

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

In the Matter of	)	
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	)	
1998 Biennial Regulatory Review --	)	ET Docket No. 98-80
Conducted Emissions Limits Below 30 MHz	)	
for Equipment Regulated Under Parts 15	)	
and 18 of the Commission's Rules	)	
	)	

NOTICE OF INQUIRY

Adopted: May 29, 1998

Released: June 8, 1998

Comment Date: [30 days from the date of publication in the Federal Register]

Reply Comment Date: [45 days from the date of publication in the Federal Register]

By the Commission: Commissioner Furchtgott-Roth issuing a statement.

INTRODUCTION

1. By this action, the Commission is issuing a Notice of Inquiry (Inquiry) to review the conducted emissions limits in Parts 15 and 18 of the Commission's rules. The conducted emissions limits control the levels of radio frequency (RF) voltage that equipment may conduct onto the (AC) power line. The purpose of these limits is to protect against interference to radio services operating below 30 MHz.<sup>1</sup> The Commission is initiating this proceeding on its own motion as part of an ongoing program of regulatory review. The conducted emissions limits apply to a wide variety of products, including various consumer electronic devices and radio transmitters. We seek to examine whether these regulations continue to be necessary, and if so, whether any changes to the limits may be appropriate. In this regard, we seek information as to the costs of complying with these regulations. We are also interested in determining whether the regulations may impede new technologies. Further, we will examine our general regulations for carrier current systems. Upon review of the responses to this inquiry, we will determine whether to propose any changes to these regulations.

BACKGROUND

2. On February 5, 1998, the Commission staff released a list of 31 proposed proceedings to be

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<sup>1</sup> See 47 CFR 15.107, 47 CFR 15.207 and 47 CFR 18.307 for the conducted emissions limits. The regulations also specify radiated emissions limits to protect against interference to radio services operating above 30 MHz. An extract of all Part 15 and Part 18 rules referenced herein is contained in the Appendix.

initiated as part of the 1998 biennial regulatory review.<sup>2</sup> That list is the result of a comprehensive internal review of all existing FCC regulations supplemented by informal comments from the public.<sup>3</sup> We are initiating this proceeding, which will examine the conducted emissions limits for products subject to Parts 15 and 18 of the rules, as part of the 1998 biennial regulatory review. While a review of these regulations is not specifically encompassed by Section 11 of the Communications Act of 1934, this review is consistent with the objectives and spirit of Section 11.<sup>4</sup>

3. Many radio frequency devices obtain their electrical energy from the AC power line (i.e., 110 volt household electrical line). Such devices include personal computers, personal computer peripherals, TV and FM receivers, video cassette recorders, cordless telephone base stations, wireless security alarm systems, RF lighting devices, microwave ovens, induction cooking ranges and ultrasonic equipment. The radio frequency energy that these devices generate can be conducted back onto the AC power line. The conducted radio frequency energy can cause interference to radio communications via two possible paths. First, the radio frequency energy may be carried along the electrical wiring to another device that is also connected to the electrical wiring.<sup>5</sup> Second, the AC electrical wiring can act as an antenna to radiate signals over the airwaves. At frequencies below 30 MHz, where wavelengths are greater than 10 meters, the long stretches of electrical wiring can act as very efficient antennas. Further, the signals radiating onto the airwaves can cause interference to operations at considerable distances because propagation losses are low at these frequencies.

4. Parts 15 and 18 of the rules control the potential for such interference by limiting the levels of RF voltage that devices may conduct onto the AC power line. Part 15 of the Commission's rules specifies conducted emissions limits for radio frequency devices, including unintentional and intentional radiators.<sup>6</sup> Part 18 specifies conducted emissions limits for industrial, scientific, and medical (ISM) equipment. Industrial, scientific and medical equipment is equipment or appliances designed to generate and use locally RF energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunication.<sup>7</sup> Compliance is usually determined by connecting the device to a line impedance stabilization network, or LISN, which allows measurement of RF voltage under standard

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<sup>2</sup> Report GN 98-1, General Action (Feb. 5, 1998). FCC Staff Proposes 31 Proceedings as Part of 1998 Biennial regulatory Review, Document 81708.

<sup>3</sup> *Id.*

<sup>4</sup> Section 11 of the Communications Act of 1934, as amended, 47 U.S.C. 161, requires that the Commission (1) review all of its regulations applicable to providers of telecommunications service in every even-numbered year, (2) determine which regulations are no longer necessary as the result of meaningful economic competition, and (3) repeal or modify those unnecessary regulations.

<sup>5</sup> This energy may be conducted into other buildings or homes connected through the same electrical power supply transformer.

<sup>6</sup> An intentional radiator is defined as a device that intentionally generates and emits radio frequency energy by radiation or induction. An unintentional radiator is defined as a device that intentionally generates radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction. See 47 CFR 15.3(o) and (z), respectively.

<sup>7</sup> See 47 CFR 18.107(c).

conditions. Most products are subject to conducted emissions limits that cover the frequency range 450 kHz to 30 MHz. The sole exception is induction cooking ranges, which are subject to conducted emissions limits beginning at 10 kHz because these products generate high levels of radio emissions at very low frequencies.

5. Certain devices or systems use carrier current techniques to deliberately couple RF energy to the AC electrical wiring for purposes of communication.<sup>8</sup> Many AM campus radio systems use carrier current technology. Electrical utilities often use carrier current technology for monitoring and control of the electrical grid.<sup>9</sup> A variety of devices intended for home use, such as intercom systems and remote controls for electrical appliances and lamps, also use carrier current technology. Interference from carrier current systems is controlled primarily by requiring compliance with radiated emissions limits.<sup>10</sup> These standards provide system operators and equipment manufacturers the flexibility they need to adjust the signal levels they couple to the electrical wiring to take into account local variations, such as differences in impedance and layout of the wiring. Carrier current systems that contain their fundamental emission within the standard AM broadcast band of 535-1705 kHz and are intended to be received using standard AM broadcast receivers have no limit on conducted emissions. All other carrier current systems are subject to a conducted emission limit only within the AM broadcast band.

## DISCUSSION

6. *Reexamination of the Conducted Emissions Limits.* As discussed below, it has been many years since the Part 15 and 18 conducted emissions limits were last examined. Recently, several specific issues have come to our attention suggesting that the present limits may be inappropriate or inadequate in certain cases. For example, we recently initiated a proceeding proposing to relax the conducted emissions limits for certain types of RF lighting devices.<sup>11</sup> Accordingly, we believe it is appropriate to reexamine the Part 15 and 18 requirements pertaining to conducted emissions.

7. Part 15 specifies conducted emissions limits for radio frequency devices. Section 15.107 specifies the conducted emissions limits for unintentional radiators; Section 15.207 specifies the conducted emissions limits for intentional radiators.<sup>12</sup> The limits in both sections are identical. These limits were last examined

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<sup>8</sup> A carrier current system is defined as a system, or part of a system, that transmits radio frequency energy by conduction over the electric power lines. A carrier current system can be designed such that the signals are received by conduction directly from connection to the electric power lines (unintentional radiator) or the signals are received over-the-air due to radiation of the radio frequency signals from the electric power lines (intentional radiator). *See* 47 CFR 15.3(f).

<sup>9</sup> A power line carrier system is defined as an unintentional radiator employed as a carrier current system used by an electric power utility entity on transmission lines for protective relaying, telemetry, etc. for general supervision of the power system. The system operates by the transmission of radio frequency energy by conduction over the electric power transmission lines of the system. The system does not include those electric lines which connect the distribution substation to the customer or house wiring. *See* 47 CFR 15.3(t).

<sup>10</sup> *See* 47 CFR 15.221.

<sup>11</sup> *See Notice of Proposed Rule Making*, ET Docket No. 98-42, adopted April 1, 1998.

<sup>12</sup> *See* 47 CFR 15.107 & 15.207. Copies of these rule sections can be found in the Appendix.

comprehensively in 1989, and were based largely on limits developed for digital devices in the late 1970s.<sup>13</sup> Except for Class A digital devices, the radio frequency voltage that is conducted onto the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed 250 microvolts. For a Class A digital device, the limits are 1000 microvolts over the frequency range 450 KHz to 1.705 MHz and 3000 microvolts over the frequency range 1.705 MHz to 30.0 MHz.<sup>14</sup>

8. Part 18 specifies conducted emissions limits for ISM equipment. Typical ISM applications are the production of physical, biological, or chemical effects such as heating, ionization of gases, mechanical vibration, hair removal and acceleration of charge particles. The conducted emissions limits for ISM equipment are specified in Section 18.307.<sup>15</sup> Limits are specified only for three specific types of ISM equipment: ultrasonic equipment, induction cooking ranges, and RF lighting devices. The Part 18 conducted emissions limits were last reviewed comprehensively in 1985.<sup>16</sup>

9. We believe that conducted emissions limits remain necessary for controlling interference to radio services operating below 30 MHz. Radio frequency devices and ISM equipment continue to be capable of conducting significant radio frequency energy onto the electrical power line that uncontrolled, could severely disrupt over-the-air radio services operating on frequencies below 30 MHz. It does not appear that there have been any changes in technology that would inherently control conducted emissions from such equipment. Further, it does not appear that competition would lead to a reduction in conducted emissions because the user cannot observe any difference in product performance. Consequently, we anticipate that if the regulations were removed, the levels of conducted emissions from RF devices and ISM equipment would increase, causing interference to radio services operating below 30 MHz. We invite comment on these tentative findings. Specifically, we invite comment on the following points:

- # Are the Part 15 and 18 conducted emissions limits still necessary?
- # Is there an alternative, more preferable means to control interference to services operating below 30 MHz caused by radio frequency devices and ISM equipment? If so, what alternative approach is appropriate?

10. We note that a variety of services operate in the frequency bands below 30 MHz, including AM broadcasting, international broadcasting, amateur radio, the Personal Radio Service (e.g., Citizens Band), aeronautical, maritime and land mobile, etc.<sup>17</sup> We are also aware that many of the frequency bands below

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<sup>13</sup> The Part 15 rules were last revised completely in 1989. See Revision of Part 15 of the Rules Regarding the Operation of Radio Frequency Devices Without an Individual License, GEN Docket No. 87-389, *First Report and Order*, 54 Fed. Reg. 17710 (1989).

<sup>14</sup> A Class A digital device is defined as a digital device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home. See 47 CFR 15.3(h).

<sup>15</sup> See 47 CFR 18.307. This section is also shown in the Appendix.

<sup>16</sup> See Overall Revision of the Rules Regarding Industrial, Scientific, and Medical (ISM) Equipment Under Parts 0, 2, and 18, GEN Docket No. 20718, *Third Report and Order*, 50 Fed. Reg. 36061 (1985).

<sup>17</sup> See 47 CFR 2.106, the U.S. Table of Frequency Allocations, for a complete listing of the services operating below 30 MHz.

30 MHz are used by, or shared with, federal government operations. We seek information as to whether the present conducted emissions limits have proven effective in controlling interference to services operating below 30 MHz. In particular, we seek the following information:

- # Are the existing Part 15 and Part 18 conducted emissions limits effective in controlling interference to services operating below 30 MHz?
- # Have there been changes in the types of radio services operating below 30 MHz that warrant a change in the conducted emissions limits? If so, for what services and frequencies.
- # Have there been changes in the technologies used by services below 30 MHz that increase or decrease the need for interference protection. If so, describe the technology changes and how they should be taken into account in adjusting the conducted emissions limits.

11. We are aware that a variety of other factors may be relevant in considering whether the conducted emissions limits should be adjusted. Such factors may include advances in analytical models for interference, consistency with international standards, and whether special requirements may be appropriate for particular classes of products. Therefore, we request information on the following points:

- # Have there been any advances in analytical techniques that should be considered in adjusting the conducted emissions limits? What interference models are available?
- # Are adjustments to the limits appropriate to make them consistent with conducted emissions limits used internationally? Parties filing comments should describe the benefits of changing the rules to conform with international standards and provide specific references to the international standards that should be followed.
- # The limits are less severe for Class A digital devices because such equipment is located in business and commercial areas that are separated from other users of the spectrum. Should these limits be extended to any other types of devices that will be used only in commercial areas?
- # Are there specific types of products that should be subject to different conducted emissions standards? Are there certain types of products that should be subject to conducted emissions limits that are not currently required to meet such limits?
- # Filters used to control radio emissions may affect compliance with requirements from other organizations pertaining to electrical safety. Should the Commission consider other product requirements, such as electrical safety, in adjusting the conducted emissions limits? If so, how?

12. *Compliance Costs.* While the purpose of our regulations pertaining to conducted emissions is to control interference, we seek to accomplish this objective at minimal cost. We understand that the techniques for achieving compliance with the conducted emissions requirements are well known. Generally, this is accomplished through use of RF filtering. The costs of the filtering are therefore a direct cost of the regulations. We note that there are other costs, such as the need to design the product to comply with the emissions limits and to test the product to determine whether it complies with the standard. In order to gain a firm understanding of the compliance costs associated with these regulations, we are requesting the following information:

- # What percentage of product costs is typically attributable to the Commission's regulations

governing conducted emissions? What are the typical costs for any filtering that may be required to achieve compliance?

- # If the limits were relaxed in some fashion, how much of a change would need to occur before there would be any significant product savings?
- # Are there types of products for which it is particularly costly to achieve compliance? What types of products and what are the cost factors?
- # How might the Commission change the regulations pertaining to conducted emissions to accomplish the objective of controlling interference while minimizing costs?

13. *Impact on New Technologies.* It is our initial view that the regulations pertaining to conducted emissions do not generally impede the introduction of new technologies. However, as noted above, we have initiated a proceeding proposing changes in the conducted emissions regulations in order to accommodate new RF lighting technologies. We are unaware of any other new technologies that may be impeded by the current regulations. However, we solicit information in this regard. In particular, we request information on the following topics:

- # What new technologies, if any, are impeded by the conducted emissions requirements?
- # For new technologies that may be impeded by the regulations, describe what they are and how the rules should be changed to accommodate them.

14. *Carrier Current Systems.* The regulations for carrier current systems were last examined comprehensively in 1990.<sup>18</sup> As noted above, the primary method of controlling interference from carrier current systems is through limits on radiated emissions. Nevertheless, we believe it is appropriate to review the regulations for carrier current systems as part of this inquiry because these systems operate by conducting RF signals onto the power line. We are also aware that new carrier current systems may be under development, including the provision of high-speed data service to residences via use of the power network. Therefore, it may be appropriate to review the regulations in anticipation of such developments. Accordingly, we request information on the following points:

- # Are any changes needed in the regulations governing carrier current systems?
- # Would it be useful to develop line conducted emissions limits as an optional alternative to radiated emissions limits for carrier current systems? What alternative limits would be appropriate?
- # Carrier current systems operating outside the AM broadcast band are subject to limits on any spurious conducted emissions that may occur in the AM broadcast band. Are these limits still necessary? Should they be adjusted? If so, how?
- # What new types of carrier current systems are expected in the future? What changes, if any, may be needed to accommodate these new systems?

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<sup>18</sup> See Revision of Part 15 of the Rules Regarding the Operation of Radio Frequency Devices Without an Individual License, GEN Docket No. 87-389, *Memorandum Opinion and Order*, 56 Fed. Reg. 00372 (1990).

15. *Other Matters.* We recognize that there are several other aspects of the regulations pertaining to conducted emissions, aside from the limits themselves. For example, the regulations address such matters as measurement methods and adjustments to the limits that are permitted when making measurements with a quasi-peak detector function.<sup>19</sup> We invite comment generally on any aspects of our regulations pertaining to conducted emissions.

16. *Conclusion.* In summary, we are reviewing the conducted emission limits for equipment governed by Parts 15 and 18 of the Commission's rules. We seek comment on whether the existing regulations are still necessary, whether the limits should be adjusted, the costs of complying with these regulations, and the impact on new technologies. We also seek comment on the regulations for systems that place radio frequency signals on the AC power line for purposes of communication.

### PROCEDURAL MATTERS

17. This is an exempt notice and comment rule making proceeding. *See generally* 47 CFR Sections 1.1202, 1.1203, and 1.1206(a).

18. *Comment Dates.* Pursuant to applicable procedures set forth in Sections 1.415 and 1.419 of the Commission's Rules, 47 C.F.R. Sections 1.415 and 1.419, interested parties may file comment on or before **[30 days from date of publication in the Federal Register]** and reply comments on or before **[45 days from date of publication in the Federal Register]**. To file formally in this proceeding, you must file an original and five copies of all comments, reply comments, and supporting comments. If you want each Commissioner to receive a personal copy of your comments, you must file an original plus nine copies. You should send comments and reply comments to Office of the Secretary, Federal Communications Commission, 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 239, 1919 M Street, N.W., Washington, D.C. 20554.

19. 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.

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<sup>19</sup> *See, for example,* 47 CFR 15.35 and 15.107(d).

20. For further information regarding this Notice of Inquiry, contact Anthony Serafini, Office of Engineering and Technology, (202) 418-2456.

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas,  
Secretary.



## APPENDIX

Extract of Rules Specifying  
Conducted Emissions LimitsSection 15.107 Conducted limits.

(a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed 250 microvolts. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

(b) For a Class A digital device that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed the limits in the following table. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals. The lower limit applies at the band edges.

Frequency of Emission (MHz)	Conducted Limit (microvolts)
0.45 - 1.705	1000
1.705 - 30.0	3000

(c) The limits shown in paragraphs (a) and (b) of this Section shall not apply to carrier current systems operating as unintentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 uV within the frequency band 535-1705 kHz.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in Section 15.109(e).

(d) The following option may be employed if the conducted emissions exceed the limits in paragraph (a) or (b) of this Section, as appropriate, when measured using instrumentation employing a quasi-peak detector function: if the level of the emission measured using the quasi-peak instrumentation is 6 dB, or more, higher than the level of the same emission measured with instrumentation having an average detector and a 9 kHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13 dB for comparison to the limits. When employing this option, the following conditions shall be observed:

- (1) The measuring instrumentation with the average detector shall employ a linear IF amplifier.
  - (2) Care must be taken not to exceed the dynamic range of the measuring instrument when measuring an emission with a low duty cycle.
  - (3) The test report required for verification or for an application for a grant of equipment authorization shall contain all details supporting the use of this option.
- (e) As an alternative to the conducted limits shown in paragraphs (a) and (b) of this Section, digital devices may be shown to comply with the standards contained in the First Edition of International Special Committee on Radio Interference (CISPR) Pub. 22 (1985), "Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment," and the associated Draft International Standards (DISs) adopted in 1992 and published by the International Electrotechnical Commission as documents CISPR/G (Central Office) 2, CISPR/G (Central Office) 5, CISPR/G (Central Office) 9, CISPR/G (Central Office) 11, CISPR/G (Central Office) 12, CISPR/G (Central Office) 13, and CISPR/G (Central Office) 14. 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 these CISPR publications may be purchased from the American National Standards Institute (ANSI), Sales Department, 11 West 42nd Street, New York, NY 10036, (212) 642-4900. Copies may also be inspected during normal business hours at the following locations: (1) Federal Communications Commission, 2025 M Street, NW, Office of Engineering and Technology (Room 7317), Washington, DC, and (2) Office of the Federal Register, 800 N. Capitol Street, NW, Suite 700, Washington, DC. In addition:

- (1) The test procedure and other requirements specified in this Part shall continue to apply to digital devices.
  - (2) If the conducted emissions are measured to demonstrate compliance with the alternative standards in this paragraph, compliance must also be demonstrated with the radiated emission limits shown in Section 15.109(g) of this Part.
- (f) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operating while charging, AC adaptors or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

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#### Section 15.207 Conducted limits.

- (a) For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 450 kHz to 30 MHz shall not exceed 250 microvolts. Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

(b) The following option may be employed if the conducted emissions exceed the limits in paragraph (a) of this Section when measured using instrumentation employing a quasi-peak detector function: if the level of the emission measured using the quasi-peak instrumentation is 6 dB, or more, higher than the level of the same emission measured with instrumentation having an average detector and a 9 kHz minimum bandwidth, that emission is considered broadband and the level obtained with the quasi-peak detector may be reduced by 13 dB for comparison to the limits. When employing this option, the following conditions shall be observed:

(1) The measuring instrumentation with the average detector shall employ a linear IF amplifier.

(2) Care must be taken not to exceed the dynamic range of the measuring instrument when measuring an emission with a low duty cycle.

(3) The test report required for verification or for an application for a grant of equipment authorization shall contain all details supporting the use of this option.

(c) The shown limit in paragraph (a) of this Section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 uV within the frequency band 535-1705 kHz.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in Section 15.205 and Section 15.209, 15.221, 15.223, 15.225 or 15.227, as appropriate.

(d) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operating while charging, AC adaptors or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

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### 18.307 Conduction limits

For the following equipment, which is designed to be connected to a low voltage public utility power line, the RF voltage conducted back into the power lines measured with a line impedance stabilization network (LISN) shall be limited to:

## (a) Ultrasonic equipment

Frequency (MHz)	Maximum RF line voltage measured with a 5 $\mu$ H/50 ohm LISN ( $\mu$ V)
0.010 - 0.49	1000
0.49 - 30	200

## (b) Induction cooking ranges manufactured after February 1, 1980:

Frequency (MHz)	Maximum RF line voltage measured with a 5 $\mu$ H/50 ohm LISN ( $\mu$ V)
0.010-0.1	10-1 (linear interpolation)
0.10 - 0.5	1
0.5 - 30	0.25

## (C) RF lighting devices:

Frequency (MHz)	Maximum RF line voltage measured with a 50 $\mu$ H/50 ohm LISN ( $\mu$ V)
Non-consumer equipment:	
0.45 to 1.6	1000
1.6 to 30	3000
Consumer equipment:	
0.45 to 30	250

## NOTES

1. These conduction limits shall apply outside the bands specified in § 18.301.
2. For ultrasonic equipment, compliance with these conduction limits shall preclude the need to show compliance with the field strength limits below 30 MHz unless requested by the Commission.

(B) for conducted power line measurements, the frequency range over which the limits are specified will be scanned.

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**Separate Statement of Commissioner Harold W. Furchtgott-Roth****In re: Notice of Inquiry****1998 Biennial Regulatory Review -- Conducted Emissions Limits for Equipment Regulated Under Parts 15 and 18 of the Commission's Rules**

I support adoption of this Notice of Inquiry. In my view, any reduction of unnecessary regulatory burdens is beneficial. To that extent, this item is good and I am all for it. This item should not, however, be mistaken for compliance with Section 11 of the Communications Act.

As I have explained previously, I question whether the FCC is prepared to meet its statutory obligation to review all of the regulations covered by Section 11 in 1998. *See generally 1998 Biennial Regulatory Review -- Review of Computer III and ONA Safeguards and Requirements*, 12 FCC Rcd \_\_ (Jan. 29, 1998). To my knowledge, the FCC has no plans to review affirmatively *all* regulations applicable to the operations or activities of telecommunications providers and to make specific findings as to their continued necessity. Nor has the Commission issued general principles to guide our "public interest" analysis and decision-making process across the wide range of FCC regulations.

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