

6600W C-Band Indoor Modular BUC/SSPB/SSPA UltraLinear™ Solid State GaN Technology



| | | |
|------------|---------|--------------------------|
| SSPA | ARMAg-K | 7000-SapphireBlu™ series |
| SSPB (BUC) | ARMUg-K | 7000-SapphireBlu™ series |

SapphireBlu™ UltraLinear™



- High power density GaN Technology SSPA concept, in a compact, indoor modular package with Built in Redundancy
- 6.6kW single thread or 3.3kW 1:1 Redundant
- UltraLinear™, designed for Multi Carrier Operations
- Built in Arc Detection Circuitry

The Ultimate Solution for Wide Bandwidth, Ultra High Power Satellite Teleport Uplinks

- Maximum power/ bandwidth combination
- Save Millions of dollars in Energy Cost, Satellite Bandwidth, CAPEX
- Can cover multiple transponders, full DVB-S2 enabled
- Indoor Modular Package, for maximum link availability
- Optional Built in redundant L-band Interface
- Built in Redundancy, field replaceable RF modules



-
- Highest Linear Power Available. Exceeds all barriers between Klystrons, TWTs and SSPAs
 - We can now saturate all transponders of an entire satellite and obtain maximum bandwidth/power efficiency.
 - 3 years warranty, due to increased GaN Technology reliability
 - Backed by over 25 years of Indoor SSPA design and manufacturing



6600W C-Band Indoor Modular BUC/SSPB/SSPA UltraLinear™ Solid State GaN Technology

| Technical Specifications | | | | |
|---|--|--|---|--|
| Output Power | | 6600 W | | |
| P_{SAT} , PA Module | | +68.12 dBm nominal | | |
| P_{SAT} , at Flange | | +68.0 dBm nominal | | |
| P_{LINEAR} | | +64.0 dBm minimum | | |
| | P_{LINEAR} is the power at which the IMD specs are met and the spectral regrowth is <-30 dBc @ 1.0 x symbol rate for QPSK/OQPSK/8PSK modulation. | | | |
| Operating Frequency | CS | 5.85 – 6.425 GHz | CX | 5.85-6.725 GHz |
| L-Band input (BUC) | CS | 950 – 1525 MHz | CX | 950 – 1825 MHz |
| Gain | SSPA | 75 dB typical | SSPB (BUC) | 78 dB typical |
| Gain adjustment range | 20 dB in 0.1 dB steps | | | |
| Gain flatness over full band | SSPA 3dB p-p max | | SSPB (BUC) 4 dB p-p max (CS); 4dB p-p over 500 MHz (CX) | |
| 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 | -70 dBm/Hz in Transmit Band, -145 dBm/Hz in Receive Band (10.95 GHz – 12.75 GHz) | | | |
| Spurious at P_{LINEAR} | SSPA: -65 dBc max SSPB (BUC): -55 dBc max | | | |
| Harmonics | -55 dBc @ P_{LINEAR} | | | |
| AM/PM conversion | <1.0°/dB P_{LINEAR} | | | |
| Third order intermod (two tones) | -25 dBc two signals 5 MHz apart versus total power (64.0 dBm Plinear) | | | |
| 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. | 4.9 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 | |
| | -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 | |
| | -135 dBc/Hz at 100Hz | | -155 dBc/Hz at 10 kHz | |
| Weight & Dimensions | | | | |
| Dimensions (L x W x H) | L x W x H 62 x 62 x 90 inches (157.5 x 157.5 x 229 cm) 2 x 19" cabinets | | | |
| Weight | 990 lbs (450 kg) | | | |
| AC input voltage | 190 – 265 VAC (47-63 Hz) 3 phase | | | |
| Cooling | Water cooled (Optional Forced Air Cooled) | | | |
| Power consumption | 47,000 W at P_{LINEAR} 50,000 W at P_{SAT} | | | |
| Interfaces | Input (RF or L-Band) - N type female | | AC line - 3 x Phase PDU | |
| | Output Sample Port - N type female | | RF output - CPR137 | |
| | RS485/Ethernet - DB9/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-SAPPH-2G-Ku-Rack-1250W-001-18145

NORTH AMERICA

USA
info.usa@advantechwireless.com

CANADA
Info.canada@advantechwireless.com

EUROPE

UNITED KINGDOM
info.uk@advantechwireless.com

RUSSIA & CIS
info.russia@advantechwireless.com

SOUTH AMERICA

info.latam@advantechwireless.com

BRAZIL
info.brazil@advantechwireless.com

ASIA

info.asia@advantechwireless.com

INDIA
info.india@advantechwireless.com