

## Federal Communications Commission

## § 87.131

(5) The frequencies being guarded and the type of watch (continuous or scheduled) being maintained on each frequency.

(6) Except at intermediate mechanical relay stations where the provisions of this paragraph need not be complied with, a record of each communication showing text of communication, time communications completed, station(s) communicated with, and frequency used.

(7) All distress communications and action thereon.

(8) A brief description of communications conditions and difficulties, including harmful interference. Such entries should include, whenever practicable, the time at which interference was experienced, the character, radio frequency and identification of the interfering signal.

(9) A brief description of interruption to communications due to equipment failure or other troubles, giving the duration of the interruption and action taken.

(10) Such additional information as may be considered by the operator to be of value as part of the record of the stations operations.

(c) Stations maintaining written logs must also enter the signature of each operator, with the time the operator assumes and relinquishes a watch.

[69 FR 32879, June 14, 2004]

### § 87.111 Suspension or discontinuance of operation.

The licensee of any airport control tower station or radionavigation land station must notify the nearest FAA regional office upon the temporary suspension or permanent discontinuance of the station. The FAA regional office must be notified again when service resumes.

[69 FR 32880, June 14, 2004]

## Subpart D—Technical Requirements

### § 87.131 Power and emissions.

The following table lists authorized emissions and maximum power. Power must be determined by direct measurement.

Class of station	Frequency band/ frequency	Authorized emission(s) <sup>9</sup>	Maximum power <sup>1</sup>
Aeronautical advisory .....	VHF .....	A3E .....	10 watts. <sup>10</sup>
Aeronautical multicom .....	VHF .....	A3E .....	10 watts.
Aeronautical enroute and aeronautical fixed.	HF .....	R3E, H3E, J3E, J7B, H2B, J2D .....	6 kw.
	HF .....	A1A, F1B, J2A, J2B .....	1.5 kw.
	VHF .....	A3E, A9W G1D, A2D.	
Aeronautical search and rescue .....	VHF .....	A3E .....	10 watts.
	HF .....	R3E, H3E, J3E .....	100 watts.
Operational fixed .....	VHF .....	G3E, F2D .....	30 watts.
Flight test land .....	VHF .....	A3E .....	200 watts.
	UHF .....	F2D, F9D, F7D .....	25 watts. <sup>3</sup>
	HF .....	H2B, J3E, J7D, J9W .....	6.0 kw.
Aviation support .....	VHF .....	A3E .....	50 watts.
Airport control tower .....	VHF .....	A3E, G1D, G7D .....	50 watts.
	Below 400 kHz ....	A3E .....	15 watts.
Aeronautical utility mobile .....	VHF .....	A3E .....	10 watts.
Radionavigation land test .....	108.150 MHz .....	A9W .....	1 milliwatt.
	334.550 MHz .....	A1N .....	1 milliwatt.
	Other VHF .....	M1A, XXA, A1A, A1N, A2A, A2D, A9W ...	1 watt.
	Other UHF .....	M1A, XXA, A1A, A1N, A2A, A2D, A9W ...	1 watt.
	5031.0 MHz .....	F7D .....	1 watt.
Radionavigation land .....	Various <sup>4</sup> .....	Various <sup>4</sup> .....	Various. <sup>4</sup>
Aeronautical Frequencies			
Aircraft (Communication) .....	UHF .....	F2D, F9D, F7D .....	25 watts.
	VHF .....	A3E, A9W, G1D, G7D, A2D .....	55 watts.
	HF .....	R3E, H3E, J3E, J7B, H2B, J7D, J9W .....	400 watts.
	HF .....	A1A, F1B, J2A, J2B .....	100 watts.

Class of station	Frequency band/ frequency	Authorized emission(s) <sup>9</sup>	Maximum power <sup>1</sup>
Marine Frequencies <sup>5</sup>			
	156.300 MHz .....	G3E .....	5 watts.
	156.375 MHz .....	G3E .....	5 watts.
	156.400 MHz .....	G3E .....	5 watts.
	156.425 MHz .....	G3E .....	5 watts.
	156.450 MHz .....	G3E .....	5 watts.
	156.625 MHz .....	G3E .....	5 watts.
	156.800 MHz .....	G3E .....	5 watts.
	156.900 MHz .....	G3E .....	5 watts.
	157.425 MHz .....	G3E .....	5 watts.
	HF <sup>6</sup> .....	R3E, H3E, J3E, J2B, F1B, A3E .....	1000 watts.
	MF <sup>6</sup> .....	R3E, H3E, J3E, J2B, F1B .....	1000 watts.
	HF <sup>6</sup> .....	A3E .....	250 watts.
(Radionavigation) .....	Various <sup>7</sup> .....	Various <sup>7</sup> .....	Various <sup>7</sup>
Aircraft earth .....	UHF .....	G1D, G1E, G1W .....	60 watts. <sup>8</sup>
Differential GPS .....	VHF .....	G7D .....	Various. <sup>2</sup>

<sup>1</sup> The power is measured at the transmitter output terminals and the type of power is determined according to the emission designator as follows:

(i) Mean power (pY) for amplitude modulated emissions and transmitting both sidebands using unmodulated full carrier.

(ii) Peak envelope power (pX) for all emission designators other than those referred to in paragraph (i) of this note.

<sup>2</sup> Power and antenna height are restricted to the minimum necessary to achieve the required service.

<sup>3</sup> Transmitter power may be increased to overcome line and duplexer losses but must not exceed 25 watts delivered to the antenna.

<sup>4</sup> Frequency, emission, and maximum power will be determined after coordination with appropriate Government agencies.

<sup>5</sup> To be used with airborne marine equipment certificated for part 80 (ship) and used in accordance with part 87.

<sup>6</sup> Applicable only to marine frequencies used for public correspondence.

<sup>7</sup> Frequency, emission, and maximum power will be determined by appropriate standards during the certification process.

<sup>8</sup> Power may not exceed 60 watts per carrier, as measured at the input of the antenna subsystem, including any installed diplexer. The maximum EIRP may not exceed 2000 watts per carrier.

<sup>9</sup> Excludes automatic link establishment.

<sup>10</sup> Power is limited to 0.5 watt, but may not exceed 2 watts when station is used in an automatic unattended mode.

[54 FR 11720, Mar. 22, 1989, as amended at 57 FR 45749, Oct. 5, 1992; 62 FR 40308, July 28, 1997; 63 FR 36607, July 7, 1998; 64 FR 27474, May 20, 1999; 66 FR 26798, May 15, 2001; 69 FR 32880, June 14, 2004]

### § 87.133 Frequency stability.

(a) Except as provided in paragraphs (c), (d), and (f) of this section, the carrier frequency of each station must be maintained within these tolerances:

Frequency band (lower limit exclusive, upper limit inclusive), and categories of stations	Tolerance <sup>1</sup>	Tolerance <sup>2</sup>
(1) Band-9 to 535 kHz:		
Aeronautical stations .....	100	100
Aircraft stations .....	200	100
Survival craft stations on 500 kHz.	5,000	20 Hz <sup>3</sup>
Radionavigation stations .....	100	100
(2) Band-1605 to 4000 kHz:		
Aeronautical fixed stations:		
Power 200 W or less .....	100	100 <sup>8</sup>
Power above 200 W .....	50	50 <sup>8</sup>
Aeronautical stations:		
Power 200 W or less .....	100 <sup>7</sup>	100 <sup>7,8</sup>
Power above 200 W .....	50 <sup>7</sup>	50 <sup>7,8</sup>
Aircraft stations .....	100 <sup>7</sup>	100 <sup>7</sup>
Survival craft stations on 2182 kHz.	200	20 Hz <sup>3</sup>
(3) Band-4 to 29.7 MHz:		
Aeronautical fixed stations:		
Power 500 W or less .....	50	
Power above 500 W .....	15	
Single-sideband and Independent-sideband emission:		
Power 500 W or less .....		50 Hz

Frequency band (lower limit exclusive, upper limit inclusive), and categories of stations	Tolerance <sup>1</sup>	Tolerance <sup>2</sup>
Power above 500 W .....		20 Hz
Class F1B emissions .....		10 Hz
Other classes of emission:		
Power 500 W or less .....		20
Power above 500 W .....		10
Aeronautical stations:		
Power 500 W or less .....	<sup>7</sup> 100	100 <sup>7</sup>
Power above 500 W .....	<sup>7</sup> 50	50 <sup>7</sup>
Aircraft stations .....	<sup>7</sup> 100	100 <sup>7</sup>
Survival craft stations on 8364 kHz.	200	50 Hz <sup>3</sup>
(4) Band-29.7 to 100 MHz:		
Aeronautical fixed stations:		
Power 200 W or less .....	50	
Power above 200 W .....	30	
Power 50 W or less .....		30
Power above 50 W .....		20
Operational fixed stations:		
73–74.6 MHz (Power 50 W or less).	50	30
73–74.6 MHz (Power above 50 W).	20	20
72–73.0 MHz and 75.4–76.0 MHz.	5	5
Radionavigation stations .....	100	50
(5) Band-108 to 137 MHz:		
Aeronautical stations .....	<sup>4</sup> 50	<sup>12</sup> 20
Emergency locator transmitter test stations.	50	50