

RECOMMENDATION ITU-R M.1173*

**TECHNICAL CHARACTERISTICS OF SINGLE-SIDEBAND TRANSMITTERS USED IN
THE MARITIME MOBILE SERVICE FOR RADIOTELEPHONY IN THE BANDS
BETWEEN 1 606.5 kHz (1 605 kHz REGION 2) AND 4 000 kHz
AND BETWEEN 4 000 kHz AND 27 500 kHz**

(1995)

The ITU Radiocommunication Assembly,

considering

a) that there is a need to describe the technical characteristics of single-sideband transmitters for the bands 1 606.5 kHz (1 605 kHz Region 2) to 4 000 kHz and 4 000 kHz to 27 500 kHz,

recommends

1 that single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz should be designed to meet the technical characteristics shown in Annex 1.

ANNEX 1

**Technical characteristics of single-sideband transmitters used in
the maritime mobile service for radiotelephony in the bands
between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz
and between 4 000 kHz and 27 500 kHz**

- 1** Power of the carrier:
For class J3E emissions the power of the carrier shall be at least 40 dB below the peak envelope power.
- 2** Coast and ship stations shall use only the upper sideband.
- 3** The transmitter audio-frequency band shall be 350 Hz to 2 700 Hz with a permitted amplitude variation of 6 dB.
- 4** The carrier frequencies shall be maintained within the tolerances specified in Recommendation ITU-R SM.1137.
- 5** The unwanted frequency modulation of the carrier shall be sufficiently low to prevent harmful distortion.

* This Recommendation should be brought to the attention of the International Maritime Organization (IMO).

Note by the Secretariat: The references made to the Radio Regulations (RR) in this Recommendation refer to the RR as revised by the World Radiocommunication Conference 1995. These elements of the RR will come into force on 1 June 1998. Where applicable, the equivalent references in the current RR are also provided in square brackets.

6 When class H3E or J3E emissions are used, the power of any unwanted emission supplied to the antenna transmission line on any discrete frequency shall, when the transmitter is driven to full peak envelope power, be in accordance with the following Tables:

a) Transmitters installed before 2 January 1982:

Separation Δ between the frequency of the unwanted emission ¹ and the assigned frequency ⁴ (kHz)	Minimum attenuation below peak envelope power
$1.6 < \Delta \leq 4.8$	28 dB
$4.8 < \Delta \leq 8$	38 dB
$8 < \Delta$	43 dB without the unwanted emission power exceeding the power of 50 mW

Transmitters using suppressed carrier emission may, as far as concerns out-of-band emissions² and those spurious emissions³ which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions², be tested for compliance with this regulation by means of a two-tone-audio input signal with a frequency separation between the tones such that all intermodulation products occur at frequencies at least 1.6 kHz removed from the assigned frequency⁴.

b) Transmitters installed after 1 January 1982:

Separation Δ between the frequency of the unwanted emission ¹ and the assigned frequency ⁴ (kHz)	Minimum attenuation below peak envelope power
$1.5 < \Delta \leq 4.5$	31 dB
$4.5 < \Delta \leq 7.5$	38 dB
$7.5 < \Delta$	43 dB without the unwanted emission power exceeding the power of 50 mW

Transmitters using suppressed carrier emission may, as far as concerns out-of-band emissions² and those spurious emissions³ which are a result of the modulation process but do not fall in the spectrum of out-of-band emissions², be tested for compliance with this regulation by means of a two-tone-audio input signal with a frequency separation between the tones such that all intermodulation products occur at frequencies at least 1.5 kHz removed from the assigned frequency⁴.

¹ *Unwanted emission*: see RR No. S1.146 [No. 140].

² *Out-of-band emission*: see RR No. S1.144 [No. 138].

³ *Spurious emission*: see RR No. S1.145 [No. 139].

⁴ The assigned frequency is 1 400 Hz higher than the carrier frequency: see RR No. S.52.177 [No. 4325].