SBC0020K 20W Appendix 30B-15 and Kx-Band Outdoor Gen III GaN Compact BUC

This compact yet powerful 20W outdoor compact BUC harnesses advanced Gen III GaN technology, delivering exceptional broadband RF performance, high efficiency, and outstanding linearity and reliability for applications such as broadcast contribution and CBH

Key Features

- High Linearity, efficiency and MTBF
- Built-in High Precision true RMS Output Power Meter
- Web Interface, SNMP support
- Output Overdrive Protection
- Output VSWR Protection
- Thermal shutdown

Options

- Appendix 30B-15 (KL, 12.75-13.25GHz) and Kx (KX, 13.75-14.5GHz) bands

In addition to its exceptional performance and reliability, this device boasts a comprehensive suite of monitoring and control capabilities, easily accessible via Ethernet, serial RS232, RS485 interfaces, or dry contacts. It is the premier choice for demanding mobile and fixed applications, specifically designed for outdoor installations, and offers the advanced capability to utilize high MODCOD (up to 256 APSK) for broadcast contribution, as well as for Cellular Backhaul (CBH) and high-capacity data transmission for VSAT and SCPC User Terminals

With an IP67 ingress protection rating, the device can be mounted outdoor under the direct sun rays on an antenna post/kingpost, on the platform behind the antenna, or inside the antenna hub, effectively eliminating the W/G RF loss commonly associated with indoor units. Additionally, it does not require air-conditioning, resulting in significant reductions in ongoing electrical costs and maintenance expenses, while eliminating the need for nearby shelter construction

SPACEBRIDGE
ALL THINGS CONNECTED

SBC0020K 20W Appendix 30B-15 and Kx-Band Outdoor Gen III GaN Compact BUC
Technical Specifications

MODELS		
RF CHARACTERISTICS	**SBC0020KL**	**SBC0020KX**
RF Frequency range	12.75 – 13.25 GHz	13.75 – 14.5 GHz / 14.0 – 14.5 GHz
IF Frequency range*	950-1525 MHz	950 - 1700 MHz / 950 – 1450 MHz
LO Frequency*	11.8 GHz	12.8 GHz / 13.05 GHz

RF CHARACTERISTICS		
P_{Sat} , Rated Output Power	43 dBm / 20 W	
P_{Lin1C} , Linear Power as defined by MIL- STD-188-164C, 1 carrier	41 dBm / 12.6 W	
P_{Lin2C} , Linear Power as defined by MIL-STD-188-164C, 2 carriers	40 dBm / 10 W	
Small Signal Gain	55 dB typ	
Gain Flatness over full frequency range	± 2.0 dB max	
Gain Flatness over any 40 MHz	± 0.5 dB max	
Gain Control	20 dB min dynamic range, 0.1 dB steps	
Gain Stability over full Temperature and Frequency ranges	± 2.0 dB max	
Gain stability over 24h at constant drive and temperature	±0.5 dB	
Linearity: IMD3, measured with 2 equal tones 5 MHz apart	-25 dBc at total power = P_{Lin2C}	
External Reference Frequency	10 MHz, sinusoidal, multiplexed with L-band (IF In)	
External Reference Level	0 dBm, ±5 dB	
External Reference SSB Phase Noise, max	-110 dBc/Hz @ 10 Hz; -140 dBc/Hz @ 1 kHz; -165 dBc/Hz @ 100 kHz;	-125 dBc/Hz @ 100 Hz; -155 dBc/Hz @ 10 kHz; -165 dBc/Hz @ 1 MHz;
Up-Converter SSB Phase Noise, max (not present if SSPA)	-54 dBc/Hz @ 10 Hz; -63 dBc/Hz @ 100 Hz; -73 dBc/Hz @ 1 kHz; -83 dBc/Hz @ 10 kHz; -93 dBc/Hz @ 100 kHz; -103 dBc/Hz @ 1 MHz	
Integrated Phase Noise	1° RMS max	
Output Spurious: In-band Out-of-band	< -13 dBm Complies with ETSI EN 301 428/430 and MIL-STD188-164C	
Harmonics at P_{Lin2C}	< -60 dBc	
AM/PM Conversion	2.0˚/dB max at P_{Lin1C}	
Noise Power Density	Tx < - 80 dBm/Hz Rx < - 145 dBm/Hz	
Output RF Power Monitor	-40 dB, 1dB peak-to-peak flatness over frequency range, calibration chart provided	

INTERFACES	
IF Input connector	50 Ohms N-type (F)
Input VSWR	1.5:1 max
RF Output Connector	WR75 grooved
Output VSWR	1.3:1 max
RF Sample	50 Ohms N-type (F)
DC Power In	Over IFL
M&C Interfaces: Ethernet, Serial RS-232 & RS-485	MS3112E10-6P
M&C	RS-485, Ethernet

ENVIRONMENTAL	
Cooling systems	Forced Air
Temperature	
Operating	-40 °C to +55 °C
Storage	-55 °C to +85 °C
Relative Humidity	100%, up to 4” of rain precipitation/hour
Altitude	10,000 ft (3,000 m) AMSL
Adiabatic Derating (Altitude Temperature Derating Factor)	5° C/1000 m
Environmental	IP67 Rating

POWER	
DC Voltage Range	15 – 60 VDC
Power Consumption at P_{Sat}	110 W

MECHANICAL	
Dimensions (LxWxH)	5.50” x 4.50” x 3.82“ 140 x 114 x 97 mm
Weight	4 lb (1.82 kg)