

(b) Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the above specified frequency ranges.

(c) The field strength of any emissions within the permitted 200 kHz band shall not exceed 80 millivolts/meter at 3 meters. The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed 1500 microvolts/meter at 3 meters. The emission limits in this paragraph are based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

[54 FR 17714, Apr. 25, 1989, as amended at 57 FR 13048, Apr. 15, 1992]

§ 15.239 Operation in the band 88–108 MHz.

(a) Emissions from the intentional radiator shall be confined within a band 200 kHz wide centered on the operating frequency. The 200 kHz band shall lie wholly within the frequency range of 88–108 MHz.

(b) The field strength of any emissions within the permitted 200 kHz band shall not exceed 250 microvolts/meter at 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.

(c) The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in §15.209.

(d) A custom built telemetry intentional radiator operating in the frequency band 88–108 MHz and used for experimentation by an educational institute need not be certified provided the device complies with the standards in this part and the educational institution notifies the Engineer in Charge of the local FCC office, in writing, in advance of operation, providing the following information:

- (1) The dates and places where the device will be operated;
- (2) The purpose for which the device will be used;

(3) A description of the device, including the operating frequency, RF power output, and antenna; and,

(4) A statement that the device complies with the technical provisions of this part.

[54 FR 17714, Apr. 25, 1989; 54 FR 32340, Aug. 7, 1989]

§ 15.241 Operation in the band 174–216 MHz.

(a) Operation under the provisions of this section is restricted to biomedical telemetry devices.

(b) Emissions from the device shall be confined within a 200 kHz band which shall lie wholly within the frequency range of 174–216 MHz.

(c) The field strength of any emissions radiated within the specified 200 kHz band shall not exceed 1500 microvolts/meter at 3 meters. The field strength of emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed 150 microvolts/meter at 3 meters. The emission limits in this paragraph are based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

§ 15.242 Operation in the bands 174–216 MHz and 470–668 MHz.

(a) The marketing and operation of intentional radiators under the provisions of this section is restricted to biomedical telemetry devices employed solely on the premises of health care facilities.

(1) A health care facility includes hospitals and other establishments that offer services, facilities, and beds for use beyond 24 hours in rendering medical treatment and institutions and organizations regularly engaged in providing medical services through clinics, public health facilities, and similar establishments, including governmental entities and agencies for their own medical activities.

(2) This authority to operate does not extend to mobile vehicles, such as ambulances, even if those vehicles are associated with a health care facility.

(b) The fundamental emissions from a biomedical telemetry device operating under the provisions of this section shall be contained within a single

television broadcast channel, as defined in part 73 of this chapter, under all conditions of operation and shall lie wholly within the frequency ranges of 174–216 MHz and 470–668 MHz.

(c) The field strength of the fundamental emissions shall not exceed 200 mV/m, as measured at a distance of 3 meters using a quasi-peak detector. Manufacturers should note that a quasi-peak detector function indicates field strength per 120 kHz of bandwidth ± 20 kHz. Accordingly, the total signal level over the band of operation may be higher than 200 mV/m. The field strength of emissions radiated on any frequency outside of the television broadcast channel within which the fundamental is contained shall not exceed the general limits in § 15.209.

(d) The user and the installer of a biomedical telemetry device operating within the frequency range 174–216 MHz, 470–608 MHz or 614–668 MHz shall ensure that the following minimum separation distances are maintained between the biomedical telemetry device and the authorized radio services operating on the same frequencies:

(1) At least 10.3 km outside of the Grade B field strength contour (56 dBuV/m) of a TV broadcast station or an associated TV booster station operating within the band 174–216 MHz.

(2) At least 5.5 km outside of the Grade B field strength contour (64 dBuV/m) of a TV broadcast station or an associated TV booster station operating within the bands 470–608 MHz or 614–668 MHz.

(3) At least 5.1 km outside of the 68 dBuV/m field strength contour of a low power TV or a TV translator station operating within the band 174–216 MHz.

(4) At least 3.1 km outside of the 74 dBuV/m field strength contour of a low power TV or a TV translator station operating within the bands 470–608 MHz or 614–668 MHz.

(5) Whatever distance is necessary to protect other authorized users within these bands.

(e) The user and the installer of a biomedical telemetry device operating within the frequency range 608–614 MHz and that will be located within 32 km of the very long baseline array (VLBA) stations or within 80 km of any of the other radio astronomy observatories

noted in footnote US 311 of Section 2.106 of this chapter must coordinate with, and obtain the written concurrence of, the director of the affected radio astronomy observatory before the equipment can be installed or operated. The National Science Foundation point of contact for coordination is: Spectrum Manager, Division of Astronomical Sciences, NSF Rm 1045, 4201 Wilson Blvd., Arlington, VA 22230; tel: (703) 306-1823.

(f) Biomedical telemetry devices must not cause harmful interference to licensed TV broadcast stations or to other authorized radio services, such as operations on the broadcast frequencies under subparts G and H of part 74 of this chapter, land mobile stations operating under part 90 of this chapter in the 470–512 MHz band, and radio astronomy operation in the 608–614 MHz band. (See § 15.5.) If harmful interference occurs, the interference must either be corrected or the device must immediately cease operation on the occupied frequency. Further, the operator of the biomedical telemetry device must accept whatever level of interference is received from other radio operations. The operator, *i.e.*, the health care facility, is responsible for resolving any interference that occurs subsequent to the installation of these devices.

(g) The manufacturers, installers, and users of biomedical telemetry devices are reminded that they must ensure that biomedical telemetry transmitters operating under the provisions of this section avoid operating in close proximity to authorized services using this spectrum. Sufficient separation distance, necessary to avoid causing or receiving harmful interference, must be maintained from co-channel operations. These parties are reminded that the frequencies of the authorized services are subject to change, especially during the implementation of the digital television services. The operating frequencies of the part 15 devices may need to be changed, as necessary and in accordance with the permissive change requirements of this chapter, to accommodate changes in the operating frequencies of the authorized services.

(h) The manufacturers, installers and users of biomedical telemetry devices

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are cautioned that the operation of this equipment could result in harmful interference to other nearby medical devices.

[62 FR 58658, Oct. 30, 1997]

§ 15.243 Operation in the band 890-940 MHz.

(a) Operation under the provisions of this section is restricted to devices that use radio frequency energy to measure the characteristics of a material. Devices operated pursuant to the provisions of this section shall not be used for voice communications or the transmission of any other type of message.

(b) The field strength of any emissions radiated within the specified frequency band shall not exceed 500 microvolts/meter at 30 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.

(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 which may be adjusted to permit operation in a manner inconsistent with the provisions in this section. Any antenna that may be used with the device shall be permanently attached thereto and shall not be readily modifiable by the user.

§ 15.245 Operation within the bands 902-928 MHz, 2435-2465 MHz, 5785-5815 MHz, 10500-10550 MHz, and 24075-24175 MHz.

(a) Operation under the provisions of this section is limited to intentional radiators used as field disturbance sensors, excluding perimeter protection systems.

(b) The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (millivolts/meter)
902-928	500	1.6

Fundamental frequency (MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (millivolts/meter)
2435-2465	500	1.6
5785-5815	500	1.6
10500-10550	2500	25.0
24075-24175	2500	25.0

(1) Regardless of the limits shown in the above table, harmonic emissions in the restricted bands below 17.7 GHz, as specified in §15.205, shall not exceed the field strength limits shown in §15.209. Harmonic emissions in the restricted bands at and above 17.7 GHz shall not exceed the following field strength limits:

(i) For field disturbance sensors designed for use only within a building or to open building doors, 25.0 mV/m.

(ii) For all other field disturbance sensors, 7.5 mV/m.

(iii) Field disturbance sensors designed to be used in motor vehicles or aircraft must include features to prevent continuous operation unless their emissions in the restricted bands fully comply with the limits given in §15.209. Continuous operation of field disturbance sensors designed to be used in farm equipment, vehicles such as fork lifts that are intended primarily for use indoors or for very specialized operations, or railroad locomotives, railroad cars and other equipment which travels on fixed tracks is permitted. A field disturbance sensor will be considered not to be operating in a continuous mode if its operation is limited to specific activities of limited duration (e.g., putting a vehicle into reverse gear, activating a turn signal, etc.).

(2) Field strength limits are specified at a distance of 3 meters.

(3) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

(4) The emission limits shown above are based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

[54 FR 17714, Apr. 25, 1989, as amended at 55 FR 46792, Nov. 7, 1990; 61 FR 42558, Aug. 16, 1996]