

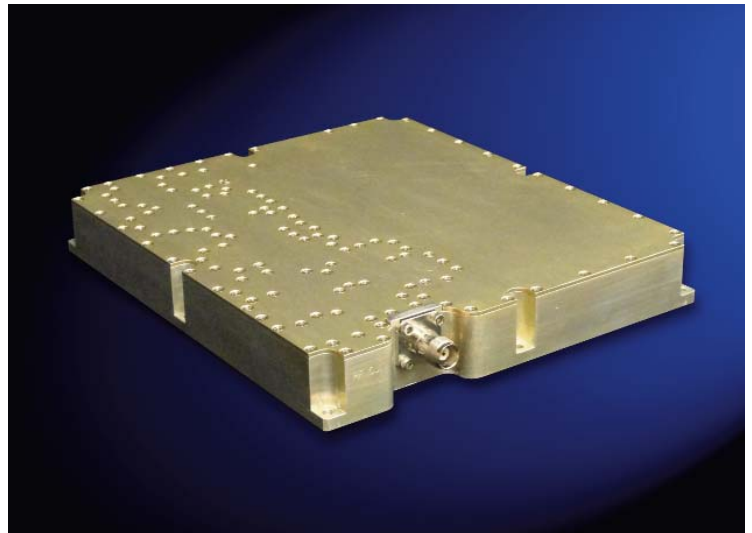


## High Power, X Band GaN Power Amplifier Module Solid State RF Amplifier

Aethercomm Model Number SSPA 8.6-10.2-100 is a high power, X Band SSPA that operates from 8,600 MHz to 10,200 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 in 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 pulsed or CW systems that require high power with very good power added efficiency. This power amplifier is designed and manufactured for operation in harsh environments. Minimum output power is 100 watts across the band from a nominal exciter input power of +5.0 dBm. Input and output VSWR is 2.0:1 maximum. Typical system efficiency is approximately 20% at the nominal drive level. Standard features include reverse polarity protection, output short and open circuit protection, and over/under voltage protection. Temperature shutdown and reporting are standard. This RF amplifier operates from a +18 to +36 Vdc power supply with a nominal applied voltage of +28Vdc. This unit operates from -40C to +85C base plate temperature. Noise figure is 10.0 dB typically across the band. This unit has a PA On/Off Command that turns on and off the device in 10 uSecs typical operation.

This high power RF amplifier is employed in high shock and vibration environments. Standard housing size is approximately 7.0 (w) x 8.7 (l) x 1.1 (h) inches. An SMA female connector is standard on the RF input. A Type TNC-F 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 SSPA**
- **Operation across 8,600 to 10,200 MHz Minimum**
- **Unmatched Devices can be Optimized Throughout X Band**
- **CW or Pulsed Operation**
- **18-36 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 8.6-10.2-100

SSPA 8.6-10.2-100 Typical Performance from 8,600 to 10,200 MHz @ 25° C  
with a CW Input Stimulus at a Constant Pin of 5.0 dBm with +28Vdc Applied

Frequency (MHz)	Pin (dBm)	Pout (dBm)	Current (A)	Small Signal Gain (dB)	Harmonics (2nd) (dBc)	Harmonics (3rd) (dBc)	In-band Spurious (dBc)	Efficiency (%)
8600	5.0	50.5	20.9	56.7	-38	-68	-60	17.0
8800	5.0	50.0	20.7	57.7	-33	-60	-60	17.0
9100	5.0	50.8	21.0	56.2	-33.5	<-70	-60.5	20.0
9500	5.0	50.7	18.8	54.4	-70	<-70	-62	22.0
9900	5.0	50.2	18.4	53.9	-50	<-70	-70	20.0
10200	5.0	50.7	20.2	54.8	-41	<-70	-70	21.0