

## Federal Communications Commission

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mission disposal orbit and the calculations that are used in deriving the disposal altitude. The statement must also include a casualty risk assessment if planned post-mission disposal involves atmospheric re-entry of the space station. In general, an assessment should include an estimate as to whether portions of the spacecraft will survive re-entry and reach the surface of the Earth, as well as an estimate of the resulting probability of human casualty.

(v) If any material item described in this notification changes before launch, a replacement pre-space notification shall be filed with the International Bureau no later than 90 days before integration of the space station into the launch vehicle.

(2) An in-space station notification is required no later than 7 days following initiation of space station transmissions. This notification must update the information contained in the pre-space notification.

(3) A post-space station notification is required no later than 3 months after termination of the space station transmissions. When termination of transmissions is ordered by the FCC, the notification is required no later than 24 hours after termination of transmissions.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989; 56 FR 56171, Nov. 1, 1991; 57 FR 32736, July 23, 1992; 60 FR 50124, Sept. 28, 1995; 63 FR 68980, Dec. 14, 1998; 69 FR 54588, Sept. 9, 2004; 71 FR 66462, Nov. 15, 2006; 75 FR 27201, May 14, 2010]

### § 97.209 Earth station.

(a) Any amateur station may be an Earth station. A holder of any class operator license may be the control operator of an Earth station, subject to the privileges of the class of operator license held by the control operator.

(b) The following frequency bands and segments are authorized to Earth stations:

(1) The 17 m, 15 m, 12 m, and 10 m bands, 6 mm, 4 mm, 2 mm and 1 mm bands; and

(2) The 7.0–7.1 MHz, 14.00–14.25 MHz, 144–146 MHz, 435–438 MHz, 1260–1270 MHz and 2400–2450 MHz, 3.40–3.41 GHz, 5.65–

5.67 GHz, 10.45–10.50 GHz and 24.00–24.05 GHz segments.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989]

### § 97.211 Space telecommand station.

(a) Any amateur station designated by the licensee of a space station is eligible to transmit as a telecommand station for that space station, subject to the privileges of the class of operator license held by the control operator.

(b) A telecommand station may transmit special codes intended to obscure the meaning of telecommand messages to the station in space operation.

(c) The following frequency bands and segments are authorized to telecommand stations:

(1) The 17 m, 15 m, 12 m and 10 m bands, 6 mm, 4 mm, 2 mm and 1 mm bands; and

(2) The 7.0–7.1 MHz, 14.00–14.25 MHz, 144–146 MHz, 435–438 MHz, 1260–1270 MHz and 2400–2450 MHz, 3.40–3.41 GHz, 5.65–5.67 GHz, 10.45–10.50 GHz and 24.00–24.05 GHz segments.

(d) A telecommand station may transmit one-way communications.

[54 FR 25857, June 20, 1989, as amended at 54 FR 39535, Sept. 27, 1989; 56 FR 56171, Nov. 1, 1991]

### § 97.213 Telecommand of an amateur station.

An amateur station on or within 50 km of the Earth's surface may be under telecommand where:

(a) There is a radio or wireline control link between the control point and the station sufficient for the control operator to perform his/her duties. If radio, the control link must use an auxiliary station. A control link using a fiber optic cable or another telecommunication service is considered wireline.

(b) Provisions are incorporated to limit transmission by the station to a period of no more than 3 minutes in the event of malfunction in the control link.

(c) The station is protected against making, willfully or negligently, unauthorized transmissions.

(d) A photocopy of the station license and a label with the name, address, and

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telephone number of the station licensee and at least one designated control operator is posted in a conspicuous place at the station location.

[54 FR 25857, June 20, 1989, as amended at 56 FR 56171, Nov. 1, 1991]

### §97.215 Telecommand of model craft.

An amateur station transmitting signals to control a model craft may be operated as follows:

(a) The station identification procedure is not required for transmissions directed only to the model craft, provided that a label indicating the station call sign and the station licensee's name and address is affixed to the station transmitter.

(b) The control signals are not considered codes or ciphers intended to obscure the meaning of the communication.

(c) The transmitter power must not exceed 1 W.

[54 FR 25857, June 20, 1989, as amended at 56 FR 56171, Nov. 1, 1991]

### §97.217 Telemetry.

Telemetry transmitted by an amateur station on or within 50 km of the Earth's surface is not considered to be codes or ciphers intended to obscure the meaning of communications.

[56 FR 56172, Nov. 1, 1991. Redesignated at 59 FR 18975, Apr. 21, 1994]

### §97.219 Message forwarding system.

(a) Any amateur station may participate in a message forwarding system, subject to the privileges of the class of operator license held.

(b) For stations participating in a message forwarding system, the control operator of the station originating a message is primarily accountable for any violation of the rules in this part contained in the message.

(c) Except as noted in (d) of this section, for stations participating in a message forwarding system, the control operators of forwarding stations that retransmit inadvertently communications that violate the rules in this part are not accountable for the violative communications. They are, however, responsible for discontinuing such communications once they become aware of their presence.

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(d) For stations participating in a message forwarding system, the control operator of the first forwarding station must:

(1) Authenticate the identity of the station from which it accepts communications on behalf of the system; or

(2) Accept accountability for any violation of the rules in this part contained in messages it retransmits to the system.

[59 FR 18975, Apr. 21, 1994]

### §97.221 Automatically controlled digital station.

(a) This rule section does not apply to an auxiliary station, a beacon station, a repeater station, an earth station, a space station, or a space telecommand station.

(b) A station may be automatically controlled while transmitting a RTTY or data emission on the 6 m or shorter wavelength bands, and on the 28.120–28.189 MHz, 24.925–24.930 MHz, 21.090–21.100 MHz, 18.105–18.110 MHz, 14.0950–14.0995 MHz, 14.1005–14.112 MHz, 10.140–10.150 MHz, 7.100–7.105 MHz, or 3.585–3.600 MHz segments.

(c) Except for channels specified in §97.303(h), a station may be automatically controlled while transmitting a RTTY or data emission on any other frequency authorized for such emission types provided that:

(1) The station is responding to interrogation by a station under local or remote control; and

(2) No transmission from the automatically controlled station occupies a bandwidth of more than 500 Hz.

[60 FR 26001, May 16, 1995, as amended at 72 FR 3082, Jan. 24, 2007; 77 FR 5412, Feb. 3, 2012]

## Subpart D—Technical Standards

### §97.301 Authorized frequency bands.

The following transmitting frequency bands are available to an amateur station located within 50 km of the Earth's surface, within the specified ITU Region, and outside any area where the amateur service is regulated by any authority other than the FCC.

(a) For a station having a control operator who has been granted a Technician, General, Advanced, or Amateur Extra Class operator license or who

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holds a CEPT radio-amateur license or IARP of any class:

Wavelength band	ITU region 1	ITU region 2	ITU region 3	Sharing requirements see § 97.303 (paragraph)
VHF	MHz	MHz	MHz	
6 m .....	.....	50-54 .....	50-54 .....	(a)
2 m .....	144-146 .....	144-148 .....	144-148 .....	(a), (k)
1.25 m .....	.....	219-220 .....	.....	(l)
Do .....	.....	222-225 .....	.....	(a)
UHF	MHz	MHz	MHz	
70 cm .....	430-440 .....	420-450 .....	430-440 .....	(a), (b), (m)
33 cm .....	.....	902-928 .....	.....	(a), (b), (e), (n)
23 cm .....	1240-1300 .....	1240-1300 .....	1240-1300 .....	(b), (d), (o)
13 cm .....	2300-2310 .....	2300-2310 .....	2300-2310 .....	(d), (p)
Do .....	2390-2450 .....	2390-2450 .....	2390-2450 .....	(d), (e), (p)
SHF	GHz	GHz	GHz	
9 cm .....	.....	3.3-3.5 .....	3.3-3.5 .....	(a), (b), (f), (q)
5 cm .....	5.650-5.850 .....	5.650-5.925 .....	5.650-5.850 .....	(a), (b), (e), (r)
3 cm .....	10.0-10.5 .....	10.0-10.5 .....	10.0-10.5 .....	(a), (b), (k)
1.2 cm .....	24.00-24.25 .....	24.00-24.25 .....	24.00-24.25 .....	(b), (d), (e)
EHF	GHz	GHz	GHz	
6 mm .....	47.0-47.2 .....	47.0-47.2 .....	47.0-47.2 .....	(c), (f), (s)
4 mm .....	76-81 .....	76-81 .....	76-81 .....	
2.5 mm .....	122.25-123.00 .....	122.25-123.00 .....	122.25-123.00 .....	
2 mm .....	134-141 .....	134-141 .....	134-141 .....	
1 mm .....	241-250 .....	241-250 .....	241-250 .....	
	Above 275 .....	Above 275 .....	Above 275 .....	(f)

(b) For a station having a control operator who has been granted an Amateur Extra Class operator license, who holds a CEPT radio amateur license, or who holds a Class 1 IARP license:

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements see § 97.303 (paragraph)
LF	kHz	kHz	kHz	
2200 m .....	135.7-137.8 .....	135.7-137.8 .....	135.7-137.8 .....	(a), (g).

Wavelength band	ITU region 1	ITU region 2	ITU region 3	Sharing requirements see § 97.303 (paragraph)
MF	kHz	kHz	kHz	
160 m .....	1810-1850 .....	1800-2000 .....	1800-2000 .....	(a)
630 m .....	472-479 .....	472-479 .....	472-479 .....	(g).
HF	MHz	MHz	MHz	
80 m .....	3.500-3.600 .....	3.500-3.600 .....	3.500-3.600 .....	(a)
75 m .....	3.600-3.800 .....	3.600-4.000 .....	3.600-3.900 .....	(a)
60 m .....	.....	See § 97.303(h)	.....	(h)
40 m .....	7.000-7.200 .....	7.000-7.300 .....	7.000-7.200 .....	(i)
30 m .....	10.100-10.150 .....	10.100-10.150 .....	10.100-10.150 .....	(j)
20 m .....	14.000-14.350 .....	14.000-14.350 .....	14.000-14.350 .....	
17 m .....	18.068-18.168 .....	18.068-18.168 .....	18.068-18.168 .....	
15 m .....	21.000-21.450 .....	21.000-21.450 .....	21.000-21.450 .....	
12 m .....	24.890-24.990 .....	24.890-24.990 .....	24.890-24.990 .....	
10 m .....	28.000-29.700 .....	28.000-29.700 .....	28.000-29.700 .....	

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(c) For a station having a control operator who has been granted an operator license of Advanced Class:

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements see § 97.303 (paragraph)
LF	kHz	kHz	kHz	
2200 m .....	135.7–137.8 .....	135.7–137.8 .....	135.7–137.8 .....	(a), (g).

  

Wavelength band	ITU region 1	ITU region 2	ITU region 3	Sharing requirements see § 97.303 (Paragraph)
MF	kHz	kHz	kHz	
160 m .....	1810–1850 .....	1800–2000 .....	1800–2000 .....	(a)
630 m .....	472–479 .....	472–479 .....	472–479 .....	(g).

  

HF	MHz	MHz	MHz	
80 m .....	3.525–3.600 .....	3.525–3.600 .....	3.525–3.600 .....	(a)
75 m .....	3.700–3.800 .....	3.700–4.000 .....	3.700–3.900 .....	(a)
60 m .....	.....	See § 97.303(h) .....	.....	(h)
40 m .....	7.025–7.200 .....	7.025–7.300 .....	7.025–7.200 .....	(i)
30 m .....	10.100–10.150 .....	10.100–10.150 .....	10.100–10.150 .....	(j)
20 m .....	14.025–14.150 .....	14.025–14.150 .....	14.025–14.150 .....	
Do .....	14.175–14.350 .....	14.175–14.350 .....	14.175–14.350 .....	
17 m .....	18.068–18.168 .....	18.068–18.168 .....	18.068–18.168 .....	
15 m .....	21.025–21.200 .....	21.025–21.200 .....	21.025–21.200 .....	
Do .....	21.225–21.450 .....	21.225–21.450 .....	21.225–21.450 .....	
12 m .....	24.890–24.990 .....	24.890–24.990 .....	24.890–24.990 .....	
10 m .....	28.000–29.700 .....	28.000–29.700 .....	28.000–29.700 .....	

(d) For a station having a control operator who has been granted an operator license of General Class:

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements see § 97.303 (paragraph)
LF	kHz	kHz	kHz	
2200 m .....	135.7–137.8 .....	135.7–137.8 .....	135.7–137.8 .....	(a), (g).

  

Wavelength band	ITU region 1	ITU region 2	ITU region 3	Sharing requirements see § 97.303 (paragraph)
MF	kHz	kHz	kHz	
160 m .....	1810–1850 .....	1800–2000 .....	1800–2000 .....	(a)
630 m .....	472–479 .....	472–479 .....	472–479 .....	(g).

  

HF	MHz	MHz	MHz	
80 m .....	3.525–3.600	3.525–3.600	3.525–3.600	(a)
75 m .....		3.800–4.000	3.800–3.900	(a)
60 m .....		See § 97.303(h)		(h)
40 m .....	7.025–7.125	7.025–7.125	7.025–7.125	(i)
Do .....	7.175–7.200	7.175–7.300	7.175–7.200	(i)
30 m .....	10.100–10.150	10.100–10.150	10.100–10.150	(j)
20 m .....	14.025–14.150	14.025–14.150	14.025–14.150	
Do .....	14.225–14.350	14.225–14.350	14.225–14.350	
17 m .....	18.068–18.168	18.068–18.168	18.068–18.168	
15 m .....	21.025–21.200	21.025–21.200	21.025–21.200	
Do .....	21.275–21.450	21.275–21.450	21.275–21.450	
12 m .....	24.890–24.990	24.890–24.990	24.890–24.990	
10 m .....	28.000–29.700	28.000–29.700	28.000–29.700	