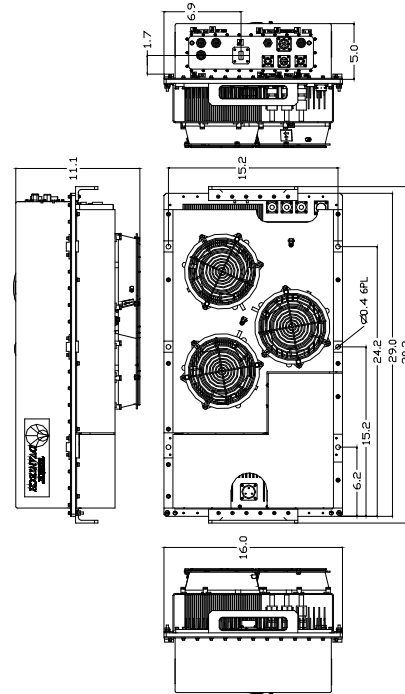


300W to 500W
SSPB-3000X® series



Outline Drawing for up to 500W

Features

- Converts synthesized L-Band to X-Band
- Integrated amplifier with an output power of 250W to 500W
- 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)

Overview

The SSPB-3000X® series are hub-mount up-converter transmitters, operating in the X-Band. The SSPB-3000X® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism.

Intended for outdoor operation, the SSPB-3000X® 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.

Redundancy

The AMMT 5000LX® series of transmitters may be configured to

Options

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

Application

The SSPB-3000X® 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-3000X® series are fully integrated units with 300W to 500W output power designed for mounting outdoors, near the hub of an antenna. The 300W 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.

X-Band Hub-mount SSPB

Technical Specifications	300W	350W	400W	500W	
Electrical Characteristics					
Output power (P _{SAT})	+55 dBm	+55.5 dBm	+56 dBm	+57 dBm	
Output power (P _{1dB}) min	+ 54 dBm	+54.5 dBm	+ 55 dBm	+ 56 dBm	
Conversion gain @ max gain setting	75 dB	76 dB	76 dB	77 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 -65 dBc/Hz at 100Hz -73 dBc/Hz at 1000Hz	-83 dBc/Hz at 10 kHz -93 dBc/Hz at 100 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 -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				
(For 1:1 redundant operation, internal 10MHz reference is recommended)					
Power Requirements					
AC input voltage	220 VAC (47-63 Hz)				
Power consumption (nominal)	1700W	2000W	2400W	2800W	
Mechanical Characteristics					
Dimensions (L x W x H)	30" x 16" x 11" (76.20 x 40.60 x 28.00cm)				
Weight	128 lbs (58 kg)				
Interfaces:	RF input Relay port AC Line	Type N (F) MS3112E12-10P MS3102E20-19P	Redundancy RS-232 RS-485	MS3112E16-26P MS3112E10-6P MS3112E10-6P	RF output CPR-112G
Environmental Conditions					
Temperature:	Operating Storage	-30°C to +55°C; <i>Option 1: -40°C to +55°C; Option 2: -50°C to +50°C</i> -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.

NORTH AMERICA
USA
Tel: +1 678 889-1831
Fax: +1 678 889-1756
info.usa@advantechwireless.com

CANADA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.canada@advantechwireless.com

EUROPE
UNITED KINGDOM
Tel: +44 1480 357 600
Fax: +44 1480 357 601
info.uk@advantechwireless.com

RUSSIA & CIS
Tel: +7 495 971 59 18
info.russia@advantechwireless.com

SOUTH AMERICA
USA
Tel: +1 678 889-1831
Fax: +1 678 889-1756
info.latam@advantechwireless.com

BRAZIL
Tel: +55 11 3054 5701
Fax: +55 11 3054 5701
info.brazil@advantechwireless.com

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