

§ 22.352

minimize interference and obtain the most efficient use of the allocated spectrum.

[70 FR 19308, Apr. 13, 2005]

§ 22.352 Protection from interference.

Public Mobile Service stations operating in accordance with applicable FCC rules and the terms and conditions of their authorizations are normally considered to be non-interfering. If the FCC determines, however, that interference that significantly interrupts or degrades a radio service is being caused, it may, in accordance with the provisions of sections 303(f) and 316 of the Communications Act of 1934, as amended, (47 U.S.C. 303(f), 316), require modifications to any Public Mobile station as necessary to eliminate such interference.

(a) *Failure to operate as authorized.* Any licensee causing interference to the service of other stations by failing to operate its station in full accordance with its authorization and applicable FCC rules shall discontinue all transmissions, except those necessary for the immediate safety of life or property, until it can bring its station into full compliance with the authorization and rules.

(b) *Intermodulation interference.* Licensees should attempt to resolve such interference by technical means.

(c) *Situations in which no protection is afforded.* Except as provided elsewhere in this part, no protection from interference is afforded in the following situations:

(1) *Interference to base receivers from base or fixed transmitters.* Licensees should attempt to resolve such interference by technical means or operating arrangements.

(2) *Interference to mobile receivers from mobile transmitters.* No protection is provided against mobile-to-mobile interference.

(3) *Interference to base receivers from mobile transmitters.* No protection is provided against mobile-to-base interference.

(4) *Interference to fixed stations.* Licensees should attempt to resolve such interference by technical means or operating arrangements.

(5) *Anomalous or infrequent propagation modes.* No protection is provided

47 CFR Ch. I (10–1–20 Edition)

against interference caused by tropospheric and ionospheric propagation of signals.

(6) *Facilities for which the Commission is not notified.* No protection is provided against interference to the service of any additional or modified transmitter operating pursuant to § 1.929 or § 22.165, unless and until the licensee modifies its authorization using FCC Form 601.

(7) *In-building radiation systems.* No protection is provided against interference to the service of in-building radiation systems (see § 22.383).

[59 FR 59507, Nov. 17, 1994, as amended at 62 FR 11633, Mar. 12, 1997; 63 FR 68944, Dec. 14, 1998; 70 FR 19308, Apr. 13, 2005]

§ 22.353 Blanketing interference.

Licensees of Public Mobile Services stations are responsible for resolving cases of blanketing interference in accordance with the provisions of this section.

(a) Except as provided in paragraph (c) of this section, licensees must resolve any cases of blanketing interference in their area of responsibility caused by operation of their transmitter(s) during a one-year period following commencement of service from new or modified transmitter(s). Interference must be resolved promptly at no cost to the complainant.

(b) The area of responsibility is that area in the immediate vicinity of the transmitting antenna of stations where the field strength of the electromagnetic radiation from such stations equals or exceeds 115 dBµV/m. To determine the radial distance to the boundary of this area, the following formula must be used:

$$d = 0.394 \times \sqrt{p}$$

where d is the radial distance to the boundary, in kilometers

p is the radial effective radiated power, in kilowatts

The maximum effective radiated power in the pertinent direction, without consideration of the antenna's vertical radiation pattern or height, must be used in the formula.

(c) Licensees are not required to resolve blanketing interference to mobile

receivers or non-RF devices or blanketing interference occurring as a result of malfunctioning or mistuned receivers, improperly installed consumer antenna systems, or the use of high gain antennas or antenna booster amplifiers by consumers.

(d) Licensees that install transmitting antennas at a location where there are already one or more transmitting antennas are responsible for resolving any new cases of blanketing interference in accordance with this section.

(e) Two or more licensees that concurrently install transmitting antennas at the same location are jointly responsible for resolving blanketing interference cases, unless the FCC can readily determine which station is causing the interference, in which case the licensee of that station is held fully responsible.

(f) After the one year period of responsibility to resolve blanketing interference, licensees must provide upon request technical information to complainants on remedies for blanketing interference.

§ 22.355 Frequency tolerance.

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

TABLE C-1—FREQUENCY TOLERANCE FOR TRANSMITTERS IN THE PUBLIC MOBILE SERVICES

Frequency range (MHz)	Base, fixed (ppm)	Mobile >3 watts (ppm)	Mobile ≤3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10.0	n/a	n/a

[61 FR 54099, Oct. 17, 1996]

§ 22.357 Emission types.

Any authorized station in the Public Mobile Services may transmit emissions of any type(s) that comply with the applicable emission rule, *i.e.* § 22.359, § 22.861 or § 22.917.

[70 FR 19308, Apr. 13, 2005]

§ 22.359 Emission limitations.

The rules in this section govern the spectral characteristics of emissions in the Public Mobile Services, except for the Air-Ground Radiotelephone Service (see § 22.861, instead) and the Cellular Radiotelephone Service (see § 22.917, instead).

(a) *Out of band emissions.* The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log (P)$ dB.

(b) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 30 kHz or more. In the 60 kHz bands immediately outside and adjacent to the authorized frequency range or channel, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.*, 30 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(c) *Alternative out of band emission limit.* Licensees in the Public Mobile Services may establish an alternative out of band emission limit to be used at specified frequencies (band edges) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.

(d) *Interference caused by out of band emissions.* If any emission from a transmitter operating in any of the Public Mobile Services results in interference to users of another radio service, the FCC may require a greater attenuation