

X-BAND MINI TRANSCEIVER (MTR)

ACMTR-X Medium Power Series (80/100W)



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ACMTR-X Series consist of integrated transceivers, designed for X-band satellite communication systems. All products in this series have been tested and calibrated between -20°C and +60°C, so they assure very good gain stability with temperature.

ACMTR-X Series also includes a temperature alarm and power supply shutdown to protect the amplifier from permanent damages in high temperature conditions. Moreover, ACMTR-X could be configured with AC or DC power supply, easy to change in field without tools. This MTR allows communication via serial port (RS232/RS485), but TCP/IP, SNMP and FSK could be selected as options.

TRANSMITTER SPECIFICATIONS

Input frequency 950 - 1450 MHz
 Input L-band VSWR..... < 1.5:1
 Output frequency..... 7.9 - 8.4 GHz
 Output X-band VSWR..... < 1.3:1
 Spectrum inversion None

Transmit Characteristics @ 25°C	P1dB (min)	Gain	Power Consumption	Size (LxWxH)	Weight
ACMTR-X80W-E1-V2	49.0 dBm	74 dB min	600 W	320 x 207 x 145 mm	10.5 kg
ACMTR-X100W-E1-V2	50.0 dBm	74 dB min	650 W	12.6 x 8.1 x 5.7 inches	23.1 lbs

Gain flatness over 500 MHz ± 1.5 dB
 Gain flatness over 40 MHz ± 0.5 dB
 Gain stability over 24h..... ≤ 0.5 dB @ constant temp.
 Gain variation over temp..... ± 1.5 dB
 Attenuation range 20 dB with 0.5 dB step
 Mute..... > 50 dB
 Noise figure ≤ 15 dB @ maximum gain
 Output noise ≤ -80 dBm/Hz (7.25-7.75 GHz)
 Spurious < -60 dBc @ Pout = P1dB
 Mains related spurious ≤ -35 dBc
 SSB added spurious ≤ -41 dBc
 Intermodulation products..... < -25 dBc 2 tones Δf=5MHz for Pout = P1dB-3 dB

RECEIVER SPECIFICATIONS

Input frequency 7.25 – 7.75 GHz
 Input X-band VSWR < 1.5:1
 Output frequency..... 950 - 1450 MHz
 Output L-band VSWR < 1.5:1

Output P1dB @ 25°C.....	+5 dBm min.
Linear gain	40 dB min.
Gain flatness over 500 MHz	± 1.5 dB
Gain flatness over 40 MHz	± 0.5 dB
Gain stability over 24h.....	≤ 0.5 dB @ constant temp.
Gain variation over temp.....	± 1.5 dB
Attenuation range	20 dB with 0.5 dB step
Noise figure	≤ 15 dB @ maximum gain
Dependent spurious	< -60 dBc @ Pout = 0 dBm
Independent spurious	< -60 dBm
LNA power supply.....	+15 Vdc, 500 mA max.
LNA alarm	Current sensing

LOCAL OSCILLATOR

Local oscillator frequency	6.950 GHz (TX) / 6.3 GHz (RX)
Output phase noise typical:	
100 Hz.....	-70 dBc/Hz
1 kHz.....	-78 dBc/Hz
10 kHz.....	-88 dBc/Hz
100 kHz.....	-110 dBc/Hz
Reference frequency.....	10 MHz
Reference mode	External (internal as option)
Reference level.....	0 ± 3 dBm (multiplexed on L-band)

POWER SUPPLY

AC input	85-264 VAC (47-63 Hz)
Power consumption	600 / 650 W @ P1dB

ENVIRONMENTAL SPECIFICATIONS

Storage temperature	-40 to +85°C
Operating temperature.....	-20 to +60°C (-40 to +60°C as option)
Relative humidity	up to 95%
Operating altitude.....	up to 3500m

MECHANICAL SPECIFICATIONS

Interfaces:

TX input (L-band + Ext. ref):	Type N(F) 50Ω	
RX input (X-band):	Type N(F) 50Ω	
TX output (X-band):	WR112 CPRG flange	
TX output sample:	Type N(F) 50Ω	
RX output (L-band):	Type N(F) 50Ω	
M&C (RS232/485):	62IN12E12-14S-4-622	(mating connector provided)
M&C (IP/SNMP):	62IN12E12-8S-4-622	(mating connector provided)
LNA supply:	62IN12E8-4S-4-622	(mating connector provided)
Supply	62IN12E12-3P-4-622	(mating connector provided)
Dimensions (excluding isolator)	320 x 207 x 145 mm / 12.6 x 8.1 x 5.7 inches	
Weight	10.5 kg / 23.1 lbs	

OPTIONS

MP1:	48 VDC power supply
MP2:	Internal Reference (with automatic external selection on presence)
MP3:	Operating temperature (-40 to +60°C)
MP4:	Ethernet interface (TCP/IP)
MP5:	SNMP Agent
MP6:	FSK communication multiplexed on L-band