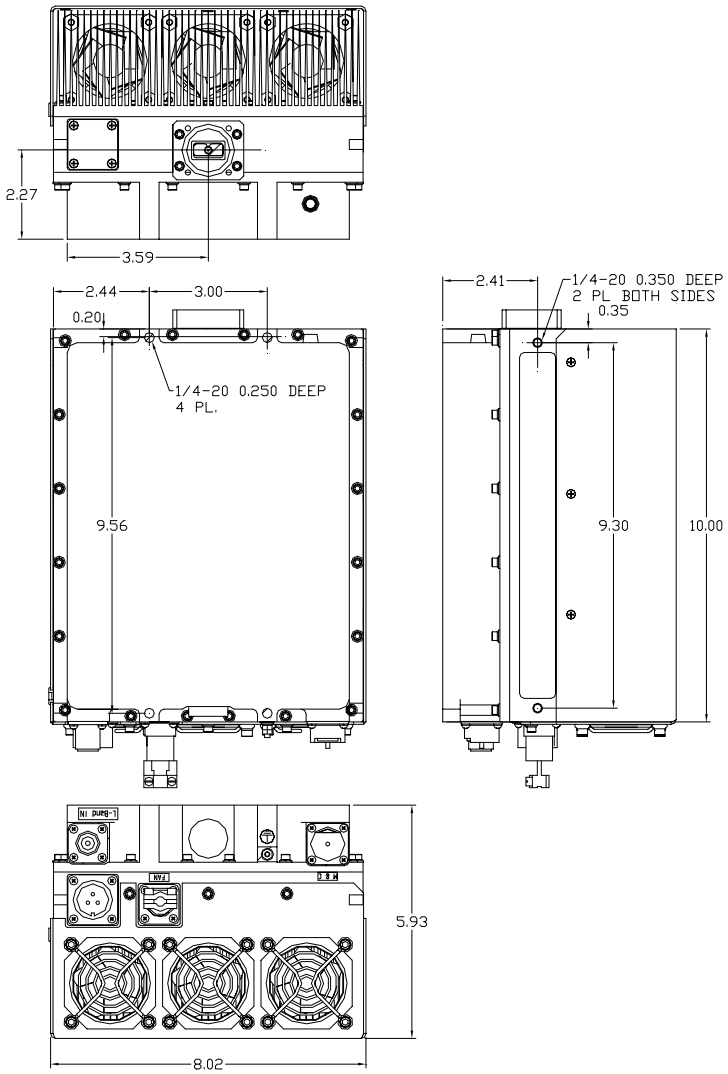
Compact Ku-Band Hub-mount SSPB

20W to 80W
SSPB-S2100K® series

Features

- Converts L-Band to Ku-Band (see table A)
- Integrated amplifier with an output power of 20W to 80W (see table A)
- Phase-locked oscillator to external 10MHz reference
- High linearity (low intermodulation products)
- Built-in Receive Reject Filter
- Remote Monitor & Control
- Protection against thermal runaway and out-of-lock conditions
- Built-in power supply
- Light weight
- Weatherproof package
- Compact packaging
- CE Marking



Overview

The SSPB-S2100K® series are hub-mount up-converter transmitters, operating in the Ku-Band. The SSPB-S2100K® is an integrated unit, complete with power supply, phase-locked oscillator, mixer, filter and cooling mechanism. Intended for outdoor operation, the SSPB-2100K® provides the utmost in convenience and efficiency. Other SSPB's are also available for higher powers or for operation at other up-link frequencies.

The design of these units is based on ADVANTECH AMT™ industry proven reliable solid-state high power amplifiers. 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.

Table A

Band	RF Band (GHz)	IF Band (MHz)	Output Power W	LO (GHz)
KS	14.00 – 14.50	950 - 1450	20-80	13.05
KX	13.75 – 14.5	950 - 1700	20 -60	12.8

*Other frequency sub-bands are available. Please consult factory.

Application

The SSPB-2100K® series convert an L-Band signal to the Ku-band frequency (see table A). Designed for Ku-Band satellite up-link applications, the SSPB K series are available in output power from 8W to 500W. The SSPB-S2100K® series are fully integrated units from 20W to 80W output power designed for mounting outdoors, near the hub of an antenna.

Options

- Remote M&C panel (Ethernet port optional)
- Handheld terminal

Technical Specifications

		20W	25W	30W	40W	50W	60W	80W
Electrical Characteristics								
KS		√	√	√	√	√	√	√
KX		√	√	√	√	√	√	-
Output power (P_{SAT})	dBm	43	+44	+45	+46	+47	+48	+ 49
Output power (P1dB) min	dBm	+42	+43	+44	+45	+46	+47	+48
Conversion gain @ maximum setting		63 dB	64 dB	65 dB	+66 dB	67 dB	68 dB	69 dB
Gain adjustment range		20 dB min						
Input/Output frequency range		See table A on front page						
Max input power without damage		+10 dBm						
Gain flatness		3.0 dB p-p , max over full band, 1 dB p-p dB/40 MHz						
Gain variation over temperature		±1.5 dB over full operating range						
Gain variation over 24 hours		±0.5 dB max at constant temperature & drive level						
Input VSWR		1.5:1 dB, min						
Output VSWR		1.5:1 dB typical,						
Noise power density (NPD)		-85 dBm/Hz in TX band -135 dBm/Hz in RX band						
Spurious at rated power		-55 dBc, max						
AM/PM conversion		3°/dB typical (at P_{1dB})						
Third order IMD (2 tones)		-25 dBc, max at 3 dB back-off from P_{1dB}						
Local Oscillator frequency (LO)		See table A on front page						
LO leakage		-20 dBm max						
Phase noise		-50 dBc/Hz at 10Hz -73 dBc/Hz at 1000Hz -93 dBc/Hz at 100 kHz -63 dBc/Hz at 100Hz -83 dBc/Hz at 10 kHz -105 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 -155 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 supplied via input L-Band cable						
Power Requirements								
Input voltage		110 /220V AC (47-63 Hz) auto-ranging (90-132 V / 180-264 V) 24-35V DC or 40-60V DC						
Power consumption (nominal)		250W	270W	300W	350W	400W	450W√	500W
Mechanical Characteristics								
Dimensions (L x W x H)		10" x 8" x4.8" (254 x 203 x 114 mm)			DC	13" x 8" x4.8" (330 x 203 x 114 mm)		
					AC	13" x 8" x5.2" (330 x 203 x 132 mm)		
Weight		14.4 lbs (6.5 kg)			18 lbs (8.2 kg)			
Interfaces:	RF input	Type N (optional SMA)			AC Line	MS3102R16-10P		
	RF output	WR-75 contact	RS-485/RS232	MS3112E12-10P	DC Line	MS3102R16-10PX		
Environmental Conditions								
Temperature:	Operating	-30°C to +55°C; Option: -40°C to +55°C;						
	Storage	-55°C to +85°C						
Humidity		100%, condensing (2" rain/hour)						
Altitude		10,000' AMSL, de-rated 2°C/1,000' from AMSL						

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