



High Power, Rack Mount, S Band Amplifier High Power GaN Pulsed Radar Amplifier

Aethercomm Model Number SSPA 3.1-3.5-1300-RM is a high power, pulsed RF amplifier that operates from 3.1 to 3.5 GHz in a rack mounted configuration. This PA is ideal for S band military radars. It is packaged in a 3u high, 19 inch rack mounted enclosure. This amplifier has a minimum peak output power of 1300 Watts at a 5% duty cycle with a 64 uSec pulse width. This amplifier offers a typical saturated gain of 38 dB with a typical power flatness of ± 1.0 dB with an input drive of 24 dBm ± 1.0 dB. Input and output VSWR is 1.5:1 maximum. This RF rack mounted amplifier operates from 208 to 220 Vac. There is a forward power RF sample port along with an output forward detected voltage pulse available.

The GaN devices employed in this amplifier offer a highly efficient amplifier with excellent pulse fidelity. There is a duty cycle limiter in this amplifier to protect this unit. This is typically set at a 10% duty cycle. The nominal pulse conditions are 64uSecs at a 5% duty cycle. This amplifier is capable of higher duty cycles and longer pulse widths. Please contact the factory with any changes you may need. There are alarms on the front of the rack for driver and power amplifier failures and a power supply failure.

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 has a rise time of 65 nSec typical and a 12 nSec fall time typical. 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.

- **Operation from 3100 MHz to 3500 MHz min**
- **38 dB saturated gain typ**
- **1300 watts peak output power minimum**
- **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 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 3.1-3.5-1300-RM

SSPA 3.1-3.5-1300-RM typical performance @ 25°C with a pulse width of 64 uSec at a 5% duty cycle

Freq (MHz)	Peak Output Power (dBm)	208 VAC Current @ PSat (Amps AC)	Peak Input Power @ Pout (dBm)	Saturated Gain (dB)	2nd Harmonic Magnitude (dBc)	3rd Harmonic Magnitude (dBc)	RF Voltage @ PSat (Vdc)
3100	62.1	2.80	24.0	38.1	-51.0	-72.0	4.08
3200	62.6	2.80	24.0	38.6	-51.0	-72.0	4.08
3300	62.7	2.90	24.0	38.7	-52.0	-73.0	4.08
3400	62.3	3.00	24.0	38.3	-60.0	-73.0	4.08
3500	61.7	2.80	24.0	37.7	-67.0	-73.0	4.08