

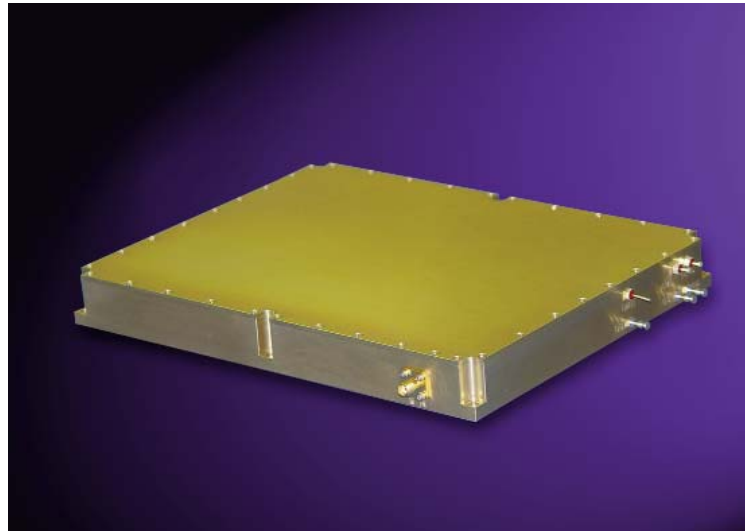


High Power, Broadband, C Band Solid State RF Amplifier

Aethercomm Part Number SSPA 4.4-5.1-30 is a high power, C band, solid state power amplifier that operates from 4.4 to 5.1 GHz. The P1dB at 25C is 30 Watts minimum with a typical value of 50 watts. Typical small signal gain is 48 dB at 25C with ± 1.0 dB gain flatness across the band. Noise Figure is 7.0 dB typical at 25°C. Input VSWR is 2.0:1 maximum. Output VSWR is 2.0:1 maximum. The gain variation over temperature is less than 0.15 dB per degree C. Standard features include reverse polarity protection, output short and open circuit protection. This power amplifier operates from a +12 Vdc power supply with a class A bias of typically 17 amps. This module operates from -20C to +65C base plate temperature. This amplifier is equipped with high speed DC blanking circuitry enables and disables the PA in 1000nSecs typical. A logic level low enables the PA. A logic level high or open circuit disables the PA.

This SSPA is ideal for C Band Communication Systems that require high reliability, high linearity and high power in a rugged and compact module. Standard housing size is approximately 7.0 X 9.0 X 1.0 inches. Mounting is accomplished with through holes in the amplifier housing. An SMA female connector is standard on the input and output RF ports. The amplifier can be configured with any input/output connectors. Contact the factory for any specific requests. DC, command/control signals are accessible via DC feed-through capacitors.

- **Operation from 4.4 to 5.1 GHz**
- **30 Watts P1dB min / 50 Watts P1dB typ**
- **55 Watts PSat typ**
- **58dBm OIP3 typ**
- **± 1.0 dB Gain Flatness typ**



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 4.4-5.1-30

SSPA 4.4-5.1-30 Typical Performance @ 25°C

| Freq (MHz) | P1dB (dBm) | P3dB (dBm) | Current @ P1dB (Amps) | Current @ P3dB (Amps) | 2nd Harm @ P1dB (dBc) | 3rd Harm @ P1dB (dBc) | Small Signal Gain (dB) | OIP3 with SCL @ 37 dBm (dBm) |
|------------|------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|------------------------------|
| 4400 | 47.3 | 47.6 | 16.4 | 15.1 | -44.2 | -56.8 | 48.2 | 55.5 |
| 4500 | 47.8 | 47.9 | 16.8 | 15.6 | -61.2 | -40.5 | 48.4 | 56.0 |
| 4600 | 48.2 | 48.5 | 17.0 | 16.7 | -50.6 | -67.3 | 48.5 | 56.5 |
| 4700 | 48.5 | 48.6 | 17.6 | 17.2 | -42.3 | -66.3 | 50.1 | 56.0 |
| 4800 | 48.4 | 48.4 | 17.3 | 16.1 | -40.3 | -73.3 | 49.7 | 55.0 |
| 4900 | 48.0 | 48.1 | 16.5 | 15.5 | -46.5 | -75.3 | 49.8 | 55.5 |
| 5000 | 47.0 | 47.1 | 15.4 | 13.9 | -50.3 | -58.3 | 49.3 | 55.0 |
| 5100 | 46.1 | 46.5 | 15.6 | 13.2 | -50.8 | -52.8 | 48.2 | 54.5 |