

CSAT-5060

C-Band Transceiver 50 and 100 Watt

Transmit

Frequency, RF	5845 to 6425 MHz 6425 to 6725 MHz (Optional Extended) 5850 to 6650 MHz (Optional Wide) 5845 to 6725 MHz (Optional Super
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Wide

Frequency IF	70 MHz \pm 18 MHz 140 MHz \pm 36 MHz (Optional)
Output Power, P _{1dB}	(50W) +47 dBm (100W) +50 dBm
Gain	(50W) 74 dB (100W) 77 dB

Attenuator Range	25 dB in 0.25 dB steps
Gain Flatness	\pm 0.75 dB full RF band \pm 0.75 dB per 36 MHz
Gain Stability	\pm 0.25 dB at constant C \pm 1.00dB from -40° to +55°C (-40 to

131° F)

Carrier Mute	-70 dBc
Intermodulation	-33 dBc for two carriers at 6 dB OPBO from rated power
Second Harmonic	-55 dBc
Spurious	AC line harmonics -45 dBc Carrier related, <500kHz -60 dBc (50 W) -18 dBm -65 dBc (100 W) -15 dBm -65 dBc
All other in-band	3.0° at 6 dB OPBO from rated power
AM to PM Conversion	1.25:1
RF Output VSWR	CPR137G
RF Output Connector	50 Ohms
IF Input Impedance	1.25:1
IF Input VSWR	Type N Female
IF Input Connector	

Receive

Frequency RF	3625 to 4200 MHz 3400 to 4200 MHz (Optional)
Frequency IF	70 MHz \pm 18 MHz 140 MHz \pm 36 MHz (Optional)
Gain, without LNA	45 dB
Gain Flatness, without LNA	\pm 0.75 dB full RF band \pm 0.75 dB per 36 MHz
Gain Stability, w/o LNA	\pm 0.25 dB constant temp. \pm 1.00 dB -40° to +55°C
Output Power, P1dB	+13dBm
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	Type N Female
IF Output Impedance	50 Ohms
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 ⁻⁴ /Temp
Attenuation steps	Tx	0-25 dB in 0.25 dB
	Rx	0-20 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 and Control

Methods	Both EIA-485 and EIA-232 Serial
Interface	

Commands	Handheld controller, optional 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 122° F) Operating -50° to +75° C (-90 to 135° 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:	50 W 9.75H x 10W x 23D inch (24.77H x 25.4W x 58.42D cm) 100 W 10 H x 12.5W x 26D inch (25.4H x 31.75W x 66.04D cm)
Weight:	50 W 65 lbs (29 kg) 100 W 80 lbs (40 kg)
Low Noise Amplifier	45° K, non-isolated

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