



S Band Specialty Amplifier

Solid State RF Amplifier

Aethercomm Model Number SSPA 2.2-2.3-20-ODU is a high power, amplifier that is employed in an outdoor unit configuration and is mounted on an antenna hub. This specialty power amplifier is employed as satellite ground station uplink transmit amplifier for the TDRSS family of spacecraft. This specialty amplifier consists of an AC/DC converter, multiple amplifier assemblies, output filtering and an environmentally sealed housing including lightning protection. This module operates from 2.2-2.3 GHz and delivers a minimum of 20 watts of RF power to the antenna. It is packaged in a specially sealed environmental housing that is approximately 9.09" by 11.80" by 3.03" with the attached heat sink. This module has a minimum P1dB of 20 watts over temperature and frequency. Saturated output power across the band is typically 30 to 40 watts. Noise figure at room temperature is 3.5 dB typical. This amplifier offers a minimum gain of 40 dB with a typical power flatness of ± 0.75 dB. Typical OIP3 is 55dBm. Input and output VSWR is 1.5:1 maximum. Class AB current is 3.4 amps typical employing a 115Vac, 60Hz, single phase power supply. Worst case harmonic values are -40 dBc. Standard features include a very well regulated AC/DC converter, output short and open circuit protection, lightning protection, an environmentally sealed housing, an external fuse to protect the assembly and a robust modular design to ensure high reliability. Input/output RF connectors are sealed SMA female. The AC input voltage is applied via a mil-circular connector. This amplifier operates from -20C to +85C base plate. Complete test data is found on sheet two of this data sheet.

- **Out Door Amplifier Unit**
- **Operation from 2.2 GHz to 2.3 GHz min**
- **Internal AC/DC Converter**
- **Lightning Protected**
- **Multiple Integrated Assemblies**



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 2.2-2.3-20-ODU

SSPA 2.2-2.3-20-ODU Typical Performance @ 25°C

Freq (GHz)	P1dB (dBm)	PSat (dBm)	AC Current @ P1dB (Amps)	Noise Figure (dB)	2nd Harm @ P1dB (dBc)	3rd Harm @ P1dB (dBc)	SS Gain (dB)	OIP3 (dBm)
2.20	44.8	45.8	3.1	3.4	-60.5	-65.0	44.4	54.0
2.25	45.5	46.5	2.9	3.4	-66.0	-66.0	45.5	55.0
2.30	44.0	45.0	2.7	3.4	-67.0	-67.0	46.0	54.0