



Amplifiers

902-928 MHz

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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 $+75^{\circ}\text{C}$.

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 $+75^{\circ}\text{C}$.



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



Diplexer

Amplifiers

900-928 MHz Technical Specifications

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
Outout Power	AAA-1W: 1 Watt AAA-5W: 5 Watt
Receive	
Intercept Point	+5 dBm referred to input
Noise Figure	1.5 dB Max
Gain	14 dB min, higher gain optional
Power Supply	
Supply Voltage	10-14 VDC
Power Consumption	AAA-1W: 0.35 A Max @ 12 VDC AAA-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 diplexer) 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. ©2011 FreeWave Technologies, Inc.