

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-14081-FreeWave-AAH-5W-HT-Amplifier-902-928-MHz-1-Watt.aspx>