

of this section. If the formula in paragraph (a)(1) of this section is clearly inapplicable for the cell(s) in question (e.g. for microcells), this should be disclosed in the alternative CGSA determination.

(3) The provision for alternative CGSA determinations was made in recognition that the formula in paragraph (a)(1) of this section is a general model that provides a reasonable approximation of coverage in most land areas, but may under-predict or over-predict coverage in specific areas with unusual terrain roughness or features, and may be inapplicable for certain purposes, e.g., cells with a coverage radius of less than 8 kilometers (5 miles). In such cases, alternative methods that utilize more specific models are appropriate. Accordingly, the FCC does not consider use of the formula in paragraph (a)(1) of this section with parameters outside of the limits in paragraphs (a)(3), (a)(4) and (a)(5) of this section or with data for radials other than the cardinal radials to be a valid alternative method for determining the CGSA of a cellular system.

(c) [Reserved]

(d) *Protection afforded.* Cellular systems are entitled to protection only within the CGSA (as determined in accordance with this section) from co-channel and first-adjacent channel interference and from capture of subscriber traffic by adjacent systems on the same channel block. Licensees must cooperate in resolving co-channel and first-adjacent channel interference by changing channels used at specific cells or by other technical means.

(e) *Unserved Area.* Unserved Area is area outside of all existing CGSAs on either of the channel blocks, to which the Communications Act of 1934, as amended, is applicable.

[59 FR 59507, Nov. 17, 1994, as amended at 59 FR 59954, Nov. 21, 1994; 63 FR 68951, Dec. 14, 1998; 67 FR 9609, Mar. 4, 2002; 67 FR 77191, Dec. 17, 2002; 68 FR 42295, July 17, 2003; 79 FR 72151, Dec. 5, 2014]

§ 22.912 Service area boundary extensions.

This section contains rules governing service area boundary (SAB) extensions. SAB extensions are areas (calculated using the methodology of

§ 22.911) that extend outside of the licensee's Cellular Geographic Service Area (CGSA) boundary into Unserved Area or into the CGSA of a neighboring co-channel licensee. Service within SAB extensions is not protected from interference or capture under § 22.911(d) unless and until the area within the SAB extension becomes part of the CGSA in compliance with all applicable rules.

(a) *Extensions into Unserved Area.* Subject to paragraph (c) of this section, the licensee of a Cellular system may, at any time, extend its SAB into Unserved Area and provide service on a secondary basis only, provided that the extension area comprises less than 130 contiguous square kilometers (50 contiguous square miles). If more than one licensee of a Cellular system extends into all or a portion of the same Unserved Area under this section, all such licensees may provide service in such Unserved Area on a shared secondary (unprotected) basis only.

(b) *Contract extensions.* The licensee of any Cellular system may, at any time, enter into a contract with an applicant for, or a licensee of, a Cellular system on the same channel block to allow one or more SAB extensions into its CGSA (not into Unserved Area).

(c) *Gulf of Mexico Service Area.* Land-based Cellular system licensees may not extend their SABs into the Gulf of Mexico Exclusive Zone (GMEZ) absent written contractual consent of the co-channel GMEZ licensee. GMEZ licensees may not extend their SABs into the CGSA of a licensee on the same channel block in an adjacent CMA or the Gulf of Mexico Coastal Zone absent written contractual consent of the co-channel licensee.

[79 FR 72151, Dec. 5, 2014]

§ 22.913 Effective radiated power limits.

The effective radiated power (ERP) of transmitters in the Cellular Radiotelephone Service must not exceed the limits in this section.

(a) *Maximum ERP.* In general, the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. However, for those systems operating in areas

more than 72 km (45 miles) from international borders that:

(1) Are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census; or,

(2) Extend coverage on a secondary basis into cellular unserved areas, as those areas are defined in § 22.949, the ERP of base transmitters and cellular repeaters of such systems must not exceed 1000 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

(b) *Height-power limit.* The ERP of base transmitters must not exceed the amount that would result in an average distance to the service area boundary of 79.1 kilometers (49 miles) for cellular systems authorized to serve the Gulf of Mexico MSA and 40.2 kilometers (25 miles) for all other cellular systems. The average distance to the service area boundary is calculated by taking the arithmetic mean of the distances determined using the procedures specified in § 22.911 for the eight cardinal radial directions.

(c) *Coordination exemption.* Licensees need not comply with the height-power limit in paragraph (b) of this section if the proposed operation is coordinated with the licensees of all affected cellular systems on the same channel block within 121 kilometers (75 miles) and concurrence is obtained.

[59 FR 59507, Nov. 17, 1994, as amended at 69 FR 75171, Dec. 15, 2004]

§ 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

(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 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block 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.* 100 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 this service may establish an alternative out of band emission limit to be used at specified band edge(s) 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 this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than specified in this section.

[67 FR 77191, Dec. 17, 2002]

§ 22.921 911 call processing procedures; 911-only calling mode.

Mobile telephones manufactured after February 13, 2000 that are capable of operating in the analog mode described in the standard document ANSI TIA/EIA-553-A-1999 Mobile Station—Base Station Compatibility Standard (approved October 14, 1999—available for purchase from Global Engineering Documents, 15 Inverness East, Englewood, CO 80112), must incorporate a special procedure for processing 911 calls. Such procedure must recognize when a 911 call is made and, at such time, must override any programming in the mobile unit that determines the handling of a non-911 call and permit the call to be transmitted through the analog systems of other carriers. This