

300W / 400W / 500W Ku-Band Indoor BUC/SSPB/SSPA Second Generation GaN Technology



SapphireBlu™ Super Compact

| | | |
|------------|---------|-----------|
| SSPA | ARMAg-K | SG series |
| SSPB (BUC) | ARMUg-K | SG series |

Features

- Output power of 300W, 400W or 500W in a compact single package
- High linearity
- Redundant ready with no external controller
- Full M&C capability via RS232, RS485
- Built-in Forward and Reflected precision power metering
- Output RF calibrated Sample Port
- Redundant Systems shipped fully tested
- Infinite VSWR protection with automatic high reflected power shutdown
- Detachable power supply module
- 19" Rackmount, 5RU, 28" deep
- CE marking



Options

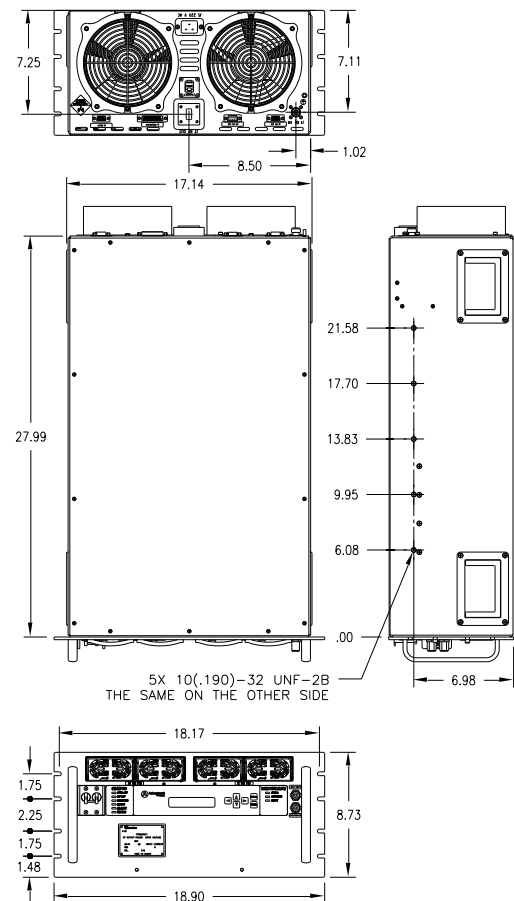
- 1:1 or 1:2 Redundant configuration
- L-Band input (SSPB/BUC operation)
- Internal/External reference with auto-sensing
- Ethernet port

Accessories

- Mounting slides
- Remote M&C panel with optional SNMP
- Flexible and rigid waveguides

Overview

The new Super Compact SG Series Ku-Band SSPA/BUCs provide highest power density in the industry. Combined with the traditional Advantech Wireless features, these new series of BUCs provide the ultimate in performance and convenience.



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| Technical Specifications | | | | | |
|---|--|--|---|------------------------|--|
| Output Power | 300W | | 400W | | 500W |
| P_{SAT} (nominal) | +55.0 dBm | | +56.0 dBm | | +57.0 dBm |
| P_{LINEAR} | +52.0 dBm | | +53.0 dBm | | +54.0 dBm |
| Operating Frequency | Ku | 14.0 – 14.500 GHz | KX | 13.75 – 14.5 GHz | |
| L-Band input (BUC) | Ku | 950 – 1450 MHz | KX | 950 – 1700 MHz | |
| Gain | SSPA | 67 dB min | SSPB (BUC) | 75 dB min | |
| Gain adjustment range | 20 dB in 0.1 dB steps | | | | |
| Gain flatness over full band | SSPA 2dB p-p max | | SSPB (BUC) 4 dB p-p max | | |
| Gain slope over 40 MHz | ± 0.3 dB max | | SSPB (BUC) ± 0.5 dB max | | |
| Gain variation over temperature | ± 1.5 dB max | | | | |
| Input Impedance and VSWR | 50 Ω | SSPA 1.3:1 | SSPB (BUC) 1.4:1 | | |
| Output VSWR | 1.3:1 | | | | |
| Noise power density | -75 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95GHz – 12.75 GHz) | | | | |
| Spurious at P_{LINEAR} | SSPA: -65 dBc max | | SSPB (BUC): -55 dBc max | | |
| Harmonics | -50 dBc at P_{LINEAR} | | | | |
| AM/PM conversion | 1°/dB at P_{LINEAR} | | | | |
| Third order intermod. (two tones) | -25 dBc two signal 5 MHz apart at P_{LINEAR} relative to total power | | | | |
| Spectral Regrowth | -30 dBc at P_{LINEAR} (for QPSK at 1.5 x symbol rate and OQPSK at 1,0 x symbol rate) | | | | |
| Group delay | Ripple 1 nsec p-p max over any 40 MHz band | | | | |
| Residual AM Noise | 0 – 10 kHz | -45 dBc | | | |
| | 10 kHz – 500 kHz | -20 (1.25 + log F) dBc | | F = Frequency in kHz | |
| | 500 kHz – 1 MHz | -80 dBc | | | |
| SSPB (BUC) | | | | | |
| Local Oscillator freq. | Ku –13.050 GHz | | KX – 12.800 GHz | | |
| Internal Reference frequency (optional) | 10 MHz | | Aging/day | ±2 × 10 ⁻¹⁰ | Aging/year ±5 × 10 ⁻⁸ Stability ±2 × 10 ⁻⁸ over temp range |
| Phase Noise | -53 dBc/Hz at 10 kHz | | -73 dBc/Hz at 1000Hz | | -93 dBc/Hz at 100 kHz |
| | -63 dBc/Hz at 100Hz | | -83 dBc/Hz at 10 kHz | | |
| External Reference | 10 MHz | | | | |
| Frequency phase noise (max) | -120 dBc/Hz at 10Hz | | -150 dBc/Hz at 1000Hz | | -160 dBc/Hz at 100 kHz |
| | -135 dBc/Hz at 100Hz | | -155 dBc/Hz at 10 kHz | | |
| Weight & Dimensions | | | | | |
| Dimensions (L x W x H) | 19" rackmount 5U high , 28" deep | | | | |
| Weight | 99 lbs (44kg) | | | | |
| AC input voltage | 220V AC ± 20% (47 – 63 Hz) PF 0.95 min | | | | |
| Power consumption (nominal) | 1800W at P_{LINEAR} 2500W at P_{SAT} | | 2300W at P_{LINEAR} 3100W at P_{SAT} | | 2600W at P_{LINEAR} 3500W at P_{SAT} |
| Interfaces | Input (RF or L-Band): N type female Output Sample Port: N type female RS485/RS232: DB9 | | AC line: IEC 320 Inlet RF output: WR75 Ethernet: RJ45 | | |
| Environmental | Temperature | Operating 0°C to +50 °C Storage -55°C to +85 °C | | | |
| | Humidity | 5% to 95% non-condensing | | | |
| | Altitude | 10,000' AMSL, de-rated by 2 °C/1000' from AMSL | | | |

Ref.: PB-SSPBg-2G-Ku-Rack-300W-500W-001-19049

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