Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of Part 15 and other Parts of the	)	ET Docket 01-278
Commission's Rules.	)	RM-9375
	)	RM-10051
	)	

NOTICE OF PROPOSED RULE MAKING AND ORDER

Adopted: October 2, 2001 **Released:** October 15, 2001

By the Commission:

Comment date: [75 days from publication in Federal Register]
Reply comment date: [105 days from publication in Federal Register]

I. INTRODUCTION

1. By this action, we propose to review and update certain rule sections contained in Parts 2, 15 and 18 of our rules. Specifically, we are proposing to: 1) modify limits and restrictions on emissions from certain unlicensed or Part 15 devices above 2 GHz; 2) require that radar detectors be subject to emission limits in order to prevent interference to certain satellite operations; 3) eliminate the prohibition on data transmissions and make other changes to rules governing Part 15 remote control devices; 4) modify the rules for radio frequency identification systems to harmonize our rules with those in other parts of the world and to allow for improved operation; 5) simplify the labeling requirement for manufacturer self-authorized equipment; and 6) make other changes to update and correct our rules. This item responds to two petitions for rule making, a filing pursuant to the Regulatory Flexibility Act of 1980[1] and recommendations contained in the *Biennial Regulatory Review 2000 Updated Staff Report.*[2]

II. BACKGROUND

[1] 5 U.S.C. § 610. *See Public Notice FCC Seeks Comment Regarding Possible Revision or Elimination of Rules under the Regulatory Flexibility Act, 5 U.S.C. §610*, Mimeo 95371, released September 24, 1999, 64 FR 55671 (October 14, 1999).

[2] *See The 2000 Biennial Regulatory Review Report* and *Federal Communications Commission Biennial Regulatory Review 2000 Updated Staff Report* ("*Updated Staff Report*"), FCC 00-456, dated January 17, 2001. *See also* National Council for Information Technology Standardization Technical Committee B10 (NCITS B10) petition for rule making filed September 4, 1998, RM-9375 and SAVI Technology, Inc. (SAVI) petition for rule making filed November 22, 2000, RM-10051.

2. In recent years, there has been a significant increase in the proliferation of unlicensed or Part 15 devices. Such devices are increasingly relied upon for many everyday functions in consumers' lives. Examples of common Part 15 devices include cordless phones, computers, baby monitors, and garage door openers. The range of applications and technologies for these types of devices continues to evolve at a rapid pace. For example digital processing speeds of personal computers are above 1500 MHz as compared to only 25 MHz about ten years ago. Cordless telephones now operate at higher frequencies with digital modulation techniques providing users with improved performance and additional service features. In addition, technological innovations are now being employed to develop new Part 15 equipment and systems for business and professional applications, e.g. high speed, high capacity wireless local area networks (LANs). The Part 15 rules have been highly successful in permitting the development of new types of unlicensed devices while protecting authorized users of the radio spectrum from harmful interference. Millions of Part 15 devices operate at the current limits without any significant interference issues. To ensure the continuing success of the Part 15 rules, we believe that a review is warranted to ensure continued growth in the area of unlicensed devices while protecting against harmful interference to authorized services.

3. On September 19, 2000, the Commission issued a staff report summarizing an extensive review of the Commission's rules undertaken as part of the 2000 Biennial Review. [3][4] On January 17, 2001, the Commission released an updated report ("*Updated Staff Report*") taking into account comments received in response to the initial report.[5] In developing the reports, the staff from each Commission Bureau and Office reviewed all rules pertinent to its operations to determine whether to recommend that the Commission modify or eliminate any rules. The review was not limited to the rules implicated by section 11 and section 202(h). Accordingly, the staff reviewed Part 15 to determine whether there were any rules that could be modified or eliminated, even though a review of that part was not required by statute. *Updated Staff Report* recommended that the Commission consider a number of changes to Part 15 and other parts of the rules.[6] Specifically, it recommended that the Commission:

- Review the limits for radio frequency emissions above 2 GHz.
- Permit data transmission by transmitters operating under Section 15.231.
- Simplify the labeling requirements for equipment approved under the Declaration of Conformity procedure.
- Incorporate a new test procedure for unlicensed Personal Communication Services (PCS) transmitters into the rules.
- Clarify the measurement requirements in Part 2 of the rules for Family Radio Service transmitters.
- Clarify the requirements for scanning receivers to prevent the reception of cellular telephone frequencies.[7]

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[3] *See Public Notice, "Biennial Review 2000 Staff Report Released"*, released September 19, 2000, FCC 00-346.

[4] *Id.*

[5] *See The 2000 Biennial Regulatory Review Report* and *Federal Communications Commission Biennial Regulatory Review 2000 Updated Staff Report* ("*Updated Staff Report*"), FCC 00-456, dated January 17, 2001.

[6] *See Updated Staff Report* at Appendix A, pages 21 and 26.

[7] The issue of scanning receivers was addressed in a separate proceeding. *See Amendment of Parts 2 and 15 of the Commissions Rules to Further Ensure That Scanning Receivers Do Not Receive Cellular Radio Signals, Memorandum Opinion and Order* in ET Docket 98-76, 66 FR 32580 (June 15, 2001).

4. In addition, the National Council for Information Technology Standardization Technical Committee B10 (NCTIS B10) and SAVI Technology, Inc. (SAVI) filed petitions for rule making requesting changes to the Part 15 requirements for radio frequency identification systems. These petitions will also be addressed in this proceeding.[8]

III. DISCUSSION

5. In this section, we address the issues raised in the *Updated Staff Report* and in the petitions noted above, and propose the necessary rule changes to implement those recommendations.[9] In addition, we have identified on our own a number of additional rule sections in Parts 2, 15 and 18 beyond those listed in the staff report that we believe should be modified or removed and are proposing the appropriate changes to those sections.

A. Proposed Revisions to Part 15

1. Part 15 emission limits above 2 GHz

6. Part 15 of the rules contains the technical requirements for radiofrequency devices that may be operated without individual licenses. The requirements include radiated emission limits for intentional radiators, such as transmitters, and for unintentional radiators, such as radio receivers, computers and VCRs. The limits are intended to minimize the possibility of unlicensed Part 15 devices causing interference to licensed radio services. The last significant change to these limits was made in 1989, so they have been essentially unchanged for over ten years.[10] During this period, the commercial use of spectrum above 2 GHz has increased significantly. Licensed and unlicensed devices operating above 2 GHz have proliferated, in part because advances in technology have made such devices more affordable.

7. The *Updated Staff Report* recommends that we review the emission limits above 2 GHz to determine whether any changes are warranted.[11] We have identified two specific areas where we believe changes may be warranted. The first concerns emission limits in the frequency range above 38.6 GHz, and the second concerns certain types of receivers operating above 960 MHz that are exempt from equipment authorization and from complying with the emission limits for unintentional radiators.

8. Restricted frequency bands above 38.6 GHz. The entire frequency range above 38.6 GHz is currently listed as a restricted band of operation under Part 15.[12] Frequency bands are designated as

[8] The NCITS B10 petition was received on September 4, 1998. It was put on public notice October 14, 1998 and assigned number RM-9375. In addition, a supplement to the NCITS B10 petition was received on December 21, 1999 amending the specific rule changes requested. The SAVI petition was received on November 22, 2000. It was put on public notice January 30, 2001 and assigned number RM-10051.

[9] *See Updated Staff Report* at Appendix A, pages 21and 26.

[10] *See Report and Order* in GEN Docket 87-389, 4 FCC Rcd 3493 (1989).

[11] *See Updated Staff Report* at Appendix A, page 26.

[12] *See* 47 C.F.R. § 15.205.

restricted to protect certain sensitive radio services, such as those that protect safety-of-life or those that use very low received levels, such as satellite downlinks or radio astronomy. With certain exceptions,[13] Part 15 permits only spurious emissions in restricted frequency bands, and the emissions must comply with the limits in Section 15.209.[14] These limits are lower than the out-of-band emission limits permitted by some other rule sections in Part 15.[15] For this reason, compliance with the rules may be more difficult to achieve for devices that produce harmonic emissions[16] above 38.6 GHz, including field disturbance sensors operating in the 10.5 and 24 GHz bands and other transmitters operating in the 24 GHz band.[17] The maximum permitted level of harmonics from these devices would be significantly higher if they did not fall in restricted bands.[18] The rules allow some relaxation of the harmonic limits for field disturbance sensors under certain conditions, but the limits are still lower than they would be if the emissions were not in restricted bands.[19]

9. There are a number of sensitive radio services operating above 38.6 GHz, but we believe it is not necessary to restrict the entire spectrum above this frequency. At the time the entire frequency range above 38.6 GHz was designated as a restricted band, there was no requirement in our rules to make measurements above 40 GHz because of limitations in measurement technology. Designating the entire band above 38.6 GHz as restricted, rather than restricting designated segments, was simply a matter of administrative convenience and had no impact on manufacturers because measurements were not required at those frequencies. However, due to advancements in measurement technology, the Commission now requires measurements above 40 GHz for some devices, which means these devices must now comply with the restricted band limits.[20] In light of this, we believe the strict limits of Section 15.209 are not appropriate for all frequency bands above 38.6 GHz. We seek comments on the need for changes to the restricted bands

[13] *See* 47 C.F.R. § 15.205 paragraphs (d) and (e).

[14] *See* 47 C.F.R. § 15.209.

[15] The limit above 38.6 GHz is 500 μV/m measured at a distance of 3 meters. *See* 47 C.F.R. §§ 15.205 and 15.209.

[16] A harmonic emission is one that occurs at a multiple of a frequency generated in a device.

[17] *See* 47 C.F.R. §§ 15.245 and 15.249.

[18] On October 26, 2000 Safety Warning Systems, L.C. filed a request on behalf of MPH Industries, Inc. to waive of the restricted band limits for the harmonics from a device that will operate at 24 GHz under Section 15.249. That request was put on public notice July 16, 2001. *See Public Notice Safety Warning Systems, L.C., Files Request for Waiver of Section 15.205(b),* DA 01-1705, released July 16, 2001.

[19] For example, the harmonic limit for 24 GHz field disturbance sensors is specified in Section 15.245 as 25,000 μV/m at 3 meters. Because the second harmonic falls in the restricted band above 38.6 GHz, it would normally have to comply with the Section 15.209 limit of 500 μV/m at 3 meters in that band, which is 50 times lower than would otherwise be permitted by Section 15.245. This section does permit field disturbance sensors used indoors to comply with the higher limit, and allows a relaxation of the restricted band limit for other field disturbance sensors to 7,500 μV/m at 3 meters. This is still over 3 times lower than would be permitted if the band in which the harmonics were located was not designated as restricted. The second harmonic from 24 GHz transmitters operating under Section 15.249 would be permitted a field strength 5 times greater if it were not in a restricted band.

[20] Measurements above 40 GHz were required beginning in 1996. *See First Report and Order and Second Notice of Proposed Rule Making* in ET Docket 94-124, 11 FCC Rcd 4481 (1996). *See also* 47 C.F.R. § 15.33(a).

above 38.6 GHz and the potential benefits to manufacturers of such changes. We also seek comment on whether there are any other Part 15 rules designed to protect sensitive services such as government operations that should be modified.[21]

10. Receivers operating above 960 MHz. In addition to possible changes in the restricted bands, we believe that changes to the requirements for radio receivers operating above 960 MHz may be warranted. Most receivers contain one or more oscillators that generate radio frequency signals used in tuning the received signal. This generated signal can radiate from the receiver and could interfere with other nearby receivers. For this reason, Part 15 requires certain receivers to meet radiated emission limits to minimize the possibility of interference.[22] The rules currently require only receivers that tune in the range of 30-960 MHz and Citizen's Band receivers to comply with the limits.[23] Other receivers are not required to comply with the limits, but the rules require the operation of any receiver to cease if it causes interference.[24] In the past, most receivers used in the home only tuned below 960 MHz and were subject to emission limits to minimize the possibility of interference to other radio equipment. Above 960 MHz, the emissions generated by radio receivers tend to be more directional and the propagation losses are higher. There is less probability of such receivers causing interference, so the rules have not required receivers that tune above 960 MHz to meet emission limits or to receive an equipment authorization. Historically, these rules have generally worked well.

11. More recently, however, we have received a number of reports of interference caused to very small aperture satellite terminals (VSATs) by mobile receivers designed to detect the presence of police radar ("radar detectors"). VSATs are used for a number of purposes including linking retail establishments with remote computers for verifying credit card transactions. They typically operate with a 14 GHz satellite uplink frequency and an 11 GHz satellite downlink frequency. According to reports we have received, interference caused to VSATs by radar detectors ranges from data transmission errors to a complete disruption of message transmissions. Because radar detectors are mobile and can emit strong signals, their use has a real impact on satellite operations in many locations.

12. Radar detectors are currently exempt from complying with the Part 15 emission limits because they tune above 960 MHz. They are designed to monitor for the presence of police radar in several frequency bands, including the 10.50-10.55 GHz, 24.05-24.25 GHz and 33.4-36.0 GHz bands.[25] The oscillator signals internally generated by some radar detectors' tuning circuitry are being radiated and causing interference to VSATs. The level of these signals is typically far above the Part 15 limits. The potential for interference to VSATs caused by radar detectors has recently increased because manufacturers have begun using swept frequency oscillators at different frequencies than previously used.

[21] *See 47* C.F.R. § 15.101(b).

[22] *See* 47 C.F.R. § 15.101(a).

[23] *See* 47 C.F.R. § 15.101(b).

[24] All devices operating under Part 15 of the rules are required to cease operation in the event they cause interference to an authorized radio service. *See* 47 C.F.R. § 15.5(b).

[25] *See* 47 C.F.R. § 90.103.

The purpose of these changes is to enhance detection of police radar while making it more difficult for police to detect the presence of radar detectors in vehicles.[26]

13. Radar detector manufacturers have advised the Commission's staff that it would not be possible to meet the Part 15 limits unless the equipment is redesigned. The manufacturers stated that the high level emissions are produced because radar detectors use a simple design that allows the internally generated tuning signals to radiate directly out the receiving antenna, which has a high gain and concentrates the energy in certain directions. We estimate that there are approximately half a dozen manufacturers producing radar detectors.

14. We invite comment on whether there is a need to require radar detectors to comply with emission limits to minimize the possibility of interference, and if so, what are the appropriate limits. We also seek comments on whether there are any other receivers that tune above 960 MHz that should be required to comply with emission limits. If so, we seek comments on the appropriate limits, and whether the limits should apply in all frequency bands or only certain bands where interference may be more likely to occur, such as the VSAT bands. Furthermore, we seek comment, especially from small entities, concerning the timeframe that should be required to comply with any new emission limits.

2. Data Transmission by Remote Control Devices

15. Section 15.231 of the rules allows the operation of remote control devices in the 40 MHz band and above 70 MHz.[27] There are two separate provisions for operation under this section. Paragraph (a) contains field strength limits for transmitters that transmit control signals, such as those used with alarm systems, door openers and remote switches. A transmitter operated under this paragraph must cease transmission within 5 seconds after being activated automatically or after a manually operated switch is released. Continuous transmissions such as voice and video are not permitted, and data transmissions are not permitted except for recognition codes to identify specific transmitters in a system. There is a prohibition on periodic transmissions at regular predetermined intervals, although transmissions are permitted once per hour to verify the integrity of security transmitters. Paragraph (e) of this section allows any type of transmission, including data and transmissions at regular periodic intervals. However, this paragraph contains lower field strength limits than paragraph (a), and it places strict timing requirements on periodic transmissions.[28]

16. A number of manufacturers have expressed interest in developing devices that transmit identification codes, supplemented with the transmission of some additional minimal data. However there are problems developing such devices under the current rules. Transmission of identification codes is permitted under paragraph (a), but data transmission is prohibited. Data transmission is permitted under

[26] Police in some states use a special receiver to determine whether motorists are using radar detectors. The receiver is designed to detect the presence of radar detector oscillator signals in certain bands. If the frequencies of the tuning signals generated in a radar detector are changed outside the range of the receiver, the receiver will no longer be able to detect the presence of the radar detector.

[27] *See* 47 C.F.R. § 15.231.

[28] *See* 47 C.F.R. § 15.231(e). Periodic transmissions may not be greater than one second in length, and the silent period between transmissions must be at least 30 times the duration of the transmission, but not less than 10 seconds.

paragraph (e), but at a lower field strength limit than paragraph (a). Further, the timing requirements in paragraph (e) require a relatively long silent period of ten seconds between transmissions, which makes operation difficult for certain devices. It may be possible to design a device that sends data signals under one set of provisions and control signals under the other, but the need to operate in multiple modes with different timing and field strength requirements adds complexity and cost to a device.

17. We believe that the prohibition on data transmissions in paragraph (a) is unnecessarily constraining and can be an impediment to the development of new types of devices as described above. We do not believe that removing this restriction will result in an increased potential for interference. Based on the lack of a record of interference complaints from devices operating under this section, we tentatively conclude that the existing limits on field strength and duration of transmissions are sufficient to prevent harmful interference. Because the interference potential of a device is a function of the permitted signal strength and duration of the transmissions rather than the type of information sent, there should be no difference between the interference potential of a device transmitting recognition codes as permitted by paragraph (a) as compared to a device transmitting data that represents other kinds of information. Accordingly, we are proposing to remove the prohibition on the transmission of data in Section 15.231(a). We are also proposing to remove the prohibition on voice and video transmissions. Data representing voice or video has no greater interference potential than any other type of data, and the timing requirements in paragraphs (a) and (e) will not allow continuous transmissions, so there is no need to expressly prohibit them.

18. We seek comments on our proposal to allow data transmission under Section 15.231(a) and the potential benefits to manufacturers. We also seek comment on whether allowing data transmissions will result in an increased proliferation of devices or in devices transmitting for a greater amount of time, and whether there is a need to modify the timing requirements in paragraphs (a) or (e) to avoid interference to other radio services.

3. Radio Frequency Identification Systems

19. Radio frequency identification (RFID) systems use radio signals to track and identify items such as shipping containers and merchandise in stores. A system typically consists of a tag mounted on the item to be identified, and a transmitter/receiver unit that interrogates the tag and receives identification data back from the tag. The tag may be a self-powered transmitter, or it may receive power from the interrogating transmitter. RFID systems can operate in a number of frequency bands under Part 15.[29]

20. NCITS B10 Petition for Rule Making. Section 15.225 of the Commission's rules permits intentional radiators, such as unlicensed RFID devices, to operate between 13.553 and 13.567 MHz (13.56 MHz band) with a maximum field strength of 10,000 µV/m measured at a distance of 30 meters.[30] Section 15.209 further requires that any emissions appearing outside of the 13.56 MHz band must not exceed the general radiated emissions limit of 30 µV/m measured at a distance of 30 meters.[31] The 13.56 MHz band is located near the 13.36-13.41 MHz radio astronomy band, which is designated as a restricted band of

[29] *See* 47 C.F.R. §§ 15.225, 15.249 and 15.231.

[30] *See* 47 C.F.R. § 15.225(a).

[31] *See* 47 C.F.R. §§ 15.225(b) and 15.209.

operation under Part 15.[32] Section 15.205 of the Commission's rules permits only spurious emissions in designated restricted frequency bands.[33]

21. The National Council for Information Technology Standardization Technical Committee B10 ("NCITS B10") filed a petition for rulemaking requesting that the Commission amend Section 15.225 to harmonize the rules with the standards for RFID devices used in Europe and Australia.[34] It argues that harmonizing the rules would permit the design of equipment capable of operating in the United States, Europe and Australia, thereby lowering development costs for manufacturers. The petitioner also requests an increase in the maximum emission levels permitted in the 13.56 MHz band and an increase in the maximum level of out-of-band emissions from devices operating in the 13.56 MHz band regardless of where they appear in the radio spectrum. On December 21, 1999, NCITS B10 supplemented its petition for rule making by modifying the requested out-of-band emission limits.[35] In its amended petition, NCTIS B10 requests that the maximum field strength within the 13.56 MHz band be increased from 10,000 µV/m to 15,484 µV/m measured at a distance of 30 meters. It further proposes that emissions appearing at frequencies from 7 kHz to 150 kHz above and below 13.56 MHz be limited to 334 µV/m at a distance of 30 meters. Emissions appearing at frequencies from 150 kHz to 450 kHz above and below 13.56 MHz would be limited to 106 µV/m at a distance of 30 meters. Emissions appearing more than 450 kHz from 13.56 MHz would be required to meet the general emission limits in Section 15.209. NCITS B10 states that RFID systems operating in accordance with proposed limits are not expected to cause interference to licensed radio services.

22. Comments filed in response to the NCITS B10's petition state that there would be significant benefits to the public if we were to modify our rules to incorporate the requested changes. For example, some commenters envision the increased range and faster data transmission rates that could be achieved under the proposed rules would allow improved object tracking, inventory management, access control, airline passenger safety, airline baggage tagging and handling, electronic retail transaction processing, and "smart labeling" of foods, medicines and chemicals.[36] One commenter, SCS Corp., opposes the petition stating that the proposed change will increase the probability of interference with other RFID systems.[37]

23. We believe that the increases in emission levels proposed by NCITS B10 are not likely to create significant interference to other services. Further, although other Part 15 RFID systems are not protected from interference from new RFID systems, we believe that the potential for such interference is low and can be mitigated through site engineering techniques if it should occur. Thus, we find that the public

[32] *See* 47 C.F.R. § 15.205. *See also* 47 C.F.R. § 2.106.

[33] Spurious emissions are defined as emissions on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions but exclude out-of-band emissions. See 47 C.F.R. § 2.1(c).

[34] See NCITS B10 *Petition for Rule Making to Amend Section 15.225 of the Commission's Rules*, filed September 10, 1998, RM-9375.

[35] *See* NCITS B10 supplement filed December 21, 1999.

[36] See comments of Texas Instruments, 3M, Motorola, Siemans Microelectronics Inc., and FedEx.

[37] See SCS Corp. comments.

interest would be best served by proposing to modify our rules to permit the introduction of these improved RFID devices. Specifically, we are proposing to modify Section 15.225 to include the emission mask sought by NCITS B10. We are also proposing to amend Section 15.205 of the rules to allow devices operated pursuant to Section 15.255 to place emissions other than spurious emissions into the 13.36-13.41 MHz restricted band. This restricted band was intended to protect radio astronomy operations. However, radio astronomy operations in this band in the United States are limited to one site in Florida. NTIA has stated that they do not object to allowing emissions from RFID devices in this restricted band. Alternatively, we propose to remove the 13.36-13.41 MHz band from the restricted bands listed in Section 15.205. We seek comment on these proposals.

24. The NCITS B10 also requests that the Commission clarify that RFID tags may be approved with or without the reader.[38] NCITS B10 states that separate authorizations of the RFID tag and reader could foster competition in the provision of tags designed to work with multiple readers. We agree with NCITS B10 and are proposing to amend Section 15.225 to specify that RFID applications equipment authorization for tags and readers can be submitted either together or separately. Tags and readers approved together would both be labeled with the same FCC identification number. We seek comment on this proposal.

25. SAVI Petition for Rule Making. SAVI Technology, Inc. (SAVI) states that it has developed RFID tags operating at 433 MHz because unlicensed operation is permitted worldwide at that frequency. SAVI requests that the Commission permit an increase in the maximum field strength and duration of transmissions at 433 MHz under Section 15.231(e). As an alternative, SAVI requests that the Commission establish a new rule section specifically for RFID tags operating in the 420-450 MHz range. SAVI states that rule changes are necessary because the current timing limit in Section 15.231(e) results in a slow transfer of data from the identification tag. It states that transferring the full 128 kilobytes of data needed to identify all the contents of a shipping container could take up to 30 minutes under the current rules, but no more than two minutes with its proposed changes. In addition, the maximum field strength limit under Section 15.231(e) is not sufficient to ensure reliable transmissions in all circumstances. SAVI states that there are benefits to improved RFID technology, including easier identification of the contents of military shipping containers, and improved inventory control at commercial facilities.

26. H. Donald Ratliff, United Parcel Service, Oracle Corporation and Cynthia Barnhart supported the SAVI proposal, stating that increasing the data transmission capability of RFID tags would allow easier identification of the contents of containers, thus simplifying the shipping process and reducing costs.[39] However, ARRL, The National Association for Amateur Radio (ARRL), Nickolaus E. Leggett and Fred C. Jensen filed comments in opposition to the petition, claiming that operation under the proposed provisions could possibly result in interference to amateur radio operators.[40] SAVI, in its reply comments, argues that their RFID systems typically operate in commercial areas where there are few amateur operations, and that the type of modulation used by their systems is unlikely to interfere with the equipment used by amateurs.[41]

[38] See NCITS B10 petition at 6-7.

[39] *See* H. Donald Ratliff comments at 1, United Parcel Service comments at 1-2, Oracle Corporation comments at 1, and Cynthia Barnhart comments at 1.

[40] *See* ARRL comments at 8, Nickolaus E. Leggett comments at 1 and Fred C. Jensen reply comments at 2.

[41] *See* SAVI reply comments at 5 and 9.

27. We agree with SAVI that changes to Part 15 to allow more advanced RFID systems in the 433 MHz band would serve the public interest. Accordingly, we are proposing to create a new section that would allow operation of such devices in the 425-435 MHz band. We propose to allow a maximum field strength of 11,000 microvolts per meter measured at a distance of 3 meters using equipment with an average detector function. The maximum peak level permitted would be 110,000 microvolts per meter measured at a distance of 3 meters.[42] This is the same as the current limit in Section 15.231(a) at 433 MHz, which we believe will provide an adequate signal for reliable communications while minimizing the potential for interference to other users of the band.[43] As proposed by SAVI, transmissions would be limited to 120 seconds with at least a 10 second silent period between transmissions, except that retransmissions would be permitted in case of data errors. We also propose that powered tags and readers could be approved either separately or under a single application as we proposed for devices operating in the 13.56 MHz band. We seek comments on these proposals. We also seek comments on allowing retransmissions in the event of data errors, and whether we need to more clearly define the circumstances under which retransmissions are permitted.

4. Declaration of Conformity (DoC) Labeling

28. Many unintentional radiators under Part 15 of the rules, including personal computers, VCRs and radio receivers, are authorized through the Declaration of Conformity (DoC) procedure. DoC is a self-approval procedure in which the manufacturer has the equipment tested for compliance at a laboratory accredited to make the required measurements. Once the equipment has been found to comply with the applicable rules, it may be marketed without an approval from the Commission.[44]

29. Equipment authorized through the DoC procedure must be labeled as specified in Section 15.19 of the rules.[45] This section shows illustrations of two variations of the label to be used. One label is for equipment that was tested for compliance as a complete unit, and the other label is for personal computers that were assembled from components that were tested separately for compliance. Either variation of label must include the manufacturer's trade name, the equipment model number, the FCC logo, the phrase "For Home or Office Use", and a statement as to whether the complete device was tested for compliance or whether it was assembled from tested components.[46]

[42] When emission limits based on an average detector are specified in Part 15, there is also a corresponding peak emission limit. The peak emission limit is 20 decibels above the average limit, which corresponds to a factor of 10. *See* 47 C.F.R. § 15.35(b).

[43] The 420-450 MHz band is allocated primarily to government radiolocation in the United States. In addition, it is allocated on a secondary basis to the Amateur Radio Service under Part 97, and to the Private Land Mobile Radio Service under Part 90.

[44] *See* 47 C.F.R. § 2.1071, *et seq.*

[45] *See* 47 C.F.R. § 15.19.

[46] The Telecommunication Industry Association (TIA) recommends that the Commission establish an additional simplified DoC label for equipment if the use is other than home or office. *See* TIA comments at 6 filed in response to *The 2000 Biennial Regulatory Review Report*.

30. The DoC procedure was originally established to reduce the burden on manufacturers of Class B personal computers and peripherals by eliminating the delays resulting from the requirement to obtain a Commission approval prior to marketing equipment. The phrase "For Home or Office Use" on the DoC label was intended to show that a device meets the more stringent Class B limits and is suitable for use in either residential (Class B) or non-residential (Class A) environments. However, because Class B devices may be used anywhere, this statement on the label is unnecessary, and requiring it to be included means that manufacturers must use a larger label on a device. This could become increasingly burdensome as advancements in technology result in smaller and smaller equipment. We are therefore proposing to delete the requirement for the phrase "For Home or Office Use" to simplify the label.

31. We are also proposing to eliminate the statement on the label that the complete device was tested for compliance in order to further simplify the label. We will, however, continue to require that personal computers assembled from tested components contain a statement to that effect on their label. That information could assist us in determining the source of compliance problems when investigating cases of non-compliant equipment. We do not believe requiring this information on the label would be unduly burdensome because the types of computers assembled from tested components generally have more space for the label.[47] We believe these changes will result in a reduced burden on manufacturers while still requiring sufficient information on equipment for enforcement purposes. We seek comment on these proposals. In other proceedings, parties have indicated that electronic labeling[48] may enhance flexibility by permitting equipment to be quickly re-labeled when changes are made to the product identification number. We seek comment on whether electronic labeling should be permitted for devices authorized under the DoC procedure as we proposed for certain other equipment.[49] If so, we seek comment on what would be an appropriate method for electronically labeling equipment such as computers that are authorized through the DoC procedure.

5. Test Procedure for Unlicensed PCS Equipment

32. Section 15.31 of the rules lists the measurement procedures that the Commission will use to determine whether a Part 15 device complies with the applicable technical requirements.[50] In the past, the Commission usually developed its own measurement procedures.[51] More recently, the Commission has shifted to incorporating industry-developed measurement procedures into the rules by reference. The American National Standards Institute (ANSI) C63.4-1992 procedure is specified as the procedure the

[47] Computers assembled from tested components tend to be desktop or tower designs rather than the smaller notebook types because standardized components are generally available only for the larger designs.

[48] Electronic labeling allows the identification information for a product such as the FCC identification number to be displayed by means such as a light emitting diode (LED) or liquid crystal display (LCD) screen rather than on a printed label affixed to the product.

[49] See *Authorization and Use of Software Defined Radios, Notice of Proposed Rule Making* in ET Docket 00-47, FCC 00-430, released December 8, 2000, 66 FR 341 (2001).

[50] *See* 47 C.F.R. § 15.31.

[51] In 1990, Part 15 of the rules listed five Commission-developed measurement procedures. They were MP-1 for remote control and security devices, MP-2 for the noise figure of UHF TV receivers, MP-3 for TV interface devices such as VCRs, MP-4 for digital devices, and MP-9 for cable TV transfer switch isolation. MP-2 is still in use while the other four have been replaced by the industry-developed procedure, ANSI C63.4-1992.

Commission will use for testing most intentional and unintentional radiators for compliance.[52] However, this procedure does not cover certain types of devices, including unlicensed Personal Communication Service (PCS) equipment.

33. Unlicensed PCS equipment has certain unique technical requirements that other Part 15 devices do not have which are intended to prevent interference between devices. For example, there is a clearly defined spectrum etiquette that requires unlicensed PCS equipment to monitor the spectrum before transmitting and to use a specific transmission format.[53] Ensuring that unlicensed PCS equipment complies with this etiquette requires a highly specialized measurement procedure. The ANSI C63 Committee recently completed work on a measurement procedure for unlicensed PCS equipment, ANSI C63.17-1998. This procedure provides detailed guidance that will assist manufacturers in measuring unlicensed PCS devices to ensure that they comply with the requirements in our rules. We are therefore proposing to incorporate this procedure into our rules by reference as the procedure we will use for testing unlicensed PCS equipment. We request comments on this proposal.

6. Exemption for Very Low-Powered Devices

34. Part 15 of the rules requires most devices that intentionally emit radiofrequency radiation to be certified before they can be marketed.[54] Phillip Inglis noted that there are a number of devices on the market that transmit signals on low frequencies at extremely low power levels, such as card readers, pens used to write on specialized computer screens, and other devices designed to communicate over distances of inches.[55] All such devices must be certified regardless of how low an operating power they use. Certification requires that the manufacturer have the equipment tested for compliance, submit an application with the test results and other exhibits to the Commission and wait for an approval before marketing the equipment.[56] We believe that the interference potential of such devices is extremely low, and we tentatively conclude that requiring certification is an unnecessary burden on manufacturers. We therefore propose to exempt devices operating below 490 kHz from certification if the maximum field strength emitted is more than 40 dB below the applicable Part 15 limits. We seek comment on this proposal. As an alternative, we seek comment on whether all transmitters operating below 490 kHz under the provisions of Section 15.209 should be only subject to verification. Verification simply requires the manufacturer to have the equipment tested and to retain certain information on file. No application filing is required for verification and the equipment may be sold as soon as it is found to comply.[57]

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[52] This procedure was incorporated into the rules by reference in 1993. However, the Commission excluded the use of certain sections of C63.4-1992 that it believed were not necessary or that may not produce results that can be correlated to the limits in the rules. These sections cover the use of an artificial hand to simulate the effect of a human hand on a device, the use of an absorbing clamp as a substitute for radiated emission measurements, and a relaxation of the limits for short duration emissions. *See Report and Order* in GEN Docket 89-116, 89-117 and 89-118, 8 FCC Rcd 4236 (1993). A new version, ANSI C63.4-2000, is now available.

[53] *See* 47 C.F.R. § 15.301, *et seq.*

[54] *See* 47 C.F.R. § 15.201(b).

[55] *See* April 16, 2001 letter from Phillip Inglis to the Office of Engineering and Technology.

[56] *See* 47 C.F.R. §§ 2.803, 2.907 and 2.1033.

[57] *See* 47 C.F.R. §§ 2.902 and 2.955.

7. Information to the User

35. Manufacturers are required to supply certain information to the users of products operating under Part 15 of the rules. Section 15.21 requires the instruction manual for all Part 15 devices to contain a statement that unauthorized modifications to a device could void the user's authority to operate it.[58] In addition, Section 15.105 requires the manual for a digital device to include a warning of the potential for interference to other devices and a list of some steps that could possibly eliminate the interference.[59] The rules originally envisioned that this information would be included in a paper instruction manual. As manufacturers have moved to provide more of their manuals electronically, the Commission has permitted this warning information to be provided by alternative means, such as a CD-ROM.

36. The Information Technology Industry Council (ITI) states that manufacturers are increasingly providing information over the Internet, rather than on paper or a CD-ROM.[60] ITI recommends that the Commission consider the possibility of allowing the information to users required by the rules to be supplied over the Internet rather than with the product. We do not believe it is burdensome on manufacturers to require this information to be supplied with the product when a paper manual or CD-ROM is supplied with the product. However, this requirement could be burdensome in cases where the instruction manual is only available over the Internet. We therefore propose that manufacturers be permitted to provide the required information to users in the instruction manual in whatever form the manual is supplied. This may be on paper, a computer disk, a CD-ROM or over the Internet. This will ensure that the information is readily available to users while minimizing the burden on manufacturers. We seek comment on this proposal. We seek comment, more particularly, on whether Internet-delivered manuals create accessibility problems for consumers without Internet access or for groups of consumers for whom obtaining Internet access is difficult. Where this is the case, we seek comment on whether allowing important information to be delivered only over the Internet results in certain consumers having insufficient access to information. We also seek comment on whether allowing warnings to be delivered exclusively online will result in a significant reduction in the number of consumers who receive the warnings.

B. Proposed Revisions to Part 2

1. Family Radio Service Equipment Measurements.

37. In 1996, the Commission established the Family Radio Service (FRS), which is a private, two-way, very short distance voice communications service for facilitating family and group activities.[61] Part 95 of the rules specifies the operating frequencies and a frequency tolerance requirement for transmitters used in the FRS.[62] The temperature ranges over which frequency tolerance measurements for most transmitters

[58] *See* 47 C.F.R. § 15.21.

[59] *See* 47 C.F.R. § 15.105.

[60] *See* May 24, 2001 letter from Intel Corporation on behalf of ITI to the Office of Engineering and Technology.

[61] *See* 47 C.F.R. § 95.401(b).

[62] *See* 47 C.F.R. § 95.627.

must be made are specified in Part 2 of the rules.[63] However, at the time the FRS was established, the temperature ranges specified in Part 2 only applied to equipment authorized under the now-abolished type-acceptance procedure.[64] Because the rules adopted for the FRS stated that transmitters were to be authorized under the certification procedure, the temperature ranges specified in Part 2 for type-accepted equipment did not apply. Therefore, the temperature range over which FRS frequency stability measurements must be made was not clear.

38. To resolve this ambiguity, the Commission staff applied the temperature range specified in Part 15 of the rules for other equipment subject to certification, which is –20 °C to +50 °C.[65] Subsequently, the type-acceptance procedure was merged with the certification procedure. As a result of this change, the temperature range of –30 °C to +50 °C specified in Section 2.1055(a)(1) of the rules became applicable for frequency stability measurements on all equipment where no other temperature range had been specified.[66] Application of this rule to FRS transmitters would require them to be tested for compliance at a lower temperature than previously required.

39. In streamlining the equipment authorization processes, our intent was not to impose tighter requirements on manufacturers.[67] A number of FRS transmitters were approved under the less stringent requirements prior to the streamlining rule changes. In the interest of fairness to manufacturers, the Commission has continued to allow frequency tolerance measurements on FRS transmitters to be made to only –20 °C instead of the –30 °C specified in Section 2.1055(a)(1). We believe the rules should be changed to reflect the established practice for FRS transmitter frequency stability measurements. Accordingly, we are proposing to amend our rules to specify that FRS frequency stability measurements are to be made from -20 °C to +50 °C. We request comments on this proposal.

2. Accreditation of Test Laboratories

40. Section 2.948 of the rules require laboratories that submit test data for equipment subject to certification under Parts 15 and 18 of the rules to file an up-to-date description of its facility with the Commission.[68] Many of these laboratories are accredited by a recognized accrediting organization such as American Association for Laboratory Accreditation (A2LA) or the National Voluntary Laboratory Accreditation Program (NVLAP) that determines the technical competency of the laboratory in accordance with International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) Standard 17025.[69] Because the accreditation process considers both the test facility and the competency of the laboratory to perform the required measurements, we question whether it is necessary for an accredited

[63] *See* 47 C.F.R. § 2.1055(a).

[64] The type-acceptance procedure was merged with the certification procedure in 1998. *See Report and Order* in ET Docket 97-94, 13 FCC Rcd 11415 (1998).

[65] *See* 47 C.F.R. §§ 15.229(d), 15.231(d), 15.233(g) and 15.253(e).

[66] *See* 47 C.F.R. § 2.1055(a).

[67] *See Report and Order* in ET Docket 97-94, 13 FCC Rcd 11415 (1998) at ¶¶ 1, 10 and 42.

[68] *See* 47 C.F.R. § 2.948.

[69] ISO/IEC Standard 17025 was formerly ISO/IEC Guide 25.

laboratory to submit a description of its facility to the Commission as the rules currently require. Therefore, we are tentatively proposing to remove this requirement from Section 2.948 of the rules for accredited laboratories, provided the accrediting organization notifies the Commission with certain minimum information about the laboratory. We propose that this information would include the laboratory name, address, contact information, scope of accreditation, date of accreditation and date by which the accreditation must be renewed. In addition, we are proposing to clarify the requirements in Section 2.948 for the testing of equipment subject to Declaration of Conformity, which requires the use of an accredited laboratory. Specifically, we propose that the accreditation of laboratories outside the United States will be recognized by the Commission if one of the following two conditions are met: (1) the laboratory has been designated by a foreign authority and recognized by the Commission under the terms of a government-to-government Mutual Recognition Agreement or Arrangement; or (2) the laboratory has been accredited by an organization whose accreditations are recognized by the Commission. We seek comment on these proposals.

C. Additional proposals

41. In addition to the recommendations contained in the staff reports, we believe that there are a number of other changes that can be made to simplify and clarify Parts 2, 15 and 18 of the rules. Our analysis revealed several rule sections that no longer appear to be necessary. In addition, we identified several sections that need to be updated to reflect the availability of more recent industry documents, or that need other minor revisions. The proposed changes are listed below, and text of the proposed rules is provided in Appendix A. We request comment on each of these proposals.

- **Section 2.202 Bandwidths.** The table of necessary bandwidth calculations in paragraph (g) does not contain entries for newer digital modulation types. The *NTIA Manual of Regulations & Procedures for Federal Radio Frequency Management* contains formulas for calculating necessary bandwidths for various digital modulation types, and we are proposing to add them to the table in Section 2.202(g).[70]

- **Section 2.948 Description of measurement facilities.** We are proposing to remove references to expired transition dates and obsolete measurement procedures, update references to reflect the availability of the new ANSI C63.4-2000 measurement procedure, and to correct the Commission's mailing address.

- **Section 2.1033 Application for certification.** We are proposing to re-designate paragraph 2.1033(c)(17) on composite devices as paragraph 2.1033(d). This proposed change corrects a numbering error that arose in the Report and Order in ET Docket 97-94.[71]

- **Sections 2.1061 through 2.1065 Filing for Application Reference.** This procedure was developed over 20 years ago to allow manufacturers and licensees to file transmitter measurement data with the Commission. The Commission would retain the test data for future reference by licensees. This procedure is separate from the regular equipment authorization process. There appears to be no current need for this procedure, so we are proposing to remove it from the rules.

[70] The list of necessary bandwidth calculations from the *NTIA Manual of Regulations & Procedures for Federal Radio Frequency Management* is available at http://www.ntia.doc.gov/osmhome/redbook/AnnexJ_9_2000.PDF.

[71] *See Report and Order* in ET Docket 97-94, 13 FCC Rcd 11415 (1998).

- **Section 15.31 Measurement standards.** We are proposing to remove references to measurement procedures that are no longer used and to correct the Commission's mailing address. In addition we are proposing to update the reference to reflect the new ANSI C63.4-2000 measurement procedure. The rules will continue to indicate that the Commission will not use certain sections of this procedure for determining the compliance of equipment.[72] Also, we are proposing that the rules reflect the Commission's longstanding practice to use loop antennas rather than rod antennas for low frequency measurements.[73]

- **Section 15.118 Cable ready consumer electronics equipment.** We are proposing to correct the Commission's mailing address.

- **Section 15.120 Program blocking technology requirements for television receivers.** We are proposing to correct the Commission's mailing address.

- **Section 15.255 Operation in the band 59.0-64.0 GHz.** We are proposing to correct the wording in paragraph (b)(5) from "emission limits" to "emission levels".

- **Section 18.103 Organization and applicability of the rules.** We are proposing to delete this section because it duplicates the table of contents for Part 18.

- **Section 18.105 Other applicable rules.** We are proposing to delete this section because it provides little information and is not necessary

- **Section 18.119 Importation.** We are proposing to delete this section because it duplicates portions of the rules in Part 2.

- **Section 90.203 Certification required.** We are proposing to correct an error in paragraph (k) that occurred when rules streamlining the equipment authorization processes were published in the Federal Register.

IV. ORDER

42. The Regulatory Flexibility Act[74] requires federal agencies to conduct periodic reviews of rules that have or might have a significant economic impact on a substantial number of small entities.[75] Pursuant to

[72] Section 5.7 specifying an "artificial hand" to simulate the effect of a human hand on a device, Section 9 allowing certain radiated measurements to be made with an absorbing clamp, and Section 14 allowing a relaxation of the emission limits for short duration emissions. We understand that ANSI C63.4-1992 is no longer published. During the pendency of this proceeding, we will accept the use of ANSI C63.4-2000 to the extent that there are no substantive differences from the earlier edition.

[73] Section 4.1.5.2 of ANSI C63.4-2000 allows measurements in the frequency range of 9 kHz to 30 MHz to be made with a rod antenna. The proposed rules indicate that the Commission will not make measurements using the procedures in this section.

[74] The RFA, *see* 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

Section 610 of the Regulatory Flexibility Act, agencies must publish a list of such rules in the Federal Register and invite public comment on the rules.[76] The Commission released a Public Notice on September 24, 1999 identifying rules for possible modification or elimination under the Regulatory Flexibility Act.[77]

43. In response to this public notice, ARRL requested that the Commission modify Section 15.17 of the rules.[78] Section 15.17 of the rules provides a warning to manufacturers that they should consider the proximity and high power of both government and non-government operations when selecting operating frequencies.[79]

44. In reviewing rules for modification or elimination under the Regulatory Flexibility Act, the Commission considers the following factors: "1) the continued need for the rule, 2) the nature of complaints or comments received concerning the rule from the public, 3) the complexity of the rule, 4) the extent to which the rule overlaps, duplicates, or conflicts with other Federal rules, and, to the extent feasible, with State and local governmental rules; and 5) the length of time since the rule has been evaluated or the degree to which technology, economic conditions, or other factors have changed in the area affected by the rule."[80]

45. Section 15.17 was originally adopted in 1989, and has not been modified since that time. This is a simple rule enacted to alert manufacturers to the possibility that high-power radio services could cause interference to devices operating under Part 15 of the rules. Since that time, the number of manufacturers and the number of Part 15 devices have increased. Because this rule is merely advisory, there is no compliance burden on manufacturers and there is no conflict or overlap between this rule and other federal state or local requirements.

46. ARRL believes that the rule continues to be necessary because it alerts manufacturers of radio frequency devices of possible electromagnetic compatibility issues prior to obtaining an equipment authorization.[81] However, ARRL believes that the rule addresses only half of the cautionary information to manufacturers, and that the rule should also caution manufacturers to avoid specification of operating frequencies for their devices that could result in interference to sensitive radio services.[82] It states that this change could avoid the need for and cost of after-market interference resolution.[83]

(Continued from previous page)

[75] *See* 5 U.S.C. § 610(a).

[76] *See* 5 U.S.C. § 610(c).

[77] *See Public Notice FCC Seeks Comment Regarding Possible Revision or Elimination of Rules under the Regulatory Flexibility Act, 5 U.S.C. § 610,* Mimeo 95371, released September 24, 1999, 64 FR 55671 (October 14, 1999).

[78] *See* ARRL comments at ¶ 1.

[79] *See* 47 C.F.R. § 15.17.

[80] *See* 5 U.S.C. § 610(b)(1)-(5).

[81] *See* ARRL comments at ¶ 3.

[82] *See* ARRL comments at ¶ 5.

[83] *Id.*

47. We continue to believe that this rule provides noteworthy guidance to manufacturers on the possibility of receiving interference.[84] ARRL acknowledges the increasing importance of the rule; and, while we are sympathetic to ARRL's suggestion, we believe that the matter raised is already adequately covered in the rules. For example, Part 15 contains limits that are designed to minimize the risk of interference caused to all authorized radio services. Further, Part 15 equipment is required to operate on a non-interference basis, and users of such equipment must cease operation in the event that interference occurs. We believe that these rules are sufficient to protect against harmful interference to authorized radio services and that additional advisory language in Section 15.17 is unnecessary. Therefore, the ARRL request to modify Section 15.17 is denied.

V. PROCEDURAL MATTERS

Initial Regulatory Flexibility Analysis

48. As required by the Regulatory Flexibility Act, 5 U.S.C. § 603, the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in this document. The IRFA is set forth in Appendix C. Written public comments are requested on the IRFA. These comments must be filed in accordance with the same filing deadlines as comments filed in response to this Notice of Proposed Rule Making as set forth in paragraph 51, and have a separate and distinct heading designating them as responses to the IRFA.

Initial Paperwork Reduction Act of 1995 Analysis

49. This NPRM contains either a proposed or modified information collection. As part of its continuing effort to reduce paperwork burdens, we invite the general public and the Office of Management and Budget (OMB) to take this opportunity to comment on the information collections contained in this NPRM, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. Public and agency comments are due at the same time as other comments on this NPRM; OMB comments are due 60 days from date of publication of this NPRM in the Federal Register. Comments should address: (a) whether the proposed collection of information is necessary for the proper performance of the functions of the Commission, including whether the information shall have practical utility; (b) the accuracy of the Commission's burden estimates; (c) ways to enhance the quality, utility, and clarity of the information collected; and (d) ways to minimize the burden of the collection of information on the respondents, including the use of automated collection techniques or other forms of information technology.

50. This is a permit-but-disclose notice and comment rule making proceeding. *Ex parte* presentations are permitted, except during the Sunshine Agenda period, provided they are disclosed as provided in the Commission's rules. *See generally* 47 C.F.R. §§ 1.1202, 1.1203, and 1.2306(a).

51. Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. §§ 1.415 and 1.419, interested parties may file comments on or before [**75 days from date of publication in the Federal Register**] and reply comments on or before [**105 days from date of publication in the Federal Register**]. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS),

[84] We note that because this rule is merely advisory, there is no compliance burden on manufacturers. Also, there is no conflict or overlap between this rule and other federal, state or local requirements.

http://www.fcc.gov/e-file/ecfs.html, or by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 Fed. Reg. 23,121 (1998).

52. Comments filed through the ECFS can be sent as an electronic file via the Internet to http://www.fcc.gov/e-file/ecfs.html. Generally, only one copy of an electronic submission must be filed. If multiple docket or rule making numbers appear in the caption of this proceeding, however, commenters must transmit one electronic copy of the comments to each docket or rule making number referenced in the caption. In completing the transmittal screen, commenters should include their full name, Postal Service mailing address, and the applicable docket or rule making number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should including the following words in the body of the message, "get form <your e-mail address>." A sample form and directions will be sent in reply.

53. Parties who choose to file by paper must file an original and four copies of each filing. If more than one docket or rule making number appear in the caption of this proceeding, commenters must submit two additional copies for each additional docket or rule making number. All filings must be sent to the Commission's Secretary, Magalie Roman Salas, Office of the Secretary, Federal Communications Commission, 445 12th Street, S.W., TW-A325, Washington, D.C. 20554. Comments and reply comments will be available for public inspection during regular business hours in the FCC Reference Center of the Federal Communications Commission, Room TW-A306, 445 12th Street, S.W., Washington, D.C. 20554.

54. Parties who choose to file by paper should also submit their comments on diskette. Such a submission should be on a 3.5-inch diskette formatted in an IBM compatible format using Microsoft Word or compatible software. The diskette should be accompanied by a cover letter and should be submitted in “read only” mode. The diskette should be clearly labeled with the commenter’s name, proceeding (including the lead docket number), type of pleading (comment or reply comment), date of submission, and the name of the electronic file on the diskette. The label should also include the following phrase “Disk Copy – Not an Original.” Each diskette should contain only one party’s pleading, preferably in a single electronic file. In addition, commenters must send diskette copies to the Commission’s copy contractor, International Transcription Service, Inc., 1231 20th Street, N.W., Washington, D.C. 20037.

55. Alternative formats (computer diskette, large print, audio cassette and Braille) are available to persons with disabilities by contacting Martha Contee at (202) 418-0260, TTY (202) 418-2555, or via e-mail to mcontee@fcc.gov. This Notice of Proposed Rule Making can also be downloaded at http://www.fcc.gov/oet.

56. Accordingly, IT IS ORDERED that pursuant to the authority contained in Sections 4(i), 301, 302, 303(e), 303(f), 303(r), 304 and 307 of the Communications Act of 1934, as amended, 47 USC Sections 154(i), 301, 302, 303(e), 303(f), 303(r), 304, and 307, this Notice of Proposed Rule Making IS ADOPTED.

57. IT IS FURTHER ORDERED that the Commission's Consumer Information Bureau, Reference Information Center, SHALL SEND a copy of this NPRM, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

58. IT IS FURTHER ORDERED that the request to modify Section 15.17 of the rules filed by ARRL, The National Association for Amateur Radio pursuant to the Commission’s September 24, 1999 Public Notice IS HEREBY DENIED.

59. To make cited sources more easily available to the readers, we are testing the use of hyperlinks to some FCC documents that are cited in this document. The World Wide Web addresses/URLs that we give here were correct at the time this document was prepared but may change over time. We do not have staff dedicated to updating these URLs, however, so readers may find some URLs to be out of date as time progresses. We also advise that the only definitive text of FCC documents is the one that is published in the FCC Record. In case of discrepancy between the electronic documents cited here and the FCC Record, the version in the FCC Record is definitive.

60. For further information regarding this Notice of Proposed Rule Making, contact Mr. Hugh L. Van Tuyl, Office of Engineering and Technology, (202) 418-7506, e-mail hvantuyl@fcc.gov.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

APPENDIX A: PROPOSED RULE CHANGES

Part 2 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

1. The authority citation for Part 2 continues to read as follows:

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

2. Section 2.202 is amended by appending the following entries to the end of the table in paragraph (g):

§ 2.202 Bandwidths.

* * * * *

(g) Table of necessary bandwidths.

* * *

Description of emission	Necessary bandwidth		Designation of emission
	Formula	Sample Calculation	
Radio-relay system	$B_n = 2K/t$ K=1.6	Pulse position modulated by 36 voice channel baseband: pulse width at half amplitude 0.4 μS; $B_n = 8 \times 10^6$ Hz = 8 MHz (Bandwidth independent of the number of voice channels)	8M00M7E
Composite transmission digital modulation using DSB-AM (Microwave radio relay system)	$B_n = 2RK/\log_2 S$	Digital modulation used to send 5 megabits per second by use of amplitude modulation of the main carrier with 4 signaling states $R = 5 \times 10^6$ bits per second; K = 1; S = 4; B_n = 5 MHz	5M00K7
Binary Frequency Shift Keying	$(0.03 < 2D/R < 1.0)$; $B_n = 3.86D + 0.27R$ $(1.0 < 2D/R < 2)$ $B_n = 2.4D + 1.0R$	Digital modulation used to send 1 megabit per second by frequency shift keying with 2 signaling states and 0.75 MHz peak deviation of the carrier. $R = 1 \times 10^6$ bps; $D = 0.75 \times 10^6$ Hz; B_n = 2.8 MHz	2M80F1D
Multilevel Frequency Shift Keying	$B_n = (R/\log_2 S) + 2DK$	Digital modulation to send 10 megabits per second by use of frequency shift keying with four signaling states and 2 MHz peak deviation of the main carrier. $R = 10 \times 10^6$ bps; D = 2 MHz; K = 1; S = 4; B_n= 9 MHz	9M00F7D
Phase Shift Keying	$B_n = 2RK/\log_2 S$	Digital modulation used to send 10 megabits per second by use of phase shift keying with 4 signaling states $R = 10 \times 10^6$ bps; K = 1; S = 4; B_n= 10 MHz	10M0G7D
Quadrature Amplitude Modulation (QAM)	$B_n = 2R/\log_2 S$	64 QAM used to send 135 Mbps has the same necessary bandwidth as 64-PSK used to send 135 Mbps; $R = 135 \times 10^6$ bps; S = 64; B_n= 45 MHz	45M0W
Minimum Shift Keying	2-ary: $B_n = R(1.18)$ 4-ary $B_n = R(2.34)$	Digital modulation used to send 2 megabits per second using 2-ary minimum shift keying $R = 2.36 \times 10^6$ bps; B_n= 2.36 MHz	2M36G1D

3. Section 2.948 is amended by adding a new sentence to the end of paragraph (a)(2), by revising paragraphs (a)(3), (b)(8) and (d)(3) and by adding a new paragraph (e):

§ 2.948 Description of measurement facilities.

(a) * * *

(2) * * * A laboratory that has been accredited in accordance with subsection (d), below, is not required to file a description of its facilities with the Commission's laboratory, provided the accrediting organization [or designating authority in the case of foreign laboratories] submits the following information to the Commission's laboratory:

(i) laboratory name, address and contact information
(ii) scope of accreditation
(iii) date of accreditation and renewal date of accreditation

(3) If the equipment is to be authorized under the Declaration of Conformity procedure, the laboratory making the measurements must be accredited in accordance with subsection (d) below.

* * * * *

(b) * * *

(8) For equipment that will be measured on an open field test site, a plot of site attenuation data taken pursuant to the procedures contained in Sections 5.4.6 through 5.5 of the following procedure: Institute of Electrical and Electronics Engineers (IEEE) C63.4–2000, entitled ''Interim Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,'' published by the Institute of Electrical and Electronics Engineers, Inc. on December 8, 2000 as document number SH94908. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies of C63.4–2000 may be obtained from: IEEE Standards Department, 455 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855–1331, telephone 1–800–678–4333. Copies of ANSI C63.4–2000 may be inspected at the following locations:

(i) Federal Communications Commission, 445 12th Street, S.W., Office of Engineering and Technology (room 7-B144), Washington, DC 20554,

(ii) Federal Communications Commission Laboratory, 7435 Oakland Mills Road, Columbia, MD 21046, or

(iii) Office of the Federal Register, 800 North Capitol Street, N.W., suite 700, Washington, DC.

* * * * *

(d) * * *

(3) A laboratory that has been accredited with a scope covering the required measurements shall be deemed competent to test and submit test data for equipment subject to verification, DoC and certification. Such a laboratory shall be accredited by an approved accreditation organization based on the International

Organization for Standardization/International Electrotechnical Commission (ISO/IEC) Standard 17025, "General Requirements for the Competence of Calibration and Testing Laboratories." The organization accrediting the laboratory must be approved by the Commission's Office of Engineering and Technology, as indicated in § 0.241 of this chapter, to perform such accreditation based on ISO/IEC 58, "Calibration and Testing Laboratory Accreditation Systems--General Requirements for Operation and Recognition." The frequency for revalidation of the test site and the information that is required to be filed, or retained by the testing party shall comply with the requirements established by the accrediting organization.

* * * * *

(e) The accreditation of a laboratory located outside of the United States, or its possessions, will be acceptable only under one of the following conditions:

(1) If the accredited laboratory has been designated by a foreign designating authority and recognized by the Commission under the terms of a government-to-government Mutual Recognition Agreement/Arrangement; or

(2) If the laboratory has been recognized by the Commission as being accredited by an organization that has entered into an arrangement between accrediting organizations and the arrangement has been recognized by the Commission.

4. Section 2.1033 is amended by renumbering paragraph (c)(17) as paragraph (d).

5. Section 2.1055, paragraph (a)(2) is amended by adding the words ", and equipment authorized for use in the Family Radio Service under Part 95 of this chapter." to the end of this paragraph.

6. The heading "FILING FOR APPLICATION REFERENCE" before Section 2.1061 is deleted.

7. Sections 2.1061 through 2.1065 are deleted.

Part 15 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

8. The authority citation for Part 15 continues to read as follows:

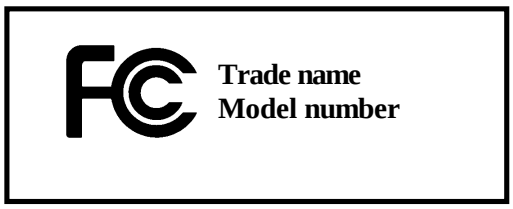
AUTHORITY: 47 U.S.C. 154, 302, 303, 304, 307 and 544A.

9. Section 15.19 is amended by replacing the graphics in paragraphs (b)(1)(i) and (b)(1)(ii) with the following graphics.

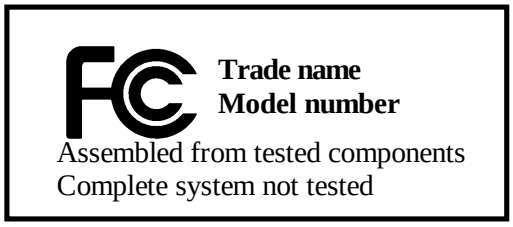
§ 15.19 Labeling requirements.

*** * * * ***

(b)(i) * * *



(b)(ii)* * *



* * * * *

10. Section 15.21 is amended by adding the following sentence to the end of the Section:

§ 15.21 Information to user.

* * * * *

In cases where the manual is only available electronically through the Internet or other computer network, the information required by this section may be included in the electronic manual.

11. Section 15.31 is amended by revising paragraph (a) as follows:

§ 15.31 Measurement standards.

(a) The following measurement procedures are used by the Commission to determine compliance with the technical requirements in this part. Except where noted, copies of these procedures are available from the Commission's current duplicating contractor whose name and address are available from the Commission's Consumer Information Bureau at 1-888-CALL FCC (1-888-225-5322).

(1) FCC/OET MP-2: Measurement of UHF Noise Figures of TV Receivers.

(2) Unlicensed Personal Communication Service (UPCS) devices are to be measured for compliance using American National Standards Institute (ANSI) C63.17-1998, entitled "American National Standard for Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices", published by the Institute of Electrical and Electronics Engineers, Inc. on March 24, 1998 as document number SH94568. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51.

(3) Other intentional and unintentional radiators are to be measured for compliance using the following procedure excluding section 4.1.5.2, section 5.7, section 9 and section 14: Institute of Electrical and Electronics Engineers (IEEE) C63.4–2000, entitled ''Interim Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,'' published by the Institute of Electrical and Electronics Engineers, Inc. on December 8, 2000 as document number SH94908. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(i)Copies of ANSI C63.17-1998 and C63.4-2000 may be obtained from: IEEE Standards Department, 455 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855–1331, telephone 1–800–678–4333.
(ii) Copies of ANSI C63.17-1998 and C63.4-2000 may be inspected at the following locations:
(1) Federal Communications Commission, 445 12th Street, S.W., Office of Engineering and Technology (room 7-B144), Washington, DC 20554,
(2) Federal Communications Commission Laboratory, 7435 Oakland Mills Road, Columbia, MD 21046, or
(3) Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

12. Section 15.105 is amended by adding a new paragraph (e)

§ 15.105 Information to the user.

* * * * *
(e) In cases where the manual is only available electronically through the Internet or other computer network, the information required by this section may be included in the electronic manual.

13. Section 15.118 is amended by changing the Federal Communications Commission's mailing address to paragraph (b) to "Federal Communications Commission, 445 12th Street, S.W., Washington, D.C."

14. Section 15.120 is amended by changing the Federal Communications Commission's mailing address to paragraph (d) to "Federal Communications Commission, 445 12th Street, S.W., Washington, D.C."

15. Section 15.205 is amended by adding new paragraph (d)(6).

§ 15.205 Restricted bands of operation.

* * * * *
(d) * * *

(6) Devices operated pursuant to 15.225 are exempt from complying with this section for the 13.36-13.41 MHz band only.

* * * * *

16. Section 15.215 is amended by adding a new paragraph (e) as follows:

§ 15.215 Additional provisions to the general radiated emission limitations.

* * * * *
(e) Intentional radiators transmitting in the spectrum below 490 kHz with a measured fundamental field strength 40 dB or more below the limits specified in Section 15.209(a) for this band, are subject only to the general conditions of operation in §§ 15.5 and 15.29 and are exempt from the specific technical standards and other requirements contained in this part. The operator of the exempted device shall be required take any steps necessary to stop transmission from the device upon a finding by the Commission or its representative that the device is causing harmful interference. Transmission shall not resume until the condition causing the harmful interference has been corrected.

17. Section 15.225 is revised to read as follows.

§ 15.225 Operation within the band 13.110-14.010 MHz.

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed 30 microvolts/meter at 30 meters.

(e) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.

18. Section 15.231, title and paragraph (a) are revised to read as follows:

§ 15.231 Operation in the band 40.66 - 40.70 MHz and above 70 MHz.

(a) The provisions of this section are restricted to operation within the band 40.66-40.70 MHz and above 70 MHz.

(1) * * *

* * * * *

19. A new Section 15.240 is added to read as follows:

§ 15.240 Operation in the band 425-435 MHz.

(a) Operation under the provisions of this section is restricted to devices that use radio frequency energy to locate and identify devices and exchange data. Devices operated pursuant to the provisions of this section shall be digital data devices and not be used for voice communications.

(b) The field strength of any emissions radiated within the specified frequency band shall not exceed 11,000 microvolts per meter measured at a distance of 3 meters. The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in § 15.35 for limiting peak emissions apply. Additionally, devices authorized under these provisions shall be provided with a means for

automatically limiting operation so that the duration of each transmission shall not be greater than 120 seconds and be only permitted to reinitiate an interrogation in the case of a transmission error. Absent such a transmission error, the silent period between transmissions shall not be less than 10 seconds.

(c) The field strength of emissions radiated on any frequency outside of the specified band shall not exceed the general radiated emission limits in § 15.209.

(d) The device shall be self-contained with no external or readily accessible controls that may be adjusted to permit operation in a manner inconsistent with the provisions in this section. Any antenna that may be used with this device shall be permanently attached and shall not be readily modifiable by the user.

(e) In the case of radio frequency powered tags designed to operate with a device authorized under this section, the tag may be approved with the device or be considered as a separate device subject to its own authorization. Powered tags approved with a device under a single application shall be labeled with the same identification number as the device.

20. Section 15.255, paragraph (b)(5) is amended by changing the word “limits” to “levels”.

Part 18 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

21. The authority citation for Part 18 continues to read as follows:

AUTHORITY: 47 U.S.C. 4, 301, 302, 303, 304, 307.

22. Section 18.103 is deleted.

23. Section 18.105 is deleted.

24. Section 18.119 is deleted.

Part 90 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

25. 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).

26. Section 90.203 is amended by revising paragraph (k) to read as follows:

Section 90.203 Certification required.

* * * * *

(k) For transmitters operating on frequencies in the 220-222 MHz band, certification will only be granted for equipment with channel bandwidths up to 5 kHz, except that certification will be granted for equipment operating on 220-222 MHz band Channels 1 through 160 (220.0025 through 220.7975/221.0025 through 221.7975), 171 through 180 (220.8525 through 220.8975/221.8525 through 221.8975), and 186 through 200 (220.9275 through 220.9975/221.9275 through 221.9975) with channel bandwidths greater than 5 kHz.

* * * * *

APPENDIX B: LIST OF COMMENTING PARTIES

Biennial review proceeding

1. Alloy LLC
2. ARRL, The National Association for Amateur Radio (ARRL)
3. Telecommunications Industry Association (TIA)
4. Phillip Inglis

NCTIS B10 petition (RM-9375)

Comments

1. Racom Systems, Inc.
2. Monarch Marking Systems, Inc.
3. Federal Express Corporation, Inc.
4. IMTEC, Inc.
5. PSC, Inc.
6. Opticon, Inc.
7. Texas Instruments, Inc.
8. Frank L. Thompson
9. Telecommunications Strategy and Regulations
10. 3M Company
11. Simens ElectroCom
12. Siemens Microelectronics, Inc.
13. Sensormatic Electronics Corporation
14. Motorola, Inc.
15. Diamond Checkpoint
16. SCS Corporation

Reply comments

1. Texas Instruments Incorporated
2. Omron Electronics, Inc.

SAVI petition (RM-10051)

Comments

1. H. Donald Ratliff
2. Cynthia Barnhart
3. Oracle Corporation
4. ARRL, The National Association for Amateur Radio
5. United Parcel Service
6. Nickolaus E. Leggett

Reply comments

1. Savi Technology, Inc.
2. ARRL, The National Association for Amateur Radio
3. Fred C. Jensen

APPENDIX C: INITIAL REGULATORY FLEXIBILITY ANALYSIS

As required by the Regulatory Flexibility Act (RFA),[85] the Commission has prepared this present Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities by the policies and rules proposed in this Notice of Proposed Rule Making (NPRM). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments provided in paragraph 51 of this NPRM. The Commission will send a copy of this NPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).[86] In addition, the NPRM and IRFA (or summaries thereof) will be published in the Federal Register.[87]

A. Need for, and Objectives of, the Proposed Rules

Section 11 of the Communications Act of 1934, as amended, and Section 202(h) of the Telecommunications Act of 1996 require the Commission (1) to review biennially its regulations pertaining to telecommunications service providers and broadcast ownership; and (2) to determine whether economic competition has made those regulations no longer necessary in the public interest. The Commission is directed to modify or repeal any such regulations that it finds are no longer in the public interest.

As part of the biennial review for the year 2000, the Commission reviewed its regulations pertaining to telecommunications service providers and broadcast ownership and recommended a number of changes to those rules. While not specifically required by statute, the Commission also reviewed Parts 2, 15 and 18 as part of this process.

The NPRM proposes several changes to Part 15 and other Parts of the rules. Specifically, it proposes to:

1) Make certain changes to the Part 15 emission limits above 2 GHz. While the Part 15 emission limits have been effective at controlling interference, a review is warranted due to the increasing use of frequencies above 2 GHz. These limits appear to restrict unnecessarily certain types of devices such as field disturbance sensors. In addition, radar detectors, which are currently exempt from complying with emission limits, are causing interference to satellite services.

2) Remove the restriction on data transmissions by remote control device because it may hinder the development of new types of devices, and the distinction between control signals and data signals is becoming increasingly blurred.

3) Make changes to the requirements for radio frequency identification (RFID) systems to allow faster data transmission. RFID systems use a small transmitter attached to an item that transmits data identifying the item. The Commission received two petitions for rule making requesting these changes to the rules.

4) Streamline the labeling process for equipment authorized under the Declaration of Conformity (DoC)

[85] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601 *et. seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

[86] *See* 5 U.S.C. § 603(a).

[87] *See id.*

procedure. As equipment becomes smaller, it becomes more difficult to include all the information currently required on the label.

5) Make minor corrections and updates to Part 15 and other parts of the rules.

B. Legal Basis

The proposed action is authorized under Sections 4(i), 301, 302, 303(e), 303(f), 303(r), 304 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 301, 302, 303(e), 303(f), 303(r), 304 and 307.

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

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 proposed rules, if adopted.[88] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[89] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.[90] 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 SBA.[91]

The Commission has not developed a definition of small entities applicable to Radio Frequency Equipment Manufacturers (RF Manufacturers). Therefore, the applicable definition of small entity is the definition under the SBA rules applicable to manufacturers of "Radio and Television Broadcasting and Communications Equipment." According to the SBA's regulation, an RF manufacturer must have 750 or fewer employees in order to qualify as a small business.[92] Census Bureau data indicates that there are 858 companies in the United States that manufacture radio and television broadcasting and communications equipment, and that 778 of these firms have fewer than 750 employees and would be classified as small entities.[93] We believe that many of the companies that manufacture RF equipment may qualify as small entities.

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[88] 5 U.S.C. § 603(b)(3).

[89] 5 U.S.C. § 601(6).

[90] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. § 632). Pursuant to the RFA, 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." 5 U.S.C. § 601(3).

[91] Small Business Act, 15 U.S.C. § 632 (1996).

[92] *See* 13 C.F.R. § 121.201, North American Industrial Classification System (NAICS) Code 33422.

[93] *See* U.S. Department of Commerce, 1992 Census of Transportation, Communications and Utilities (issued May 1995), NAICS code 33422.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

The NPRM proposes a number of rule changes that will affect reporting, recordkeeping and other compliance requirements. Each of these changes is described below.

The NPRM proposes to require radar detectors used by motorists to meet emission limits to prevent interference to satellite services. The tuning circuitry in most receivers, including radar detectors, generates radio frequency signals that can be radiated and cause interference. Part 15 of the rules has limits on the radiated signals from radio receivers that tune up to 960 MHz. Because radar detectors only tune above 960 MHz, they are exempt from complying with emission limits and most or all models currently sold significantly exceed the Part 15 limits. We expect that manufacturers would be required to redesign radar detectors to comply with any emission limit adopted.

The NPRM proposes changes to streamline the labeling requirements for equipment authorized under the Declaration of Conformity (DoC) procedure. DoC is a self-approval procedure in which the manufacturer has the equipment tested for compliance at a laboratory accredited to make the required measurements. There is an alternative procedure that allows personal computers to be assembled using compliant motherboards and power supplies with no additional testing required. Equipment that complies with the applicable rules may be marketed without an approval from the Commission, and must be labeled as specified in Part 15 of the rules. The NPRM proposes to eliminate the phrase "For home or office use" from the label for all equipment subject to DoC. In addition, it proposes to eliminate the phrase "Tested to comply with FCC standards" from the label on equipment that was tested as a complete unit, although this phrase will still be required on personal computers that were assembled from tested components. The NPRM also proposes to eliminate the need to place the equipment trade name and model number on the label if that information is already on the equipment in close proximity to the label. These changes will permit smaller labels on equipment. These changes will not be required, and small entities can change labels as they change and upgrade models.

The NPRM proposes to incorporate the ANSI C63.17-1998 procedure into the Part 15 of the rules by reference as the procedure the Commission will use for testing unlicensed Personal Communication Service (PCS) equipment for compliance. Unlicensed PCS equipment has a number of specialized technical requirements designed to prevent interference between devices. Specifically, there is a defined "spectrum etiquette" that requires unlicensed PCS transmitters to monitor the spectrum for other users before transmitting, and to use a defined transmission format. There is currently no procedure listed in the rules for testing unlicensed PCS equipment to these requirements. The American National Standards Institute (ANSI) C63 Committee recently completed work on a procedure for measuring unlicensed PCS equipment, which the NPRM proposes to incorporate into the rules as the procedure that the Commission will use.

Part 15 currently references the ANSI C63.4-1992 procedure as the one that will be used for testing most intentional and unintentional radiators for compliance with the rules. The ANSI C63 Committee recently completed a minor revision of the ANSI C63.4-1992 procedure that contains a number of clarifications to the testing procedures. The NPRM proposes to reference the new C63.4-2000 procedure in place of the older version as the procedure that manufacturers should use for compliance testing.

The NPRM proposes a change to the temperature range for frequency stability measurements on transmitters used in the Family Radio Service (FRS) under Part 95 of the rules. Most transmitters used in licensed services are required to maintain their carrier frequency within a specified tolerance over a range of voltage and temperature variations to minimize the probability of interference to other users. At the time the FRS was established in 1996, a frequency stability limit was specified for transmitters, but no temperature range was

specified. The Commission staff informally interpreted that measurements must be made to –20 degrees centigrade. A 1998 rule change to the equipment authorization requirements unintentionally resulted in a new requirement to measure FRS transmitters to –30 degrees centigrade. However, the staff continued requiring measurements to –20 degrees centigrade in the interest of fairness. The NPRM proposes to specifically specify that FRS transmitters are to be measured to –20 degree centigrade as the staff has been requiring since 1996.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

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.[94]

The proposal to require emission limits on radar detectors would have an impact on equipment manufacturers, some of which may be small entities. Paragraphs 10 through 14 in the primary item discuss the need to require certain receivers to meet radiated emission limits to minimize the possibility of interference. We requested comments in the NPRM on the timetable that should be required for compliance with new emission limits, and whether a differing compliance timetable should be required for small entities. The alternative of establishing a different timetable for small manufacturers would allow these small entities additional time to consider how to meet these new emission limits, and, if necessary, an opportunity to redesign or retool manufacturing facilities. We expect that the emission limits would be performance, rather than design standards, in that the Commission would not specify how manufacturers must design their equipment. The Commission seeks additional comment from small entities on what an appropriate time limit for compliance would be, and the resulting costs.

The other proposals contained in this NPRM are deregulatory in nature, which we expect will simplify compliance and reporting requirements for all parties, particularly small entities. For example, we proposed to reduce the amount of information required on the label for products authorized through the Declaration of Conformity self-approval process. If this change were adopted, manufacturers would be permitted to use the simplified label as soon as the rules become effective, but would not be required to do so.

F. Federal Rules that May Duplicate, Overlap, or Conflict With the Proposed Rule

None.

[94] *See* 5 U.S.C. § 603(c).