

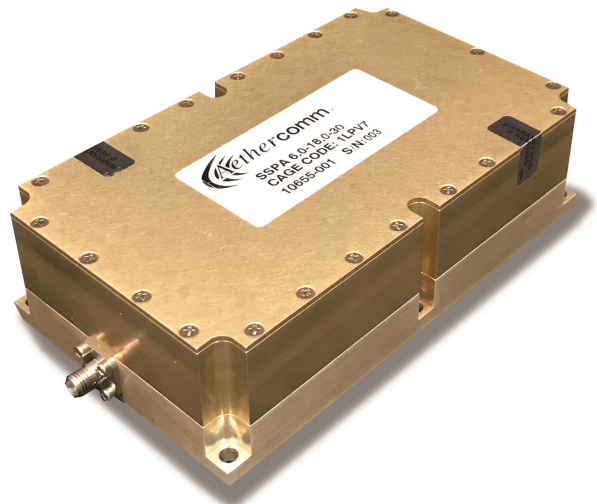


High Powered, Broadband, GaN SSPA

SSPA 6.0-18.0-30

Aethercomm Model Number SSPA 6.0-18.0-30 is a high power, multi octave bandwidth, GaN solid state power amplifier. This amplifier operates from 6 to 18 GHz and delivers 30 watts of saturated power to the load typically. At 18 GHz the power rolls off to a typical magnitude of 20 watts. This GaN broadband SSPA is designed to be employed in any system where high power and decent efficiency are required across a large frequency spectrum. This broadband SSPA is packaged into a rugged housing that can be used in high shock and vibration environments. Typical small signal gain is 45 to 55 dB. Typical power gain is 40 to 45 dB. The composite power added efficiency with a CW input is ~15% at the low end of the band, ~20% in the middle of the band and tails off to ~7.5% at 18 GHz. There is a PA Enable Command that is used to gate the PA on and off. Employing this signal, the SSPA can be gated on in 40 uSec maximum and off in 10 uSec maximum. A logic high turns the PA On. A logic low or open circuit will gate the PA off. Standard features include reverse polarity protection, output short and open circuit protection, and over/under voltage protection. This power amplifier module operates from -40°C to +70°C base plate temperature. There is a PA summary fault output on the DSUB connector. This high power SSPA can be employed in high shock and vibration environments. This module is designed and tested to withstand MIL-STD-810 high shock and vibration requirements. The housing volume is ~ 5.50" (L) by 3.25" (W) by 1.50" (H). The weight of the unit is 2.0 pounds maximum. DC and logic connections are accessible via a 15 pin DSUB connector. The RF input and output connectors are SMA female. Transmit test data appears on page two of this data sheet at room temperature.

- Operation from 6-18 GHz minimum
- GaN Technology
- 30 Watts PSat typical
- ~50 dB Small Signal Gain
- Tx On/Off Command Feature
- Compact, High Shock and Vibe Packaging



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.

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 6.0-18.0-30 Typical Performance from 6 to 18 GHz @ 25° C with a CW Input Stimulus from a +28 Vdc Power Supply

Freq. (GHz)	Pin @ PSat (dBm)	Pout @ PSat (dBm)	Power Gain (dB)	Current @ PSat (Amps)	2nd Harmonic (dBc)	Spurs (dBc)
6.0	2.3	44.9	42.6	7.4	-7.1	<-65
7.0	5.3	46.5	41.3	8.7	-12.6	<-65
8.0	3.3	45.5	42.2	8.7	-9.8	<-65
9.0	4.0	45.6	41.6	8.0	-13.6	<-65
10.0	8.2	44.1	36.0	10.7	-21.5	<-65
11.0	5.0	47.9	42.9	10.9	-29.5	<-65
12.0	5.0	47.6	42.6	11.6	-36.0	<-65
13.0	6.8	47.1	40.3	10.5	-42.0	<-65
14.0	9.9	43.8	33.9	11.1	<-50.0	<-65
15.0	5.7	46.5	40.8	10.1	<-50.0	<-65
16.0	2.4	46.5	44.1	11.0	<-50.0	<-65
17.0	3.0	46.4	43.3	9.8	<-50.0	<-65
18.0	9.6	43.1	33.5	9.5	<-50.0	<-65