TECHNICAL SERVICES DEPARTMENT

BULLETIN

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FCC REGULATIONS
APPLICABLE TO NEMA PRODUCTS

A. Introduction

Many NEMA products are subject to regulations of the Federal Communications Commission (FCC). The products regulated by the FCC include those that generate radio frequency (RF) energy, either intentionally or otherwise, including those incorporating computers or other devices utilizing digital techniques. Potentially one third of the NEMA Sections include companies producing products within the Section's scope that are subject to the FCC rules and regulations. NEMA serves its members by participating in the FCC rule making process.

This Engineering Bulletin developed by the NEMA Coordinating Committee on Electromagnetic Compatibility outlines the FCC regulations and their effect on products within NEMA's scope.

B. Communications Act of 1934

The Communications Act of 1934 and its amendments authorize the FCC to regulate and provide frequency assignments for the communication services such as Radio, TV, Aviation, etc. The Act requires the FCC to protect those licensed services from electromagnetic interference (EMI). The regulations that apply to NEMA products are based on this authority to control EMI.

C. Telecommunications Act of 1996

The Telecommunications Act of 1996 is the first major overhaul of telecommunications law in almost 62 years. The goal of this new law is to let anyone enter any communications

business -- to let any communications business compete in any market against any other.

The Telecommunications Act of 1996 has the potential to change the way we work, live and learn. It will affect telephone service -- local and long distance, cable programming and other video services, broadcast services and services provided to schools.

The best reference for information on the act is at
http://www.fcc.gov/encyclopedia/useful-links-other-material-office-legislative-affairs

D. Application to NEMA Products

NEMA products must not cause harmful interference to any of the radio communication services. "Harmful interference" is any emission, radiation or induction that endangers the functioning of any safety service or seriously degrades, obstructs or repeatedly interrupts a properly operating radio communication service. If harmful interference is caused, the operator is to take steps to eliminate it. Also the FCC wants apparatus operated with the minimum power possible to accomplish its purpose.

The FCC regulations provide no protection to NEMA products for interference from any source including other NEMA products. Thus the NEMA member manufacturer will want to consider the Electromagnetic environment, including that produced by authorized transmitters, in which the product will operate. A manufacturer may incorporate such features as shielding and filtering to ensure the proper functioning of the product in this environment.

Although the FCC Rules and Regulations very seldom require the licensing of NEMA products, some products will require prior approval by the FCC before being marketed. It is clearly the responsibility of the NEMA members to satisfy themselves of the regulatory status of their specific product.

The specific technical regulations applicable to NEMA products are in Part 15 and Part 18 of Title 47 of the Code of Federal Regulations. Marketing and equipment authorization rules are in Part 2. Companies wishing to operate a low power communication device for experimental and research purposes may apply for a license under Part 5. This paper describes FCC rules and procedures believed to be most likely of interest to NEMA members. NEMA members, however, have a responsibility to be familiar with the regulations and to abide with their provisions.

E. Part 15 "Radio Frequency Devices"

Part 15 regulates certain deliberate generators of RF ("restricted radiation devices"), such as radio and Television receivers and digital computers, low power communication devices, including radio control, telemetering devices and power line carrier systems, as well as non-intentional generators of RF ("incidental radiation devices"), such as commutator motors and solid state motor controllers. NEMA products interests include products incorporating computing devices, and may include field disturbance sensors and low power communication devices such as control and security alarm devices, and telemetering devices, most of which come under tailored regulations as subparts of Part 15.

Subpart 15 B "Unintentional Radiators" applies to computers and similar electronic equipment that use digital techniques, and generate and use RF energy for timing and control purposes. Almost all NEMA products subject the digital device requirements are exempt from complying with requirements other than the basic noninterference requirement. The exemptions are:

- A computing device utilized in any transportation vehicle including motor vehicles and aircraft.
- An electronic control or power system utilized by public utility or in an industrial plant. (CAUTION controllers utilizing digital techniques, which are installed in office buildings and the like, are, in general, not exempt from these requirements.)
- Industrial, commercial, and medical test equipment
- A computing device utilized in an appliance, e.g., microwave oven, dishwasher, clothes dryer, etc.
- Specialized medical computing devices (generally used at the direction of or under the supervision of a licensed health care practitioner) whether used in a patient's home or a health care facility. Non-specialized medical devices marketed through retail channels for use by the general public are not exempted. This exemption also does not apply to computers used for record keeping or any other purpose not directly concerned with medical treatment.[1]

More exemptions have been added to this section (See Section 15.103 below).

The following devices 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 to stop operating the device upon a finding by the Commission or its representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected. Although not mandatory, it is strongly recommended that the manufacturer of an exempted device endeavor to have the device meet the specific technical standards in this part.

(a) A digital device utilized exclusively in any transportation vehicle including motor vehicles and aircraft.

(b) A digital device used exclusively as an electronic control or power system utilized by a public utility or in an industrial plant. The term public utility includes equipment only to the extent that it is in a dedicated building or large room owned or leased by the utility and does not extend to equipment installed in a subscriber's facility.

[1] This exemption was granted in response to a petition from NEMA

(c) A digital device used exclusively as industrial, commercial, or medical test equipment.

(d) A digital device utilized exclusively in an appliance, e.g., microwave oven, dishwasher, clothes dryer, air conditioner (central or window), etc.

(e) Specialized medical digital devices (generally used at the direction of or under the supervision of a licensed health care practitioner) whether used in a patient's home or a health care facility. Non-specialized medical devices, i.e., devices marketed through retail channels for use by the general public, are not exempted. This exemption also does not apply to digital devices used for record keeping or any purpose not directly connected with medical treatment.

(f) Digital devices that have a power consumption not exceeding 6 nW.

(g) Joystick controllers or similar devices, such as a mouse, used with digital devices but which contain only non-digital circuitry or a simple circuit to convert the signal to the format required (e.g., an integrated circuit for analog to digital conversion) are viewed as passive add-on devices, not themselves directly subject to the technical standards or the equipment authorization requirements.

(h) Digital devices in which both the highest frequency generated and the highest frequency used are less than 1.705 MHz and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Digital devices that include, or make provision for the use of, battery eliminators, AC adaptors or battery chargers which permit operation while charging or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, do not fall under this exemption.

(i) Responsible parties should note that equipment containing more than one device is not exempt from the technical standards in this part unless all of the devices in the equipment meet the criteria for exemption. If only one of the included devices qualifies for exemption, the remainder of the equipment must comply with any applicable regulations. If a device performs more than one function and all of those functions do not meet the criteria for exemption, the device does not qualify for inclusion under the exemptions.

Although not mandatory, it is strongly recommended [by the FCC] that manufacturers of these devices endeavor to have such devices meet the limits included in *Part 15. (The reference to Subpart J is no longer valid)*.

A computing device that is marketed only for use in a commercial or industrial environment is called Class A and requires only a label and a warning notice in the operating manual. The Class B designation applies to personal computers and computing devices marketed for residential use. Class B requirements apply to devices marketed for residential use even though the device may be used in a commercial or industrial environment. The FCC often uses the computing device regulations as their model for other new applications of RF energy, for example, interim emission limits for RF lighting, a NEMA product.

Section 15.3 has had many revisions since 2000. The latest revision was on Jan. 7, 2005 (70 FR 1373). See Section 15.3 (s) for revised definition for Personal computer.

(s) Personal computer - An electronic computer that is marketed for use in the home, notwithstanding business applications. Such computers are considered Class B digital devices. Computers which use a standard TV receiver as a display device or meet all of the following conditions are considered examples of personal computers:

(1) Marketed through a retail outlet or direct mail order catalog.

(2) Notices of sale or advertisements are distributed or directed to the general public or hobbyist users rather than restricted to commercial users.

(3) Operates on a battery or 120 volt electrical supply.

If the responsible party can demonstrate that because of price or performance the computer is not suitable for residential or hobbyist use, it may request that the computer be considered to fall outside of the scope of this definition for personal computers.

The "general requirement" for restricted radiation devices not regulated under one of the subparts applying to specific devices, is that the total electromagnetic field not exceed 15 microvolts per meter at any point a distance equal to the wavelength divided by 2 pi between the apparatus and any point. This requirement becomes more difficult as the frequency increases, due to the shortening of the measurement distance, so that from a practical standpoint most applications are below the AM broadcast band (525 kHz). Electromagnetic energy at any frequency below 10 kHz or above 3 x 10~' kHz is excluded from the definition of RF energy in FCC regulations[2].

The source of the "general requirement" mentioned in the above paragraph could not be located. Nevertheless, the emission limits were revised on August 7, 1989 (54 FR 32339). See Section below for current emission limits.

Section 15.209
(a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Measurement dista Field strength (microvolts/ meters)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100[FNaa]	3
88-216	150[FNaa]	3
216-960	200[FNaa]	3
Above 960	500	3

[FNaa] *Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72*

[2] For FCC Part 18, the limit is 9000 hertz

MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§ 15.231 and 15.241.

(b) In the emission table above, the tighter limit applies at the band edges.

(c) The level of any unwanted emissions from an intentional radiator operating under these general provisions shall not exceed the level of the fundamental emission. For intentional radiators which operate under the provisions of other sections within this part and which are required to reduce their unwanted emissions to the limits specified in this table, the limits in this table are based on the frequency of the unwanted emission and not the fundamental frequency. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.

(d) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

(e) The provisions in §§ 15.31, 15.33, and 15.35 for measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

(f) In accordance with § 15.33(a), in some cases the emissions from an intentional radiator must be measured to beyond the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator because of the incorporation of a digital device. If measurements above the tenth harmonic are so required, the radiated emissions above the tenth harmonic shall comply with the general radiated emission limits applicable to the incorporated digital device, as shown in § 15.109 and as based on the frequency of the emission being measured, or, except for emissions contained in the restricted frequency bands shown in § 15.205, the limit on spurious emissions specified for the intentional radiator, whichever is the higher limit. Emissions which must be measured above the tenth harmonic of the highest fundamental frequency designed to be emitted by the intentional radiator and which fall within the restricted bands shall comply with the general radiated emission limits in § 15.109 that are applicable to the incorporated digital device.

(g) Perimeter protection systems may operate in the 54–72 MHz and 76–88 MHz bands under the provisions of this section. The use of such perimeter protection systems is limited to industrial, business and commercial applications.
[54 FR 32339, Aug. 7, 1989; 55 FR 18340, May 2, 1990; 62 FR 58658, Oct. 30, 1997]

Communication on the power line comes under the general requirement stated in the paragraph immediately above. No authorization or user license is required. However the FCC may request information with regards to the basis for claiming compliance with the "general requirement". It is therefore suggested that tests be performed and the results be kept on file.

The basic interference rule applies: in the event that harmful interference is caused, the operator shall promptly take steps to eliminate the interference. In addition, he must accept any interference caused to his operations.

In 2004, the Commission established technical standards, operating restrictions and measurement guidelines for Access Broadband over Power Line (Access BPL) systems (ET docket No. 03-104, 19 FCC Rcd. 21265). See following Section 15.113

Power line carrier systems, as defined in § 15.3(t), are subject only to the following requirements:

(a) A power utility operating a power line carrier system shall submit the details of all existing systems plus any proposed new systems or changes to existing systems to an industry-operated entity as set forth in § 90.35(g) of this chapter. No notification to the FCC is required.

(b) The operating parameters of a power line carrier system (particularly the frequency) shall be selected to achieve the highest practical degree of compatibility with authorized or licensed users of the radio spectrum. The signals from this operation shall be contained within the frequency band 9 kHz to 490 kHz. A power line carrier system shall operate on an unprotected, non-interference basis in accordance with § 15.5 of this part. If harmful interference occurs, the electric power utility shall discontinue use or adjust its power line carrier operation, as required, to remedy the interference. Particular attention should be paid to the possibility of interference to Loran C operations at 100 kHz.

(c) Power line carrier system apparatus shall be operated with the minimum power possible to accomplish the desired purpose. No equipment authorization is required.

(d) The best engineering principles shall be used in the generation of radio frequency currents by power line carrier systems to guard against harmful interference to authorized radio users, particularly on the fundamental and harmonic frequencies.

(e) Power line carrier system apparatus shall conform to such engineering standards as may be promulgated by the Commission. In addition, such systems should adhere to industry approved standards designed to enhance the use of power line carrier systems.

(f) The provisions of this Section apply only to systems operated by a power utility for general supervision of the power system and do not permit operation on electric lines which connect the distribution substation to the customer or house wiring. Such operation can be conducted under the other provisions of this part.
[54 FR 32339, Aug. 7, 1989; 75 FR 63031, Oct. 13, 2010]

Part 15 also regulates incidental radiation devices, any device that radiates radio frequency energy during the course of its operation although the device is not intentionally designed to generate radio frequency energy. The only rule is that incidental radiation devices shall be operated so that the RF energy emitted does not cause harmful interference; if it does, the

basic rule applies again: the operator shall promptly take steps to eliminate the harmful interference. Examples of NEMA products that are incidental radiation devices include motors incorporating commutators and switches that produce arcs when interrupting current.

In cases where the source of interference and the communication equipment suffering interference belong to the same owner, in a factory for example, the owner has the option of how to operate both; the FCC does not want to be involved. (This statement reflects a philosophy, not a regulation.) The general requirement that the operator promptly take steps to eliminate harmful interference assumes that there will be a complaint to trigger such operator action. The FCC has powers of enforcement that are used when complaints are received.

F. Part 18 "Industrial, Scientific and Medical Equipment (ISM)"

Part 18 applies to equipment designed to generate and use locally RF energy for any purpose other than communication. Examples include heating, ionization of gases, and mechanical vibration; and applications of these examples include industrial heating, RF lighting and ultrasonic equipment. Among specific NEMA ISM products are RF stabilized arc welders, and magnetic resonance equipment used for creating an image for medical diagnosis and biological research. Essentially, ISM equipment is permitted unlimited power within the specified ISM frequency bands, but with consideration of the requirement that the energy radiated and the bandwidth of emissions shall be reduced to the greatest extent practicable. The center frequencies of these ISM Lands are 6.78, 13.56, 27.12, 40.68, 915, 2450, 5800, 24125, 61250, 122400, and 245000 MHz. Several of the frequencies are integer multiples of others to accommodate harmonics.

Proper operation of ISM equipment within the ISM bands is an exception to the basic rule requiring operator elimination of harmful interference to any radio communication services, even in the case of interference to licensed radio communication services within the ISM frequency bands. Outside of these specific ISM bands, emissions from ISM equipment are restricted to specified limits in 18.305 and 18.307, and the basic rule requiring elimination of harmful interference applies. Operation is prohibited in specified safety, search, and rescue frequency bands.

Part 18 was extensively revised 1998. *(See 67 FR 45671)* The technical requirements are essentially unchanged but the regulations are now more easily understood and the administrative provisions are less burdensome. Only consumer ISM products must be evaluated before being marketed and must be labeled. Non-consumer ISM equipment shall be subject to verification, which means that the manufacturer makes measurements or takes the necessary steps to insure that the equipment complies with the appropriate technical standards. Submittal of a sample unit or data is not required unless specifically requested by the FCC, Those measurements must generally be made prior to marketing the product. Information about the 'interference potential of ISM equipment, maintenance, and simple measures that can be taken to correct interference is required in the instruction manual.

Pending further rulemaking, RF lighting devices continue to be subject to the same emission

limits as computing devices, including less restrictive limits for lighting devices only marketed for commercial and industrial use. The FCC is now relying on NEMA to develop appropriate voluntary standards, including limits and methods of measurement, for RF lighting devices.

On July 12, 1999, (64 FR 37417), the Commission published a Report and Order which amended Part 18 of the Commission's rules for radio frequency (RF) lighting devices. See Section below.

Section 18.305
(a) ISM equipment operating on a frequency specified in § 18.301 is permitted unlimited radiated energy in the band specified for that frequency.

(b) The field strength levels of emissions which lie outside the bands specified in § 18.301, unless otherwise indicated, shall not exceed the following:

Equipment	*Operating frequency*	*RF Power generated by equipment (watts)*	*Field strength limit (uV/m)*	*Distance (meters)*
Any type unless otherwise specified (miscellaneous).	*Any ISM frequency*	*Below 500*	*25*	*300*
		500 or more	*25 square root power/500*	*[FN1]300*
	Any non-ISM frequency	*Below 500*	*15*	*300*
		500 or more	*15 square root power/500*	*[FN1]300*
Industrial heaters and RF stabilized arc welders.	*On or below 5,725 MHz*	*Any*	*10*	*1,600*
	Above 5,725 MHz	*Any*	*([FN2])*	*([FN2])*
Medical diathermy	*Any ISM frequency*	*Any*	*25*	*300*
	Any non-ISM frequency	*Any*	*15*	*300*
Ultrasonic	*Below 490 kHz*	*Below 500*	*2,400/F(kHz)*	*300*
		500 or more	*2,400/F(kHz) square root power/500*	*[FN3]300*
	490 to 1,600 kHz	*Any*	*24,000/F(kHz)*	*30*
	Above 1,600 kHz	*Any*	*15*	*30*
Induction cooking ranges	*Below 90 kHz*	*Any*	*1,500*	*[FN4]30*
	On or above 90 kHz	*Any*	*300*	*[FN4]30*

[FN1] Field strength may not exceed 10 muV/m at 1600 meters. Consumer equipment operating below 1000 MHz is not permitted the increase in field strength otherwise permitted here for power over 500 watts.

[FN2] *Reduced to the greatest extent possible.*

[FN3] *Field strength may not exceed 10 muV/m at 1600 meters. Consumer equipment is not permitted the increase in field strength otherwise permitted here for over 500 watts.*

[FN4] *Induction cooking ranges manufactured prior to February 1, 1980, shall be subject to the field strength limits for miscellaneous ISM equipment.*

(c) The field strength limits for RF lighting devices shall be the following:

Frequency (MHz)	*Field strength limit at 30 meters (muV/m)*
Non-consumer equipment:	
330-88	*30*
388-216	*50*
216-1000	*70*
Consumer equipment:	
330-88	*10*
388-216	*15*
216-1000	*20*

Notes

1. The tighter limit shall apply at the boundary between two frequency ranges.

2. Testing for compliance with these limits may be made at closer distances, provided a sufficient number of measurements are taken to plot the radiation pattern, to determine the major lobes of radiation, and to determine the expected field strength level at 30, 300, or 1600 meters. Alternatively, if measurements are made at only one closer fixed distance, then the permissible field strength limits shall be adjusted using 1/d as an attenuation factor.
[51 FR 17970, May 16, 1986; 52 FR 43198, Nov. 10, 1987]

On July 10, 2002 (67 FR 45666), the Commission published amended rules for Conducted Emission Limits in the Federal Register. See Section below

§ 18.307 Conduction limits.
For the following equipment, when 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 shall not exceed the limits in the following tables. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal using a 50 muH/50 ohms line impedance stabilization network (LISN).

(a) All Induction cooking ranges and ultrasonic equipment:

Frequency of emission (MHz)	*Conducted limit (dBmuV)*	
	Quasi-peak	*Average*
0.009-0.05	*110*	--
0.05-0.15	*90-80 [FN*]*	--
0.15-0.5	*66 to 56 [FN*]*	*56 to 46 [FN*]*
0.5-5	*56*	*46*
5-30	*60*	*50*

[FN] Decreases with the logarithm of the frequency.*

(b) All other part 18 consumer devices:

Frequency of emission (MHz)	*Conducted limit (dBmuV)*	
	Quasi-peak	*Average*
0.15-0.5	*66 to 56 [FN*]*	*56 to 46 [FN*]*
0.5-5	*56*	*46*
5-30	*60*	*50*

[FN*] Decreases with the logarithm of the frequency.

(c) RF lighting devices:

Frequency (MHz)	*Maximum RF line voltage measured with a 50 uH/50 ohm LISN (uV)*
Non-consumer equipment:	
0.45 to 1.6	*1,000*
1.6 to 30	*3,000*
Consumer equipment:	
0.45 to 2.51	*250*
2.51 to 3.0	*3,000*
3.0 to 30	*250*

(d) If testing with a quasi-peak detector demonstrates that the equipment complies with the average limits specified in the appropriate table in this section, additional testing to demonstrate compliance using an average detector is not required.

(e) These conduction limits shall apply only outside of the frequency bands specified in § 18.301.

(f) For ultrasonic equipment, compliance with the conducted limits shall preclude the need to show compliance with the field strength limits below 30 MHz unless requested by the Commission.

(g) The tighter limits shall apply at the boundary between two frequency ranges.
[52 FR 43198, Nov. 10, 1987; 64 FR 37419, July 12, 1999; 67 FR 45671, July 10, 2002; 67 FR 48415, July 24, 2002]

The measurement techniques which will be used by the FCC to determine compliance with Part 18 are set out in "Methods of Measurement *of Radio Noise Emissions from* ISM Equipment". Although the procedures in MP-5 are not mandated, manufacturers are encouraged to follow the techniques that will be used by the FCC.
Part 2, Subparts I (Marketing of RF Devices), J (Equipment Authorization Procedures) and K (Importation) describe the steps necessary to bring an FCC regulated product to market. Subpart I generally restricts marketing prior to certification or testing certain activities for computing devices and ISM equipment. Subpart J covers certification and verification.

G. FCC Technical Bulletins

FCC Bulletins relating to radio frequency devices include the following; copies are available from http://www.fcc.gov/encyclopedia/useful-links-other-material-office-legislative-affairs#tools.

OST-61 The FCC Equipment Authorization Program for Radio Frequency Devices

OST-62 Understanding the FCC Regulations Concerning Computing Devices

OST-63 Understanding FCC Rules & Regulations under Part 15 for Low Power Transmitters*

OET Bulletin 56 -Questions and Answers about Biological Effects and Potential Hazards of Radio- frequency Electromagnetic Fields

OET Bulletin 61 -The FCC Equipment Authorization Program for Radio Frequency Devices.

OET Bulletin 62 -Understanding the FCC Regulations for Computers and Other Digital Devices.

OET Bulletin 63 -Understanding the FCC Regulations for Low-Power, Non-Licensed Transmitters.

OET Bulletin 65 -Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency

Electromagnetic Fields BULLETINS AVAILABLE FROM FCC FORM CONTRACTOR AT 1 800 418-3676 or CAN BE DOWNLOADED AT:
http://www.fcc.gov/oet/info/documents/bulletins OR
http://transition.fcc.gov/oet/info/documents/bulletins/

QUESTIONS CONCERNING "DECLARATION OF CONFORMITY" MAY BE DIRECTED TO OET (OFFICE OF ENGINEERING AND TECHNOLOGY) AT 301 362-3000

“Declaration of Conformity" is a program where private firms conduct the testing for measuring specific types of devices subject to the requirements in Part 15 and have indicated that they are available to the public on a contract basis.

A list of contract test sites is available on the FCC website at:

http://www.fcc.gov/oet/info/database/testsite OR
http://transition.fcc.gov/oet/info/database/testsite/

OTHER OET WEBSITES:

General Info: http://transition.fcc.gov/oet/info/filing/

Rules: http://www.fcc.gov/oet/info/rules/ OR http://www.fcc.gov/encyclopedia/rules-regulations-title-47 and navigate to Part 15 rules.

Rulemaking: http://www.fcc.govet/dockets/et95-19/ OR http://www.fcc.gov/rulemaking

EQUIPMENT AUTHORIZATION DATABASES:

Granted: http://www.fcc.gov/oet/fccid/ OR http://transition.fcc.gov/oet/ea/fccid/
Pending Applications, Generic & Grantee Search & Test Firms Report:
https://fjallfoss.fcc.gov/oetcf/eas/reports/GenericSearch.cfm

H. Frequently Asked Questions

Labeling requirement in 47 CFR 15.19 indicate that a Part 15 device must not cause harmful interference and must accept interference. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

See https://apps.fcc.gov/oetcf/kdb/index.cfm and Search for Publication Number 784748 (What are the labeling and user information requirements for Part 15 and Part 18 devices?) for additional information.

I. Electronic Filing Instructions

http://www.fcc.gov/oet/info/filing/ead OR http://transition.fcc.gov/oet/info/filing/

J. Summary Of Equipment Authorization Procedures And General Information

The FCC is on the Internet: http://www.fcc.gov &
http://www.fcc.gov/encyclopedia/equipment-authorization

FCC RULES AND REGULATIONS - Applicants for equipment authorization of radio frequency devices are advised to purchase a copy of Volume I of the current edition of the FCC Rules, 47 CFR, Parts 0-19 for complete information. Administrative and application procedural rules are in Subpart J of Part 2. Depending on the specific authorization procedure and the type of equipment, technical standards may be found in other parts of the FCC Rules. See Page 5 for a list of the Government Bookstores where you may purchase or download a copy of the FCC Rules. (http://www.fcc.gov/oet/info/rules)

APPLICANT/GRANTEE CODE - If you have a device that requires equipment approval and you are a first time filer you MUST obtain an Applicant/Grantee Code. An applicant/grantee code can be obtained online at the FCC website. Please refer to the attached Office of Engineering and Technology Fee Filing Guide for detailed information or at our web site http://www.fcc.gov/fees.

You should get your device tested at an approved test laboratory. A copy of the Contract Test Sites is attached or you can obtain a copy via the internet at:
http://transition.fcc.gov/oet/info/database/testsite/.

Once you receive the code from the FCC and the test report and other information from the test laboratory, you can then forward to the FCC, or the TCB, the completed Application for Equipment Authorization (FCC Form 731). See Pages 10-13 for complete instructions on the proper procedure to be followed for completing the FCC Form 731 along with information on the assembly procedure and format, and the labeling requirements for devices submitted for certification. Also refer to the attached Office of Engineering and Technology Fee Filing Guide for additional information or a copy can be obtained at our website at: http://www.fcc.gov/fees.

CERTIFICATION - Requires submittal of an application, to the FCC or a TCB, which includes a complete technical description of the product and a measurement report showing compliance with the FCC technical standards. Devices subject to certification include: low power transmitters such as cordless telephones, garage door opener controls, radio control toys, and security alarm systems, and scanning receivers. Personal computers and peripherals (i.e., printers, video monitors, modems, etc.) can be certified, only by a TCB (see Public Notice DA 002224). However, with the implementation of the Declaration of Conformity (DoC) in l996, it is recommended that the DoC procedure be used for those devices whenever possible.

VERIFICATION - If your device requires verification only, see pages 14-15 for complete instructions on how to obtain verification and the proper labeling of verification devices.

DECLARATION OF CONFORMITY - If your device is to be approved under the Declaration of Conformity (DoC), Pages 16-18 explains the procedure and labeling requirements for personal computers and personal computer peripherals.
MARKETING REQUIREMENTS - Outlined on Page 19.

TEST PROCEDURE FOR DIGITAL DEVICES - The American National Standards Institute (ANSI) Standard, C63.4-1992, has been incorporated into Section 15.31 of the FCC's Rules by

reference as the test procedure for determining compliance of digital devices other than unintentional radiators and low-power transmitters. Copies of the ANSI C63.4-1992 test procedure may be purchased from:

IEEE STANDARDS DEPARTMENT
445 Hoes Lane
P.O. Box 1331 Piscataway, NJ 08855-1331
Telephone No. 1-800-678-4333
Facsimile No. (908) 981-9667
Internet: http://www.ieee.org/

FCC FORMS - FCC Forms are available at the address below or online as follows:

FCC Remittance advice, Form 159 at http://www.fcc.gov/forms .

Federal Communications Commission
Forms Distribution Center
9300 E. Hampton Drive
Capitol Heights, MD 20743
Telephone No. (202) 418-3676 or 1-800-418-3676

FCC Forms may be reproduced under the conditions specified in 47 CFR, Sections 0.409 of the Rules. Forms can also be downloaded from the FCC's website at: http://www.fcc.gov/oet/info/forms/ OR http://www.fcc.gov/forms

QUESTIONS/CONCERNS - Questions concerning equipment authorization procedures and FCC Form 731 should be addressed to:

Federal Communications Commission
Telephone No. 301-362-3000
Facsimile No. (301) 344-2050
E-mail: labinfo@fcc.gov

INTERNET ACCESS - The FCC provides an on-line service called the Equipment Authorization Electronic Filing System. This system can be used to check the status of equipment authorizations, file applications, and lookup information about granted authorizations. This system is available under the "OET Equipment Authorization Division Electronic Filing" link of the FCC Electronic Filing home page.

PART 68 - Some devices, such as computer modems and cordless telephone base stations, are subject to Part 68 registration requirements in addition to Part 15 requirements. Inquiries concerning Part 68 registration requirements should be addressed to:

Tim Jeffries – ATIS
http://www.part68.org
Telephone No. (202) 662-8669

INFORMATION SOURCES

Test Site List (http://www.fcc.gov/oet/info/database/testsite/)
Equipment Authorization Database (http://www.fcc.gov/encyclopedia/equipment-authorization)
Part 15 Interpretations (http://www.fcc.gov/oet/info/database/letters/) OR http://transition.fcc.gov/oet/info/database/letters/
Public Notice (http://www.fcc.gov/oet/info/ then link to "Public Notices")
Orders (http://www.fcc.gov/oet/info/ then link to "Orders")
Bulletins (http://www.fcc.gov/oet/info/documents/bulletins/)
FCC Telephone Book (http://www.fcc.gov/contact-us)
Fee Filing Guide (http://www.fcc.gov/fees/appfees.html)

CONTACTS

The above table is no longer valid. Instead of the table, we suggest the following;

Submit all inquiries related to FCC rule interpretations through the KDB inquiry system at www.fcc.gov/labhelp.

Distribution List:
Standards and Conformity Assessment Policy Committee
Codes and Standards Committee
NEMA Technical Services Department