



X-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) UP TO 250W SSPB-3000X® series



FEATURES

- Converts synthesized L-Band to X-Band
- Integrated amplifier with an output power of 200W or 250W
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Weatherproof package
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Built-in power supply
- Compact packaging
- CE Marking
- Built-in Receive Reject Filter (35 dB rejection @ 7.25 – 7.75 GHz)

OPTIONS

- Additional High performance external Receive Reject Filter
- Internal High Stability 10MHz Reference
- Redundant System
- Remote M&C panel (Ethernet port optional)

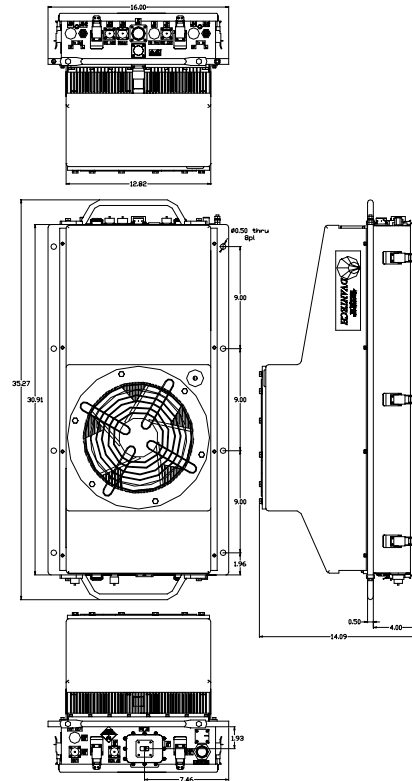
OVERVIEW

The SSPB-4000X® series are hub-mount up-converter transmitters, operating in the X-Band. The SSPB-4000X® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism.

Intended for outdoor operation, the SSPB-4000X® provides the utmost in convenience and efficiency. Other SSPBs are also available for higher powers or for operation at other up-link frequencies.

The design of these units is based on Advantech's industry proven reliable solid-state high power amplifiers. Built-in design features and assembly methods incorporated with efficient combining techniques result in an amplifier 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 amplifier.

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



Outline Drawing for 200W and 250W

APPLICATION

The SSPB-4000X® series convert an L-Band signal to the X-band frequency. Designed for X-Band satellite up-link applications, the SSPB series are available in output power from 10W to 1000W. The SSPB-4000X® series are fully integrated units with 200W or 250W output power designed for mounting outdoors, near the hub of an antenna. The 200W and 250W units are packaged with dimensions of 35.27"x 16.8" x 14.09".

Advantech AMT™'s SSPB product line includes variety of units operating in various satellite band frequencies with full range of output power levels.

REDUNDANCY

The SSPB-4000X® series are available in redundant configuration with single Monitor and Control interface. Redundancy kits are required for redundant operation.

X-band High Power SSPB



X-BAND HUB-MOUNT SSPB (Solid State Power Block-Up Converter) UP TO 250W

SSPB-3000X[®] series



X-band High Power SSPB

TECHNICAL SPECIFICATIONS	200W	250W
Electrical Characteristics		
Output power (P _{SAT})	+53 dBm	+54 dBm
Output power (P _{1dB}) min	+52 dBm	+53 dBm
Conversion gain @ max gain setting	73 dB	74 dB
L-Band input frequency	950 - 1450 MHz	
RF Output frequency	7.9 – 8.4 GHz	
Max input power without damage	+10 dBm	
Gain flatness	± 2.0 dB max full band, 0.3 dB/10 MHz	
Gain variation temperature	3.0 dB p-p max -30°C to +55°C	
Gain adjustment range	20 dB	
Input return loss	18 dB, min	
Output return loss	20 dB, min	
Noise Power Density	-70dBm/Hz in TX band, -110 dBm/Hz in RX band	
Spurious at rated power	-60 dBc, max	
Harmonics at rated power	-75 dBc, max	
AM/PM conversion	2.5°/dB typical (at P _{1dB})	
Third order IMD (2 tones)	-24 dBc, max at 3 dB back-off from P _{1dB}	
Local Oscillator frequency (LO)	6.950 GHz	
LO leakage	-20 dBm	
Phase noise*	-60 dBc/Hz at 10Hz -73 dBc/Hz at 1000Hz	-93 dBc/Hz at 100 kHz
	-65 dBc/Hz at 100Hz -83 dBc/Hz at 10 kHz	-110 dBc/Hz at 1 MHz
Group Delay (Over any 40 MHz):	Linear 0.02 ns /MHz, max	
	Parabolic 0.003 ns/MHz ² , max	
	Ripple 1 nsec p-p, max	
External reference		
Reference frequency	10 MHz	
Reference frequency phase noise	-115 dBc/Hz at 10 Hz	-150 dBc/Hz at 10 kHz
	-135 dBc/Hz at 100 Hz	-160 dBc/Hz at 100 kHz
	-148 dBc/Hz at 1000 Hz	
Reference frequency level	0 dBm ± 5 dB	
(For 1:1 redundant operation, internal 10MHz reference is recommended)		
Power Requirements		
AC input voltage	220 VAC (47-63 Hz)	
Power consumption (nominal)	1750W	2200W
Mechanical Characteristics		
Dimensions (L x W x H)	35.27" x 16.80" x 14.09" (89.60 x 42.70 x 35.80 cm)	
Weight	110 lbs (50 kg)	
Interfaces:	RF input Type N (F)	Redundancy MS3112E16-26P RF output CPR-112G
	Relay port MS3112E12-10P	RS-232 MS3112E10-6P
	AC Line MS3102E20-19P	RS-485 MS3112E10-6P
Environmental Conditions		
Temperature:	Operating -30°C to +55°C; <i>Option 1: -40°C to +55°C; Option 2: -50°C to +50°C</i>	
	Storage -55°C to +85°C	
Humidity	100%, condensing (2" rain/hour)	
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL	

* Based on internal 10MHz Reference.



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