

This compact yet powerful 1000W outdoor SSPA/BUC harnesses advanced Gen III GaN technology, delivering exceptional broadband RF performance, high efficiency, and outstanding linearity and reliability for applications such as multicarrier, multi-transponder DTH contribution or distribution, CBH, HTS VSAT Hub

Key Features

- Built-in 2:1 and 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

- HPA or BUC
- Standard (CS, 5.850-6.425 GHz), Extended (CX, 5.850-6.725 GHz) and Insat (CI, 6.725-7.025 GHz) bands
- Phase Combining/Fail Safe two units to achieve 1750W / 1000W P_{sat}
- Internal High-stability 10 MHz Reference
- 1U Rack mountable RCP (Remote Control Panel) for 1:1 redundancy
- 2U Rack mountable RCP for Phase Combining application and 2:1 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 and data transmission, such as HTS/UHTS VSAT Hubs

With an IP67 ingress protection rating, the device can be mounted outdoor under the direct sun rays on an antenna post/kingpost, or 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: SBS1000C; SSPB (BUC): SBB1000C

SBS1000C/SBB1000C 1000W C-band Outdoor Multicarrier Gen III GaN SSPA/BUC

Technical Specifications

MODELS			
	SBS1000CS/SBB1000CS	SBS1000CX/SBB1000CX	SBS1000CI/SBB1000CI
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	60 dBm / 1000 W min		
P _{Lin1C} , Linear Power as defined by MIL-STD-188-164C, 1 carrier	58 dBm / 630 W min		
P _{Lin2C} , Linear Power as defined by MIL-STD-188-164C, 2 carriers	59 dBm / 500 W min		
Small Signal Gain	80 dB typ		
Gain Flatness over full frequency range	± 1.5 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	± 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; -125 dBc/Hz @ 100 Hz; -140 dBc/Hz @ 1 kHz; -155 dBc/Hz @ 10 kHz; -165 dBc/Hz @ 100 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	< -60 dBc		
Out-of-band	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	-50 dB, 1dB peak-to-peak flatness over frequency range, calibration chart provided		
INTERFACES		ENVIRONMENTAL	
IF Input connector	50 Ohms N-type (F)	Cooling systems	Forced Air
Input VSWR	1.5:1 max	Temperature	
RF Output Connector	CPR137 grooved, threaded 10-32 UNF	Operating	-40°C to +55°C
Output VSWR	1.3:1 max	Storage	-55°C to +85°C
RF Sample	50 Ohms N-type (F)	Relative Humidity	100%, up to 4" of rain precipitation/hour
AC Power In	MS3102R14S-7P	Altitude	10,000 ft (3,000 m) AMSL
M&C Interfaces: Ethernet, Serial RS-232 & RS-485, Form-C	MS3112E14-19P	Adiabatic Derating (Altitude Temperature Derating Factor)	5°C / 1000 m
Redundancy	MS3112E14-19S	Environmental	IP67 Rating
POWER		MECHANICAL	
AC Voltage Range	195-265 VAC	Dimensions (LxWxH)	28.63 x 19.00 x 6.49 in 727.2 x 482.6 x 164.8 mm
Frequency Range	47-63 Hz	Weight	99 lb (45 kg)
Power Consumption at P _{Sat}	3600 W		
Power Consumption at P _{Lin2C}	3100 W		

*Parameters marked with asterisk related to the BUC option