



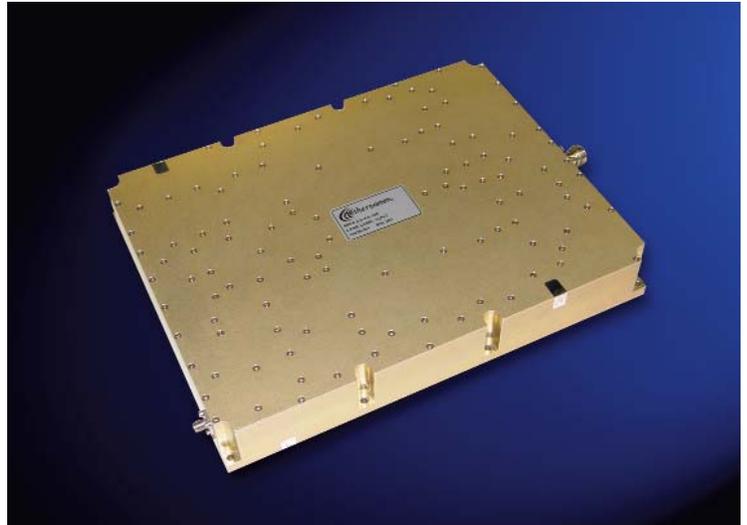
## High Power, Compact GaN Amplifier Solid State RF Amplifier

Aethercomm Model Number SSPA 2.0-4.0-100 is a high power, Gallium Nitride (GaN) amplifier that operates from 2000 MHz to 4000 MHz minimum and is packaged in a rugged enclosure. This amplifier is designed for operation in harsh environments.

Typical output power is 100 watts across the band at P3dB. Small signal gain is 54 dB  $\pm$  3.0 dB across the band typically. Input and output VSWR is 2.0:1 maximum. This unit is equipped with DC switching circuitry that enables and disables the RF devices inside the amplifier in 540 nSec typical for turn on and 230 nSec typical for turn off time. Standard features include reverse polarity protection, output short and open circuit protection, and over/under voltage protection. There is a temperature sensor internal to this amplifier with thermal shut down to protect the unit. This RF power amplifier operates from a +28 Vdc power supply. Standby current is ~50 mA and the quiescent current is 5.25 amps without RF drive. This unit operates from -40C to +85C base plate temperature. Noise figure is 10.0 dB typically across the band.

This high power RF module can be employed in high shock and vibration environments. Standard housing size is approximately 9.25(w) by 12.0(l) by 1.5(h) inches. For mounting and heat sink instructions, please contact the factory. An SMA female connector is standard on the RF input port. A type N female connector is standard on the output port. DC and logic connections are accessible via a DSUB connector. A logic high enables the amplifier to the On state. A low or open circuit high will disable the unit. Typical test data appears on page two of this data sheet at room temperature.

- **Operation across 2000 to 4000 MHz min**
- **CW Operation**
- **100+ Watts Output Power typ.**
- **28 Vdc Operation**



This is an example of an Aethercomm standard product. Aethercomm designs and manufactures high performance, high power CW or pulsed SSPA's for commercial, military and satellite communications customer.

Aethercomm Inc. reserves the right to make changes without further notice. Aethercomm recommends that before these items herein are specified into a system or critical application that the performance characteristics be verified by contacting the factory.

## SSPA 2.0-4.0-100

SSPA 2.0-4.0-100 Typical Performance from 2000 to 4000 MHz @ 25°C with a CW Input Signal

Freq (MHz)	Pout @ P3dB (dBm)	Current @ P3dB from a +28 Vdc Supply (Amps)	2nd Harmonic at P3dB (dBc)	3rd Harmonic at P3dB (dBc)	Small Signal Gain at Pin = -20 dBm (dB)
2000	53.0	31.0	-18.0	-34.0	57.2
2250	52.2	31.0	-25.0	-35.0	52.9
2500	51.1	27.0	-39.0	-47.0	50.8
2750	51.6	31.0	-36.0	-61.0	51.4
3000	52.9	30.0	-31.0	-58.0	54.7
3250	52.1	27.0	-38.0	-64.0	55.8
3500	51.2	22.0	-30.7	-65.0	57.6
3750	50.8	22.0	-55.7	-70.0	52.9
4000	50.2	22.0	-42.6	-70.0	54.6