



5-25 Watt



50 Watt



100 Watt

INTRODUCTION

The XSAT-7080 has been developed by a talented team of RF engineers with many years of experience in designing and manufacturing satellite transceivers and other RF products. The XSAT-7080 is designed to provide the user with superior performance, long-term reliability and ease of installation with a very price competitive product. The XSAT-7080 is the perfect choice for your VSAT application for TDMA, DAMA, and SCPC/MCPC sites requiring higher power.

FULL RATED POWER

The XSAT-7080 delivers the full rated power, or more, measured at the 1 dB compression point and at the output flange. The user realizes the useable output power that is available and receives full value for the investment.

PHASE NOISE

The dual synthesizers in the XSAT-7080 deliver superior phase noise performance, exceeding Intelsat specifications by a very comfortable margin. The user receives the benefits of spectral purity and the ability to go into multi-carrier environments with less concern.



THIRD ORDER INTERCEPT (TOI)

The design of the XSAT-7080 gives the user a high TOI that allows multi-carrier applications without the concerns normally associated with low power environments. The XSAT-7080 delivers performance usually found only in SSPA systems.

SMALL, COMPACT DESIGN

The XSAT-7080 offers a 5-Watt, 10-Watt, 25-Watt, 50-Watt, and 100-Watt transceivers. This design allows quick, easy installation for these higher-powered transceivers. With the use of the EDMAC features of the companion CDM family of modems, even installation can be made without the requirement for expensive, heavy test equipment.

FULL MONITOR AND CONTROL

Designed into the XSAT-7080 are a variety of methods to monitor and control this device. The XSAT-7080 offers full Monitor and Control from a small, convenient Hand-Held Terminal or easy access via RS-232 or RS-485 connections. Full remote M&C can be achieved through the companion CDM Modem family or the PC Windows based EDMAC proprietary monitor and control software.

The XSAT-7080 is available in a 1:1 redundant configuration.



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Transmit

Frequency RF	7900 to 8400 MHz	
Frequency IF	70 MHz ± 18MHz 140 MHz ± 36MHz (Optional)	
Output Power, P1Db	5 W	37dBm
	10 W	40dBm
	25 W	44dBm
	50 W	47dBm
	100 W	50dBm
Gain	5 W	65dB
	10 W	68dB
	25 W	71dB
	50 W	74dB
	100 W	77dB
Gain Flatness	±0.75dB full RF band ±0.75dB per 36MHz	
Gain Stability	±0.25dB at constant C ±1.00dB from -40° to +55°C (-40 to 131°F)	
Carrier Mute	-70dBc	
Inter-modulation	-33 dBc for two carriers at -6dB OPBO from rated power	
Second Harmonic	-55 dBc	
Spurious	AC line harmonics	-45dBc
	Carrier related, <500kHz	-60dBc
	All other in-band	-65dBc
AM to PM Conversion	3.0 Degrees at 6dB OPBO from rated power	
RF Output VSWR	1.25:1	
RF Output Connector	5W, 10W, and 25W	Type N Female
	50W and 100W	CPR-112

Receive

Frequency RF	7250 to 7750 MHz	
Frequency IF	70 MHz ± 18MHz 140 MHz ± 36MHz (Optional)	
Gain, without LNA	45dB	
Gain Flatness, without LNA	± 0.75dB full RF band ± 0.75dB per 36MHz	
Gain Stability, w/o LNA	± 0.25dB constant temp. ± 1.00dB -40° to +55°C (-40 to 131°F)	
Output Power, P1dB	+13dBm	
Two Tone Inter-modulation	-50 dBc for two tones at 0 dBm each, 1MHz apart	
Image Rejection	-60dBc	
RF Input VSWR	1.25:1	
RF Input Connector	Type N Female	
IF Output Impedance	50 Ω	
IF Output VSWR	1.25:1	
IF Output Connector	Type N Female	



Common

Conversion	Dual, no spectral inversion	
Frequency Step Size	1.0 and 2.5 MHz automatic	
Frequency Stability	1x10 ⁻⁹ /day 1x10 ⁻⁷ /year 40° to +55°C 1x10 ⁻⁸ /Temp.	
Attenuation Steps	Tx	0 to 25dB in 0.25dB
	Rx	0 to 20dB in 0.25dB
Phase Noise	100 Hz	-66dBc/Hz
	1 kHz	-76dBc/Hz
	10 kHz	-86dBc/Hz
	100 kHz	-96dBc/Hz
Group Delay	Linear	0.1ns/MHz
	Parabolic	0.02ns/MHz ²
	Ripple	1ns p-p

Monitor and Control

Methods	Both RS-485 and RS-232 Serial Interface Handheld controller, optional	
Commands	Set Tx frequency Set Rx frequency Set Tx attenuation Set Rx attenuation Report Tx output power Mute Tx Report internal temperature Report power supply voltages Set time Set date	
Faults	Upconverter functions Downconverter functions Upconverter Synthesizers Downconverter Synthesizers Internal Reference oscillator LNA current fault Over temperature condition	

Environmental

Temperature	-40° to +55°C (-40 to 131°F) Operating -50° to +75°C (-58 to 167°F) Storage					
Altitude	15,000 ft, mean sea level					
Humidity	0 to 100 Percent, Relative					
Prime Power	90 to 260 VAC Standard 47 to 63 Hz Standard 48VDC Optional					
Dimensions:	5W, 10W and 25W	11H x 8W x 11D inch (28H x 20W x 28D cm)	50 W	9.75H x 10W x 23D inch (24.77H x 25.4W x 58.42D cm)	100 W	10.60 H x 12.5W x 26D inch (26.92H x 31.75W x 66.04D cm)
Weight:	5W, 10W, and 25W	36 lbs (16 kg)	50 W	65 lbs (29 kg)	100 W	80 lbs (40 kg)
Low Noise Amplifier	Customer defined					
RF Power	5W	10W	25W	50W	100W	
AC power	165W	220W	275W	450W	825W	



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