



5W TO 20W
SSPB-210X™ series



Features

- Up-converts an L-Band input frequency 950 – 1450 MHz to the X-Band frequency of 7.9 – 8.4 GHz
- Output power to 20W
- Phase-locked local oscillator locks directly to an external 10 MHz reference
- Exceeds IESS 308/309 Phase/Noise requirements by 3 dB
- Robust, weatherproof package
- RS-485/RS232 serial Interface for remote Monitoring and Control
- Sample port
- Protection against thermal runaway and out-of-lock conditions
- CE Marking
- MIL-STD-188-164A latest revision compliant

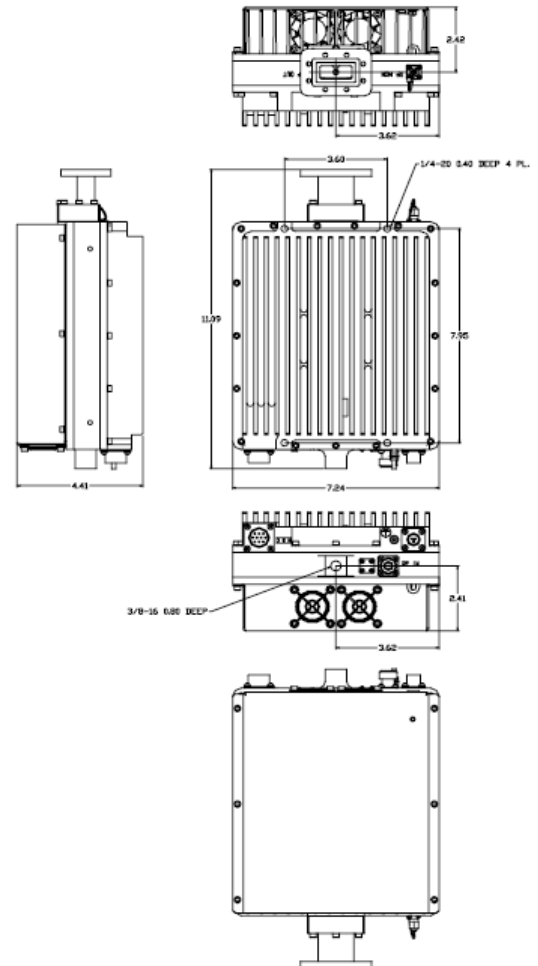
Overview

The SSPB-210X™ series is hub-mount up-converter transmitters, operating in the X-Band. The SSPB-210X™ is an integrated unit, complete with power supply, phaselocked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-210X™ provides the utmost in convenience and efficiency. Other SSPBs are also available for higher powers or for operation at other up-link frequencies.

The hub-mount SSPB-210X™ is constructed in a compact cooling enclosure for outdoor operation. The units are weatherproof. They are the smallest fully integrated units on the market today.

The design of these units is based on Advantech Wireless' industry proven reliable solid-state high power amplifiers. Built-in design features result in a product with exceptional linearity and operating efficiency. The use of high efficiency power supply and conservative thermal designs contribute to the trouble-free operation of the unit.

Built-in microprocessor controller provides the capability for serial port interfaces (RS485) for remote monitoring and control.



Application

The SSPB's convert an L-Band signal (950 - 1450 MHz) to the X-band frequency of 7.9 – 8.4 GHz. Designed for XBand satellite up-link applications the SSPB-210X™ series is fully integrated units with up to 20W output power designed for mounting outdoors, near the hub of an antenna.

X-Band SSPB is available in output power of up to 800W.

Options

- Optional AC Power
- Separate power connector for 5W/10W
- Ethernet port

Accessories

- Receive Reject Filter
- Mounting kit
- Hand Held Terminal

X-Band Block Up Converter

Technical Specifications	5W	10W	16W	20W
Electrical Characteristics				
Output power (P1dB) min	+37 dBm	+40 dBm	+41 dBm	+42 dBm
Conversion gain min.	+58 dB	+61 dB	+62 dB	+63 dB
Input /Output frequency range	950-1450 MHz/X-Band 7.9 – 8.4 GHz			
Input Level	-22 dBm for P1dB			
Gain flatness	3.0 dB p-p, typical over 500 MHz, 1.0 dB p-p /40 MHz			
Attenuation range	20 dB typical			
Gain variation over temperature	3.0 dB p-p max over full operating range			
Input VSWR, in-band	1.5: 1			
Output VSWR	1.5: 1			
Input impedance	50 Ω			
Noise Power Density in Rx Band	-110 dBm/Hz max without external Rx Reject Filter			
Spurious at P1dB	-55 dBc, max			
AM/PM conversion	1 %/dB at 3db output back off, 3 %/dB max (at P1dB)			
Third order IMD (2 tones)	-26 dBc, max at 3 dB total back-off from P1dB			
Local Oscillator frequency (LO)	6.950 GHz			
LO leakage	-20 dBm max			
Phase noise	-55 dBc/Hz at 10Hz -73 dBc/Hz at 1000Hz -105 dBc/Hz at 100 kHz		-65 dBc/Hz at 100Hz -83 dBc/Hz at 10 kHz -110 dBc/Hz at 1 MHz	
Integrated (SSB) Phase Noise	2° RMS typical			
Group Delay (over any 40 MHz):	Linear Parabolic Ripple	0.03 ns /MHz, max 0.01 ns/MHz ² , max 1 nsec p-p, max		
External reference				
Reference frequency	10 MHz			
Recommended reference frequency phase noise	-115 dBc/Hz at 10 Hz -135 dBc/Hz at 100 Hz -148 dBc/Hz at 1000 Hz		-150 dBc/Hz at 10 kHz -160 dBc/Hz at 100 kHz	
Reference frequency level	0 dBm ± 5 dB			
Power Requirements				
Supply voltage	5W /10W 16W/20W	40 V to 60 V DC (via L-Band cable) or optionally on a separate connector 40V to 60V DC or 110/220 VAC auto-ranging 40V to 60V DC or 110/220 VAC auto-ranging		
Power consumption (nominal)	80W	95W	125W	160W
Mechanical Characteristics				
Cooling	Convection		Mini-fan	
Dimensions (W x H x L)	18.39 x 11.20 x 28.17 cm (7.24" x 4.41" x 11.09") DC operation 18.39 x 12.45 x 28.17 cm (7.24" x 4.9" x 11.09") AC operation			
Weight	5 kg (11 lbs)			
Finish	White (option NATO Green)			
Interfaces:	RF input Type N (F) Output Monitor SMA-F RF output CPR112 grooved / Type N (F) optional RS-485/RS-232 Serial Port MS3112E12-10P Ethernet port RJ45 (option) MS3102R10SL-3P (AC option) or MS3102R10S-4P (DC option)			
Environmental Conditions				
Temperature:	Operating Storage	-30 °C to +55 °C option -40 °C to +55 °C -55 °C to +85 °C		
Humidity		100%, condensing		
Altitude		10,000' AMSL, de-rated 2 °C/1,000' from AMSL		

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