SPACEBRIDGE
ALL THINGS CONNECTED

SBS0250C/SBB0250C* 250W C-band Outdoor Multicarrier Gen III GaN SSPA/BUC

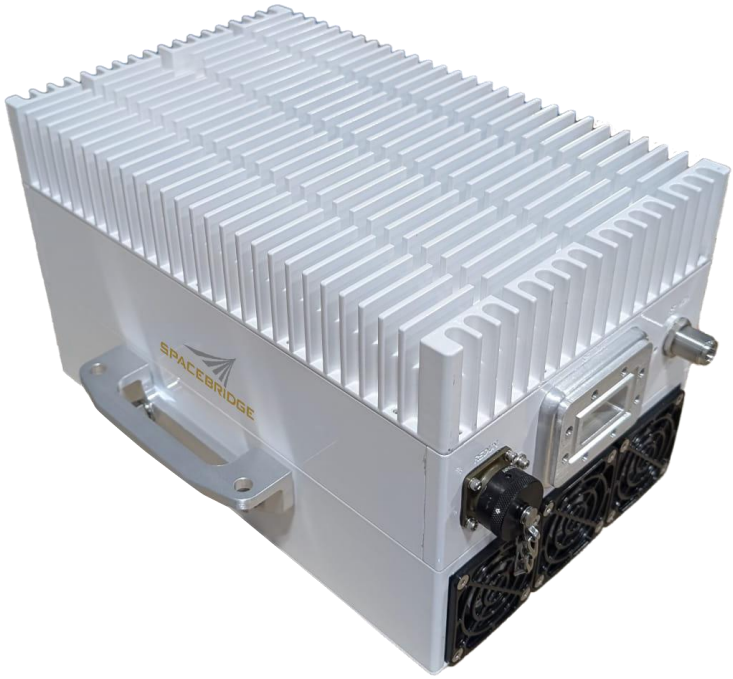
This compact yet powerful 250W outdoor SSPA/BUC harnesses advanced Gen III GaN technology, delivering exceptional broadband RF performance, high efficiency, and outstanding linearity for both single carrier contribution and multicarrier, multi-transponder DTH distribution applications, for CBH, data and broadband VSAT

Key Features

- Built-in 1:1 Redundancy, no External Redundancy Controller required
- 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

- Standard (CS, 5.850-6.425 GHz), Extended (CX, 5.850-6.725 GHz) and Insat (CI, 6.725-7.025 GHz) bands
- Internal High-stability 10 MHz Reference
- 1U Rack mountable RCP (Remote Control Panel) for 1:1 redundancy



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 applications, specifically designed for outdoor installations, and because its ultra-linear performance offers the capability to utilize 256 APSK modulation on small (1.8m) antennas for contribution, as well as multicarrier, multi-transponder use for DTH distribution applications, for CBH, data and broadband VSAT.

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 often eliminating the need for nearby shelter construction

* SSPA: SBS0250K; SSPB (BUC): SBB0250K

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Technical Specifications

MODELS			
	SBS0250CS/SBB0250CS	**SBS0250CX/SBB0250CX**	**SBB0250CI/SBB0250CI**
RF Frequency range	5.850-6.425 GHz	5.850-6.725 GHz	6.725-7.025 GHz
IF Frequency range*	950-1525 MHz	950-1825 MHz	1150-1450 MHz
LO Frequency*	4.9 GHz	4.9 GHz	5.575 GHz

RF CHARACTERISTICS		
P_{Sat} , Rated Output Power	54 dBm / 250 W min	
P_{Lin1C} , Linear Power as defined by MIL-STD-188-164C, 1 carrier	52 dBm / 160 W min	
P_{Lin2C} , Linear Power as defined by MIL-STD-188-164C, 2 carriers	51 dBm / 125 W min	
Small Signal Gain	70 dB typ	
Gain Flatness over full frequency range	± 1.5 dB max	
Gain Flatness over any 40 MHz	± 0.4 dB max	
Gain Control	20 dB min dynamic range, 0.1 dB steps	
Gain Stability over full Temperature and Frequency ranges	± 1.5 dB max	
Gain stability over 24h at constant drive and temperature	0.5 dB peak-to-peak	
Linearity: IMD3 Measured with 2 equal tones 5 MHz apart	-25 dBc at total power = P_{Lin2C} -30 dBc at 6 dB total power back-off from P_{Sat}	
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; -72 dBc/Hz @ 100 Hz; -80 dBc/Hz @ 1 kHz; -90 dBc/Hz @ 10 kHz; -100 dBc/Hz @ 100 kHz; -112 dBc/Hz @ 1 MHz;	
Integrated Phase Noise	1° RMS max	
Output Spurious: In-band Out-of-band	< -60 dBc 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 < - 155 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	CPR137 grooved, threaded 10-32 UNF
Output VSWR	1.3:1 max
RF Sample	50 Ohms N-type (F)
AC Power In	MS3102E16-10P
M&C Interfaces: Ethernet, Serial RS-232 & RS-485, Form-C	MS3112E14-19P
Redundancy	MS3112E14-19S

ENVIRONMENTAL	
Cooling systems	Forced Air
Temperature Operating Storage	 -40°C to +55°C -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	
AC Voltage Range	196-265 VAC
Frequency Range	47-63 Hz
Power Consumption at P_{Sat}	1000 W
Power Consumption at P_{Lin2C}	870 W

MECHANICAL	
Dimensions (LxWxH)	12.88 x 11.0 x 7.36 in 327 x 279 x 187 mm
Weight	30 lb (13.6 kg)

*Parameters marked with asterisk related to the BUC option