to be designed to preclude others from using this spectrum will not be approved. In monitoring the use of this spectrum, the Commission noted that it remains free to modify the rules if there appears to be significant problems in this regard. The Commission also added a definition of contention-based protocol into the rules, see section 90.7.

40. *FSS Earth Station Protection.* Under the streamlined licensing approach adopted in the R&O, terrestrial FS/MS operations must continue to protect satellite earth stations that retain their primary status under our FSS grandfathering provisions for the 3650 MHz band. The Commission adopted circular protection zones of 150 km around the grandfathered earth stations. The Commission recognizes that the simplified circular protection zones that we are being imposed here employs a high degree of worst-case conservatism that, in many instances, could result in prohibiting the use of transmitters in less-than-worst-case circumstances where, in reality, there would be no likelihood of interference to FSS earth stations. To provide additional flexibility in the face of these conservative protection zones, the Commission determined that it will allow terrestrial operations within these protection zones, so long as they negotiate agreements with the earth stations operators.

41. The Commission adopted a registration requirement as an integral part of the streamlined licensing scheme for the 3650 MHz band. The Commission noted that this approach would ensure that the locations of all terrestrial users are known. To further assure that FSS earth stations are adequately protected, the Commission imposed the protection distance as a circular zone around the earth station. This differs from the proposal made in the NPRM of using a keyhole-like pattern based on the earth station pointing towards a specific satellite. The Commission made this decision because, in practice, each earth station can look at multiple satellites across the geostationary arc. Thus, a circular protection zone is more appropriate for ensuring interference protection in all cases. In addition, the Commission pointed out that using a circular zone has the benefit of simplicity for all parties as it is easy to determine exactly

which areas are excluded from terrestrial station operation.

42. Finally, the Commission noted that a more accurate determination of the requisite separation distances could be derived if the particular operating parameters of both the fixed terrestrial transmitter and protected FSS earth stations are taken into account. However, requiring operators to independently make detailed transmission path and link budget calculations could be unduly burdensome. The Commission recognized, however, that such operation within the conservative portion of the protection zone is possible, and thus will allow such operation so long as the FS station and the FSS station licensees mutually agree on appropriate operating parameters. An FS entity that requests to operate within the protection zone will be required to negotiate with each protected earth station that is potentially affected by the proposed fixed or mobile operation. Further, the FSS station licensee must not refuse to negotiate with the fixed licensee, and both parties should negotiate in good faith. The results of these negotiations must be documented and kept with the station's records in the event that the Commission needs this information.

43. *Equipment Authorization Requirements.* As discussed in the licensing sections of the R&O, the Commission adopted rules to license terrestrial operations in the 3650 MHz band under part 90 of its rules. In addition, the Commission noted that there already exists a general requirement for all equipment to obtain certification under that rule part. This requirement recognizes that there is a certain "core group" of equipment that requires a higher level of oversight than manufacturer's self-approval (Declaration of Conformance or Verification), due to a high risk of non-compliance, the potential to create significant interference to safety and other communication services, and the need to ensure compliance with the requirements to protect against radio frequency exposure. The Commission found that because of the risk of interference to FSS earth stations, equipment designed for operation in the 3650 MHz band falls into this "core group" of equipment. Thus, as with other part 90 equipment, the Commission required manufacturers to obtain certification for their equipment. The Commission noted that applications for equipment authorization must contain specific information regarding the methods employed to meet our rules. Specifically, certification

applications for systems using advanced antenna technology must provide the algorithm used to reduce the EIRP to the maximum allowed in the event of overlapping beams. In addition, the application must contain information discussing how the equipment meets the requirement to employ a contention based protocol for gaining access to the spectrum and for mobile transmitters, including a description of how the requirement to positively receive and decode an enabling signal is incorporated.

44. The Commission noted, that the rules currently require certification to be approved by the Commission or a designated Telecommunication Certification Body (TCB) before they may be marketed. In General Docket 98-68, we established the requirements for TCBs that are allowed to approve equipment in the same manner as the Commission. In that proceeding, the Commission stated that while it intended to use TCBs to certify a broad range of equipment, we found that certain functions should continue to be performed by the Commission. The functions included certifying new or unique equipment for which the rules or requirements do not exist or for which the application of the rules is not clear. Because it had not previously specified that certification would be based on specification of a contention based protocol, nor on the ability of a mobile station to transmit only after receiving an enabling signal from a base station, the Commission, believes that many questions about the application of the rules may arise. Thus, the Commission decided that TCBs should not be permitted to certify or approve permissive changes for equipment operating under the rules adopted until it gains sufficient experience with this band. Once the Commission gains sufficient experience with equipment in this band, it will determine whether TCBs should be permitted to certify them. Accordingly, until the Chief of the Office of Engineering and Technology acting under the existing delegated authority issues an announcement by public notice, TCBs will not be permitted to certify equipment in the 3650-3700 MHz band.

45. *RF Safety.* The Commission decided that it will require manufacturers to obtain certification for their equipment, among other reasons, to address the need for compliance with the requirements to protect against radio frequency (RF) exposure. In addition, licensees are responsible for ensuring that transmitting equipment, as actually installed, continues to meet RF exposure guidelines. For example, fixed

transmitters operating at the peak EIRP output power of 25 Watts/25 MHz authorized in the R&O would not generally be required to undergo routine RF safety evaluation as a part of the equipment certification process because installation constraints typically result in sufficient separation distances such that human exposure limits would not be exceeded. Nevertheless, the Commission, recognized that such transmitters, particularly those that might be licensed by individuals or other small entities, could have a greater chance of being installed in a diverse range of atypical environments; possibly, for example, even inside a residential home. In such instances, an improper installation could result in circumstances where RF safety standards might be exceeded due to a reduced separation distance. Consequently, the Commission required, as part of the certification process, that equipment manufacturers include sufficiently detailed installation instructions and guidelines to ensure that licensees locate such transmitters in a manner that will maintain appropriate human exposure separations at all times.

46. By comparison, non-fixed transmitters generally require additional evaluation as a part of the manufacturer's equipment certification process. Based upon the peak EIRP operating limit of 1 Watt specified here. The Commission required routine evaluation for these devices to demonstrate RF exposure compliance. In any event, manufacturers are responsible for ensuring that any equipment they design, manufacture, and sell meets the corresponding RF safety limits. Licensees of non-fixed transmitters may generally rely upon the manufacturers' equipment certification that RF exposure guidelines for that equipment have been met.

47. *Federal Government Facilities.* In the NPRM, the Commission sought comment on whether the methods described in the NPRM would provide an effective means of protecting the three Federal Government radiolocation stations that operate in the 3650–3700 MHz band on a primary basis. These stations, located at St. Inigoes, MD, Pascagoula, MS, and Pensacola, FL, were grandfathered as a condition of the transfer of the 3650 MHz band to a mixed-use status. The current rules require that FS and FSS stations located within 80 kilometers of each site coordinate with the Federal Government. As noted, this protection criterion for Federal stations has been in existence for fixed stations since 1999 and the Commission did not propose to

alter it. Thus, the Commission will continue to require coordination with NTIA through the Frequency Assignment Subcommittee of the Interdepartmental Radio Advisory Committee for any station that requests registration of a site closer than 80 km from the three specified radiolocation sites. The Commission, further noted that our ULS system has the capability of screening for any terrestrial applications that might propose site coordinates located within the 80 kilometer coordination zone and, within approximately 24 hours, flag that application for any necessary coordination.

48. Furthermore, the Commission called to the attention of potential users of the 3650–3700 MHz band that the adjacent 3600–3650 MHz band is used by high power federal government radar systems and they are not limited to the three protected sites. Consequently, terrestrial transmitter/receiver manufacturers will likely find the need to incorporate design measures to protect their equipment from possible overload by these adjacent band radar signals. The Commission strongly recommends that parties installing equipment in this band should determine if there are any nearby Federal Government radar systems that could affect their operations. Information regarding the locations and operational characteristics of the radar systems operating adjacent to this band are provided in NTIA TR-99-361.

49. *Operation in Proximity to U.S. Borders.* To provide sufficient protection to Canadian and Mexican stations operating in the 3650–3700 MHz band that are located near the U.S. borders, the Commission proposed in the NPRM to require that fixed devices be located at least 8 kilometers from the U.S./Canada or U.S./Mexico border if the antenna of the device looks within the 160° sector away from the border and be located at least 56 kilometers from each border if the device looks within the 200° sector towards the border. This proposal is consistent with the treatment of licensed fixed stations in bands above 470 MHz along the U.S./Canada border. The Commission concluded that these same considerations apply to the type of licensed operation that we permit in the R&O. Accordingly, the Commission adopted the requirements for operation near the borders as proposed. The Commission pointed out, however, that even under these guidelines, operators might need to further reduce their power to protect FSS earth stations in Canada or Mexico. It further note that, under our current agreement with

Canada, operations within the distances specified above may be permitted if we are able to coordinate such use with Canada. The Commission noted that it currently has no agreement with Mexico to permit such coordinated use at this time, but in the future, it may negotiate more specific agreements with Mexico and Canada to govern operations near our borders in the 3650–3700 MHz band. Licensees in this band would be required to comply with the provisions of such agreements.

50. *Adjacent Band Emissions.* In the NPRM, the Commission sought updated comment on what interference criteria might be used to protect adjacent band services from licensed systems operating in the 3650 MHz band. For example, the Commission asked if it should require that licensed non-fixed devices comply with the field strength limit described in the *NPRM* for unlicensed devices; or whether we should require that licensed fixed stations comply with a particular field strength limit or satisfy the adjacent band protection criteria proposed in the *3650 MHz Service Rules Second NPRM*. In the *3650 MHz Service Rules Second NPRM*, the Commission proposed that, in order to protect FSS operations in the 3700–4200 MHz band from interference, terrestrial stations operating in the 3650–3700 MHz band would have to comply with the part 101 emission limits already in place to protect such FSS systems from licensed fixed stations operating in the 3700–4200 MHz band. Therein, the Commission, discussed a proposal made earlier in the ET Docket 98–237 proceeding concerning whether the out of band emission limit defined by  $43 + 10 \log(P)$  dB minimum attenuation that applies to broadband PCS should be applied to FS operations in the *3650–3700 MHz band*. Comments to that earlier proposal were divided. In that context, the Commission proposed in the *3650 MHz Service Rules NPRM* to require that terrestrial service equipment operating in the 3650–3700 MHz band comply with the emission limits already in place for FS operation in the adjacent 3700–4200 MHz band. Commenters to that proposal were similarly split on what criterion to apply.

51. The Commission adopted rules here to require that new terrestrial operations in the 3650 MHz band limit emissions into the adjacent 3600–3650 MHz and 3700–4400 MHz bands by a minimum attenuation of  $43 + 10 \log(P)$  below the transmit power. That is, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at



least  $43 + 10 \log(P)$ . The Commission noted that this requirement is consistent with the out of band emission limit specified in several of the Commission's rule parts (reference) for wireless devices including higher power devices. Furthermore, the limit specified in this section is a generic limit that has been applied successfully for many of our wireless services. Finally, the Commission noted that this limit is very conservative, especially for coded digital signals which generally decay more rapidly and produce lower levels of out of band emission than analog signals. On balance, therefore, the Commission believes that this criterion should provide appropriate protection from out of band emission.

52. *Space station power flux density.* In the *3650 MHz Service Rules NPRM* the Commission sought comment on whether it should adopt a rule for the power flux density (pfd) that a space station operating in the 3650–3700 MHz band may produce consistent with the limit for space stations in the adjacent 3700–4200 MHz band. The limit for the 3700–4200 MHz band, which is contained in § 25.208(a) of the Commission's rules, is identical to the limit in the ITU Radio Regulations, which applies throughout the 3400–4200 MHz band. One commenter supported applying the same pfd limit in the 3650–3700 MHz band as is applied to the upper adjacent band. In order to conform its rules in this regard to the ITU Radio Regulations, the Commission applied the same pfd limit in the 3650–3700 MHz band as it does in the 3700–4200 MHz band.

#### Memorandum Opinion and Order

53. In the MO&O, the Commission addressed several petitions for reconsideration and an emergency motion for stay that were filed in response to the *3650 MHz Allocation Order* in ET Docket No. 98–237.

54. Consistent with its conclusion in the *Unlicensed Operation NPRM*, the Commission found no statutory obstacle to its decision to affirm its previous allocation decisions, in the *Unlicensed Operation NPRM*, the Commission, concluded that it did not have any remaining statutory obligations under section 3002 of the BBA. Moreover, in consideration of its decision to adopt a licensing approach that does not result in the acceptance of mutually-exclusive applications, the arguments presented by satellite interests to the effect that the Commission inappropriately determined that the 3650 MHz band could satisfy the requirements of section 3002 of the BBA are moot.

#### Allocation Issues

55. Petitioners generally challenge the rules adopted in the *3650 MHz Allocation Order* that created a new, primary FS/MS allocation and made future, non-grandfathered FSS earth stations secondary. In the *NPRM*, the Commission, asked for comments to refresh the record on the full range of allocation, technical, service and licensing issues raised in this proceeding—including the possibility of revisiting the FSS allocation status in the 3650 MHz band. Thus, the Commission concluded that it had considered anew the potential benefit of different sharing mechanisms in light of this renewed and expanded record. With more specific relation to these petitions for reconsideration, the Commission found that its decision here affirms the FSS allocation changes made in the *3650 MHz Allocation Order*. The Commission stated that, in essence, it had decided that it is desirable to foster new terrestrial services under the FS/MS allocations while protecting a relatively small and static number of grandfathered FSS earth stations in the band. It further noted that it was accomplishing this goal by providing a mechanism (under a streamlined licensing approach) for preventing and addressing any interference concerns of FSS earth stations that might arise from sharing the band with terrestrial operations. The Commission, thus found that its decision strikes a balance among a number of competing factors in a manner that its believe will best serve the public interest and foster the expeditious introduction of new terrestrial services in the 3650 MHz band.

56. Therefore, In light of its full review of the refreshed record in this proceeding, and in light of the decisions made in the companion R&O, the Commission denied the aspects of the petitions that challenge and seek to reverse the allocation decisions made in the *3650 MHz Allocation Order*.

#### TT&C Issues

57. The Commission denied the petitions for reconsideration insofar as they request that it allow in the 3650 MHz band new TT&C earth stations on a primary basis for out-of-band FSS systems. The Commission concluded, as it stated in the *3650 MHz Service Rules NPRM*, that the basic purpose of the part 25 in-band rules for TT&C is valid. In particular § 25.202(g) of the rules effectively limits FSS operators to operating TT&C links in the same frequency bands as their FSS operations. Thus, a GSO/FSS operator

will generally coordinate its TT&C operations with the same set of satellites, at adjacent orbital locations, with which it coordinates its FSS operations. This simplifies the coordination process for FSS systems and also provides an incentive for an operator to maximize the efficiency of a system's TT&C operations while minimizing the constraints placed on other satellite operations. The Commission noted that its decision is based on a recognition that certain events have occurred since these petitions were filed that mitigate the need to provide the requested relief. In particular, the Commission noted, that it has since authorized satellite systems in the Ka band with TT&C links to be located within band. As a result, TT&C facilities are now available for Ka band systems. As for pending V band system applications, the Commission believes that it is better to address the TT&C needs of particular systems in the context of acting on specific applications for waiver rather than modify the rule based on generalized arguments that some assigned frequency bands of satellite systems are so congested, unreliable, or lacking in manufactured equipment as to render in-band TT&C operations unfeasible.

58. With regard to the filing deadline for co-primary TT&C earth station applications, the secondary status of non-grandfathered TT&C sites, and the restriction on grandfathered TT&C sites to frequencies for which the earth station is already licensed, the Commission believes that those aspects of its decision in the *3650 MHz Allocation Order* are necessary measures that help ensure the terrestrial operations under the primary FS/MS allocations are not unduly hampered. The Commission, thus declines to modify these decisions. Furthermore, the Commission, clarified that the decision in the *3650 MHz Allocation Order* was not intended to exempt from the FSS application "freeze," as EchoStar requests, any future requests for earth stations for TT&C operations that serve satellites already authorized in the 3650 MHz band, including new uplink sites. Nonetheless, the Commission, recognizes that individual cases of particular need, particularly for systems already authorized for the 3650 MHz band, can be better addressed through a waiver process that would evaluate each request on its merit.

#### Emergency Motion for Stay

59. In October, 2000, the Commission determined that it was necessary to establish a limit on the acceptance of applications and on the construction of

FSS facilities that would be considered primary under the established grandfathering provisions. Accordingly, in the *3650 MHz Allocation Order*, the Commission decided that applications for FSS earth stations in the 3650–3700 MHz band located within 10 miles of the authorized coordinates of an existing grandfathered earth station must be filed prior to December 1, 2000, in order to still be considered co-primary.

60. The Commission, denied the motion for stay. When the Commission established the November 30, 2000, filing deadline, it did so because it found that additional new FSS facilities permitted by the *Freeze MO&O* could affect the use of the 3650–3700 MHz band by the terrestrial services. By deciding in this Order to maintain the FSS allocation changes made in the *3650 MHz Allocation Order*, the Commission, reaffirmed its conclusion that allowing additional primary FSS earth stations in the 3650 MHz band could negatively affect the prospects for viable FS/MS terrestrial operations. In light of the foregoing, the Commission, concluded that granting the stay (with the possible consequence of establishing new FSS filing window, and thereby increasing the number of primary FSS earth stations in the band) would be directly counter to its fundamental judgments concerning future use of the 3650 MHz band and would not serve the public interest.

#### Ordering Clauses

61. Pursuant to the authority contained in sections 4(i), 302, 303(e), 303(f), and 307 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 302, 303(c), 303(f), and 307 this Report and Order *is hereby adopted*.

62. Parts 1, 2, 15, and 90 of the Commission's rules *are amended* as specified in Rules Changes, and such rule amendments shall be effective 30 days after publication in the **Federal Register**. The Report and Order contains information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104–13, that are not effective until approved by the Office of Management and Budget. The Federal Communications Commission will publish a document in the **Federal Register** following approval of the information collection by the Office of Management and Budget (“OMB”) announcing the effective date of those rules.

63. Pursuant to sections 4(i), 302, 303(e), 303(f), 303(r) and 307 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 302, 303(e), 303(f), 303(r) and 307, the 3650 MHz

Proceeding in ET Docket No. 98–237 *is terminated*.

64. Pursuant to sections 4(i), 302, 303(e), 303(f), 303(g), 303(r) and 405 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 302, 303(e), 303(f), 303(g) and 405, that the petitions for reconsideration of the *3650 MHz Allocation Order are denied*.

65. Pursuant to sections 4(i), 302, 303(e), 303(f), 303(g), 303(r) and 405 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 302, 303(e), 303(f), 303(g) and 405, that the *Emergency Motion for Stay of the 3650 MHz Allocation Order is denied*.

66. Pursuant to 47 U.S.C. 155(c) and 47 CFR 0.131(c) and 0.331, the Wireless Telecommunications Bureau *is granted delegated authority* to adopt requirements regarding the reporting of registration and licensing information, pertaining to the 3650 MHz Wireless Broadband Services, in the Universal Licensing System database.

67. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of this Report and Order and Memorandum Opinion and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

#### Final Regulatory Flexibility Analysis

68. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),<sup>1</sup> an Initial Regulatory Flexibility Analysis (IFRA) was incorporated in the Notice of Proposed Rule Making (NPRM), “*Unlicensed Operation in the Band 3650–3700 MHz*.”<sup>2</sup> The Commission sought written public comments on the proposals in the NPRM, including comment on the IRFA. This Final Regulatory Flexibility Analysis conforms to the RFA.<sup>3</sup>

##### A. Need for, and Objectives of, the Report and Order

69. The Report and Order (“Order”) adopts rules that provide for nationwide, non-exclusive, licensing of terrestrial operations, utilizing contention-based technologies, in the 3650–3700 MHz band (3650 MHz band).

The Order would take the following actions:

- Maintain the existing Fixed Satellite Service (FSS) and Fixed

<sup>1</sup> See 5 U.S.C. 603. The RFA, see 5 U.S.C. 601–612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Public Law 104–121, Title II, 110 Stat. 857 (1996).

<sup>2</sup> See Notice of Proposed Rule Making in ET Docket No. 04–151, 19 FCC Rcd 7545 (7580) (2004).

<sup>3</sup> See 5 U.S.C. 604.

Service (FS) allocations and modify the Mobile Service (MS) allocation to delete the restriction against mobile-to-mobile operations in the 3650 MHz band. The Order would also maintain the international/intercontinental operation requirements for FSS earth stations.

- Adopt a streamlined licensing mechanism that will serve as a safeguard to protect incumbent satellite earth stations and Federal Government radiolocation stations from harmful interference

- Establish minimal regulatory entry requirements that should encourage multiple entrants and stimulate the rapid expansion of broadband services, especially in rural America

- Establish licensing, service and technical rules that allow fixed, and base-station-enabled mobile terrestrial operations

##### B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

70. None.

##### C. Description and Estimate of the Number of Small Entities To Which Rules Will Apply

71. The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein.<sup>4</sup> The RFA generally defines the term “small entity” as having the same meaning as the terms, “small business,” “small organizations,” and “small governmental jurisdiction.”<sup>5</sup> In addition, the term “small business” has the same meaning as the term “small business concern” under the Small Business Act.<sup>6</sup> A “small business concern” is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>7</sup> Nationwide, there are a total of 22.4 million small businesses, according to SBA data.<sup>8</sup>

72. A “small organization” is generally “any not-for-profit enterprise

<sup>4</sup> See 5 U.S.C. 604(a)(3).

<sup>5</sup> 5 U.S.C. 601(6).

<sup>6</sup> 5 U.S.C. 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. 632). Pursuant to 5 U.S.C. 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the **Federal Register**.”

<sup>7</sup> 15 U.S.C. 632.

<sup>8</sup> See SBA, Programs and Services, SBA Pamphlet No. CO–0028, at page 40 (July 2002).

which is independently owned and operated and is not dominant in its field.”<sup>9</sup> Nationwide, there are approximately 1.6 million small organizations.<sup>10</sup> The term “small governmental jurisdiction” is defined as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”<sup>11</sup> As of 1997, there were approximately 87,453 governmental jurisdictions in the United States.<sup>12</sup> This number includes 39,044 county governments, municipalities, and townships, of which 37,546 (approximately 96.2%) have populations of fewer than 50,000, and of which 1,498 have populations of 50,000 or more. Thus, we estimate the number of small governmental jurisdictions overall to be 84,098 or fewer.

73. The Commission has not developed a definition of small entities applicable to manufacturers of communications devices that are licensed on a nationwide, non-exclusive basis. Therefore, we will utilize the SBA definition applicable to Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. Examples of products in this category include “transmitting and receiving antennas, cable television equipment, GPS equipment, pagers, cellular phones, mobile communications equipment, and radio and television studio and broadcasting equipment”<sup>13</sup> and may include other devices that transmit and receive IP-enabled services, such as personal digital assistants (PDAs). Under the SBA size standard, firms are considered small if they have 750 or fewer employees.<sup>14</sup> According to Census Bureau data for 1997, there were 1,215 establishments<sup>15</sup> in this category that

operated for the entire year.<sup>16</sup> Of those, there were 1,150 that had employment of under 500, and an additional 37 that had employment of 500 to 999. The percentage of wireless equipment manufacturers in this category was approximately 61.35%,<sup>17</sup> so we estimate that the number of wireless equipment manufacturers with employment of under 500 was actually closer to 706, with an additional 23 establishments having employment of between 500 and 999. Consequently, we estimate that the majority of wireless communications equipment manufacturers that may be affected by our action are small entities.

#### *D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities*

74. The terrestrial service operations authorized by this Order will be governed by new regulations that will be housed in part 90 of our rules. There presently exists a general requirement for all equipment to obtain certification under part 90.<sup>18</sup> Thus, as with other part 90 equipment, we will require manufacturers to obtain similar certification for their equipment.<sup>19</sup> Consequently, the new equipment certification rules adopted for part 90 in this proceeding for transmitters operating the 3650–3700 MHz band would apply similar reporting or recordkeeping requirements. Further, the regulations add permissible operating frequencies for broadband and other technologically advanced uses. The adopted regulations would not require the modification of any existing products. Additionally, rules adopted for use of the 3650 MHz band require that all applicants and licensees shall cooperate in the selection and use of frequencies in the 3650–3700 MHz band in order to minimize the potential for interference and make the most effective use of the authorized facilities.<sup>20</sup> A database identifying the locations of registered stations will be available at the FCC’s website to facilitate such cooperation.

#### *E. Steps Taken To Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered*

75. The RFA requires an agency to describe any significant alternatives that

it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities. 5 U.S.C. 603.

76. In the NPRM, the Commission proposed a regulatory scheme for the 3650 MHz band that would have permitted unlicensed use of the band. The NPRM also sought comment on alternative approaches, including those that would provide for licensing of terrestrial operations. Based upon comments to the NPRM and further analysis, this Order adopts an approach that provides for nationwide, non-exclusive licensed operations. Consistent with the underlying goals expressed in the NPRM, we believe that this approach will best provide for the introduction of a new variety of broadband services and technologies in the 3650 MHz band, while protecting grandfathered FSS earth station operations from harmful interference that may be caused by the new services and technologies.

77. We see no evidence that the rules set forth in the *Report and Order and Memorandum Opinion and Order* will have a significant economic impact on small entities. The costs involved in the selection and use of frequencies by affected entities, including small entities, should be minimal because of the available on-line database to assist with these efforts. Furthermore, these minimal costs will be shared by all entities that use the 3650 MHz band. In particular, as noted in the *Report and Order*, the streamlined licensing approach should also reduce the costs and regulatory requirements to obtaining a license.<sup>21</sup>

#### *F. Report to Congress*

78. The Commission will send a copy of the *Report and Order and Memorandum Opinion and Order*, including this FRFA, in a report to be sent to Congress and the Government Accountability Office, pursuant to the Congressional Review Act.<sup>22</sup> In addition, the Commission will send a copy of the *Report and Order and*

<sup>9</sup> See 5 U.S.C. 601(4).

<sup>10</sup> Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

<sup>11</sup> 5 U.S.C. 601(5).

<sup>12</sup> U.S. Census Bureau, *Statistical Abstract of the United States: 2000*, Section 9, pages 299–300, Tables 490 and 492.

<sup>13</sup> Office of Management and Budget, *North American Industry Classification System*, pages 308–09 (1997) (NAICS code 334220).

<sup>14</sup> 13 CFR 121.201, NAICS code 334220.

<sup>15</sup> The number of “establishments” is a less helpful indicator of small business prevalence in this context than would be the number of “firms” or “companies,” because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the Census breaks-out data for firms or companies only to give the total number of such entities for 1997, which was 1,089.

<sup>16</sup> U.S. Census Bureau, 1997 Economic Census, *Industry Series: Manufacturing*, “Industry Statistics by Employment Size,” Table 4, NAICS code 334220 (issued Aug. 1999).

<sup>17</sup> *Id.* Table 5.

<sup>18</sup> See 47 CFR 90.203.

<sup>19</sup> See Order at ¶ 69–70, *infra*.

<sup>20</sup> See adopted new rule § 90.1319(c) in Appendix A.

<sup>21</sup> See, e.g., *3650 MHz Report and Order* at paragraphs 27–29.

<sup>22</sup> See 5 U.S.C. 801(a)(1)(A).

*Memorandum Opinion and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA.

**List of Subjects in Parts 1, 2, 25, and 90**

Radio.

Federal Communications Commission.

**Marlene H. Dortch**,  
*Secretary.*

**Rules Changes**

■ For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR parts 1, 2, 25, and 90 as follows:

**PART 1—PRACTICE AND PROCEDURE**

■ 1. The authority citation for part 1 continues to read as follows:

**Authority:** 47 U.S.C. 151, 154(i), 154(j), 155, 225, 303(r), 309, and 325(e).

■ 2. Section 1.1307 is amended by revising paragraph (b) (2) to read as follows:

**§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.**

\* \* \* \* \*

(b) \* \* \*

(2) Mobile and portable transmitting devices that operate in the Cellular Radiotelephone Service, the Personal

Communications Services (PCS), the Satellite Communications Services, the Wireless Communications Service, the Maritime Services (ship earth stations only), the Specialized Mobile Radio Service, and the 3650MHz Wireless Broadband Service authorized under Subpart H of parts 22, 24, 25, 27, 80, and 90 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in §§ 2.1091 and 2.1093 of this chapter. Unlicensed PCS, unlicensed NII and millimeter wave devices are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use, as specified in §§ 15.253(f), 15.255(g), 15.319(i), and 15.407(f) of this chapter. Portable transmitting equipment for use in the Wireless Medical Telemetry Service (WMTS) is subject to routine environment evaluation as specified in §§ 2.1093 and 5.1125 of this chapter. Equipment authorized for use in the Medical Implant Communications Service (MICS) as a medical implant transmitter (as defined in Appendix 1 to Subpart E of part 95 of this chapter) is subject to routine environmental evaluation for RF exposure prior to equipment authorization, as specified in § 2.1093 of this chapter by finite difference time domain computational modeling or laboratory measurement

techniques. Where a showing is based on computational modeling, the Commission retains the discretion to request that specific absorption rate measurement data be submitted. All other mobile, portable, and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure under §§ 2.1091, 2.1093 of this chapter except as specified in paragraphs (c) and (d) of this section.

\* \* \* \* \*

**PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS**

■ 3. The authority citation for part 2 continues to read as follows:

**Authority:** 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

■ 4. Section 2.106 is amended as follows:

■ a. Revise page 54.

■ b. In the list of United States footnotes, revise footnote US245.

■ c. In the list of non-Federal Government footnotes, remove footnote NG170 and add footnote NG185.

The revisions and additions read as follows:

**§ 2.106 Table of Frequency Allocations.**

\* \* \* \* \*

BILLING CODE 6712-01-P

2900-3100 RADIIONAVIGATION 5.426 Radiolocation	2900-3100 MARITIME RADIIONAVIGATION Radiolocation US44	2900-3100 MARITIME RADIIONAVIGATION Radiolocation US44	Maritime (80) Private Land Mobile (90)
5.425-5.427	5.427 US44 US316	5.427 US316	
3100-3300 RADIOLOCATION Earth exploration-satellite (active) Space research (active)	3100-3300 RADIOLOCATION G59 Earth exploration-satellite (active) Space research (active)	3100-3300 Radiolocation Earth exploration-satellite (active) Space research (active)	Private Land Mobile (90)
5.149-5.428	US342	US342	
3300-3400 RADIOLOCATION Amateur Fixed Mobile	3300-3500 RADIOLOCATION US108 G31	3300-3500 Amateur Radiolocation US108	Private Land Mobile (90) Amateur (97)
5.149-5.429-5.430	3300-3400 RADIOLOCATION Amateur		
5.149 5.430	5.149 5.430		
3400-3600 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile Radiolocation	3400-3500 FIXED FIXED-SATELLITE (space-to-Earth) Amateur Mobile Radiolocation 5.433		
5.282-5.432	5.282 5.432		
3500-3700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 5.433	3500-3700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 5.433		
5.431			
3600-4200 FIXED FIXED-SATELLITE (space-to-Earth) Mobile	3600-3700 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile Radiolocation 5.433		
5.435	5.435		
See next page for 3700-4200 MHz	See next page for 3700-4200 MHz		
	US348 US349 See next page for 3700-4200 MHz	US348 US349 See next page for 3700-4200 MHz	See next page for 3700-4200 MHz
	US342 5.282 3500-3600 Radiolocation 3600-3650 FIXED-SATELLITE (space-to-Earth) US245 Radiolocation	US342 5.282 3500-3600 Radiolocation 3600-3650 FIXED-SATELLITE (space-to-Earth) US245 Radiolocation	Private Land Mobile (90)
	3650-3700 FIXED FIXED-SATELLITE (space-to-Earth) NG169 NG185 MOBILE except aeronautical mobile	3650-3700 FIXED FIXED-SATELLITE (space-to-Earth) NG169 NG185 MOBILE except aeronautical mobile	Satellite Communications (25) Private Land Mobile (90)
	US348 US349 See next page for 3700-4200 MHz	US348 US349 See next page for 3700-4200 MHz	See next page for 3700-4200 MHz

\* \* \* \* \*

**United States (US) Footnotes**

\* \* \* \* \*

US245 In the bands 3600–3650 MHz (space-to-Earth), 4500–4800 MHz (space-to-Earth), and 5850–5925 MHz (Earth-to-space), the use of the non-Federal fixed-satellite service is limited to international inter-continental systems and is subject to case-by-case electromagnetic compatibility analysis. The FCC's policy for these bands is codified at 47 CFR 2.108.

\* \* \* \* \*

**Non-Federal (NG) Footnotes**

\* \* \* \* \*

NG185 In the band 3650–3700 MHz, the use of the non-Federal fixed-satellite service (space-to-Earth) is limited to international inter-continental systems.

\* \* \* \* \*

■ 5. Section 2.1091 is amended by revising paragraph (c) to read as follows:

**§ 2.1091 Radiofrequency radiation exposure evaluation: mobile devices.**

\* \* \* \* \*

(c) Mobile devices that operate in the Cellular Radiotelephone Service, the Personal Communications Services, the Satellite Communications Services, the Wireless Communications Service, the Maritime Services and the Specialized Mobile Radio Service, and the 3650 MHz Wireless Broadband Service authorized under subpart H of part 22 of this chapter, parts 24, 25 and 27 of this chapter, part 80 of this chapter (ship earth stations devices only) and part 90 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if they operate at frequencies of 1.5 GHz or below and their effective radiated power (ERP) is 1.5 watts or more, or if they operate at frequencies above 1.5 GHz and their ERP is 3 watts or more. Unlicensed personal communications service devices, unlicensed millimeter wave devices and unlicensed NII devices authorized under §§ 15.253, 15.255, and 15.257, and subparts D and E of part 15 of this chapter are also subject to routine environmental evaluation for RF exposure prior to equipment authorization or use if their ERP is 3 watts or more or if they meet the definition of a portable device as specified in § 2.1093(b) requiring evaluation under the provisions of that section. All other mobile and unlicensed transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, except as specified in §§ 1.1307(c) and 1.1307(d) of this chapter. Applications for equipment

authorization of mobile and unlicensed transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

\* \* \* \* \*

■ 6. Section 2.1093 is amended by revising paragraph (c) to read as follows:

**§ 2.1093 Radiofrequency radiation exposure evaluation: portable devices.**

\* \* \* \* \*

(c) Portable devices that operate in the Cellular Radiotelephone Service, the Personal Communications Service (PCS), the Satellite Communications Services, the Wireless Communications Service, the Maritime Services, the Specialized Mobile Radio Service, the 3650 MHz Wireless Broadband Service, the 4.9 GHz Band Service, the Wireless Medical Telemetry Service (WMTS) and the Medical Implant Communications Service (MICS), authorized under subpart H of part 22 of this chapter, parts 24, 25, 27, 80 and 90 of this chapter, subparts H and I of part 95 of this chapter, and unlicensed personal communication service, unlicensed NII devices and millimeter wave devices authorized under subparts D and E, §§ 15.253, 15.255 and 15.257 of this chapter are subject to routine environmental evaluation for RF exposure prior to equipment authorization or use. All other portable transmitting devices are categorically excluded from routine environmental evaluation for RF exposure prior to equipment authorization or use, except as specified in §§ 1.1307(c) and 1.1307(d) of this chapter. Applications for equipment authorization of portable transmitting devices subject to routine environmental evaluation must contain a statement confirming compliance with the limits specified in paragraph (d) of this section as part of their application. Technical information showing the basis for this statement must be submitted to the Commission upon request.

\* \* \* \* \*

**PART 25—SATELLITE COMMUNICATIONS**

■ 7. The authority citation for part 25 continues to read as follows:

**Authority:** 47 U.S.C. 701–744. Interprets or applies Sections 4, 301, 302, 307, 309 and 332 of the Communications Act, as amended, 47 U.S.C. 154, 301, 302, 307, 309 and 332, unless otherwise noted.

■ 8. Section 25.202 is amended by adding an entry for 3.65–3.7 GHz and a new footnote 17 to the table in paragraph (a)(1) to read as follows:

**§ 25.202 Frequencies, frequency tolerance and emission limitations.**

(a)(1) \* \* \*

Space-to-Earth (GHz)	Earth-to-space (GHz)
3.65–3.7 <sup>17</sup> .	
* * * * *	
* * * * *	

<sup>17</sup>FSS earth stations in this band must operate on a secondary basis to terrestrial radiocommunication services, except that the band is shared co-equally between certain grandfathered earth stations and the terrestrial radiocommunication services.

\* \* \* \* \*

■ 9. Section 25.208 is amended by revising the first sentence of paragraph (a) to read as follows:

**§ 25.208 Power flux-density limits.**

(a) In the band 3650–4200 MHz, the power flux density at the Earth's surface produced by emissions from a space station for all conditions and for all methods of modulation shall not exceed the following values:

\* \* \* \* \*

■ 10. Part 25 is amended by adding § 25.256 to read as follows:

**§ 25.256 Special Requirements for operations in the 3.65–3.7 GHz band.**

Upon request from a terrestrial licensee authorized under Subpart Z, Part 90 that seeks to place base and fixed stations in operation within 150 km of a primary earth station, licensees of earth stations operating on a primary basis in the fixed satellite service in the 3.65–3.7 GHz band must negotiate in good faith with that terrestrial licensee to arrive at mutually agreeable operating parameters to prevent unacceptable interference.

**PART 90—PRIVATE LAND MOBILE RADIO SERVICES**

■ 11. The authority citation for part 90 continues to read as follows:

**Authority:** Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

■ 12. Section 90.7 is amended by adding a new definition, in the alphabetically-appropriate location, as follows:

**§ 90.7 Definitions.**

\* \* \* \* \*

*Contention-based protocol.* A protocol that allows multiple users to share the same spectrum by defining the events that must occur when two or more transmitters attempt to simultaneously access the same channel and establishing rules by which a transmitter provides reasonable opportunities for other transmitters to operate. Such a protocol may consist of procedures for initiating new transmissions, procedures for determining the state of the channel (available or unavailable), and procedures for managing retransmissions in the event of a busy channel.

\* \* \* \* \*

■ 13. Section 90.203 is amended by adding a new paragraph (o), to read as follows:

**§ 90.203 Certification required.**

\* \* \* \* \*

(o) *Equipment certification for transmitters in the 3650–3700 MHz band.* (1) Applications for all transmitters must describe the methodology used to meet the requirement that each transmitter employ a contention based protocol (see §§ 90.7, 90.1305 and 90.1321);

(2) Applications for mobile transmitters must identify the base stations with which they are designed to communicate and describe how the requirement to positively receive and decode an enabling signal is incorporated (see § 90.1333); and

(3) Applications for systems using advanced antenna technology must provide the algorithm used to reduce the equivalent isotropically radiated power (EIRP) to the maximum allowed in the event of overlapping beams (see § 90.1321).

(4) Applications for fixed transmitters must include a description of the installation instructions and guidelines for RF safety exposure requirements that will be included with the transmitter. (See § 90.1335).

■ 14. Add subpart Z to Part 90 to read as follows:

**Subpart Z—Wireless Broadband Services in the 3650–3700 MHz Band**

Sec.

90.1301 Scope.  
90.1303 Eligibility.  
90.1305 Permissible operations.  
90.1307 Licensing.  
90.1309 Regulatory status.  
90.1311 License term.  
90.1312 Assignment and transfer.  
90.1319 Policies governing the use of the 3650–3700 MHz band.

90.1321 Power and antenna limits.  
90.1323 Emission limits.  
90.1331 Restrictions on the operation of base and fixed stations.  
90.1333 Restrictions on the operation of mobile and portable stations.  
90.1335 RF safety.  
90.1337 Operation near Canadian and Mexican borders.

**§ 90.1301 Scope.**

This subpart sets out the regulations governing wireless operations in the 3650–3700 MHz band. It includes licensing requirements, and specific operational and technical standards for wireless operations in this band. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in the Commission's rules; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in this band.

**§ 90.1303 Eligibility.**

Any entity, other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, is eligible to hold a license under this part.

**§ 90.1305 Permissible operations.**

Use of the 3650–3700 MHz band must be consistent with the allocations for this band as set forth in Part 2 of the Commission's Rules. All stations operating in this band must employ a contention-based protocol (as defined in § 90.7).

**§ 90.1307 Licensing.**

The 3650–3700 MHz band is licensed on the basis of non-exclusive nationwide licenses. Non-exclusive nationwide licenses will serve as a prerequisite for registering individual fixed and base stations. A licensee cannot operate a fixed or base station before registering it under its license and licensees must delete registrations for unused fixed and base stations.

**§ 90.1309 Regulatory status.**

Licensees are permitted to provide services on a non-common carrier and/or on a common carrier basis. A licensee may render any kind of communications service consistent with the regulatory status in its license and with the Commission's rules applicable to that service.

**§ 90.1311 License term.**

The license term is ten years, beginning on the date of the initial authorization (non-exclusive nationwide license) grant. Registering fixed and base stations will not change the overall renewal period of the license.

**§ 90.1312 Assignment and transfer.**

Licensees may assign or transfer their non-exclusive nationwide licenses, and any fixed or base stations registered under those licenses will remain associated with those licenses.

**§ 90.1319 Policies governing the use of the 3650–3700 MHz band.**

(a) Channels in this band are available on a shared basis only and will not be assigned for the exclusive use of any licensee

(b) Any base, fixed, or mobile station operating in the band must employ a contention-based protocol.

(c) All applicants and licensees shall cooperate in the selection and use of frequencies in the 3650–3700 MHz band in order to minimize the potential for interference and make the most effective use of the authorized facilities. A database identifying the locations of registered stations will be available at <http://wireless.fcc.gov/uls>. Licensees should examine this database before seeking station authorization, and make every effort to ensure that their fixed and base stations operate at a location, and with technical parameters, that will minimize the potential to cause and receive interference. Licensees of stations suffering or causing harmful interference are expected to cooperate and resolve this problem by mutually satisfactory arrangements.

**§ 90.1321 Power and antenna limits.**

(a) Base and fixed stations are limited to 25 watts/25 MHz equivalent isotropically radiated power (EIRP). In any event, the peak EIRP power density shall not exceed 1 Watt in any one-megahertz slice of spectrum.

(b) In addition to the provisions in paragraph (a) of this section, transmitters operating in the 3650–3700 MHz band that emit multiple directional beams, simultaneously or sequentially, for the purpose of directing signals to individual receivers or to groups of receivers provided the emissions comply with the following:

(1) Different information must be transmitted to each receiver.

(2) If the transmitter employs an antenna system that emits multiple directional beams but does not emit multiple directional beams simultaneously, the total output power conducted to the array or arrays that comprise the device, *i.e.*, the sum of the power supplied to all antennas, antenna elements, staves, etc. and summed across all carriers or frequency channels, shall not exceed the limit specified in paragraph (a) of this section, as applicable. The directional

antenna gain shall be computed as follows:

(i) The directional gain, in dBi, shall be calculated as the sum of 10 log (number of array elements or staves) plus the directional gain, in dBi, of the individual element or stave having the highest gain.

(ii) A lower value for the directional gain than that calculated in paragraph (b)(2)(i) of this section will be accepted if sufficient evidence is presented, *e.g.*, due to shading of the array or coherence loss in the beam-forming.

(3) If a transmitter employs an antenna that operates simultaneously on multiple directional beams using the same or different frequency channels and if transmitted beams overlap, the power shall be reduced to ensure that the aggregate power from the overlapping beams does not exceed the limit specified in paragraph (b)(2) of this section. In addition, the aggregate power transmitted simultaneously on all beams shall not exceed the limit specified in paragraph (b)(2) of this section by more than 8 dB.

(4) Transmitters that emit a single directional beam shall operate under the provisions of paragraph (b)(2) of this section.

(c) Mobile and portable stations are limited to 1 watt/25 MHz EIRP. In any event, the peak EIRP density shall not exceed 40 milliwatts in any one-megahertz slice of spectrum.

#### **§ 90.1323 Emission limits.**

(a) The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

#### **§ 90.1331 Restrictions on the operation of base and fixed stations.**

(a)(1) Except as provided in paragraph (a)(2) of this section, base and fixed stations may not be located within 150 km of any grandfathered satellite earth station operating in the 3650–3700 MHz band. The coordinates of these stations

are available at <http://www.fcc.gov/ib/sd/3650/>.

(2) Base and fixed stations may be located within 150 km of a grandfathered satellite earth station provided that the licensee of the satellite earth station and the 3650–3700 MHz licensee mutually agree on such operation.

(3) Any negotiations to enable base or fixed station operations closer than 150 km to grandfathered satellite earth stations must be conducted in good faith by all parties.

(b) (1) Except as specified in paragraph (b)(2) of this section, base and fixed stations may not be located within 80 km of the following Federal Government radiolocation facilities: St. Inigoes, MD—38° 10' N., 76°, 23' W. Pascagoula, MS—30° 22' N., 88°, 29' W. Pensacola, FL—30° 21' 28" N., 87°, 16' 26" W.

**Note:** Licensees installing equipment in the 3650–3700 MHz band should determine if there are any nearby Federal Government radar systems that could affect their operations. Information regarding the location and operational characteristics of the radar systems operating adjacent to this band are provided in NTIA TR-99-361.

(2) Requests for base or fixed station locations closer than 80 km to the Federal Government radiolocation facilities listed in paragraph (b)(1) of this section will only be approved upon successful coordination by the Commission with NTIA through the Frequency Assignment Subcommittee of the Interdepartmental Radio Advisory Committee.

#### **§ 90.1333 Restrictions on the operation of mobile and portable stations.**

(a) Mobile and portable stations may operate only if they can positively receive and decode an enabling signal transmitted by a base station.

(b) Any mobile/portable stations may communicate with any other mobile/portable stations so long as each mobile/portable can positively receive and decode an enabling signal transmitted by a base station.

(c) Airborne operations by mobile/portable stations is prohibited.

#### **§ 90.1335 RF safety.**

Licensees in the 3650–3700 MHz band are subject to the exposure requirements found in § 1.1307(b), 2.1091 and 2.1093 of our Rules.

#### **§ 90.1337 Operation near Canadian and Mexican borders.**

(a) Fixed devices generally must be located at least 8 kilometers from the U.S./Canada or U.S./Mexico border if the antenna of that device looks within

the 160° sector away from the border. Fixed devices must be located at least 56 kilometers from each border if the antenna looks within the 200° sector towards the border.

(b) Fixed devices may be located nearer to the U.S./Canada or U.S./Mexico border than specified in paragraph (a) of this section only if the Commission is able to coordinate such use with Canada or Mexico, as appropriate.

(c) Licensees must comply with the requirements of current and future agreements with Canada and Mexico regarding operation in U.S./Canada and U.S./Mexico border areas.

[FR Doc. 05-9096 Filed 5-10-05; 8:45 am]

BILLING CODE 6712-01-P

## **FEDERAL COMMUNICATIONS COMMISSION**

### **47 CFR Parts 73 and 76**

[FCC 05-22]

#### **Order on Reconsideration, in the Matter of Children's Television Obligations of Digital Television Broadcasters**

**AGENCY:** Federal Communications Commission.

**ACTION:** Final rule; stay of effective date.

**SUMMARY:** This document stays two sections of the CFR regarding the requirements for Internet Web site address displays in children's television programming in MM Docket 00-167, published on January 3, 2005 (70 FR 25), until January 1, 2006. These requirements became effective on February 3, 2005.

**DATES:** Effective May 11, 2005, 47 CFR 73.670(b) and (c) and 76.225(b) and (c) are stayed until January 1, 2006.

**ADDRESSES:** Federal Communications Commission, 445 12th Street, SW., Washington, DC 20554.

**FOR FURTHER INFORMATION CONTACT:** Kim Matthews, Policy Division, Media Bureau, Federal Communications Commission, (202) 418-2120.

**SUPPLEMENTARY INFORMATION:** Among other things, the *Report and Order* adopted September 9, 2004 in MM Docket 00-167 (70 FR 25, January 3, 2005) held that the display of Internet Web site addresses during programs directed to children ages 12 and under is permitted as within the commercial time limitations only if the Web site meets the following criteria: (1) It offers a substantial amount of bona fide program-related or other noncommercial content; (2) it is not primarily intended