SSPB-110K™ Series
LIGHTWEIGHT Ku-BAND Block-Up Converter
8W/10W/16W/20W

Features

- Up-converts an L-Band input frequency to a standard Ku-Band frequency or to an extended Ku-Band frequency
- Output power 8W, 10W, 16W and 20W
- Lightweight, smallest fully integrated BUC on the market designed for man-pack applications
- Phase-locked local oscillator locks directly to an external 10 MHz reference
- Exceeds IESS 308/309 Phase/Noise requirements by more than 3 dB
- Robust, weatherproof package
- Protection against thermal runaway and out-of-lock conditions
- High efficiency and low power consumption
- DC operation from 20VDC up to 60VDC
- CE Marking

Options

- Universal AC operation
- Ethernet
- Serial port
- High Gain (70dB)

Accesories

- Mounting kit

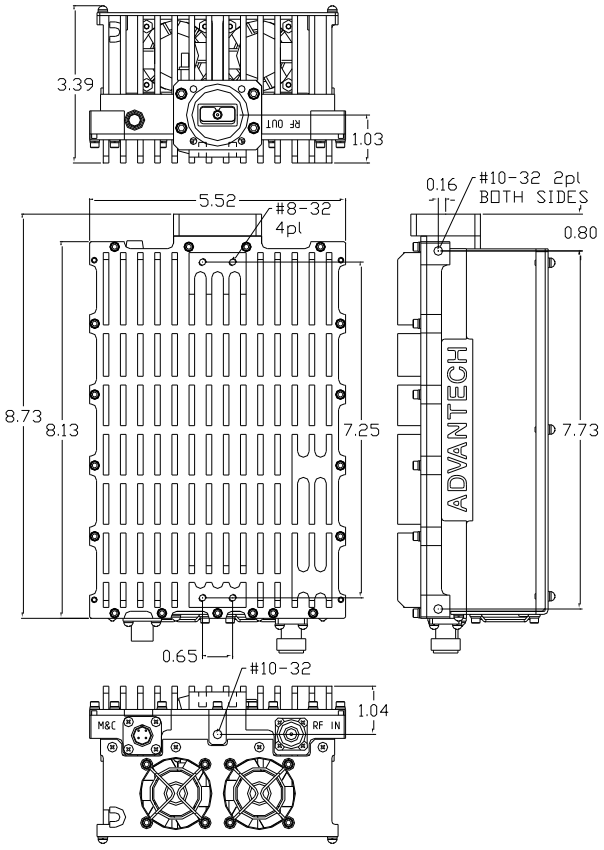

Figure 1

Overview

Ideally suited for fly-away or portable terminal applications, the SSPB-110K™ series are hub-mount up-converter transmitters, operating in the Ku-Band. The SSPB-110K™ is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-110K® 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-110K™ is constructed in a compact cooling enclosure for outdoor operation. The units are weatherproof. They are the smallest and lightest fully integrated units on the market today.

Application

The SSPB's convert an L-Band signal (950-1450 MHz or 950 - 1700 MHz) to the Ku-band frequency of 14.0 -14.5 GHz, extended Ku-band (13.75 –14.5 GHz) or low Ku-band (12.75 – 13.25GHz). Designed for Ku-Band satellite up-link applications the SSPB-110K™ series is fully integrated units with 8W and up to 20W output power designed for mounting outdoors on the OMT or boom of the antenna.

SSPB-110K™ Series

LIGHTWEIGHT Ku-BAND Block-Up Converter

8W/10W/16W/20W

TECHNICAL SPECIFICATIONS	8W	10W	16W	20W
Electrical Characteristics				
Availability in this series				
KS (14.0 – 14.5 GHz)	√	√	√	√
KX (13.75 – 14.5 GHz)	√	√	√	√
KL (12.75 – 13.25 GHz)	√	√	√	√
Output power (P1dB) min	+39 dBm	+40 dBm	+41 dBm	+42 dBm
Conversion gain min. Low Gain (option)	60 dB 50 dB	61 dB 51 dB	62 dB 52 dB	63 dB 53 dB
Input /Output frequency range	L-Band 950-1450 MHz /Ku-Band 14.0-14.5 GHz (SSPB-110 KS® series); L-Band 950-1700 MHz/Ku-Band 13.75-14.5 GHz (SSPB-110 KX® series); L-Band 950-1450 MHz/Ku-Band 12.75-13.25 GHz (SSPB-110 KL® series);			
Input Level	-20 dBm for P1dB (optional -10 dBm)			
Gain flatness	3.0 dB p-p, typical over 500 MHz, 1.0 dB p-p /40 MHz			
Gain variation over temperature	±1.5 dB max over full operating range at any frequency			
Input /Output VSWR, in-band	1.5: 1			
Input impedance	50 Ω (option 75 Ω)			
Noise Power Density	-85 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band			
Spurious (in-band) at rated power	-55 dBc, max			
AM/PM conversion	2°/dB typical (at P_{1dB})			
Spectrum Regrowth	-30 dBc, max at 3 dB total back-off from P_{1dB} @ 1.0 x symbol rate for QPSK/OQPSK/8PSK modulation			
Local Oscillator frequency (LO)	13.05 GHz (KS series); 12.80 GHz (KX series); 11.8 GHz (KL series)			
LO leakage	< -20 dBm			
Phase noise	-55 dBc/Hz at 10Hz -73 dBc/Hz at 1000Hz -105 dBc/Hz at 100 kHz -63 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 0.02 ns /MHz, max, Parabolic 0.003 ns/MHz^2, max, Ripple 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	18V to 60V DC supplied via L-Band cable Option DC supplied via separate connector Option Universal AC input (90 – 264 VAC)			
Power consumption (nominal)	65W	75W	95W	110W
Mechanical Characteristics				
Cooling	Natural convection		Mini-fan (IP54)	
Dimensions (W x H x L)	DC 158x 89 x 203 mm (5.5” x 3.4” x 8.7“) - Figure 1 AC / Ethernet 140 x 108 x 196 mm (5.5” x 4.8” x 8.7“)			
Finish	White			
Weight (without options)	1.4 kg (3lbs)		2.4 kg (5.3 lbs)	
Interfaces:	RF input N-type (50 Ω) optional type F (75 Ω or SMA (f)) RF output WR75 grooved			
LED indicators	Green Normal operation Red Summary fault			
Environmental Conditions				
Temperature: Operating	-30°C to +60°C option -40°C to +60°C			
Storage	-55°C to +85°C			
Humidity	100%, condensing			
Altitude	10,000' AMSL, de-rated 2°C/1,000' from AMSL			

NORTH AMERICA
USA
Tel: +1 703 659 9796
Fax: +1 703 635 2212
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

INDIA
Tel: +91 33 2415 5922
info.india@advantechwireless.com

SOUTH AMERICA
Tel: +1 514 420 0045
Fax: +1 514 420 0073
info.latam@advantechwireless.com

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

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