transmitters shall cooperate reasonably with duly authorized FCC representatives in the resolution of interference.

§ 95.2525 MedRadio interference.

(a) To reduce interference and make the most efficient use of the authorized facilities, MedRadio transmitters must share the spectrum in accordance with § 95.2559.

(b) MedRadio operations must not cause harmful interference to, and must accept any interference from, stations operating in the 400.150–406.000 MHz band in the Meteorological Aids, Meteorological Satellite or Earth Exploration Satellite Services, and other authorized stations operating in the 413–419 MHz, 426–432 MHz, 438–444 MHz, 451–457 MHz, and 2360–2400 MHz bands. MedRadio programmer/control transmitters must have the ability to operate in the presence of primary and secondary users in the 413–419 MHz, 426–432 MHz, 438–444 MHz, 451–457 MHz, and 2360–2400 MHz bands.

§§ 95.2527–95.2529 [Reserved]

§ 95.2531 Permissible MedRadio uses.

MedRadio programmer/control transmitters may be operated only for the uses set forth in this section.

(a) MedRadio programmer/control transmitters may transmit only non-voice data containing operational, diagnostic and therapeutic information associated with a medical implant device or medical body-worn device that has been implanted or placed on the person by or under the direction of a duly authorized health care professional.

(b) MedRadio programmer/control transmitters may be operated for the purposes of testing and demonstrating MedRadio operation to health care professionals.

§ 95.2533 Prohibited MedRadio uses.

MedRadio Service transmitters must not be operated for uses other than those set forth in § 95.2531.

(a) Voice communications are prohibited in the MedRadio Service.

(b) MedRadio programmer/control transmitters may not be used to relay information in the 401–406 MHz band to a receiver that is not included with a medical implant or medical body-worn device. Wireless retransmission of information intended to be transmitted by a MedRadio programmer/control transmitter or information received from a medical implant or medical body-worn transmitter shall be performed using other radio services that operate in spectrum outside of the 401–406 MHz band.

(c) MedRadio programmer/control transmitters and medical implant transmitters may not be used to relay information in the 413–419 MHz, 426–432 MHz, 438–444 MHz, and 451–457 MHz bands to a receiver that is not a part of the same Medical Micropower Network (MMN). Wireless retransmission of information to a receiver that is not part of the same MMN must be performed using other radio services that operate in spectrum outside of the 413–419 MHz, 426–432 MHz, 438–444 MHz, and 451–457 MHz bands. Notwithstanding the above restrictions, a MedRadio programmer/control transmitter of an MMN may communicate with a MedRadio programmer/control transmitter of another MMN to coordinate transmissions, so as to avoid interference between the two MMNs.

(d) Medical body-worn transmitters may relay only information in the 2360–2400 MHz band to a MedRadio programmer/control transmitter or another medical body-worn transmitter device that is part of the same Medical Body Area Network (MBAN). A MedRadio programmer/control transmitter must not be used to relay information in the 2360–2400 MHz band to other MedRadio programmer/control transmitters. Wireless retransmission of all other information from an MBAN transmitter to a receiver that is not a part of the same MBAN shall be performed using other radio services that operate in spectrum outside of the 2360–2400 MHz band. Notwithstanding the above restriction, a MedRadio programmer/control transmitter in the 2360–2400 MHz band may communicate with another MedRadio programmer/control transmitter in the 2360–2400 MHz band to coordinate transmissions so as to avoid interference between the two MBANs.

(e) Except as provided in §95.2559(b), no MedRadio implant or body-worn transmitter shall transmit except in response to—

(1) A transmission from a MedRadio programmer/control transmitter; or

(2) A non-radio frequency actuation signal generated by a device external to the body with respect to which device the MedRadio implant or body-worn transmitter is used.

§95.2535 MedRadio equipment certification exception.

Non-certified medical implant or medical body-worn transmitters that are not marketed for use in the United States, but which otherwise comply with the technical requirements in this subpart, may be used by individuals who travel to the United States.

§§95.2537–95.2539 [Reserved]

§95.2541 MedRadio outdoor antenna restrictions.

The antenna for a MedRadio transmitter, other than a MedRadio transmitter operating in the 2390–2400 MHz band, must not be configured for permanent outdoor use. Furthermore, except for MedRadio operations in the 2390–2400 MHz band, any MedRadio antenna used outdoors must not be affixed to any structure for which the height to the tip of the antenna would exceed three meters (9.8 feet) above ground level.

§§95.2543–95.2545 [Reserved]

§95.2547 MedRadio automatic control.

Notwithstanding the provisions of §95.347, MedRadio transmitters may be operated under automatic control or manual control.

§95.2549 MedRadio network connection.

MedRadio programmer/control transmitters may be interconnected with other telecommunications systems including the public switched network.

§§95.2551–95.2555 [Reserved]

§95.2557 MedRadio duration of transmissions.

For the purpose of facilitating MedRadio system operation during a MedRadio communications session, the duration of transmissions is to be limited in accordance with this section.

(a) MedRadio transmitters may transmit in the 401–406 MHz band in accordance with the provisions of §95.2559(a) for no more than 5 seconds without the communications of data.

(b) MedRadio transmitters may transmit in the 401–406 MHz band in accordance with the provisions of §95.2559(b)(2) and (3) for no more than 3.6 seconds in total within a one hour time period without the communications of data.

(c) MedRadio transmitters may transmit in the 401–406 MHz band in accordance with the provisions of §95.2559(b)(4) for no more than 360 milliseconds in total within a one hour time period without the communications of data.

(d) MedRadio programmer/control transmitters operating in the 413–419 MHz, 426–432 MHz, 438–444 MHz, and 451–457 MHz bands shall not transmit with a duty cycle greater than 3 percent.

§95.2559 MedRadio channel access requirements.

To reduce interference and make the most effective use of the MedRadio frequency bands, MedRadio transmitter types must be designed to operate in accordance with the rules in this section.

(a) *Frequency monitoring in the 401–406 MHz band.* Except as provided in paragraph (b) of this section, all MedRadio programmer/control transmitters operating in the 401–406 MHz band must operate under the control of a monitoring system that incorporates a mechanism for monitoring the channel or channels that the MedRadio system devices intend to occupy. The monitoring system antenna shall be the antenna normally used by the programmer/control transmitter for a MedRadio communications session. Before the monitoring system of a programmer/control transmitter initiates a MedRadio communications session, the following access criteria must be met:

(1) The monitoring system bandwidth, measured at its 20 dB down points, must be equal to or greater than the MedRadio emission bandwidth of the intended transmission.

(2) Within 5 seconds prior to initiating a MedRadio communications session, circuitry associated with a MedRadio programmer/control transmitter must monitor the channel or channels the system devices intend to occupy for a minimum of 10 milliseconds per channel.

(3) The monitoring threshold power level, $P_{MT,}$ in dBm, is calculated using the following formula.

$$P_{MT} = 10 \log B - 150 \text{ (dBm/Hz)} + G$$

Where:

(i) B is the MedRadio emission bandwidth in Hertz of the MedRadio communications session transmitter having the widest emission; and,

(ii) G is the MedRadio programmer/control transmitter monitoring system antenna gain, in decibels, relative to the gain of an isotropic antenna (dBi).

(4) For the purposes of showing compliance with the above provisions, the above calculated threshold power level must be increased or decreased by an amount equal to the monitoring system antenna gain above or below the gain of an isotropic antenna, respectively.

(5) If no signal above the monitoring threshold power level is detected in a MedRadio channel, the MedRadio programmer/control transmitter may initiate on that channel a MedRadio communications session involving transmissions to and from a medical implant or medical body-worn device. The MedRadio communications session may continue as long as any silent period between consecutive data transmission bursts does not exceed 5 seconds. If no channel meeting the requirements in paragraphs (a)(3) and (4) of this section is available, MedRadio transmitters that are capable of operating on multiple channels may transmit on the alternate channel accessible by the device with the lowest monitored ambient power level.

(6) When a channel is selected prior to a MedRadio communications session, it is permissible to select an alternate authorized channel for use if communications are interrupted, provided that the alternate channel selected is the next best choice using the above criteria. The alternate channel may be accessed in the event a communications session is interrupted by interference. The following criteria must be met:

(i) Before transmitting on the alternate channel, the channel must be monitored for a period of at least 10 milliseconds.

(ii) The detected power level during this 10 millisecond or greater monitoring period must be no higher than 6 dB above the power level detected when the channel was chosen as the alternate channel.

(iii) In the event that this alternate channel provision is not used by the MedRadio system, or if the criteria in paragraphs (a)(6)(i) and (ii) of this section are not met, any alternate authorized channel must be selected using the access criteria specified in paragraphs (a)(1) through (5) of this section.

(7) Except as provided in paragraph (b) of this section, MedRadio transmitters that operate on a single channel and thus do not have the capability of operating on alternate channels may not transmit unless no signal on the single channel of operation exceeds the monitoring threshold power level.

(b) *Exceptions to frequency monitoring in the 401–406 MHz band.* MedRadio devices or communications sessions that meet any one of the following criteria are not required to be operated in accordance with the access rules set forth in paragraph (a) of this section:

(1) MedRadio communications sessions that are initiated by a medical implant event.

(2) MedRadio devices operating in either the 401–401.85 MHz or 405–406 MHz bands, provided that the transmit power is not greater than 250 nanowatts EIRP and the duty cycle for such transmissions does not exceed 0.1%, based on the total transmission time during a one-hour interval, and a maximum of 100 transmissions per hour.

(3) MedRadio devices operating in the 401.85–402 MHz band, provided that the transmit power is not greater than 25 microwatts EIRP and the duty cycle for such transmissions does not exceed 0.1%, based on the total transmission time during a one-hour interval, and a maximum of 100 transmissions per hour.