# 800W C-Band GaN SSPA
# BUC Rack-mount

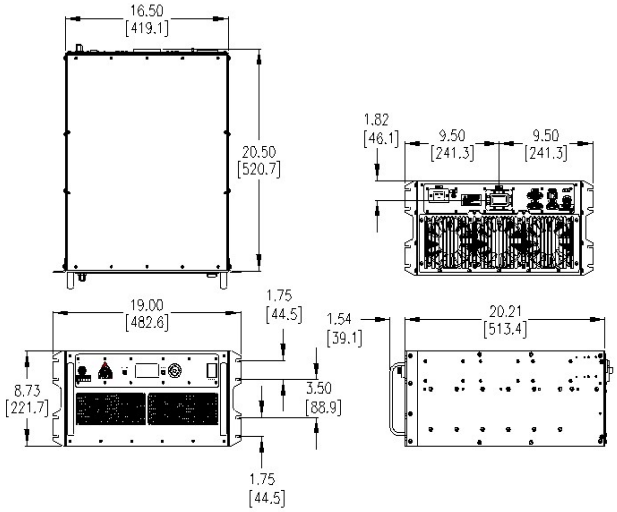
## Overview

Designed for use primarily in satellite communications applications. The operating frequency band of 5.85GHz to 6.425GHz in the standard C-Band. Other frequency ranges are also available to customer specification. These units are characterized by high linearity and high power efficiency, as well as excellent thermal efficiency and dependability over the full operating temperature range.

- C-Band GaN: 800W

## Features

- Redundancy ready
- Light weight and compact – highest power density on the market
- High thermal dissipation efficiency
- Over temperature shutdown
- High Mean Time Before Failure (MTBF over 100K hours)
- Monitor & Control Interface
- Serial and Analog M&C
- Internet web page interface
- Alarms: Voltage/Current/Temperature/Summary
- Control: Mute/Gain
- RF power detection




## Options

- Frequency range options available
- 1:1 and 1:2 Redundancy Systems
- Extended Warranty
- BUC: Built in with or without internal 10 MHz ref

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## Technical Specifications

| | | | | | |
|---|---|---|---|---|---|
| **Output Power** | **800 W** | | | | |
| $P_{SAT\ (typ.)}$ | +59.0 dBm | | | | |
| $P_{LINEAR\ min.}$ | +56.0 dBm | | | | |
| Operating Frequency | CS: 5.850 – 6.425 GHz | CX: 5.850 – 6.725 GHz | Ci-Band: 6.725 – 7.025 GHz | | |
| L-Band input (BUC) | CS: 950 – 1525 MHz | CX: 950 – 1825 MHz | Ci-Band:1275 -1575 MHz | | |
| Gain | SSPA 70 dB min | SSPB (BUC) 75dB min | | | |
| 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 | | | |
| Gain slope over 40 MHz | SSPA ± 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,<br>-120 dBm/Hz in Receive Band (3.4GHz – 4.2 GHz) | | | | |
| Spurious at $P_{LINEAR}$ | SSPA: -60 dBc max SSPB (BUC): -55 dBc max | | | | |
| Harmonics | -70 dBc at $P_{LINEAR}$ | | | | |
| AM/PM conversion | 1º/dB at $P_{LINEAR}$ | | | | |
| Third order IMD (two tones) | -25 dBc at $P_{LINEAR}$ | | | | |
| Spectral Regrowth | -30 dBc max at $P_{LINEAR}$ (for QPSK, 8PSK, 16APSK at 1.5 x symbol rate) | | | | |
| Group delay | Ripple 1 nsec p-p max over any 40 MHz band | | | | |
| Residual AM Noise | 0 – 10 kHz -45 dBc<br>10 kHz – 500 kHz -20 (1.25 + log F) dBc F = Frequency in kHz<br>500 kHz – 1 MHz -80 dBc | | | | |
| **SSPB (BUC)** | | | | | |
| Local Oscillator freq. | 4.9 GHz for CS/CX-band | 5.76 GHz for Ci-band | | | |
| Internal Reference frequency (optional) | 10 MHz<br>Aging/day ±2 × $10^{-10}$ Aging/year ±5 × $10^{-8}$ Stability ±2 × $10^{-8}$ over temp range | | | | |
| Phase Noise | -78 dBc/Hz at 100Hz -95 dBc/Hz at 10 kHz<br>-85 dBc/Hz at 1 kHz -112 dBc/Hz at 100 kHz | | | | |
| External Reference<br>Frequency phase noise (max) | 10 MHz<br>-120 dBc/Hz at 10Hz -155 dBc/Hz at 10 kHz<br>-135 dBc/Hz at 100Hz -160 dBc/Hz at 100 kHz<br>-150 dBc/Hz at 1000Hz | | | | |
| **Weight & Dimensions** | | | | | |
| Dimensions (L x W x H) | 19" rackmount 5U high , 21" deep | | | | |
| Weight | 88.2 lbs. (40 kg) | | | | |
| AC input voltage | 220V AC ± 20% (47 – 63 Hz) PF 0.95 min | | | | |
| Power consumption (nominal) | 3400W at Psat | | | | |
| Interfaces | Input: N type (f) | RF output: CPR 137 | Output Sample Port: N type (f) | | |
| | Output Sample Port: N type (f) | RS-232: DB-15 | RS-485: DB-9 | | |
| | Redundancy: DB-15 (f) | Ethernet: RJ-45 | AC line: IEC 320 inlet | | |
| Environmental | Temperature Operating 0ºC to +50 ºC<br>Storage -55ºC to +85 ºC<br>Humidity 5% to 95% non-condensing<br>Altitude 10,000' AMSL, de-rated by 2 ºC/1000> from AMSL | | | | |

Ref.: PB-AWT-C-Rack-5RU-GaN-22249


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Specifications are subject to change without notice.