



## High Power, High Efficiency, GaN RF Module Solid State RF Amplifier

Aethercomm Model Number SSPA 7.4-7.5-50 is a high power, RF booster amplifier system that operates from 7400 MHz to 7500 MHz minimum and is packaged in a rugged enclosure. This PA was designed with unmatched GaN devices and this allows us to tailor this amplifier for operation anywhere from UHF to X Band with similar power and gain characteristics. Please contact the factory with your specific frequency operating requirements. This PA module can be employed in any system that needs an increase in output power. This power amplifier is designed and manufactured for operation in harsh environments. Minimum output power is 50 watts across the band from a nominal exciter input power of 10 watts but any input power range can be amplified as this module offers a very large dynamic range. Input and output VSWR is 2.0:1 maximum. Typical system efficiency is 25-30% at the nominal drive level. Standard features include reverse polarity protection, output short and open circuit protection, and over/under voltage protection. Temperature and forward power are monitored and reported by this module. This RF transmit amplifier operates from a +24 Vdc power supply. This unit operates from -40C to +85C base plate temperature. Noise figure is 10.0 dB typically across the band.

This high power RF amplifier is employed in high shock and vibration environments. Standard housing size is approximately 4.00 (w) by 6.00 (l) by 1.85 (h) inches. An SMA female connector is standard on the RF input. A Type TNC is standard on the RF output port. DC and logic connections are accessible via a DSUB connector. Typical test data appears on page two of this data sheet at room temperature. For mounting and heat sink instructions, further test data or operation and logic and pin out requirements, please contact the factory.

- **Gallium Nitride X Band Booster Amplifier**
- **Operation across 7400 to 7500 MHz Minimum**
- **Can be Modified Anywhere from UHF to 8.0 GHz**
- **Input power 10 to 20 Watts**
- **24 Vdc Nominal Input 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 7.4-7.5-50

SSPA 7.4-7.5-50 Typical Performance from 7400 to 7500 MHz  
@ 25° C with a CW Input Stimulus at a Constant Pin of 10 Watts

Freq (MHz)	Pout for Pin = 10 Watts (dBm)	Current with Pin = 10 Watts from a +24 Vdc Supply (Amps)	2nd Harmonic with Pin = 10 Watts (dBc)
7400	48.0	10.0	-55.0
7410	48.1	10.1	-55.0
7420	48.1	10.1	-56.0
7430	48.2	10.1	-57.0
7440	48.1	10.1	-56.0
7450	47.9	10.2	-57.0
7460	47.9	10.2	-57.0
7470	48.0	10.2	-54.0
7480	48.0	10.2	-52.0
7490	48.2	10.2	-49.0
7500	48.2	10.2	-49.0