

C-Band High Power Transceiver

5700 series

SPECIFICATIONS

TRANSMIT SECTION

IF Input	
Frequency range	
Narrow BW option	70 ±20 MHz/140 ± 20 MHz selectable
Wide BW option	140 ± 40 MHz
Impedance	50/75 Ω selectable
Connector	N female
Return loss	18 dB minimum @ 50 Ω
Gain specification	
Gain	
60 W, 120 W	74 dB minimum (0 dB SSPA & Converter attenuator settings)
Attenuator ranges	0 dB to 25 dB nominal (Converter) 0 dB to 20 dB nominal (SSPA)
Attenuator step size	1 dB nominal
Gain flatness	
Narrow BW option	±1.0 dB maximum, 40 MHz
Wide BW option	±2.0 dB maximum, 80 MHz
Gain stability	±2.0 dB maximum, -40°C to +55°C
RF output	
Frequency range	5.850 to 6.425 GHz
Connector	CPR137G
VSWR	1.25:1 maximum
60 W SSPA	
Output power @ 1 dB GCP	+47.8 dBm (60 W) typical +47.0 dBm (50 W) minimum
Carrier to intermodulation ratio	-26 dBc, two carriers, each @ 6 dB OPBO from 1 dB GCP
120 W SSPA	
Output power @ 1 dB GCP	+50.8 dBm (120 W) typical +50.0 dBm (100 W) minimum
Carrier to intermodulation ratio	-26 dBc, two carriers, each @ 6 dB OPBO from 1 dB GCP
Spurious output	-60 dBc maximum @ 1 dB GCP
Harmonics	-50 dBc maximum @ 1 dB GCP
Phase noise (SSB)*	
100 Hz	-60 dBc/Hz maximum, -75 dBc/Hz typical
1 kHz	-70 dBc/Hz maximum, -80 dBc/Hz typical
10 kHz	-80 dBc/Hz maximum, -85 dBc/Hz typical
100 kHz	-90 dBc/Hz maximum, -95 dBc/Hz typical
Synthesiser step size	1 MHz
Frequency stability	
-40°C to +55°C	±1 x 10 ⁻⁸
Aging	±1 x 10 ⁻⁷ /year

RECEIVE SECTION (EXCLUDING LNA)

RF Input	
Frequency range	3.625 to 4.200 GHz
Impedance	50 Ω
Connector	N female
VSWR	1.4:1 maximum
Noise figure	18 dB typical
DC output (switch selectable)	+15 V @ 75 to 250 mA
IF output	
Frequency range	
Narrow BW option	70 ± 20 MHz/140 ± 20 MHz selectable
Wide BW option	140 ± 40 MHz
Impedance	50/75 Ω selectable
Connector	N female
Return loss	18 dB minimum @ 50 Ω
Gain specification	
Gain	45 dB nominal
Attenuator range	0 dB to 30 dB nominal
Attenuator step size	1 dB nominal
Gain flatness	
Narrow BW option	±1.0 dB maximum, 40 MHz
Wide BW option	±2.0 dB maximum, 80 MHz
Gain stability	±4.0 dB maximum, -40°C to +55°C
Image rejection	50 dB minimum
Spurious output	-65 dBm maximum
Phase noise (SSB)*	
100 Hz	-60 dBc/Hz maximum, -75 dBc/Hz typical
1 kHz	-70 dBc/Hz maximum, -80 dBc/Hz typical
10 kHz	-80 dBc/Hz maximum, -85 dBc/Hz typical
100 kHz	-90 dBc/Hz maximum, -95 dBc/Hz typical
Synthesiser step size	1 MHz
Frequency stability	
-40°C to +55°C	±1 x 10 ⁻⁸
Aging	±1 x 10 ⁻⁷ /year

*Excludes mains related sidebands

LOW NOISE AMPLIFIER

Indicative specifications; LNAs with lower noise temperatures are also available.

Input	
Interface	CPR229G
Noise temperature	40 K @ 25°C
Gain specification	
Gain	50 dB minimum
Output	
1 dB GCP	+5 dBm minimum
3rd order intercept	+16 dBm minimum
Impedance	50 Ω
Connector	N female
VSWR	1.5:1 typical

TRANSMIT REJECT FILTER (OPTIONAL)

Indicative specifications	
Insertion loss	0.05 dB maximum
Rejection	55 dB minimum

POWER

Input voltage	104 to 274 V AC, 47 to 63 Hz
Power consumption	
AC	
60 W	440 VA @ 115/230 V AC maximum SSPA On
120 W	760 VA @ 115/230 V AC maximum SSPA On

MONITOR AND CONTROL

LNA interface	
DC output	+15 V @ 75 to 400 mA
Alarm input	Current monitoring as specified, and contact closure; O/C is fault condition
Monitor and control facilities (converter)	
Indicators: Standby, On, Warm-up, SSPA activated, Converter fault, LNA fault, SSPA fault, Temperature fault, Fan fault	
Controls: Power control (off/standby/on), SSPA control (inhibit/remote/activate), Serial interface settings, LNA supply via RX RF input connector, Mains/Battery supply select	
Monitor and control facilities (SSPA)	
Indicators: Online, Alarm, Standby, Maintenance	
Display: Output power, Heatsink temperature, Alarms	
Controls: State, Gain, Compensation	

Remote monitor and control facilities (only via converter)

Serial interface standards	RS232, RS422 (RS485)
Protocol standards	ASCII, Packet (RS485)
Packet protocol address range	0 to 127

Remote monitoring functions (serial interface): Standby, On, Warm-up, SSPA activated, Converter fault, LNA fault, SSPA fault, Temperature fault, SSPA inhibit control, SSPA activate control*, Transmit frequency*, Receive frequency*, Transmit attenuation*, Receive attenuation*, Cable compensation*, Reference oscillator override*, SSPA alarm enable*, LNA alarm enable*, Fan alarm enable*, Temperature compensation*, Address*, SSPA mode*, Converter lock, Packet protocol*, IF impedance*, IF frequency*

Remote control functions (serial interface): Power control (standby/on), SSPA inhibit control, SSPA activate control*, Transmit frequency*, Receive frequency*, Transmit attenuation*, Receive attenuation*, Cable compensation*, Reference oscillator override*, SSPA alarm enable*, LNA alarm enable*, Fan alarm enable*, Temperature compensation select*, Address range*, SSPA mode*, Packet protocol*, IF impedance*, IF frequency*

All of the above serial interface functions are accessible via the Remote Controller 5570. The functions supported by the Hand-Held Controller 5560 are indicated by an asterisk (*)

Remote monitoring functions (contact closure): Standby, Warm-up, SSPA activated control, Converter fault, LNA fault, SSPA fault, Temperature fault

Remote control functions (contact closure): Power control, (standby/on), SSPA inhibit control, SSPA activate control

ENVIRONMENTAL

Converter module	
Temperature	-40°C to 55°C
Relative humidity	100%
Cooling	Convection
Weatherproofing	Sealed to IP68
SSPA module	
Temperature	-40°C to +55°C
Relative humidity	100%
Cooling	Forced air
Weatherproofing	Sealed to IP66

PHYSICAL

All dimensions are measured over the connectors.

Size	
Converter module	110 mm W x 410 mm D x 240 mm H
SSPA module, 60/120 W	280 mm W x 355 mm D x 495 mm H
Weight	
Converter module	8 kg
SSPA module, 60/120 W	27 kg



www.satcom-services.com

Mike Termond
Phone: 1.805.649.1384 Fax: 1.805.500.4328
mike@satcom-services.com
25 Creek Lane
Oak View, CA 93022 USA