

MX 6060 Transmitter/Receiver Technical Specification

Specifications	Applicant Statement		
A. GENERAL			
1 Class of Emission	G7		
2 Frequency Range	1626.5 – 1646.5 MHz		
3 No. of channels	2000		
4 RF Channel spacing	10 kHz		
5 Mode of Operation	QPSK and BPSK		
6 Power Supply	DC	DC	DC
a. Battery type:	N/A	N/A	N/A
b. Nominal voltage:	24V	12V	115/230V
c. Maximum voltage:	32V	20V	240V
d. Minimum voltage:	21V	10V	90V
e. Standby/receive current at nominal voltage:	2.5 A	5A	0.5 A (115VAC)
f. Transmit current (max.) at nominal voltage:	7.2 A	15A	1.5 A (115VAC)
7 Operating Temperature	-25 C to 55 C		
B. TRANSMITTER			
1 Test frequency	N/A		
2 Maximum RF power output	34 dBW (EIRP)		
3 Maximum frequency deviation	N/A		
4 Frequency stability	+/- 200 Hz		
5 Spurious emissions	See paragraph 3.5.2 (Note 2)		
6 Adjacent channel power	-12 dBC		
7 Modulation response	See Figure 5 (Note 2)		
8 Hum and noise	N/A		
9 Audio freq. distortion	See Figure 15 (Note 2)		
10 RF output impedance	50 Ohms		
C. RECEIVER			
1 Test frequency	N/A		
2 Intermediate frequency	170 MHz		
3 Speaker impedance	600 ohms (telephone)		
4 Rated audio frequency output power	0 dBm (telephone)		
5 Useable sensitivity	-152 dBW/m squared (QPSK)		
	-159 dBW/m squared (BPSK)		
6 Quieting sensitivity	N/A		
7 Audio frequency response	See Figure 12 (Note 2)		
8 Audio frequency distortion	See Figure 15 (Note 2)		
9 Hum and noise	-67 dBm OP		
10 Selectivity and desensitization	-40 dB at +/- 25 kHz (Note 1)		
11 Intermodulation spurious attenuation	N/A		
12 Blocking	N/A		
13 Value of resistive load into which the audio output is delivered	600 ohms		

NOTES:

- 1) Receiver desensitization is less than 0.5 dB in the presence of interfering signals +/- 10 KHz away from the desired signal. The interfering signals are 2 dB stronger than the desired signal.
- 2) These specification are in compliance with the Inmarsat requirements as listed in the Inmarsat-B Systems Definition Manual (SDM). The following section is a copy from the Inmarsat B SDM and is provided for reference only.

3.5.2 Spurious Outputs from 24 kbit/s Transmitter

Whilst transmitting any carrier, O-QPSK modulated at 24 kbit/s, at any frequency in the range 1626.5 MHz to 1646.5 MHz (inclusive) and at the maximum output power, the SES shall comply with the following requirements:

- (a) the composite spurious and noise output EIRP (excluding any harmonics but including phase noise and modulation sidebands) radiated by the SES in any 4 kHz band shall fall below the spectrum envelope defined by the following data points:

<u>Frequency (MHz):</u>	<u>EIRP/4 kHz (dBW):</u>
1530.0 and below	-60
1611.5	-55
1626.4	-27
1626.4-1646.6	see (b) below
1646.6	-27
1661.5	-55
1750.0 and above	-60

Note 3.3: in the band 1525 MHz to 1545 MHz, any spurious signals and noise appearing at the receiver input must be substantially lower in order to satisfy the G/T requirements of paragraph 3.4.3;

- (b) in the band 1626.4 to 1646.6 MHz, excluding a ± 100 kHz band about the assigned transmitter carrier frequency, the composite spurious and noise output EIRP (including phase noise and modulation sidebands) radiated by the SES in any 4 kHz band shall be at least 60 dB below the level of the unmodulated carrier; and
- (c) in a ± 100 kHz band about the assigned transmitter carrier frequency, the requirements of paragraphs 3.5.4 (Phase Noise) and 3.5.7.2 (Transmitted Frequency Spectrum) shall apply.

3.5.2.1 to 3.5.2.3 [not used]

3.5.2.4 Spurious Outputs from 132 kbit/s Transmitter

If the SES provides the optional 64 kbit/s High-Speed Data service, whilst transmitting any carrier, O-QPSK modulated at 132 kbit/s, at any frequency in the range 1626.9 MHz to 1646.1 MHz (inclusive) and at the maximum output power, the SES shall comply with the following requirements:

- (a) the composite spurious and noise output EIRP (excluding any harmonics but including phase noise and modulation sidebands) radiated by the SES in any 4 kHz band shall fall below the spectrum envelope defined by the following data points:

<u>Frequency (MHz):</u>	<u>EIRP/4 kHz (dBW):</u>
1530.0 and below	-60
1611.5	-55
1626.4	-27
1626.4-1646.6	see (b) below
1646.6	-27
1661.5	-55
1750.0 and above	-60

Note 3.3: in the band 1525 MHz to 1545 MHz, any spurious signals and noise appearing at the receiver input must be substantially lower in order to satisfy the G/T requirements of paragraph 3.4.3;

- (b) in the band 1626.4 to 1646.6 MHz, excluding a ± 500 kHz band about the assigned transmitter carrier frequency, the composite spurious and noise output EIRP (including phase noise and modulation sidebands) radiated by the SES in any 4 kHz band shall be at least 60 dB below the level of the unmodulated carrier; and
- (c) in a ± 100 kHz band about the assigned transmitter carrier frequency, the requirements of paragraphs 3.5.4 (Phase Noise) shall apply; and
- (d) in a ± 500 kHz band about the assigned transmitter carrier frequency, the requirements of paragraph 3.5.9.2 (Transmitted Frequency Spectrum) shall apply.

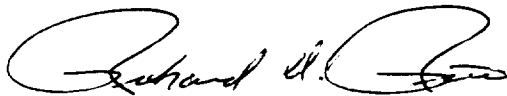
3.5.2.5 [See Annex 4]

Exhibit No. 2

July 18, 2000

To Whom It May Concern:

Raytheon Company is a U.S. Department of Defense and commercial engineering contracting firm, seeking to commission one (1) standard INMARSAT "B" unit for test and demonstration purposes at various client/customer locations within the domestic U.S. Raytheon personnel will be the ultimate user and operator of this unit. We wish to commission on or about August 1, 2000. We have forwarded our FCC Form 442 to the FCC for a license to operate these units in the domestic U.S.

A handwritten signature in black ink, appearing to read "Richard D. Rice". The signature is fluid and cursive, with a large initial "R" and a stylized "D".

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