

TECHNICAL CONDITIONS FOR RADIO EQUIPMENT OF INMARSAT PORTABLE MOBILE EARTH STATIONS

(Article 7 paragraph 21, Article 14 paragraph 3, Article 49.24 paragraph 1, paragraph 2, paragraph 3, paragraph 4, paragraph 5 and Table 1 of the Ordinance Regulating Radio Equipment)

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Ministry of Posts and Telecommunications Notification No. 172

Finally amended in No. 177 on March 1, 2004

The technical conditions for the radio equipment of an INMARSAT portable mobile earth station shall be stipulated as follows based on the provisions of Article 7 paragraph 21, Article 14 paragraph 3, Article 49.24 paragraph 1 item 4, paragraph 2 item 4, paragraph 3 item 4, paragraph 4 item 4, paragraph 5 item 4 and Note 31 of Table 1 of the Ordinance Regulating Radio Equipment (Radio Regulatory Commission Regulations No. 18 of 1950).

- 1 INMARSAT A radio equipment of an INMARSAT portable mobile earth station
 - (1) The frequency of emissions to be used and the time slot shall be automatically selected by receiving the emissions radiated from the portable base earth station which controls a communication network by means of a relay through an artificial satellite station.
 - (2) The equivalent isotropically radiated power shall be 36 dBW. In this case, the tolerance shall be from -2 dB to +1 dB.
- 2 INMARSAT C radio equipment of an INMARSAT portable mobile earth station
 - (1) The radio equipment shall comply with the conditions stated in 1. (1) above.
 - (2) The equivalent isotropically radiated power shall be 5.5 dB (with 1 W regarded as 0 dB) at the elevation angle of 15 degrees or more when the zenith is 90°. However, the equivalent isotropically radiated power shall not exceed 16 dB in any direction.
- 3 INMARSAT B radio equipment of an INMARSAT portable mobile earth station
 - (1) The radio equipment shall comply with the conditions stated in 1. (1) above.
 - (2) The equivalent isotropically radiated power shall be 25 dBW, 29 dBW or 33 dBW, and shall be capable of being automatically selected. In this case, the tolerance shall be from -2 dB to +1 dB.
- 4 INMARSAT M radio equipment of an INMARSAT portable mobile earth station
 - (1) The radio equipment shall comply with the conditions stated in 1. (1) above.
 - (2) The equivalent isotropically radiated power shall be 19 dBW or 25 dBW, and shall be capable of being automatically selected. In this case, the tolerance shall be as follows.
 - a When the satellite directional elevation angle of the antenna is smaller than 20°, the tolerance shall be from -3 dB to +3 dB.
 - b When the satellite directional elevation angle of the antenna is 20° or larger, the tolerance shall be from -3 dB to +2 dB.

5 INMARSAT mini-M radio equipment of an INMARSAT portable mobile earth station

- (1) The radio equipment shall comply with the conditions stated in 1. (1) above.
- (2) The equivalent isotropically radiated power shall be as shown in the right-hand column of the table below in accordance with the classification listed in the left-hand column of the table.

Classification		Equivalent Isotropically Radiated Power
When radio high-speed data-based communication is performed		The equivalent isotropically radiated power shall be 19 dB (with 1 W regarded as 0 dB), 21 dB, 23 dB, or 25 dB, and shall be capable of being automatically selected. In this case, the tolerance shall be from -2 dB to +2 dB.
When other communications are performed	Antenna which has a function for automatically tracking the direction of an artificial satellite station	The equivalent isotropically radiated power shall be 8 dB (with 1 W regarded as 0 dB), 10 dB, 12 dB, or 14 dB, and shall be capable of being automatically selected. In this case, the tolerance shall be from -2 dB to +2 dB.
	Antenna which does not have a function for automatically tracking the direction of an artificial satellite station	The equivalent isotropically radiated power shall be 11 dB (with 1 W regarded as 0 dB), 13 dB, 15 dB, or 17 dB, and shall be capable of being automatically selected. In this case, the tolerance shall be from -1 dB to +1 dB.
		<p>The ratio of the absolute gain of the antenna system to the equivalent noise temperature of the receiving equipment is less than -7 dB.</p> <p>The ratio of the absolute gain of the antenna system to the equivalent noise temperature of the receiving equipment is -7 dB or more.</p> <p>The equivalent isotropically radiated power shall be one of the items below.</p> <p>1 The equivalent isotropically radiated power shall be 11 dB (with 1 W regarded as 0 dB), 13 dB, 15 dB, or 17 dB, and shall be capable of being automatically selected. In this case, the tolerance shall be from -1 dB to +1 dB.</p> <p>2 The equivalent isotropically radiated power shall be 8 dB (with 1 W regarded as 0 dB), 10 dB, 12 dB, or 14 dB, and shall be capable of being automatically selected. In this case, the tolerance shall be from -2 dB to +2 dB.</p>

6 INMARSAT F radio equipment of an INMARSAT portable mobile earth station

- (1) The radio equipment shall comply with the conditions stated in 1. (1) above.
- (2) The equivalent isotropically radiated power shall be as shown in the right-hand column of the table below in accordance with the classification listed in the left-hand column of the table.

Classification	Equivalent Isotropically Radiated Power
The ratio of the absolute gain of the antenna system to the equivalent noise temperature of the receiving equipment is less than -7 dB.	The equivalent isotropically radiated power shall be 5 dB to 20 dB (with 1 W regarded as 0 dB), and shall be capable of being automatically selected. In this case, the tolerance shall be from -2 dB to +1 dB.
The ratio of the absolute gain of the antenna system	The equivalent isotropically radiated power shall be

to the equivalent noise temperature of the receiving equipment is -7 dB or more.	5 dB to 25 dB (with 1 W regarded as 0 dB), and shall be capable of being automatically selected. In this case, the tolerance shall be from -2 dB to $+1$ dB.
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7 INMARSAT D radio equipment of an INMARSAT portable mobile earth station

- (1) The radio equipment shall comply with the conditions stated in 1. (1) above.
- (2) The equivalent isotropically radiated power shall be -3 dB or more (with 1 W regarded as 0 dB) at the satellite directional elevation angle. However, the equivalent isotropically radiated power shall not exceed 9 dB (with 1 W regarded as 0 dB) in any direction.