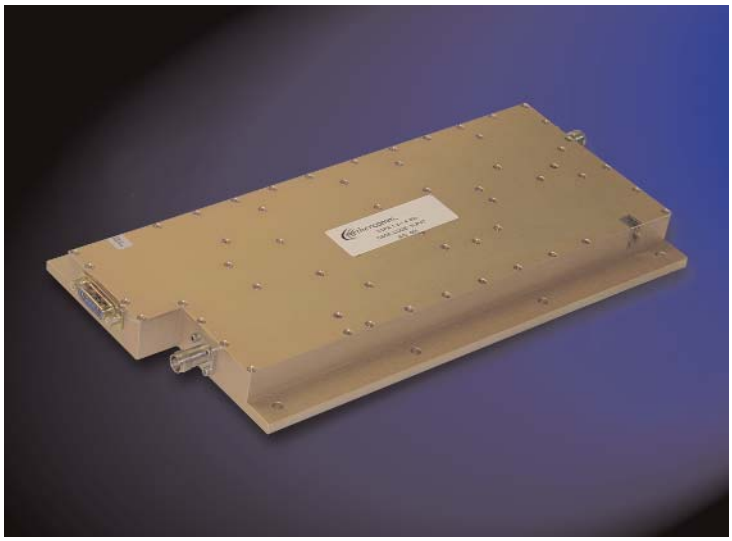
L Band, High Power Amplifier

Solid State RF Amplifier

Aethercomm Model Number SSPA 1.2-1.4-200 is a high power, pulsed RF amplifier that is employed in military L Band radar systems and operates from 1200 MHz to 1400 MHz. This PA was designed for L Band radars on fighter aircraft but can be employed in any system as this module is robust. The nominal peak input power is 0dBm for the 200 watt minimum peak output power. The amplifier employs a pulse width and duty cycle limiter to ensure no damage if the input is CW. RF rise and fall times are typically 40nSec. The nominal applied voltage is 34 Vdc but power control for this amplifier is employed by adjusting this voltage from 37 Vdc to 20 Vdc. Harmonics are -50dBc typical and in band spurs are <-70dBc. Nominal pulse conditions are 10uSec to 100uSec but longer pulses can be utilized. Typical duty cycles are 10 to 20% but longer duty cycles can be employed. Please contact the factory.

This high performance amplifier is fully protected from an open or short circuit at the antenna port. Over and under voltage protection is standard. The power flatness across the band is an impressive ±0.6 dB. Test data for the unit is found on sheet two of this data sheet. Input and output VSWR is 1.5:1 typically. The housing is an irregular shape but if it were square, its dimensions would be 6.5" (w) by 12.6" (l) by 1.0" (h). Please contact the factory for the outline drawing. The input and output RF connectors are type N female. DC and command/control functions are available via a DSUB connector.

- **High Power L Band Radar Amplifier**
- **Operation from 1200 MHz to 1400 MHz min**
- **Output Power Control Employed**
- **Designed for Fighter Aircraft Platform**
- **200 Watts Peak Output Power min**



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.

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SSPA 1.2-1.4-200 Typical RF Performance @ 25°C with a 4.0 uSec Pulse Width and 14% Duty Cycle

Freq (MHz)	RF Output Power at 0 dBm Pin	Average Current 0dBm Pin and (dBm) Pout (Amps)	RF Rise & Fall Times (nSec) Maximum	2nd Harmonic @P1dB (dBc)	3rd Harmonic @P2dB (dBc)
1200	53.3	4.9	40/40	-55.3	-52.9
1300	53.5	5.3	40/40	-50.6	-57.3
1400	53.0	5.1	40/40	-54.3	-62.0

SSPA 1.2-1.4-200 Typical Power @ 25°C

Applied Voltage to Amplifier (Vdc)	Pout at 1200 MHz (Watts)	Pout at 1300 MHz (Watts)	Pout at 1400 MHz (Watts)
20	68	68	54
22	83	85	71
24	102	102	89
26	117	123	110
28	138	145	129
30	162	166	155
32	186	191	178
34	209	214	200
36	229	240	224
37	234	245	229

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