

Compact X-Band Hub-mount SSPB/BUC

80W to 125W
SSPB-2100X™ series

Features

- Converts L-Band to X (see table A)
- Integrated amplifier with an output power of 80W to 125W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low inter-modulation products)
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Light weight
- Weatherproof package
- Compact packaging
- CE Marking
- MIL-STD-188-164A latest revision compliant

Overview

The SSPB-2100 series are hub-mount up-converter transmitters, operating in the C/X and Ku-Band. The SSPB-2100 is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2100 provides the utmost in convenience and efficiency. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

The design of these units is based on Advantech Wireless industry proven reliable solid-state high power amplifiers. The use of high efficiency power supply and conservative thermal designs contribute to the trouble-free operation of the amplifier.

Built-in microprocessor controller provides the capability for serial port interfaces (RS232/485) for remote monitoring and control.

Application

The SSPB-2100X series converts an L-Band signal to the X-band frequency (see table A). Designed for satellite up-link applications, the SSPB series are available in output power from 1W to 1000W. The SSPB-2100XT series are fully integrated units from 80W to 125W output power designed for mounting outdoors, near the hub of an antenna.

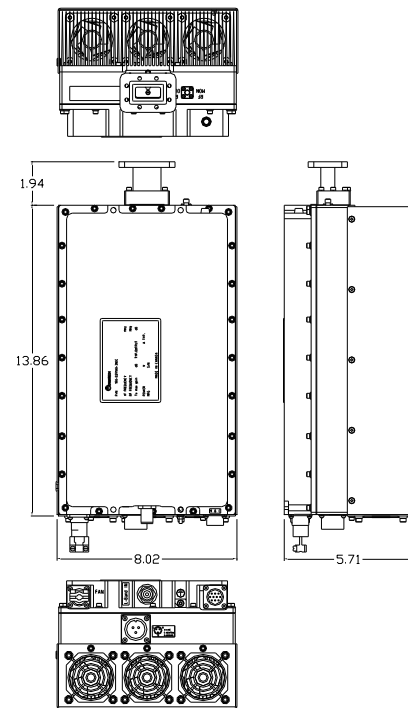


Table A

Band	RF-Band (GHz)	IF-Band (MHz)	Output Power	LO GHz
X-Band	7.9 - 8.4	950 - 1450	80 - 125	6.950

Accessories

- External Receive Reject Filter
- Remote M&C panel (Ethernet port optional)
- Handheld terminal

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Technical Specifications		80W	100W	125W
Electrical Characteristics				
Output power (P _{SAT})	dBm	+49	+50	+51
Output power (P _{1dB}) min	dBm	+48	+49	+50
Conversion gain @ maximum setting	dB	69	50	71
Gain adjustment range		20 dB min		
Input/Output frequency range		See table A on front page		
Max input power without damage		+10 dBm		
Gain flatness		3 dB p-p, max over full band, 1.0 dB/40 MHz		
Gain variation over temperature		±1.5 dB over full operating range (temperature compensation mode)		
Gain variation over 24 hours		±0.5 dB max at constant temperature & drive level		
Input VSWR		1.5 :1 dB, min		
Output VSWR		1.5 :1 dB min,		
Noise power density (NPD)		-85 dBm/Hz in TX band -110 dBm/Hz in RX Band		
Spurious at rated power		-55 dBc, max		
AM/PM conversion		2.5°/dB typical (at P _{1dB})		
Third order IMD (2 tones)		-25 dBc, max at 3 dB back-off from P _{1dB}		
Local Oscillator frequency (LO)		6.95 GHz		
LO leakage		-20 dBm max		
Phase noise		-50 dBc/Hz at 10Hz -63 dBc/Hz at 100Hz	-73 dBc/Hz at 1000Hz -83 dBc/Hz at 10 kHz	-93 dBc/Hz at 100 kHz -105 dBc/Hz at 1 MHz
Group delay (over any 40 MHz):	Linear Parabolic Ripple	0.02 ns /MHz, max 0.003 ns/MHz ² , max 1 nsec p-p, max		
External reference				
Reference frequency		10 MHz		
Reference frequency phase noise		-115 dBc/Hz at 10 Hz -135 dBc/Hz at 100 Hz -148 dBc/Hz at 1000 Hz	-155 dBc/Hz at 10 kHz -160 dBc/Hz at 100 kHz	
Reference frequency level		0 dBm ± 5 dB supplied via input L-Band cable		
Power Requirements				
AC input voltage		110 /220 VAC (47-63 Hz) auto-ranging (90-132 V / 180-264 V)		
Power consumption (W nominal)		400	450	500
Mechanical Characteristics				
Dimensions (L x W x H)		DC 13" x 8" x 4.8" (330 x 203 x 114 mm) AC 13" x 8" x 5.2" (330 x 203 x 132 mm)		
Weight		22.0lbs (10.0 kg)		
Interfaces: RF input RF output	Type N (F) CPR112	RS-485/RS232 MS3112E12-10P		AC Line MS3102R16-10P DC Line MS3102R16-10PX
Environmental Conditions				
Temperature: Operating Storage		-30°C to +55°C; Option: E-40°C to +55°C; G: -50°C to +50°C -55°C to +85°C		
Humidity		100%, condensing (2" rain/hour)		
Altitude		10,000' AMSL, de-rated 2°C/1,000' from AMSL		

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