



5 to 25 W P_{1dB}
(6 to 32 W P_{sat})



50 W P_{1dB}
(63 W P_{sat})



100 W P_{1dB}
(125 W P_{sat})

Introduction

The CSAT-6070 C-Band Transceiver provides superior performance, long-term reliability, and ease of installation.

Full Rated Power

The CSAT-6070 delivers the full rated power, or more, measured at the 1 dB compression point and at the output flange. You will know the useable output power you are paying for, and can receive full value for your investment.

Phase Noise

The dual synthesizers in the CSAT-6070 deliver superior phase noise performance, exceeding Intelsat specifications by a substantial margin. Your applications will benefit from outstanding spectral purity and the ability to operate in multi-carrier environments with less worry.

Third Order Intercept (TOI)

The design of the CSAT-6070 provides a high TOI that allows multi-carrier applications without the issues normally encountered in low power environments. The CSAT-6070 delivers performance usually found only in split converter SSPA systems.

Small, Compact Design

The CSAT-6070 transceiver is enclosed in a single unit chassis. This design allows quick, easy installation for all models in this family of transceivers.

Full Monitor and Control (M&C)

A variety of full monitor and control methods are designed into the CSAT-6070:

- Convenient connection using an optional small, hand-held terminal
- Easy access via EIA-232 or EIA-485 connections
- Remote management via the CDM modem family or the PC-based SatMac proprietary M&C software

Redundancy

The CSAT-6070 is available in a 1:1 redundant configuration.

Typical Users

- Maritime
- Oil & Gas
- Cellular

Common Applications

- VSAT point-to-point applications – TDMA, DAMA, SCPC/MCPC

Specifications

Transmit

Frequency RF	6725 to 7025 MHz
Frequency IF	70 MHz ± 18 MHz 140 MHz ± 36 MHz (Optional)
Output Power, P _{1dB}	
5 W	37 dBm
10 W	40 dBm
25 W	44 dBm
50 W	47 dBm
100 W	50 dBm
Gain	
5 W	65 dB
10 W	68 dB
25 W	71 dB
50 W	74 dB
100 W	77 dB
Gain Flatness	± 0.75 dB full RF band ± 0.75 dB per 36 MHz
Gain Stability	± 0.25 dB at constant C ± 1.00 dB from -40° to +55°C (-40° to 131°F)
Carrier Mute	-70 dBc
Inter-Modulation	-28 dBc typical for two carriers each at 6 dB OPBO from rated power (3 dB total OPBO)
Second Harmonic	-55 dBc
Spurious	AC line harmonics -45 dBc Carrier related, <500 kHz -60 dBc All other in-band -65 dBc
AM to PM Conversion	3.0 Degrees at 6 dB OPBO from rated power
RF Output VSWR	1.25:1
RF Output Connector	Type N Female
IF Input Impedance	50 Ω
IF Input VSWR	1.25:1
IF Input Connector	Type N Female

Receive

Frequency RF	4500 to 4800 MHz
Frequency IF	70 MHz ± 18 MHz 140 MHz ± 36 MHz (Optional)
Gain, without LNA	45 dB
Gain Flatness, without LNA	± 0.75 dB full RF band ± 0.75 dB per 36 MHz
Gain Stability, without LNA	± 0.25 dB constant temperature ± 1.00 dB -40° to +55°C (-40° to 131°F)
Output Power, P _{1dB}	+13 dBm
Two Tone Inter-Modulation	-50 dBc for two tones at 0 dBm each, 1 MHz apart
Image Rejection	-60 dBc
RF Input VSWR	1.25:1
RF Input Connector	
5 W, 10 W, and 25 W	Type N Female
50 W and 100 W	CPR-137G
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	1 x 10 ⁻⁹ /day 1 x 10 ⁻⁷ /year 40° to +55° C 1 x 10 ⁻⁸ /Temperature
Attenuation Steps	TX: 0 to 25 dB in 0.25 dB steps RX: 0 to 20 dB in 0.25 dB steps
Phase Noise	100 Hz -66 dBc/Hz 1 kHz -76 dBc/Hz 10 kHz -86 dBc/Hz 100 kHz -96 dBc/Hz
Group Delay	Linear 0.1 ns/MHz Parabolic 0.02 ns/MHz ² Ripple 1 ns p-p

Monitor & 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	Up converter functions Down converter functions Up converter synthesizers Down converter synthesizers Internal reference oscillator LNA current fault Over temperature condition

Environmental

Operating Temperature	-40° to +55°C (-40° to 131°F) Operating
Storage Temperature	-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 48 VDC Optional
Dimensions 10 dBm to 25 W	(height x width x depth) 8" x 8" x 11" (20 x 20 x 28 cm)
50 W	9.75" x 10" x 23" (24.77 x 25.4 x 58.42 cm)
100 W	10" x 12.5" x 26" (25.4 x 31.75 x 66.04 cm)
Weight 5 W to 25 W	36 lbs (16 kg)
50 W	65 lbs (29 kg)
100	80 lbs (40 kg)
Low Noise Amplifier	Customer defined
RF Power	5 W, 10 W, 25 W, 50 W, 100 W
AC Power	150 W, 200 W, 250 W, 410 W, 759 W, Steady-State True AC Power Requirement (110 VAC)



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