

SBB0125X 125W X-Band Outdoor MIL-STD188-164C Gen III GaN BUC

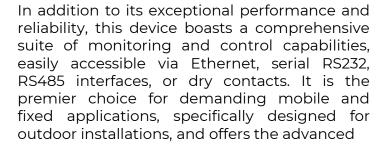
This compact and robust 125W Outdoor BUC, powered by cutting-edge third-generation GaN technology, offers exceptional performance with its lightweight design, low power consumption, and superior linearity. Engineered for optimal efficiency and reliability, it is perfectly suited for SCOTP and SCOTM applications, including mobile and marine environments

Key Features

- MIL-STD-188-164C compliant
- Built-in 1:1 Redundancy, no External Redundancy Controller required
- High Linearity, efficiency and MTBF
- Built-in High Precision true RMS Output Power Meter
- Built-in 110/220VAC power supply
- Web Interface, SNMP support
- Output Overdrive Protection
- Output VSWR Protection
- Thermal shutdown

Options

- Internal High-stability 10 MHz Reference
- White or FS34083 Aerospace flat green





capability to utilize high MODCOD on small antennas for high data rate transmission. With an IP67 ingress protection rating, the device can be installed outdoor under the direct sun rays, at a short distance from the antenna feed, usually on the antenna boom, which contributes to significantly improve link budget and save electrical and maintenance costs.





SBB0125X 125W X-Band Outdoor MIL-STD188-164C Gen III GaN BUC

Technical Specifications

| MODEL | | |
|---------------------|----------------|--|
| RF CHARACTERISTICS | SBB0125X | |
| RF Frequency range | 7.9 – 8.4 GHz | |
| IF Frequency range* | 950 - 1450 MHz | |
| LO Frequency* | 6.950 GHz | |

| | CTERISTICS |
|--|---|
| P _{Sat} , Output Power | 51 dBm / 125 W |
| P _{Lin1C} , Linear Power as defined by MIL-STD-188-164C, 1 carrier | 49 dBm / 79 W |
| P _{Lin2C} , Linear Power as defined by MIL-STD-188-164C, 2 carriers | 48 dBm / 62.5 W |
| Small Signal Gain | 70 dB nom |
| Input Level without damage | 0 dBm max |
| 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 |
| Power Measurement Stability for built-in True RMS Power Meter | 0.5 dBpp |
| Linearity: IMD3, measured with 2 equal CW carriers 5 MHz apart | -25 dBc max 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; -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; -81 dBc/Hz @ 1 kHz; -90 dBc/Hz @ 10 kHz; -102 dBc/Hz @ 100 kHz; -115 dBc/Hz @ 1 MHz |
| ntegrated SSB Phase Noise | 1° RMS max |
| Output Spurious: In-band Out-of-band | < -13 dBm Complies with ETSI EN 301 428/430 and MIL-STD-188-164C |
| Harmonics at P _{Lin2C} | < -60 dBc |
| AM/PM Conversion | 2.0°/dB max at P _{LinIC} |
| Noise Power Density | Tx < - 80 dBm/Hz Rx < - 145 dBm/Hz (with external TRF and RRF) |
| 0 · · · · · · · · · · · · · · · · · · · | -40 dB, 1dB peak-to-peak flatness over frequency range, |

| Dutput | RF | Power | Monitor |
|--------|----|-------|---------|

| ı | | INTERFACES |
|---|---|--------------------------------------|
| | IF Input connector | 50 Ohms N-type (F) |
| | Input VSWR | 1.5:1 max |
| | RF Output Connector | CPR112, grooved |
| | Output VSWR | 1.3:1 max |
| | RF Sample | 50 Ohms N-type (F) |
| | AC Power In/DC Power In* | MS3102R14S-7P/MS3102R14S-9P |
| | M&C Interfaces: Ethernet, Serial RS-232 & RS-485 | MS3112E14-19P |
| | Redundancy | MS3112E14-19S |
| | M&C | RS-232, RS-485, Ethernet (Web, SNMP) |

| POWI | ER |
|---|-------------|
| AC Voltage Range | 90-265 VAC |
| Frequency Range | 47-63 Hz |
| DC Voltage Range* | 36 – 72 VDC |
| Power Consumption at P _{Sat} | 500 W |
| Power Consumption at P _{Lin2C} | 435 W |

| 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 | |

calibration chart provided, accuracy ±0.25 dB

| | MECHANICAL |
|--------------------|--------------------------------------|
| Dimensions (LxWxH) | 9" x 5" x 6.5" 229 x 127 x 165 mm |
| Weight | 10 lb (4.5 kg) |

 $^{^{\}ast}$ When DC power option is ordered, AC power is not available



