

Linear High Power Amplifiers

Aethercomm designs and manufactures high power class A and AB linear amplifiers to transmit voice, data and video for military systems, wireless customers and industrial applications. The narrowband amplifiers listed on pages 7 - 14 are designed to operate in extremely demanding environments such as high performance aircraft, high altitude UAV platforms, shipboard applications and ground-based combat communication systems. Aethercomm military amplifiers are designed for the highest reliability and many are combat proven. We employ GaAs, LDMOS, Silicon Bipolar, SiC, GaN and MMIC technologies as required to maximize performance.

The list of linear high power amplifiers below is a sampling of Aethercomm's standard offerings; each can be used in pulsed systems with excellent performance. We design and manufacture high power linear amplifiers with frequencies ranging from 10 MHz to 40 GHz, with the majority between 30 MHz and 18 GHz. Power levels range from 1 watt to over 1000 watts.

Linear high power amplifiers custom features include:

- operation from 12 or 28 Vdc supplies, or any power supply specified
- high-speed DC blanking function of 1000 nSec typical
- internal DC-DC converter
- self protect functions
- system protect functions
- BIT telemetry options
- rack mounting
- linearization
- low noise figure
- high-speed digital interface
- microprocessor control
- other high performance options upon request

If you do not see the product you need in the standard offerings listed below, please contact the factory with your specific requirements. Aethercomm will design and manufacture your custom amplifier to your exacting specifications.

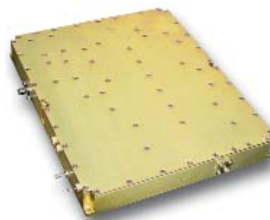
All data presented is at room temperature. Visit www.aethercomm.com for a complete list of datasheets.

SSPA 0.225-0.400-250



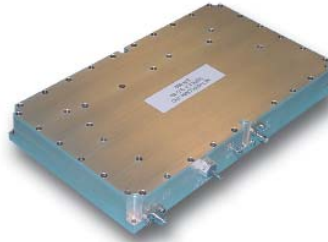
- Operation from 225 MHz to 400 MHz min
- 250 watt P1dB min in the SATCOM band
- 30 amps max current @ Pout = 250 watts
- 300 watts Psat min
- Gain flatness +/- 1.0 dB typ

SSPA 0.7-0.9-50



- Operation from 700 MHz to 900 MHz
- 50 watts P1dB min at 25C
- 45 dB min small signal gain
- High speed DC switching circuitry
- 60 watts saturated output power typ

SSPA 0.80-1.45-20



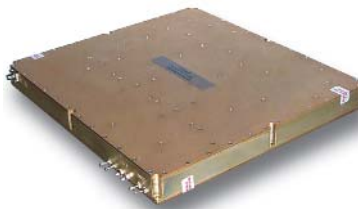
- Operation across 800 MHz to 1.45 GHz min
- 20 watts P1dB min at 25C
- 45 dB min small signal gain
- High speed DC switching circuitry
- 25 watts saturated output power typ

SSPA 1.2-1.6-25



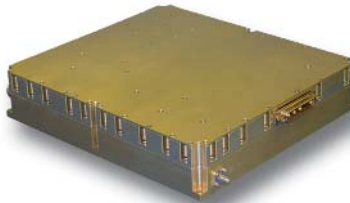
- Operation across 1.2 GHz to 1.6 GHz min
- 20 watts P1dB min at 25C
- 44 dB min small signal gain
- High speed DC switching circuitry
- 53 dBm OIP3 typ

SSPA 1.2-1.6-50



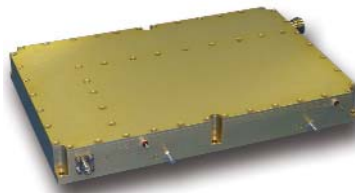
- Operation across 1.2 GHz to 1.6 GHz min
- 50 watts P1dB min at 25C
- 50 dB min small signal gain
- 57 dBm OIP3 typ

SSPA 1.5-1.9-300



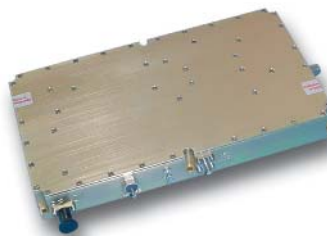
- Operation across 1.5 GHz to 1.9 GHz min
- Small signal gain 55 dB typ
- 300 watts P1dB typ
- 63 dBm OIP3 typ
- 10 dB noise figure typ

SSPA 1.5-2.0-80



- Operation across 1.5 GHz to 2.0 GHz min
- +28 Vdc operation
- Small signal gain 50 dB typ
- 58 dBm OIP3 typ
- 80 watts PSat typ

SSPA 1.7-2.5-20



- Operation across 1.7 GHz to 2.5 GHz min
- 20 watts P1dB min at 25C
- 45 dB typ small signal gain
- High speed DC switching circuitry
- 53 dBm OIP3 typ

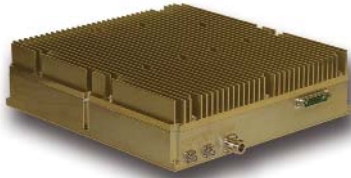
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SSPA 2.2-2.4-40



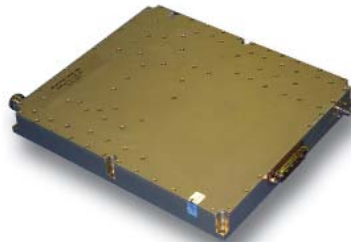
- Operation from 2.2 to 2.4 GHz
- P3dB is 46 dBm min
- 17 dB min small signal gain
- External on/off command
- Small compact module

SSPA 2.3-2.4-400



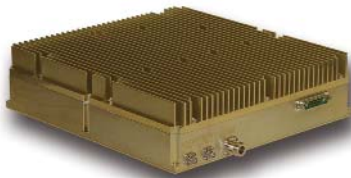
- Operation across 2.30-2.40 GHz min
- 802.16e OFDM WIMAX amplifier
- 42 dBc ACPR @ Pout = 50 watts typ
- 53 dB +/- 0.1 dB small signal gain typ

SSPA 2.3-2.6-80



- Operation from 2.3 GHz to 2.6 GHz min
- Small signal gain 40 dB typ
- 80 watts P1dB typ
- 90 watts PSat typ
- 6.0 dB noise figure typ

SSPA 2.496-2.700-400



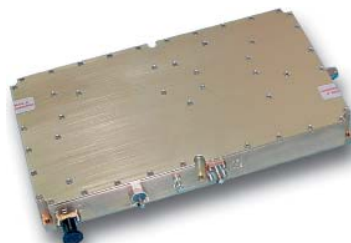
- Operation across 2.496-2.700 GHz min
- 802.16e OFDM WIMAX amplifier
- 42 dBc ACPR @ Pout = 50 watts typ
- 56 dB +/- 0.5 dB small signal gain typ

SSPA 2.7-3.5-40



- Operation from 2.7 GHz to 3.5 GHz min
- 40 watts peak output power typ
- 37 dB min small signal gain
- High speed DC switching circuitry
- 7.0 dB noise figure typ

SSPA 3.0-3.5-50



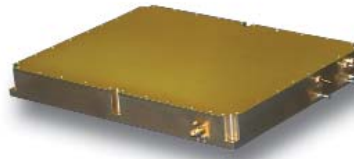
- Operation across 3.0 GHz to 3.5 GHz min
- 50 watts P1dB min
- 40 dB min small signal gain
- High speed DC switching circuitry
- 60 watts saturated output power typ

SSPA 4.0-5.0-20



- Operation from 4.0 GHz to 5.0 GHz min
- Small signal gain 57 dB typ
- 53 dBm OIP3 typ
- 20 watts P1dB typ

SSPA 4.4-5.1-30



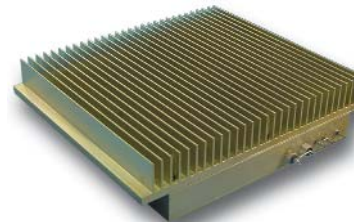
- Operation from 4.4 GHz to 5.1 GHz
- 30 watts P1dB min / 50 watts P1dB typ
- 55 watts PSat typ
- 58 dBm OIP3 typ
- +/- 1.0 dB gain flatness typ

SSPA 5.0-6.2-20



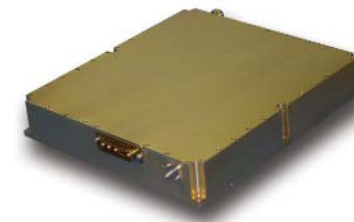
- Operation across 5.0 GHz to 6.2 GHz min
- 30 watts P1dB min at 25C
- 48 dB min small signal gain
- High speed DC switching circuitry
- 40 watts saturated output power typ

SSPA 5.25-8.85-50



- Operation from 5.25 GHz to 5.85 GHz min
- 50 watts typ output power @ ambient
- 55 dB min small signal gain
- 5.0 dB typ noise figure

SSPA 5.6-5.9-20



- Operation from 5.6 GHz to 5.9 GHz
- Small signal gain 44 dB typ
- 20 watts P1dB min
- 30 watts PSat typ
- 6.0 dB noise figure typ

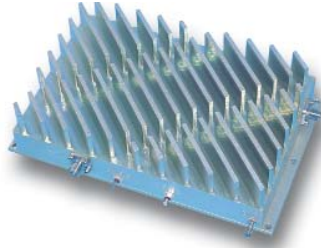
SSPA 5.9-6.4-40



- Operation from 5.9 to 6.4 GHz min
- 40 watts P1dB min
- Small signal gain 58 dB typ
- 56 dBm OIP3 typ
- 7.0 dB noise figure typ

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SSPA 5.9-6.5-10



- Operation from 5.9 GHz to 6.4 GHz min
- 10 watts P1dB min
- Small signal gain 40 dB typ
- 50 dBm OIP3 typ
- 3.0 dB noise figure typ

SSPA 5.9-6.5-10-28



- Operation from 5.9 GHz to 6.5 GHz min
- 10 watts P1dB min
- 43 dB typ small signal gain
- High speed DC switching circuitry
- 51 dBm OIP3 typ

SSPA 5.9-7.2-20



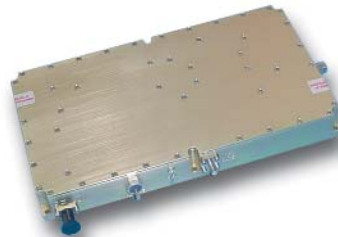
- Operation across 5.9 GHz to 7.2 GHz min
- 20 watts P1dB min
- 40 dB min small signal gain
- High speed DC switching circuitry
- 25 watts saturated output power typ

SSPA 5.9-7.4-20



- Operation from 5.9 GHz to 7.4 GHz min
- Small signal gain 45 dB typ
- 53 dBm OIP3 typ
- 20 watts PSat typ

SSPA 6.4-7.2-25



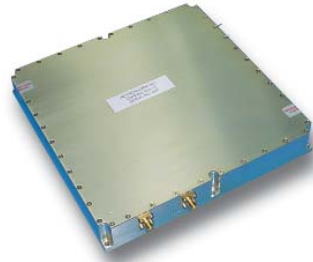
- Operation across 6.4 GHz to 7.2 GHz min
- 20 watts P1dB min
- 40 dB min small signal gain
- High speed DC switching circuitry
- 30 watts saturated output power typ

SSPA 7.1-8.5-30



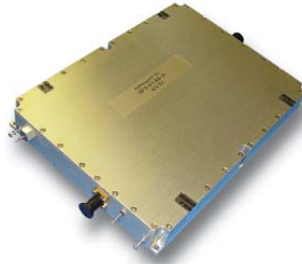
- Operation across 7.1 GHz to 8.5 GHz min
- 30 watts P1dB min
- 50 dB typ small signal gain
- High speed DC switching circuitry
- 40 watts saturated output power typ

SSPA 8.0-9.0-10



- Operation across 8.0 GHz to 9.0 GHz
- 10 watts P1dB
- 46 dB typ small signal gain
- High speed DC switching circuitry
- 51 dBm OIP3 typ

SSPA 8.5-9.6-30



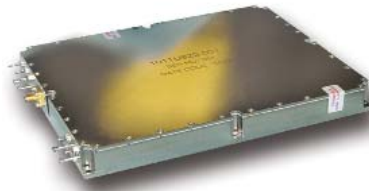
- Operation across 8.5 GHz to 9.6 GHz
- 30 watts P1dB typ
- 44 dB typ small signal gain
- High speed DC switching circuitry
- 40 watts saturated output power typ

SSPA 9.0-10.0-40



- Operation across 9.0 GHz to 10.0 GHz min
- 40 watts saturated output power typ
- 58 dB min small signal gain typ
- Moderate speed DC switching circuitry
- 10.0 dB noise figure typ

SSPA 9.0-9.6-50



- Operation across 9.0 GHz to 9.6 GHz min
- 50 watts saturated output power min
- 60 dB min small signal gain
- Moderate speed DC switching circuitry
- 4.0 dB noise figure typ

SSPA 9.5-10.5-25



- Operation across 9.5 GHz to 10.5 GHz min
- 20 watts saturated output power typ
- 50 dB min small signal gain
- High speed DC switching circuitry
- 30 watts saturated output power typ

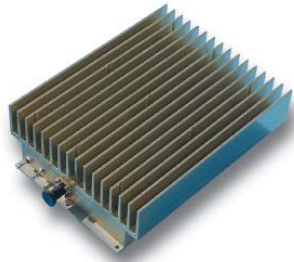
SSPA 9.5-10.5-80



- Operation across 9.5 GHz to 10.5 GHz min
- 80 watts saturated output power typ
- 43 dB min small signal gain
- High speed DC switching circuitry
- 6.5 dB noise figure

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SSPA 9.8-10.8-10



- Operation across 9.8 GHz to 10.8 GHz
- 10 watts P1dB typ
- 46 dB min small signal gain
- High speed DC switching circuitry
- 15 watts saturated output power typ

SSPA 13.7-14.5-30



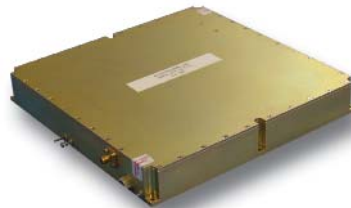
- Operation across 13.7 GHz to 14.5 GHz
- 26 watts P1dB typ
- 47 dB min small signal gain
- High speed DC switching circuitry
- 31 watts saturated output power typ

SSPA 14.25-15.25-40



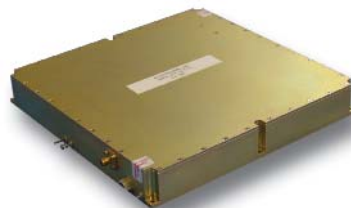
- Operation across 14.25 GHz to 15.25 GHz
- 30-40 watts saturated output power typ
- +28 Vdc operation
- Waveguide combined output
- 50 dB small signal gain typ

SSPA 14.5-15.4-15



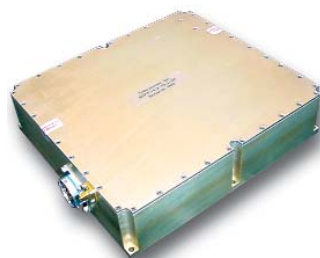
- Operation across 14.5 GHz to 15.4 GHz
- 15 watts P1dB typ
- 37 dB min small signal gain
- High speed DC switching circuitry
- 20 watts saturated output power typ

SSPA 14.7-15.7-10



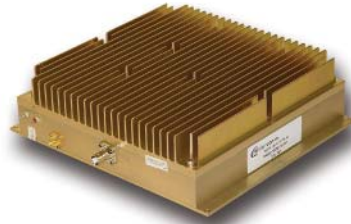
- Operation across 14.7 GHz to 15.7 GHz
- 10 watts P1dB typ
- 50 dB min small signal gain
- High speed DC switching circuitry
- 48 dBm OIP3 typ

SSPA 14.9-15.1-20



- Operation across 14.9 GHz to 15.1 GHz min
- 20 watts P1dB typ
- 45 dB min small signal gain
- External PA enable/disable
- 28 Vdc aircraft operation

SSPA 15.35-15.75-10



- Operation from 15.35 GHz to 15.75 GHz
- Small signal gain 42 dB typ
- 47 dBm OIP3 typ
- 15 watts P1dB typ

SSPA 29.6-30.5-10



- Operation from 29.6 GHz to 30.5 GHz
- Small signal gain 37 dB typ
- 40 dBm P1dB typ
- 41 dBm PSat typ