

## DESCRIPTION

AM243638SF-4H is a wideband power amplifier designed for Wireless Internet Access, Wireless Local Loop, and Two-Way Radio. It operates from 2.4GHz to 3.6GHz and typically delivers more than 7 watts (38dBm) CW output power and 37dB small signal gain. The module has a built-in DC voltage regulator and a negative voltage generator. It can be biased from a single 12V to 15V voltage supply. The amplifier module has its own heat sink and 8 screw holes for mounting.

## FEATURES

- Wide bandwidth from 2.4 to 3.6GHz
- High output power, P<sub>1dB</sub> = 38dBm
- High gain, 37dB
- +12V to +15V DC single bias.

## APPLICATIONS

- Wireless Internet Access
- Wireless Local Loop
- Two Way Radio

## PERFORMANCE ( $V_{dd} = +13V$ , $I_{dq} = 2.4A$ , $T_a = 25^\circ C$ )

Parameters	Minimum	Typical	Maximum
Frequency	2.7 – 3.3GHz	2.4 – 3.6GHz	
Gain (Small signal)	32dB	37dB	
Gain Ripple		±3dB	±5dB
P <sub>1dB</sub>	37dBm	38dBm	
P <sub>3dB</sub>	38dBm	39dBm	
IP3 at 3GHz		45dBm	
Noise Figure		5.5dB	7.0dB
Input VSWR		2.0:1	
Output VSWR		1.5:1	

## ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Supply voltage	V <sub>dd</sub>	15V
Continuous dissipation at room temperature	P <sub>t</sub>	45W
Operating ambient temp	T <sub>a</sub>	-45°C to +85°C
Storage temperature	T <sub>sto</sub>	-60°C to +150°C

SMALL SIGNAL DATA

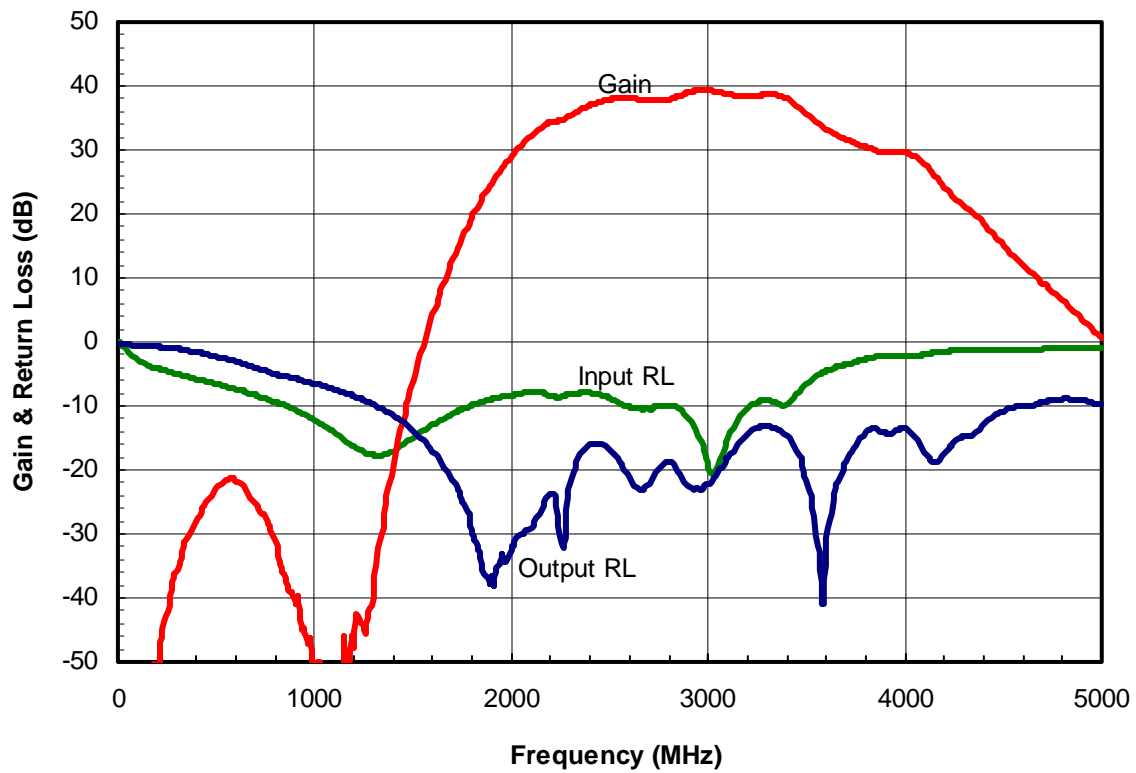


Figure 1: Gain and Return Loss versus frequency. ( $V_{dd} = +13V$ ,  $I_{dq} = 2A$ ,  $T_a = 25^\circ C$ )

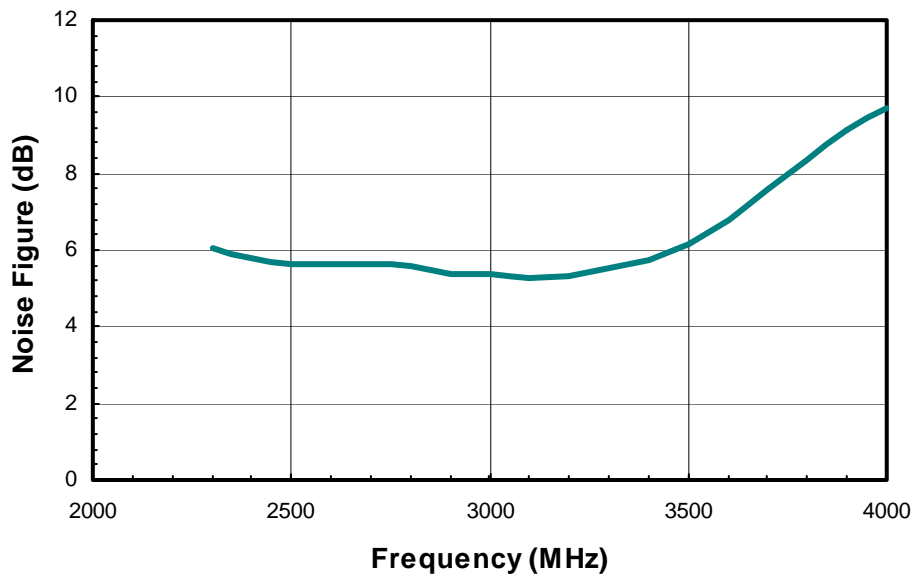


Figure 2: Noise Figure versus Frequency

POWER DATA

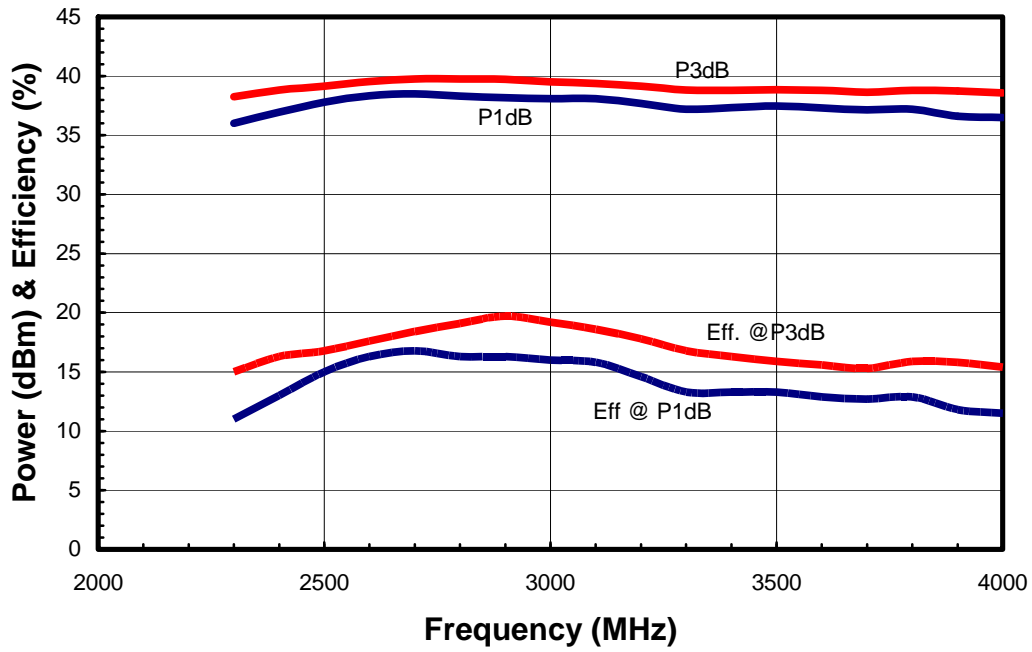


Figure 3: Output Power and Efficiency @ 1dB and 3dB Compression versus Frequency ( $V_{dd}=13.25V$ )

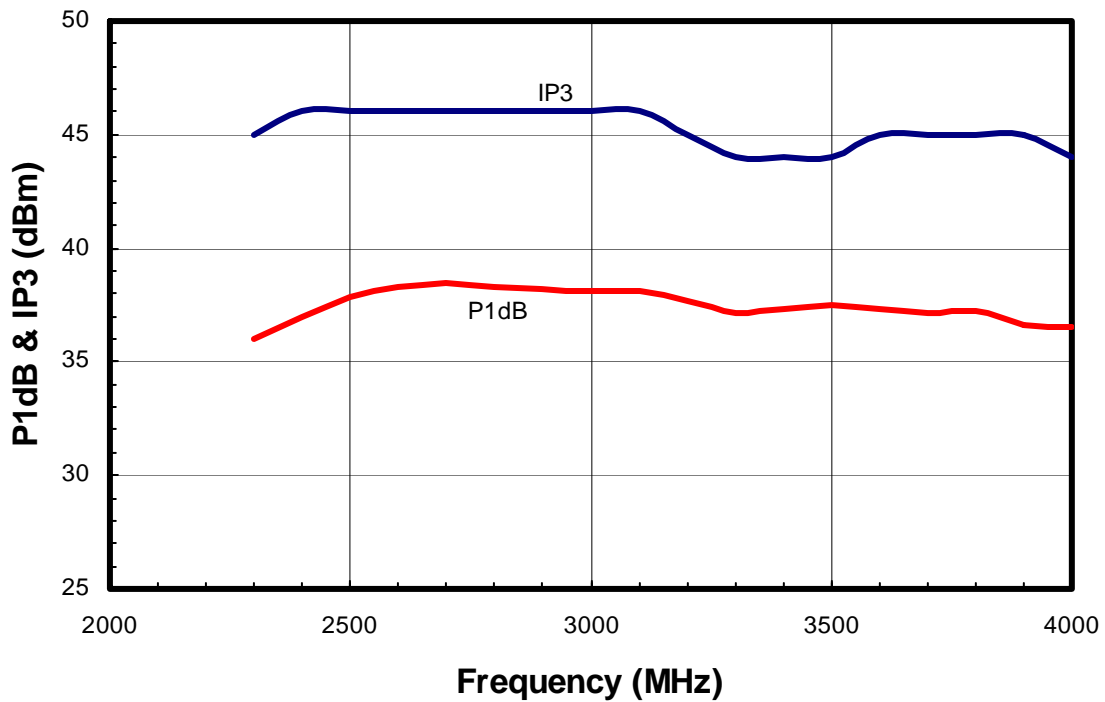


Figure 4: Third order inter-modulation intercept versus Frequency

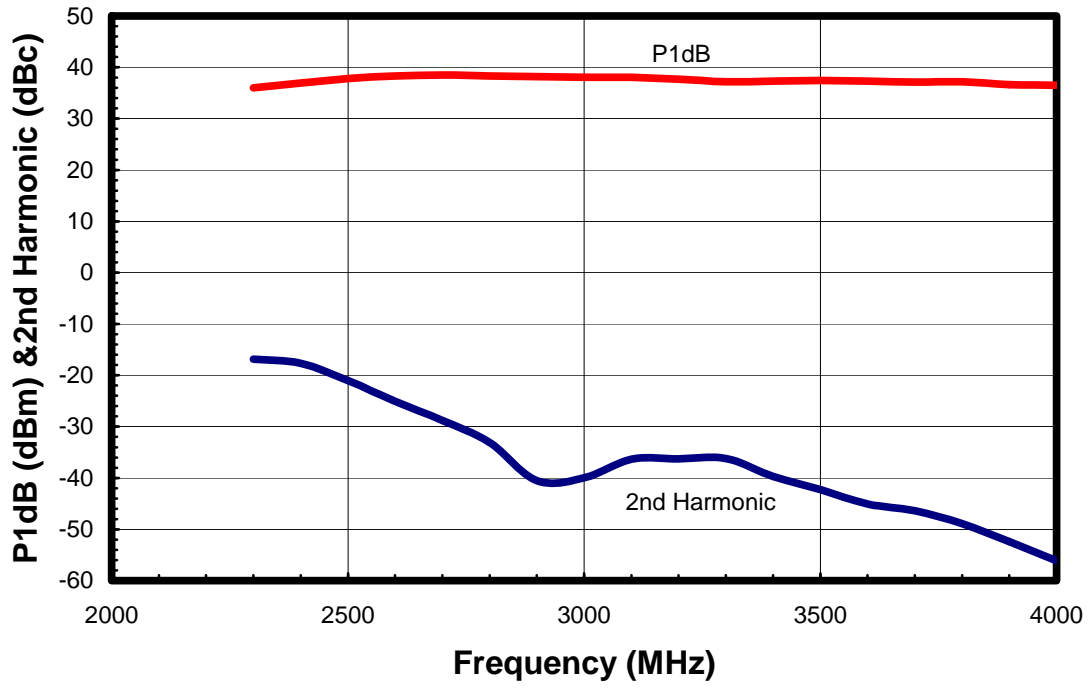


Figure 5: 2<sup>nd</sup> Harmonic in dBc at 1dB Compression versus Frequency

**PACKAGE OUTLINE**

Figure 6 shows the package outline. The dimension is 4.00”(L) x 2.25”(W) x 1.16”(H). The module needs a single +13V / 3.5A DC supply. It has SMA connectors for RF input and output, and DC pins for +13V and ground. The module has eight tapped 2/56 holes for mounting.

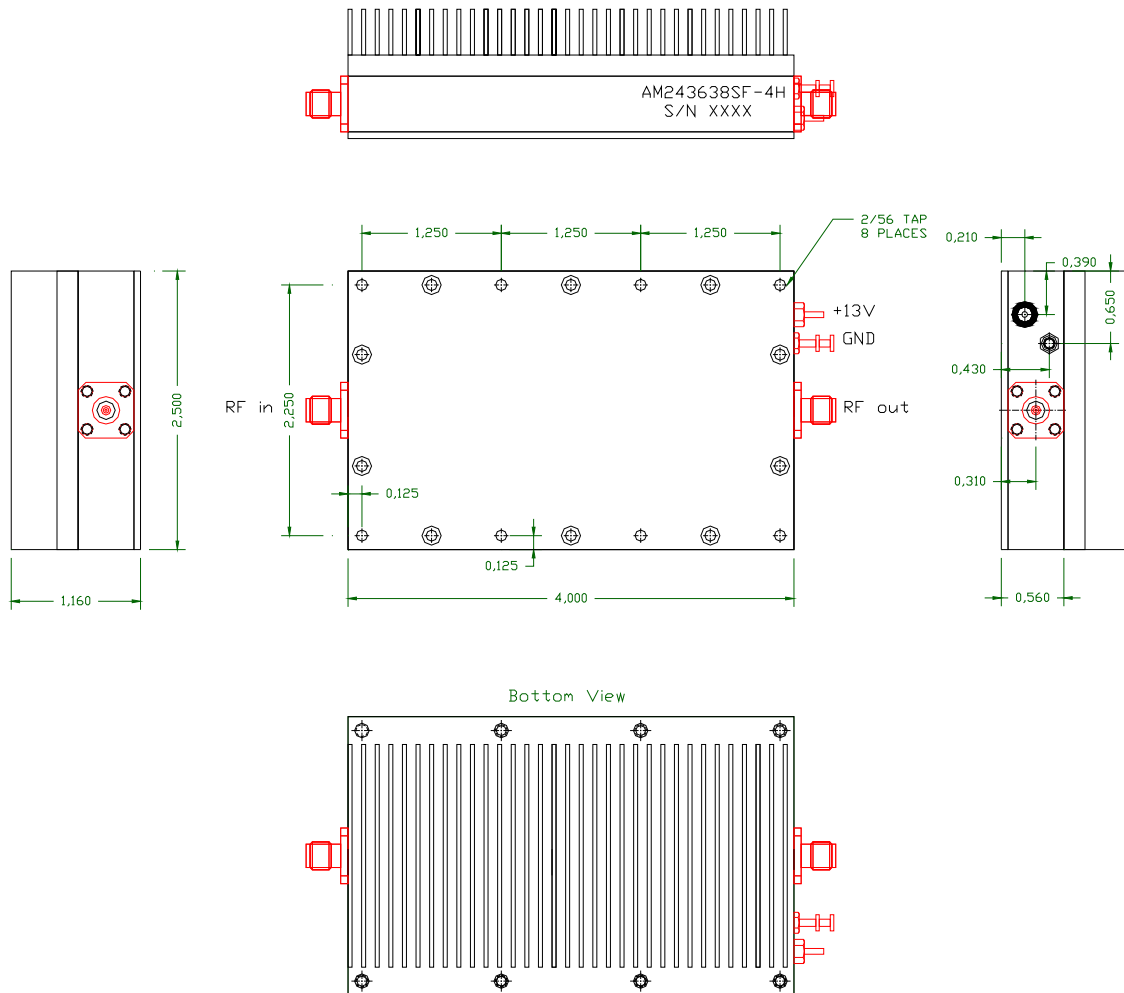


Figure 6: Outline of PA Module. 4”(L) x 2.25”(W) x 1.16”(H)