



**FEATURES**

- Converts L-Band signal Ka-Band from 28.5 – 31 GHz (in bands)
- Meets the requirements per MIL-STD-188-164A
- Integrated amplifier with an output power of 30W to 80W
- Phase-locked oscillator to external 5MHz or 10MHz reference (configurable)
- High linearity (low intermodulation products)
- Weatherproof package
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Output sample monitoring port
- Detachable power supply
- Compact packaging
- CE Marking

**OPTIONS**

- Ethernet interface
- Internal High Stability Reference with auto-sensing
- Extra Low Phase Noise
- Redundant system

**OVERVIEW**

The SSPB-3010Ka™ series are hub-mount up-converter transmitters, operating in the Ka-Band. The SSPB-3010Ka® is an integrated unit, complete with detachable power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-3010Ka™ provides the utmost in convenience and efficiency. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

**APPLICATION**

The SSPB-3010Ka™ are designed for Ka-band satellite up-link applications. They are mounted outdoors, near the hub of an antenna. Also available from Advantech AMT™ are the SSPA series - solid-state high power amplifiers - with all the features of the SSPB's except block up-converter. Please contact Advantech AMT™ for more information.

**REDUNDANCY**

The SSPB-3010Ka™ series are available in redundant configuration with single Monitor and Control interface.

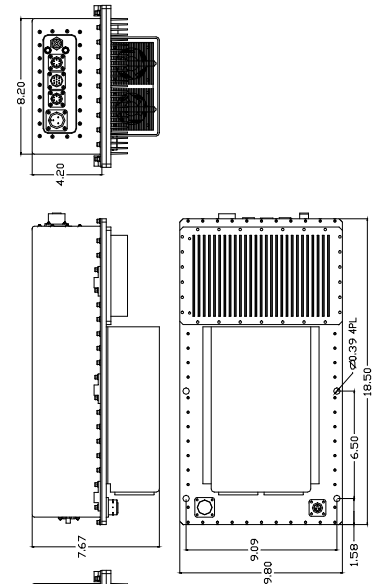


Fig 1: 40W

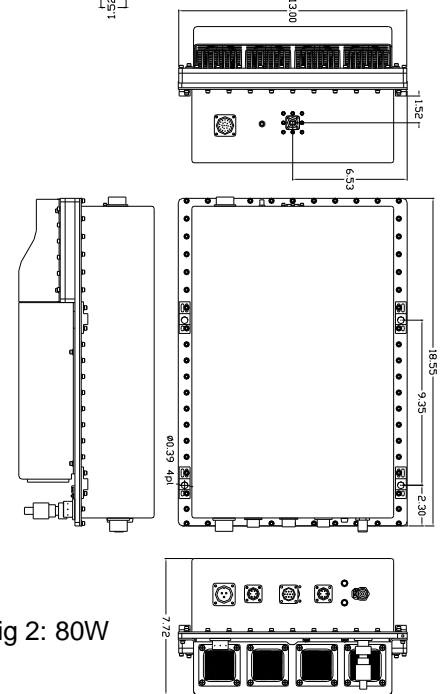


Fig 2: 80W

**Table A**

Band	RF Band (GHz)	IF Band (MHz)
K1	29.5 – 30.0	1000 – 1500 MHz Option 950 – 1450 MHz
K2	28.8 – 29.1	1000 – 1300 MHz
K3	30 – 31	1000 – 2000 MHz Option 950 – 1950 MHz
K4	29.5 – 31 (29.5 – 30/30 – 31)	<b>Dual band</b> 950 – 1450/1000- 2000 MHz

*Other operating bands available*

**Ka-BAND HUB-MOUNT  
BLOCK-UP CONVERTER 30W / 80W  
SSPB-3010Ka™ series**



TECHNICAL SPECIFICATIONS		30W	40W	50W	60W	80W
<b>Electrical Characteristics</b>						
Input/Output Frequency range	See table A on front page (for dual band, the operating band is selectable via the M&C port)					
Frequency sense	Non-inverting					
Output power (P <sub>SAT</sub> )	+45 dBm	+46 dBm	+47 dBm	+48 dBm	+49 dBm	
Output power (P <sub>1dB</sub> ) min.	+44 dBm	+45 dBm	+46 dBm	+47 dBm	+48 dBm	
Linear Power (P <sub>Linear</sub> )	+41 dBm	+42 dBm	+43 dBm	+44 dBm	+45 dBm	
Conversion gain @ maximum setting	65 dB min	65 dB min	+68 dB min	68 dB min	68 dB min	
Gain slope	0.04 dB/MHz, max					
Gain flatness	±2.0 dB max over 1000 MHz, ± 0.6 dB over 40 MHz					
Gain variation over temperature	±1.5 dB over full operating range					
Gain variation over 24 hours	±0.25 dB max at constant temperature & drive level					
Gain adjustment range	20 dB min (1 dB steps)					
Input VSWR	1.4:1					
Output VSWR	1.3:1					
Spurious at rated power	-55 dBc max					
AM/PM conversion	<2°/dB @ P <sub>Linear</sub>					
Noise Power Density max.	In band: -75 dBm/Hz; Out-of-band: -130 dBm/Hz (@ max gain)					
Third order IMD (2 equal tones 5MHz apart)	-23 dBc max @ P <sub>LINEAR</sub>					
Spectrum Regrowth	-25 dBc at P <sub>LINEAR</sub>					
Phase Noise	Exceeds MIL-STD-188-164A by 2 dB typically					
Group Delay	Linear: 0.02 nsec/MHz max. Parabolic: 0.003 nsec/MHz <sup>2</sup> max. Ripple: 1 nsec p-p max.					
<b>External reference</b>						
Reference frequency	5MHz/10 MHz site configurable					
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					
<b>Power Requirements</b>						
AC input voltage	95 – 265 VAC (47-63 Hz)					
Power consumption, (nominal)	at Linear Power	350W	400W	600W	700W	800W
	at Saturation	400W	500W	800W	900W	1000W
<b>Mechanical Characteristics</b>						
Dimensions (L x W x H)	18.5" x 9.8" x 7.7" 470 x 250 x 196 mm			18.5" x 13" x 7.7" 470 x 330 x 226 mm		
Weight	26.4 lbs (12kg)			48.5 lbs(22 kg)		
Interfaces:	RF input	N-Type (f)	Redundancy	MS3112E16-26P	RF output	WR28 cover flat
	Discrete port	MS3112E12-10P	RS-232	MS3112E10-6P		
	AC Line	MS3102E20-19P	RS-485	MS3112E10-6P		
<b>Environmental Conditions</b>						
Temperature	Operating	-30°C to +55°C <i>Option 1: -40°C to +60°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, derated 2°C/1,000' from AMSL					

\* Other frequencies are available. Please consult Sales Representatives

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