High Power, Rack Mount, Broadband Amplifier

High Power CW, Gallium Nitride Amplifier

Aethercomm Model Number SSPA 2.8-3.8-200-RM is a high power, CW RF amplifier that operates from 2.5 to 4.0 GHz in a rack mounted configuration. This GaN amplifier is easily extendable for operation from 2.5 to 6.0 GHz with 200 watts of RF power across the full band. Also, higher power levels are easily achievable. Please contact the factory. It is packaged in a 3u high, 19 inch rack mounted enclosure. This amplifier has a minimum saturated output power of 200 Watts. This amplifier offers a typical saturated gain of 40 dB with a typical power flatness of ± 1.0dB. Input and output VSWR is 1.5:1 maximum. This RF rack mounted amplifier operates from 208 to 220 Vac.

The GaN devices employed in this amplifier offer a highly efficient amplifier and this PA can be used either CW or pulsed operation. The power added efficiency of the overall amplifier is approximately 20%. There are numerous alarms on the front panel to show BIT status of the complete subsystem. Front panel status includes the following: power supply fault, temperature fault, internal subassembly faults, enable on, forward power voltage and forward power sample and reverse power voltage and reverse power sample.

The output is fully protected from an infinite VSWR at the RF output port. The input RF connector is SMA Female. The output RF connector is a type N female. The amplifier enable time is 10uSec for on and off timing.. Output spurious emissions are <-65dBc maximum. There are multiple fans that form the internal thermal management system. Test data can be found on page two of this data sheet.

- **200 Watts CW Output Power min**
- **Operation from 2.5 GHz to 4.0 GHz min**
- **Capable of Operation from 2.5 GHz to 6.0 GHz**
- **GaN Technology**
- **208-220 VAC 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 customers.

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SSPA 2.8-3.8-200-RM Typical Performance @ 25°C

Freq (MHz)	CW Output Power at Saturation (dBm)	208 VAC Current at PSat (Amps AC)	CW RF Input Power at Pout (dBm)	Saturated Gain (dB)	2nd Harmonic Magnitude (dBc)	3rd Harmonic Magnitude (dBc)	Power Added Efficiency (%)
2500	54.8	7.0	14.0	40.0	-25.0	-39.0	19.8
2800	53.9	6.3	13.0	40.9	-23.4	< -40	18.7
3000	54.0	6.3	13.2	40.8	-18.0	< -40	19.2
3200	54.0	6.7	13.5	40.5	-11.0	< -40	18.0
3400	54.2	6.9	14.0	40.2	-11.0	< -40	18.3
3600	54.2	6.9	14.0	40.2	-11.0	< -40	18.3
3800	54.2	6.9	14.0	40.2	-11.0	< -40	18.5
4000	54.2	6.9	14.0	40.2	-11.0	< -40	18.6