

Amplifiers

902 - 928 MHz



AAA-5W 900 MHz shown;
also available AAH-5W 900 MHz;
AAA-1W 900 MHz



Diplexer / Bias T

OVERVIEW

FreeWave Technologies provides amplifiers for Government, Military, and any qualified industry. 100% of our amplifiers are tested through 5 discreet stages to ensure quality and performance when installed. AAA Series of Bilateral Amplifiers are designed to improve range of 902-928 MHz Spread Spectrum radios by amplifying both the transmitted and received signals right at the antenna, mitigating cable loss, and a temperature range from -40°C to $+75^{\circ}\text{C}$.

All radios are designed, manufactured and tested in Boulder, Colorado.

APPLICATIONS



Oil & Gas



Smart Grid



Water & Wastewater



Precision Agriculture

KEY FEATURES

- On the receive direction, the amplifiers incorporate GaAs FET amplification along with SAW and dielectric resonator filtering. This results in a 1.5 dB Noise Figure and a +5 dBm input intercept point along with 40 dB of cellular and pager band rejection. A combination of SAW and lowpass filtering reduces harmonic output to less than -70 dBc
- On the transmit direction, the amplifiers generate 1 W or 5 W, making them the ideal solution for extending the range of spread spectrum radios
- The amplifiers are powered through the antenna cable, simplifying the installation process
- The amplifiers are packaged in sealed, milled, aluminum housing, providing the utmost weather protection
- Temperature range from -40°C to $+75^{\circ}\text{C}$

| MODEL | DIMENSIONS | PRODUCT OPTIONS |
|--------|--------------------------------|-------------------------|
| AAA-5W | 2.5in. W x 4.0in. L x 0.84in H | 5 Watt |
| AAH-5W | 2.5in. W x 4.0in. L x 0.84in H | 5 Watt (HT recommended) |
| AAA-1W | 2.5in. W x 4.0in. L x 0.84in H | 1 Watt |

900 MHz Amplifier Technical Specifications

| | | |
|--|-------------------------|---|
| TRANSMITTER | Frequency Range | 902 - 928 MHz |
| | Turn-on Transients | -70 dBc @ fc +/- 230 KHz, higher for lower turn-on times |
| | Input RF Power | 50 mW Min; 330 mW Max |
| | Harmonic Output | 2nd -40 dBc, 3rd and higher -70 dBc |
| | Output Power | AAA-1W: 1 Watt AAA-5W: 5 Watt AAH-5: 5 Watt |
| RECEIVER | Intercept Point | +5 dBm referred to input |
| | Noise Figure | 1.5 dB Max |
| | Gain | 14 dB min, higher gain optional |
| POWER SUPPLY | Supply Voltage | 10 to 14 VDC |
| | Power Consumption | AAA-1W: 0.35 A Max @ 12 VDC AAA-5W: 2.0 A Max @ 12 VDC AAH-5W: 2.0 A Max @ 12 VDC |
| GENERAL INFORMATION | Enclosure | Milled Aluminum with Integrated Bracket |
| | Dimensions | 63.5mm W x 102mm L x 21.3mm H (2.5in. W x 4.0in. L x 0.84in H) |
| | Amplifier RF Connectors | To Diplexer: SMA Female To Modem: SMA Female |
| | Diplexer RF Connectors | To Amplifier: Type-N Female To Antenna: Type-N Female |
| | Temperature | -40° C to +75° C |
| Also Available By Special Order | | |
| 220 Vac Power Supply | | |
| Directly Powered Amplifier (no diplexer) | | |
| Directly Powered Amplifier (no Bias T) with on/off control | | |
| Faster turn-on/turn-off: 1µs | | |
| 50 ms time-out disabled (for continuous transmissions) | | |



FreeWave Radios Require Professional Installation. Specifications may change at any time without notice. ©2014 FreeWave Technologies, Inc.

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<http://www.RSPSupply.com/p-14080-FreeWave-AAA-5W-Avive-Amplifier-902-928-MHz-5-Watt.aspx>