

HHA1 High Power Amplifier

High Powered Analog FM Amplifier!



Design Features

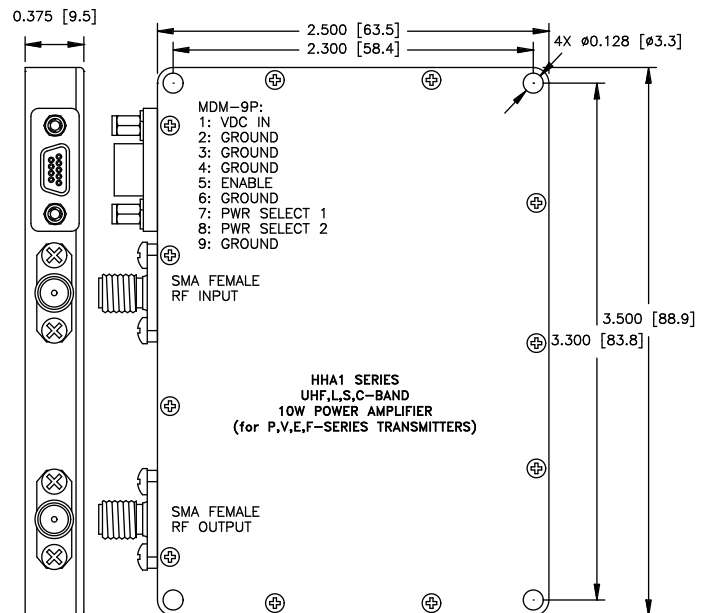
- 3.3 Cubic Inch Package (2.50"x3.50"x0.375")
- Weighs < 3.5 oz.
- Up to 10 Watts RF Output Power
- Up to 3 Selectable Power Modes
- Full Band Power Leveling
- Compatible with AMP FMT1, PST1, PMT1, VST1, and EST1 Transmitters
- Dedicated PA Enable Pin
- Temperature Fold-Back
- J-STD-001D Class 3 Assembly (Medical/Aerospace)

HHA1 Series

AMP's HHA1 Series 3.3 cubic inch High Power Amplifiers (HPAs) are designed to be mated with any of AMP's analog transmitters including the FMT1, PMT1, PST1, VST1, and EST1.

The HHA1 module provides up to 3 selectable output power levels including 2W, 5W, and 10W levels. Input and output RF power detection is used in conjunction with AMP's proprietary output power leveling circuitry and tuning algorithm to provide constant output power at all power levels across the frequency band.

With military telemetry heritage, HHA1 HPAs are designed to withstand harsh environments and are ideal for law enforcement, surveillance, UAV, UGV, Military, and other applications requiring efficient, high quality video/audio/data transmission in a compact, rugged package.



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RF Characteristics

Frequency Range (Specify):	UHF:	340.0-399.9 MHz
(Other Ranges Available)	433 ISM:	433.0-434.8 MHz
	868 ISM:	868.0-870.0 MHz
	915 ISM:	902.0-928.0 MHz
	Lower L-Band:	1435-1535 MHz
	Upper L-Band:	1700-1850 MHz
	Lower S-Band:	2200-2399 MHz
	Upper S-Band:	2400-2499 MHz
	Full S-Band:	2200-2499 MHz
	Lower C-Band:	4400-4900 MHz
	Upper C-Band:	4900-4999 MHz
	Full C-Band:	4400-4999 MHz
Output Power (Specify):	2W, 5W, or 10W, Nominal	
Output Power, PA Disabled:	<+10 dBm	
Input Power (Specify):	250 mW (+/- 1dB), 500 mW (+/- 1dB), 1W (+/- 1dB), 2W (+/- 1dB)	
Power Modes (Specify):	One (Fixed), Two (Specify), or Three (Specify), MDM-9P Pins 7 & 8, Open (10 k Ω pull up to 3.3 Vdc) = High, Ground (or <0.6 Vdc) = Low, see chart below for configuration	
Output Impedance:	50 Ω Nominal, VSWR 2:1 Maximum	
Output Protection:	UHF:	None – 20:1 VSWR Indefinitely
	L/S/C:	Internal Isolator - Open/Short Indefinitely
Spurious Output:	-13 dBm Maximum	

Power Requirements

Input Voltage:	+11 to +16 Vdc, Reverse Polarity Protected
Current Draw (12V Typical):	900mA for 2W, 1.5A for 5W, and 2.5A for 10W
PA Enable Control:	Open = On, Ground (or <1.5 Vdc) = Off

Mechanical

Material:	CNC Machined T6061-T6 Aluminum	
Finish (Specify):	Nickel Plated or Gold Iridite	
Dimensions:	2.50" W x 3.50" L x 0.375" H	
Weight:	<3.5 oz.	
Connectors:	RF Input:	SMA Female
	RF Output:	SMA Female
	DC Supply, Power Select, PA Enable: MDM-9P	

Environmental

Temperature (Operating):	-20°C to +60°C
Acceleration:	100 g, 3 Axis
Altitude:	Unlimited
Humidity:	Up to 95% @ Any Temperature Forming Frost or Condensation

Output Power Configuration		
Power Select 1	Power Select 2	Output Power
Ground	Ground	Standby
Ground	Open	2 W
Open	Ground	5 W
Open	Open	10 W

* The HHA1 power amplifier does not require any configuring unless it includes optional multiple RF power output levels. If the HHA1 power amplifier is commanded to a power level with which the unit is not equipped, the unit will default to standby (disabled) until a valid power level command is applied.