§ 97.303 Frequency sharing requirements.

The following is a summary of the frequency sharing requirements that apply to amateur station transmissions on the frequency bands specified in § 97.301 of this part. (For each ITU Region, each frequency band allocated to the amateur service is designated as either a secondary service or a primary service. A station in a secondary service must not cause harmful interference to, and must accept interference from, stations in a primary service. See §§ 2.105 and 2.106 of the FCC Rules, *United States Table of Frequency Allocations* for complete requirements.)

(a) Where, in adjacent ITU Regions or sub-Regions, a band of frequencies is allocated to different services of the same category (*i.e.*, primary or secondary allocations), the basic principle is the equality of right to operate. Accordingly, stations of each service in one Region or sub-Region must operate so as not to cause harmful interference to any service of the same or higher category in the other Regions or sub-Regions. (*See* ITU *Radio Regulations*, edition of 2004, No. 4.8.)

(b) No amateur station transmitting in the 1900–2000 kHz segment, the 70 cm band, the 33 cm band, the 23 cm band, the 13 cm band, the 9 cm band, the 5 cm band, the 3 cm band, the 24.05–24.25 GHz segment, the 76–77.5 GHz segment, the 78–81 GHz segment, the 136–141 GHz segment, and the 241–248 GHz segment shall cause harmful interference to, nor is protected from interference due to the operation of, the Federal radiolocation service.

(c) No amateur station transmitting in the 1900–2000 kHz segment, the 3 cm band, the 76–77.5 GHz segment, the 78–81 GHz segment, the 136–141 GHz segment, and the 241–248 GHz segment shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the non-Federal radiolocation service.

(d) No amateur station transmitting in the 30 meter band shall cause harmful interference to stations authorized by other nations in the fixed service. The licensee of the amateur station must make all necessary adjustments, including termination of transmissions, if harmful interference is caused.

(e) In the 1.25 m band:

(1) Use of the 219–220 MHz segment is limited to amateur stations participating, as forwarding stations, in point-to-point fixed digital message forwarding systems, including intercity packet backbone networks. It is not available for other purposes.

(2) No amateur station transmitting in the 219–220 MHz segment shall cause harmful interference to, nor is protected from interference due to operation of Automated Maritime Telecommunications Systems (AMTS), television broadcasting on channels 11 and 13, 218–219 MHz Service systems, Land Mobile Services systems, or any other service having a primary allocation in or adjacent to the band.

(3) No amateur station may transmit in the 219–220 MHz segment unless the licensee has given written notification of the station's specific geographic location for such transmissions in order to be incorporated into a data base that has been made available to the public. The notification must be given at least 30 days prior to making such transmissions. The notification must be given to: The American Radio Relay, Inc., 225 Main Street, Newington, CT 06111–1494.

(4) No amateur station may transmit in the 219–220 MHz segment from a location that is within 640 km of an AMTS Coast Station that uses frequencies in the 217–218/219–220 MHz AMTS bands unless the amateur station licensee has given written notification of the station's specific geographic location for such transmissions to the AMTS licensee. The notification must be given at least 30 days prior to making such transmissions. The location of AMTS Coast Stations using the 217–218/219–220 MHz channels may be obtained from either:

The American Radio Relay League, Inc., 225 Main Street, Newington, CT 06111–1494;

or

Interactive Systems, Inc., Suite 1103, 1601 North Kent Street, Arlington, VA 22209; Fax: (703) 812–8275; Phone: (703) 812–8270.

(5) No amateur station may transmit in the 219–220 MHz segment from a location that is within 80 km of an

AMTS Coast Station that uses frequencies in the 217–218/219–220 MHz AMTS bands unless that amateur station licensee holds written approval from that AMTS licensee. The location of AMTS Coast Stations using the 217–218/219–220 MHz channels may be obtained as noted in paragraph (e)(4) of this section.

(f) In the 70 cm band:

(1) No amateur station shall transmit from north of Line A in the 420–430 MHz segment.

(2) The 420–430 MHz segment is allocated to the amateur service in the United States on a secondary basis, and is allocated in the fixed and mobile (except aeronautical mobile) services in the International Table of allocations on a primary basis. No amateur station transmitting in this band shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and mobile (except aeronautical mobile) services.

(3) The 430–440 MHz segment is allocated to the amateur service on a secondary basis in ITU Regions 2 and 3. No amateur station transmitting in this band in ITU Regions 2 and 3 shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service. In ITU Region 1, the 430–440 MHz segment is allocated to the amateur service on a co-primary basis with the radiolocation service. As between these two services in this band in ITU Region 1, the basic principle that applies is the equality of right to operate. Amateur stations authorized by the United States and radiolocation stations authorized by other nations in ITU Region 1 shall operate so as not to cause harmful interference to each other.

(4) No amateur station transmitting in the 449.75–450.00 MHz segment shall cause interference to, nor is protected from interference due to the operation of stations in, the space operation and space research services.

(g) In the 33 cm band:

(1) In the States of Colorado and Wyoming, bounded by the area of latitude 396° N. to 42° N. and longitude 103° W. to 108° W., an amateur station may transmit in the 902 MHz to 928 MHz band only on the frequency segments 902.0–902.4, 902.6–904.3, 904.7–925.3, 925.7–927.3, and 927.7–928.0 MHz. This band is allocated on a secondary basis to the amateur service subject to not causing harmful interference to, and not receiving any interference protection from, the operation of industrial, scientific and medical devices, automatic vehicle monitoring systems, or Government stations authorized in this band.

(2) No amateur station shall transmit from those portions of the States of Texas and New Mexico bounded on the south by latitude 31°41′ N., on the north by latitude 34°30′ N., on the east by longitude 104°11′ W., and on the west by longitude 107°30′ W.

(h) No amateur station transmitting in the 23 cm band, the 3.3–3.4 GHz segment, the 3 cm band, the 24.05–24.25 GHz segment, the 76–77.5 GHz segment, the 78–81 GHz segment, the 136–141 GHz segment, and the 241–248 GHz segment shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service.

(i) In the 23 cm band, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the radionavigation-satellite service, the aeronautical radionavigation service, the Earth exploration-satellite service (active), or the space research service (active).

(j) In the 13 cm band:

(1) The amateur service is allocated on a secondary basis in all ITU Regions. In ITU Region 1, no amateur station shall cause harmful interference to, and shall be not protected from interference due to the operation of, stations authorized by other nations in the fixed and mobile services. In ITU Regions 2 and 3, no amateur station shall cause harmful interference to, and shall not be protected from interference due to the operation of, stations authorized by other nations in the fixed, mobile and radiolocation services.

(2) In the United States:

(i) The 2300–2305 MHz segment is allocated to the amateur service on a secondary basis. (Currently the 2300–2305

MHz segment is not allocated to any service on a primary basis.);

(ii) The 2305–2310 MHz segment is allocated to the amateur service on a secondary basis to the fixed, mobile, and radiolocation services;

(iii) The 2390–2417 MHz segment is allocated to the amateur service on a primary basis.

(A) The 2390–2395 MHz segment is shared with Federal and non-Federal Government mobile services on a co-equal basis. See 47 CFR 2.106, footnote US276.

(B) Amateur stations operating in the 2400–2417 MHz segment must accept harmful interference that may be caused by the proper operation of industrial, scientific and medical equipment.

(iv) The 2417–2450 MHz segment is allocated to the amateur service on a co-secondary basis with the Federal Government radiolocation service. Amateur stations operating within the 2417–2450 MHz segment must accept harmful interference that may be caused by the proper operation of industrial, scientific, and medical devices operating within the band.

(k) No amateur station transmitting in the following segments shall cause harmful interference to stations in the radio astronomy service: 3.332–3.339 GHz, 3.3458–3.3525 GHz, 76–77.5 GHz, 78–81 GHz, 136–141 GHz, 241–248 GHz, 275–323 GHz, 327–371 GHz, 388–424 GHz, 426–442 GHz, 453–510 GHz, 623–711 GHz, 795–909 GHz, and 926–945 GHz. No amateur station transmitting in following segments shall cause harmful interference to stations in the Earth exploration-satellite service (passive) and space research service (passive): 275–277 GHz, 294–306 GHz, 316–334 GHz, 342–349 GHz, 363–365 GHz, 371–389 GHz, 416–434 GHz, 442–444 GHz, 496–506 GHz, 546–568 GHz, 624–629 GHz, 634–654 GHz, 659–661 GHz, 684–692 GHz, 730–732 GHz, 851–853 GHz, and 951–956 GHz.

(l) In the 9 cm band:

(1) In ITU Regions 2 and 3, the 9 cm band is allocated to the amateur service on a secondary basis. In ITU Region 1, the segment 3.4–3.475 GHz is allocated to the amateur service on a secondary basis for use only in Germany, Israel, and the United Kingdom.

(2) In the United States, the 9 cm band is allocated to the amateur and non-Federal radiolocation services on a secondary basis.

(3) In the 3.4–3.5 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the fixed and fixed-satellite services.

(4) In the 3.4–3.5 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and fixed-satellite service.

(m) In the 5 cm band:

(1) In the 5.650–5.725 GHz segment, the amateur service is allocated in all ITU Regions on a co-secondary basis with the space research (deep space) service.

(2) In the 5.725–5.850 GHz segment, the amateur service is allocated in all ITU Regions on a secondary basis. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed-satellite service in ITU Region 1.

(3) No amateur station transmitting in the 5.725–5.875 GHz segment is protected from interference due to the operation of industrial, scientific and medical devices operating on 5.8 GHz.

(4) In the 5.650–5.850 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service.

(5) In the 5.850–5.925 GHz segment, the amateur service is allocated in ITU Region 2 on a co-secondary basis with the radiolocation service. In the United States, the segment is allocated to the amateur service on a secondary basis to the non-Government fixed-satellite service. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed, fixed-satellite and mobile services. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the non-Government fixed-satellite service.

(n) In the 3 cm band:

(1) In the United States, the 3 cm band is allocated to the amateur service on a co-secondary basis with the non-government radiolocation service.

(2) In the 10.00–10.45 GHz segment in ITU Regions 1 and 3, no amateur station shall cause interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and mobile services.

(o) No amateur station transmitting in the 1.2 cm band is protected from interference due to the operation of industrial, scientific and medical devices on 24.125 GHz. In the United States, the 24.05–24.25 GHz segment is allocated to the amateur service on a co-secondary basis with the non-government radiolocation and Government and non-government Earth exploration-satellite (active) services.

(p) The 2.5 mm band is allocated to the amateur service on a secondary basis. No amateur station transmitting in this band shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the fixed, inter-satellite and mobile services.

(q) No amateur station transmitting in the 244–246 GHz segment of the 1 mm band is protected from interference due to the operation of industrial, scientific and medical devices on 245 GHz.

(r) Authorization of the 76–77 GHz segment of the 4 mm band for amateur station transmissions is suspended until such time that the Commission may determine that amateur station transmissions in this segment will not pose a safety threat to vehicle radar systems operating in this segment.

(s) An amateur station having an operator holding a General, Advanced or Amateur Extra Class license may only transmit single sideband, suppressed carrier, (emission type 2K8J3E) upper sideband on the channels 5332 kHz, 5348 kHz, 5368 kHz, 5373 kHz, and 5405 kHz. Amateur operators shall ensure that their transmission occupies only the 2.8 kHz centered around each of these frequencies. Transmissions shall not exceed an effective radiated power (e.r.p) of 50 W PEP. For the purpose of computing e.r.p. the transmitter PEP will be multiplied with the antenna gain relative to a dipole or the equivalent calculation in decibels. A half wave dipole antenna will be presumed to have a gain of 0 dBd. Licensees using other antennas must maintain in their station records either manufacturer data on the antenna gain or calculations of the antenna gain. No amateur station shall cause harmful interference to stations authorized in the mobile and fixed services; nor is any amateur station protected from interference due to the operation of any such station.

(t)(1) The 7–7.1 MHz segment is allocated to the amateur and amateur-satellite services on a primary and exclusive basis throughout the world, except that the 7–7.05 MHz segment is:

(i) Additionally allocated to the fixed service on a primary basis in the countries listed in 47 CFR 2.106, footnote 5.140; and

(ii) Alternatively allocated to the fixed service on a primary and exclusive basis (*i.e.*, the segment 7–7.05 MHz is not allocated to the amateur service) in the countries listed in 47 CFR 2.106, footnote 5.141.

(2) The 7.1–7.2 MHz segment is allocated to the amateur service on an exclusive basis in Region 2. Until March 29, 2009, the 7.1–7.2 MHz segment is allocated to the amateur and broadcasting services on a co-primary basis in Region 1 and Region 3 and the use of the 7.1–7.2 MHz segment by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3. After March 29, 2009, the 7.1–7.2 MHz segment is allocated to the amateur service on a primary and exclusive basis throughout the world, except that the 7.1–7.2 MHz segment is additionally allocated to the fixed and mobile except aeronautical mobile (R) services on a primary basis in the countries listed in 47 CFR 2.106, footnote 5.141B.

(3) The 7.2–7.3 MHz segment is allocated to the amateur service on an exclusive basis in Region 2 and to the broadcasting service on an exclusive basis in Region 1 and Region 3. The use of the 7.2–7.3 MHz segment in Region 2 by the amateur service shall not impose constraints on the broadcasting

service intended for use within Region 1 and Region 3.

[54 FR 25857, June 20, 1989; 54 FR 39536, Sept. 27, 1989, as amended at 56 FR 19611, Apr. 29, 1991; 56 FR 23025, May 20, 1991; 56 FR 32518, July 17, 1991; 56 FR 40801, Aug. 16, 1991; 57 FR 40344, Sept. 3, 1992; 60 FR 15687, Mar. 27, 1995; 61 FR 15386, Apr. 8, 1996; 62 FR 9673, Mar. 3, 1997; 63 FR 42280, Aug. 7, 1998; 68 FR 33026, June 3, 2003; 69 FR 3265, Jan. 23, 2004; 69 FR 77950, Dec. 29, 2004; 70 FR 46681, Aug. 10, 2005; 71 FR 66464, Nov. 15, 2006; 73 FR 25498, May 6, 2008]

§ 97.305 Authorized emission types.

(a) Except as specified elsewhere in this part, an amateur station may transmit a CW emission on any frequency authorized to the control operator.

(b) A station may transmit a test emission on any frequency authorized to the control operator for brief periods for experimental purposes, except that no pulse modulation emission may be transmitted on any frequency where pulse is not specifically authorized and no SS modulation emission may be transmitted on any frequency where SS is not specifically authorized.

(c) A station may transmit the following emission types on the frequencies indicated, as authorized to the control operator, subject to the standards specified in § 97.307(f) of this part.

Wavelength band	Frequencies	Emission types authorized	Standards see § 97.307(f), paragraph:
MF:			
160 m	Entire band	RTTY, data	(3).
160 m	Entire band	Phone, image	(1), (2).
HF:			
80 m	Entire band	RTTY, data	(3), (9).
75 m	Entire band	Phone, image	(1), (2).
40 m	7.000–7.100 MHz	RTTY, data	(3), (9)
40 m	7.075–7.100 MHz	Phone, image	(1), (2), (9), (11)
40 m	7.100–7.125 MHz	RTTY, data	(3), (9)
40 m	7.125–7.300 MHz	Phone, image	(1), (2)
30 m	Entire band	RTTY, data	(3).
20 m	14.00–14.15 MHz	RTTY, data	(3).
20 m	14.15–14.35 MHz	Phone, image	(1), (2).
17 m	18.068–18.110 MHz	RTTY, data	(3).
17 m	18.110–18.168 MHz	Phone, image	(1), (2).
15 m	21.0–21.2 MHz	RTTY, data	(3), (9).
15 m	21.20–21.45 MHz	Phone, image	(1), (2).
12 m	24.89–24.93 MHz	RTTY, data	(3).
12 m	24.93–24.99 MHz	Phone, image	(1), (2).
10 m	28.0–28.3 MHz	RTTY, data	(4).
10 m	28.3–28.5 MHz	Phone, image	(1), (2), (10).
10 m	28.5–29.0 MHz	Phone, image	(1), (2).
10 m	29.0–29.7 MHz	Phone, image	(2).
VHF:			
6 m	50.1–51.0 MHz	MCW, phone, image, RTTY, data	(2), (5).
Do	51.0–54.0 MHz	MCW, phone, image, RTTY, data, test	(2), (5), (8).
2 m	144.1–148.0 MHz	MCW, phone, image, RTTY, data, test	(2), (5), (8).
1.25 m	219–220 MHz	Data	(13)
Do	222–225 MHz	RTTY, data, test MCW, phone, SS, image	(2), (6), (8)
UHF:			
70 cm	Entire band	MCW, phone, image, RTTY, data, SS, test	(6), (8).
33 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
23 cm	Entire band	MCW, phone, image, RTTY, data, SS, test	(7), (8), and (12).
13 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
SHF:			
9 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
5 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
3 cm	Entire band	MCW, phone, image, RTTY, data, SS, test	(7), (8), and (12).
1.2 cm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
EHF:			
6 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
4 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
2.5 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
2 mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
1mm	Entire band	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).
—	Above 300 GHz	MCW, phone, image, RTTY, data, SS, test, pulse	(7), (8), and (12).