Ka-BAND BUC 30W to 80W
SSPB-3010Ka™ series

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.

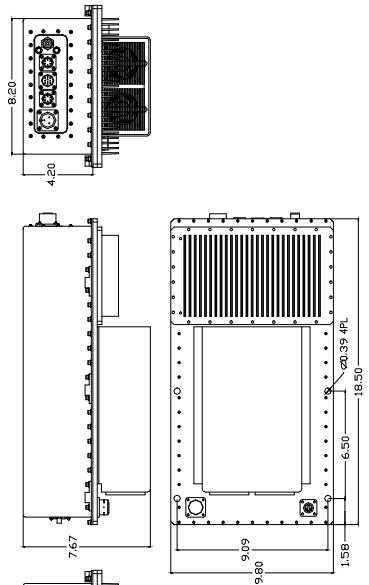

Fig 1: 40W

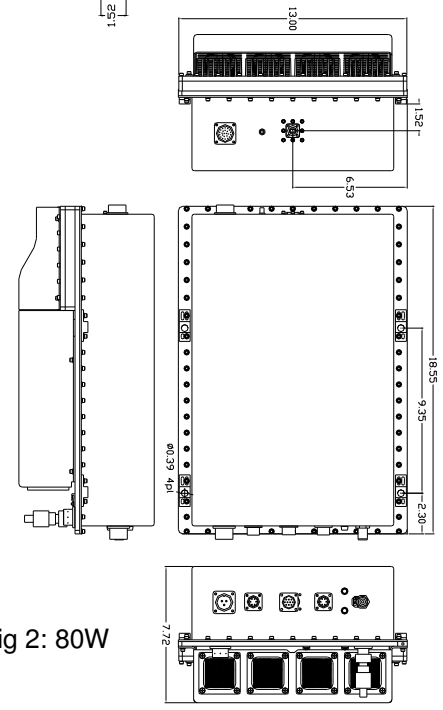

Fig 2: 80W

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)	**Du**al band 950 – 1450/1000- 2000 MHz

Other operating bands available

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

Advantech Wireless

TECHNICAL SPECIFICATIONS	30W	40W	50W	60W	80W
Electrical Characteristics					
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_{SAT})	+45 dBm	+46 dBm	+47 dBm	+48 dBm	+49 dBm
Output power (P1dB) min.	+44 dBm	+45 dBm	+46 dBm	+47 dBm	+48 dBm
Linear Power (P_{Linear})	+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_{Linear}				
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)	-25 dBc max @ P_{LINEAR} note 1				
Phase Noise	Exceeds MIL-STD-188-164A by 2 dB typically				
Group Delay	Linear: 0.02 nsec/MHz max. Parabolic: 0.003 nsec/MHz^2 max. Ripple: 1 nsec p-p max.				
External reference					
Reference frequency	5MHz/10 MHz site configurable				
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					
AC input voltage	95 – 265 VAC (47-63 Hz)				
Power consumption, at Linear Power	350W	400W	600W	700W	800W
(nominal) at Saturation	400W	500W	800W	900W	1000W
Mechanical Characteristics					
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		
Environmental Conditions					
Temperature Operating	-30°C to +55°C *Option 1: -40°C to +60°C; Option 2: -50°C to +50°C*				
Storage	-55°C to +85°C				
Humidity	100%, condensing (2" rain/hour)				
Altitude	10,000' AMSL, derated 2°C/1,000' from AMSL				

Note 1: P-Linear is defined as the worst case of a Modulated single carrier – maximum power for which the sidebands located at 1.5 times the symbol rate are 30 dB below the main lobe using QPSK modulation, or Modulated single carrier – maximum power for which the sidebands located at 1.0 times the symbol rate are 30 dB below the main lobe using OQPSK modulation, or Two-tone CW test – maximum power for which the third order sidebands are 25 dB below the combined power of the two carriers

** Other frequencies are available. Please consult Sales Representatives*

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Ref.: PB-SSPB-3010Ka-30-80-13150