

Nominal mobile terminal peak EIRP	Mobile terminal transmit duty cycle (percent)
Equal to or less than -7.4 dBW	100
Greater than -7.4 dBW	50
Greater than -4.4 dBW	25
Greater than -1.4 dBW	20
Greater than -0.4 dBW	18.2

(3) Implement the provisions of paragraph (a)(2) of this section in a manner that precludes other ATC mobile terminals from using the open time slots.

(4) Demonstrate, at the time of application, how the ATC network will comply with the requirements of paragraphs (a) and (b)(1) through (b)(3) of this section.

(5) Demonstrate, at the time of application, how its ATC network will comply with the requirements of footnotes US308 and US315 to the table of frequency allocations contained in § 2.106 of this chapter regarding priority and preemptive access to the L-band MSS spectrum by the aeronautical mobile-satellite en-route service (AMS(R)S) and the global maritime distress and safety system (GMDSS).

(6) Demonstrate how its ATC network base stations and mobile terminals will comply with the Global Mobile Personal Communications by Satellite (GMPCS) system requirements to protect the radionavigation satellite services (RNSS) operations in the allocation above 1559 MHz.

(7) Coordinate with the terrestrial CMRS operators prior to initiating ATC transmissions when co-locating ATC base stations with terrestrial commercial mobile radio service (CMRS) base stations that make use of Global Positioning System (GPS) time-based receivers.

(8) Demonstrate that the cellular structure of the ATC network design

includes 18 dB of link margin allocated to structural attenuation. If less structural attenuation is used, the maximum number of base stations permitted under paragraph (c) of this section must be reduced or a showing must be made that there would be no increase in interference to other MSS operators and that the applicant's satellite would continue to meet the other requirements of this section.

(b) ATC base stations shall not exceed an out-of-channel emissions measurement of -57.9 dBW/MHz at the edge of a MSS licensee's authorized and internationally coordinated MSS frequency assignment.

(c) The maximum number of base stations operating in the U.S. on any one 200 kHz channel shall not exceed 1725. During the first 18 months following activation for testing of the first ATC base station, the L-band ATC operator shall not implement more than 863 base stations on the same 200 kHz channel. L-band ATC operators shall notify the Commission of the date of the activation for testing of the first ATC base station and shall maintain a record of the total number of ATC base stations operating in the U.S. on any given 200 kHz of spectrum. Upon request by the Commission, L-band ATC operators shall provide this information to resolve any claim it receives from an L-band MSS operator that ATC operations are causing interference to its MSS system.

(d) Applicants for an ancillary terrestrial component in these bands must demonstrate that ATC base stations shall not:

(1) Exceed peak EIRP of 19.1 dBW, in 200 kHz, per carrier with no more than three carriers per sector;

(2) Exceed an EIRP toward the physical horizon (not to include man-made structures) of 14.1 dBW per carrier in 200 kHz;

(3) Locate any ATC base station less than 470 meters from all airport runways and aircraft stand areas, including takeoff and landing paths;

(4) Exceed an aggregate power flux density level of -73.0 dBW/m²/200 kHz at the edge of all airport runways and aircraft stand areas, including takeoff and landing paths;

(5) Locate any ATC base station less than 1.5 km from the boundaries of all navigable waterways or the ATC base stations shall not exceed a power flux density level of -64.6 dBW/m²/200 kHz at the water's edge of any navigable waterway;

(6) Exceed a peak antenna gain of 16 dBi;

(7) Exceed an EIRP in the 1559-1605 MHz band of -70 dBW/MHz for wideband emissions and -80 dBW for narrowband emissions (discrete emissions of less than 700 Hz bandwidth). The ATC station shall not exceed an EIRP in the 1605-1610 MHz frequency range that is determined by the linear interpolation from -70 dBW/MHz at 1605 MHz to -10 dBW/MHz at 1610 MHz for wideband emissions. The wideband EIRP level is to be measured using a root mean square (RMS) detector function with a resolution bandwidth of 1 MHz or equivalent and the video bandwidth is not less than the resolution bandwidth. The narrowband EIRP level is to be measured using an RMS detector function with a resolution bandwidth of 1 kHz or equivalent. The measurements are to be made over a 20 millisecond averaging period when the base station is transmitting.

(e) Applicants for an ancillary terrestrial component in these bands must demonstrate, at the time of the application, that ATC base stations shall use left-hand-circular polarization antennas with a maximum gain of 16 dBi and overhead gain suppression according to the following:

Angle from direction of maximum gain, in vertical plane, above antenna (degrees)	Antenna discrimination pattern (dB)
0	Gmax
5	Not to Exceed Gmax -5
10	Not to Exceed Gmax -19
15 to 30	Not to Exceed Gmax -27
30 to 55	Not to Exceed Gmax -35
55 to 145	Not to Exceed Gmax -40
145 to 180	Not to Exceed Gmax -26

Where: Gmax is the maximum gain of the base station antenna in dBi.

(f) Prior to operation, ancillary terrestrial component licensees shall:

(1) Provide the Commission with sufficient information to complete coordination of ATC base stations with Search-and-Rescue Satellite-Aided

Tracking (SARSAT) earth stations operating in the 1544-1545 MHz band for any ATC base station located either within 27 km of a SARSAT station, or within radio horizon of the SARSAT station, whichever is less.

(2) Take all practicable steps to avoid locating ATC base stations within radio line of sight of MAT receive sites in order to protect U.S. MAT systems consistent with ITU-R Recommendation ITU-R M.1459. MSS ATC base stations