

## Spacepath STS500C 500/1000W C Band Compact GaN BUC



Smaller, lighter and more Powerful this series offers the World's Smallest, Lightest, Powerful and Linear GaN Powered C-Band SSPA / BUC 500W-1000W available on the market today.

This series allows significant high power Solid State Power Amplifier / Block Up Converter size and weight reduction and at the same time substantially improves thermal efficiency, which leads to higher reliability and longer MTBF. That's why SpacePath Communications offers 3 years warranty for this product line!

Using patent pending Z-combining method and advanced GaN technology this new SpacePath Communications 500W-1000W C-Band SSPA/SSPB / BUC has truly outstanding power density - up to 1000W Psat in this super compact 58x38x30cm package weighing only 49KG.

This series features best in class RF characteristics, RF sample port, true RMS power measurements, extensive monitor and control capabilities enabled via Ethernet, Serial and/or Analog Interfaces.

500W-1000W C-Band series remarkably compact size and high thermal efficiency results in overall system size and cost reduction making it the ideal candidate for mobile and fixed VSAT applications.

### Options

- Internal / Autosense 10MHz Reference
- Automated Level Control (ALC)
- BUC or SSPA
- Antenna Mounting Kit
- External Rackmount Remote M&C Panel

### Features

- Extremely High Power Density—Up to 1000W PSAT in 58x38x30cms
- Available in Standard and Full C-Band
- RF Overdrive Protection
- Input and Output True RMS Power Detection

- Superior RF Performance
  - Phase noise 8-10dB better than IESS308/309
  - P1dB up to 60dBm
  - Spurious below -60dBc
  - Wide dynamic range of Gain Control
  - High Linearity
- Configuration via RS-232 serial console, packet protocol RS-485—User friendly HTTP based GUI and SNMP
- Redundant Ready— No External Redundancy Controller Required
- Status LED
- Field Upgradable Software

## 500W-1000W C Band Block-Up-Converter GaN Specification

| Parameter                                  | 500W  | 600W  | 700W        | 800W      | 1000W     |
|--|---|---|-------------|-----------|-----------|
| RF Performance                             |   |   |             |           |           |
| RF Frequency Range-Available in/switched   | 5.725-6.525GHz / 5.850-6.425GHz / 5.850-6.725GHz  |   |             |           |           |
| IF Frequency Rage                          | 950-1750MHz / 950-1525MHz / 950-1825MHz   |   |             |           |           |
| LO Frequency                               | 4.775GHz / 4.9GHz / 4.9GHz  |   |             |           |           |
| Conversion                                 | Single Conversion; non-inverting  |   |             |           |           |
| Saturated Power                            | 57dBm typ   | 58dBm typ   | 58.5dBm typ | 59dBm typ | 60dBm typ |
| Linear Power                               | 54dBm min   | 55dBm min   | 55.5dBm min | 56dBm min | 57dBm min |
| Conversion Gain                            | 75dB min, 77dB typ  |   |             |           |           |
| Gain Flatness                              | +/-1dB typ +/-1.5dB max over full band;<br>+/-0.5dB max over any 40MHz                    |   |             |           |           |
| Gain Stability over temperature            | +/-1.5dB over full temperature range  |   |             |           |           |
| Gain Stability over input power            | 3dB typ, 4dB max from 10dB back off to rated power  |   |             |           |           |
| Gain Adjust, dB                            | 20dB in 0.1dB steps   |   |             |           |           |
| External Reference Frequency               | 10MHz multiplexed with IF In  |   |             |           |           |
| External Reference Required Phase Noise    | -130dBc/Hz @ 100Hz -140dBc/Hz @ 1kHz -150dBc/Hz @ 10kHz -155dBc/Hz @ 100kHz               |   |             |           |           |
| Up-Converter Phase Noise                   | -68dBc/Hz @ 100Hz -80dBc/Hz @ 1kHz -90dBc/Hz @ 10kHz -95dBc/Hz @ 100kHz -115dBc/Hz @ 1MHz |   |             |           |           |
| Linearity:                                 | 2 tone IMD  | -25dBc at 3dB total power back off from rated power                   |             |           |           |
|  | Spectral Re-growth  | -30dBc for QPSK at 1.5 x symbol rate at 3dB back off from rated power |             |           |           |
| Noise Power Density: Transmit Band         |   | -70dBm/Hz   |             |           |           |
| Output Spurious:                           | Non-signal related  | -60dBc  |             |           |           |
|  | Signal related  | -55dBc  |             |           |           |
| Power                                      |   |   |             |           |           |
| AC Voltage Range                           | 190-265VAC 50-60Hz Auto-Ranging PFC   |   |             |           |           |
| Power Consumption at rated power           | 4000W   |   |             |           |           |
| Power Consumption at 3dB back off          | 3500W   |   |             |           |           |
| Mechanical                                 |   |   |             |           |           |
| Size                                       | 58 x 38 x 30cms   |   |             |           |           |
| Weight                                     | 49KG  |   |             |           |           |
| Cooling                                    | Forced Air  |   |             |           |           |
| Operating temperature                      | -50°C to +55°C  |   |             |           |           |
| Relative Humidity                          | Up to 100% condensing   |   |             |           |           |
| Interfaces                                 |   |   |             |           |           |
| IF Input Connector                         | N-type female   |   |             |           |           |
| RF Output Connector                        | WR137 grooved   |   |             |           |           |
| RF Monitor Port                            | N-type female   |   |             |           |           |
| AC Power In                                | MS3112E12-3P  |   |             |           |           |
| M&C Interface-Serial, Analog, and Ethernet | MS3112E14-19S   |   |             |           |           |
| Redundant Interface                        | MS3112E14-19P   |   |             |           |           |