

**Federal Communications Commission**

**§ 80.229**

RTCM Paper 56-95/SC101-STD are incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of these standards can be inspected at the Federal Communications Commission, 445 12th Street, SW., Washington, DC (Reference Information Center) or at the Office of the Federal Register, 800 North Capitol Street, NW, Suite 700, Washington, DC. The ITU-R Recommendations can be purchased from the International Telecommunication Union (ITU), Place des Nations, CH-1211 Geneva 20, Switzerland. The RTCM standards can be purchased from the Radio Technical Commission for Maritime Services (RTCM), Suite 600, 1800 Diagonal Road, Alexandria, Virginia 22314-2480.

(a) DSC equipment voluntarily installed in coast or ship stations must meet either the requirements of ITU-R Recommendation M.493-10, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1 and 2, 2000 (including only equipment classes A, B, D, and E) or RTCM Paper 56-95/SC101-STD. DSC equipment must not be used with the sensors referred to in § 80.179(e)(2). DSC equipment used on compulsorily fitted ships must meet the requirements contained in subpart W of this part for GMDSS.

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(c) \* \* \*

(2) Equipment used to perform a selective calling function during narrow-band direct-printing (NB-DP) operations in accordance with ITU-R Recommendation M.476-5, "Direct-Printing Telegraph Equipment in the Maritime Mobile Service," with Annex, 1995, or ITU-R Recommendation M.625-3, "Direct-Printing Telegraph Equipment Employing Automatic Identification in the Maritime Mobile Service," with Annex, 1995, ITU-R Recommendation M.493-10, "Digital Selective-calling System for Use in the Maritime Mobile Service," with Annexes 1 and 2, 2000, and

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**§ 80.227 Special requirements for protection from RF radiation.**

As part of the information provided with transmitters for ship earth stations, manufacturers of each such unit must include installation and operating instructions to help prevent human exposure to radiofrequency (RF) radiation in excess of the RF ex-

posure guidelines specified in § 1.1307(b) of the Commission's Rules.

[53 FR 28225, July 27, 1988]

**§ 80.229 Special requirements for automatic link establishment (ALE).**

Brief signalling for the purposes of measuring the quality of a radio channel and thereafter establishing communication shall be permitted within the 2 MHz-30 MHz band. Public coast stations providing high seas service are authorized by rule to use such signalling under the following conditions:

(a) The transmitter power shall not exceed 100 W ERP;

(b) Transmissions must sweep linearly in frequency at a rate of at least 60 kHz per second, occupying any 3 kHz bandwidth for less than 50 milliseconds;

(c) The transmitter shall scan the band no more than four times per hour;

(d) Transmissions within 6 kHz of the following protected frequencies and frequency bands must not exceed 10 µW peak ERP:

(1) Protected frequencies (kHz)

2091.0	4188.0	6312.0	12290.0	16420.0
2174.5	4207.5	8257.0	12392.0	16522.0
2182.0	5000.0	8291.0	12520.0	16695.0
2187.5	5167.5	8357.5	12563.0	16750.0
2500.0	5680.0	8364.0	12577.0	16804.5
3023.0	6215.0	8375.0	15000.0	20000.0
4000.0	6268.0	8414.5	16000.0	25000.0
4177.5	6282.0	10000.0		

(2) Protected bands (kHz)

4125.0-4128.0
8376.25-8386.75
13360.0-13410.0
25500.0-25670.0

(e) The instantaneous signal, which refers to the peak power that would be measured with the frequency sweep stopped, along with spurious emissions generated from the sweeping signal, must be attenuated below the peak carrier power (in watts) as follows:

(1) On any frequency more than 5 Hz from the instantaneous carrier frequency, at least 3 dB;

(2) On any frequency more than 250 Hz from the instantaneous carrier frequency, at least 40 dB; and

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(3) On any frequency more than 7.5 kHz from the instantaneous carrier frequency, at least  $43 + 10\log_{10}$  (peak power in watts) db.

[62 FR 40307, July 28, 1997]

**Subpart F—Equipment Authorization for Compulsory Ships**

**§ 80.251 Scope.**

(a) This subpart gives the general technical requirements for certification of equipment used on compulsory ships. Such equipment includes radiotelegraph transmitters, radiotelegraph auto alarms, automatic-alarm-signal keying devices, survival craft radio equipment, watch receivers, and radar.

(b) The equipment described in this subpart must be certificated.

(c) The term *transmitter* means the transmitter unit and all auxiliary equipment necessary to make this unit operate as a main or emergency transmitter in a ship station at sea. Each separate motor-generator, rectifier, or other unit required to convert the ship primary power to the phase, frequency, or voltage necessary to energize the transmitter unit is considered a component of the transmitter.

(d) *Average ship station antenna* means an actual antenna installed on board ship having a capacitance of 750 picofarads and an effective resistance of 4 ohms at a frequency of 500 kHz, or an artificial antenna having the same electrical characteristics.

[51 FR 31213, Sept. 2, 1986, as amended at 63 FR 36606, July 7, 1998]

EFFECTIVE DATE NOTE: At 68 FR 46966, Aug. 7, 2003, § 80.251 was amended by revising paragraph (a) effective October 6, 2003. For the convenience of the user, the revised text is set forth as follows:

**§ 80.251 Scope.**

(a) This subpart gives the general technical requirements for certification of equipment used on compulsory ships. Such equipment includes automatic-alarm-signal keying devices, survival craft radio equipment, watch receivers, and radar.

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**§ 80.253 Technical requirements for main transmitter.**

(a) The following table gives the operating carrier frequency, emission, modulation and average ship station antenna power requirements for the main transmitter.

Operating frequency (kHz)	Frequency tolerance		Class of emission	Percentage modulation for amplitude modulation	Modulation frequency for amplitude modulation	Power into average ship station antenna
	Parts <sup>1</sup> in 10 <sup>6</sup>	Hz <sup>2</sup>				
500 kHz .....	1,000	20	A2A and A2B or H2A and H2B.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz, except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 200 watts.
Do .....	1,000	20	A1A or J2A ....	.....	.....	Not less than 160 watts.
410 and 2 working frequencies in the band 415 to 525.	1,000	20	A2A and A3N or H2A and H3N.	Not less than 70; not more than 100.	At least 1 frequency between 300 and 1250 Hertz, except for transmitters installed after July 1, 1951, at least 1 frequency between 450 and 1250 Hertz.	Not less than 200 watts.
Do .....	1,000	20	A1A and N0N or J2A and J3N.	.....	.....	Not less than 160 watts.

<sup>1</sup> For equipment approved before November 30, 1977.

<sup>2</sup> For equipment approved after November 29, 1977.

(b) A main transmitter must operate at its required antenna power when adjusted to any required operating frequency and energized by the main power supply of the ship station or by an equivalent power supply.

(c) A main transmitter must be equipped to measure (1) antenna current, (2) transmitter power supply voltages, and (3) anode or collector current(s).