



## DESCRIPTION

AM204437SF-3H is a wideband power amplifier module designed for Wireless Internet Access, Wireless Local Loop, and Two Way Radio. It operates from 2GHz to 4.4GHz and typically delivers more than 4 watts (36dBm) CW output power and 30dB small signal gain. The module has a built-in DC voltage regulator and a negative voltage generator. It can be biased from a 12V to 20V single voltage supply. The amplifier module has 6 screw slots for mounting to a heat sink.

## FEATURES

- Wide bandwidth from 2 to 4.4GHz
- High output power, P<sub>1dB</sub> = 36dBm
- High gain, 30dB
- 12V to 20V DC single bias.

## APPLICATIONS

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

## PERFORMANCE ( $V_{dd} = +12V$ , $I_{dq} = 2A$ , $T_a = 25^\circ C$ )

Parameters	Minimum	Typical	Maximum
Frequency	2.4 – 4GHz	2 – 4.4GHz	
Gain (Small signal)	25.5dB	30dB	
Gain Ripple		±1dB	±2dB
P <sub>1dB</sub>	34.5dBm	36dBm (4W)	
P <sub>3dB</sub>	35.5dBm	37dBm	
IP3 at 3GHz		44dBm	
Input VSWR		2:1	
Output VSWR		2:1	

## ABSOLUTE MAXIMUM RATING

Parameters	Symbol	Rating
Supply voltage	$V_{dd}$	20V
Continuous dissipation at room temperature	$P_t$	40W
Operating ambient temp	$T_a$	-45°C to +85°C
Storage temperature	$T_{sto}$	-60°C to +150°C

**SMALL SIGNAL DATA**

Figure 1 shows the small signal gain as a function of frequency.

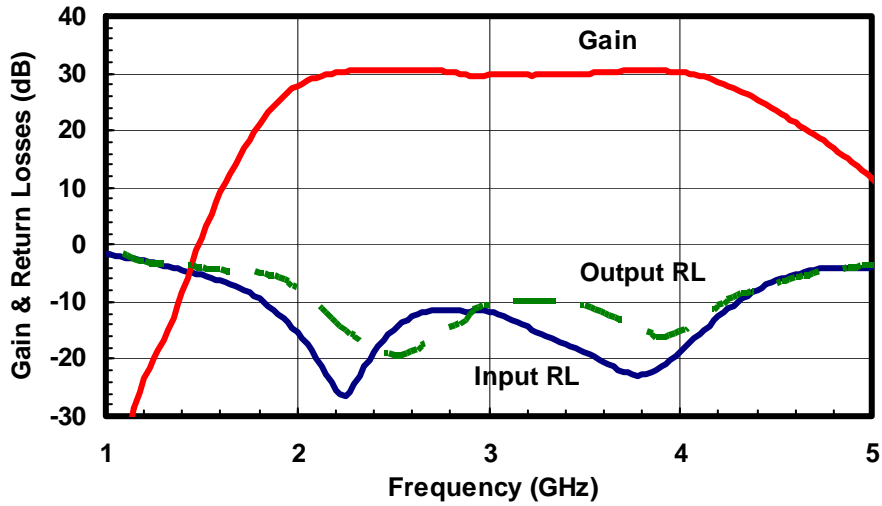


Figure 1: Gain and return loss as a function of frequency. ( $V_{dd} = +12V$ ,  $I_{dq} = 2A$ ,  $T_a = 25^\circ C$ )

**POWER DATA**

Figure 2 shows the output power at 1dB compression  $P_{1dB}$  and efficiency as a function of frequency.

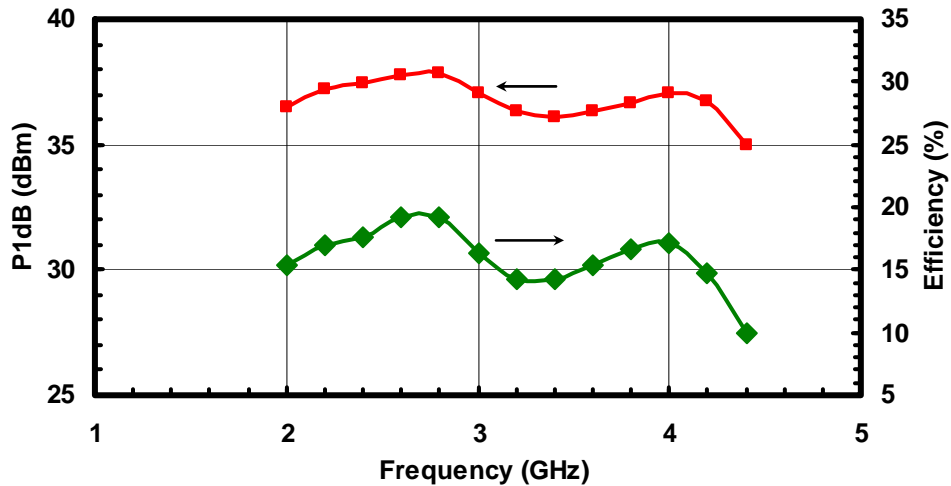


Figure 2:  $P_{1dB}$  and Efficiency ( $V_{dd} = 12V$ ) versus Frequency

Figure 3 shows the output power at 3dB compression  $P_{3dB}$  and efficiency as a function of frequency.

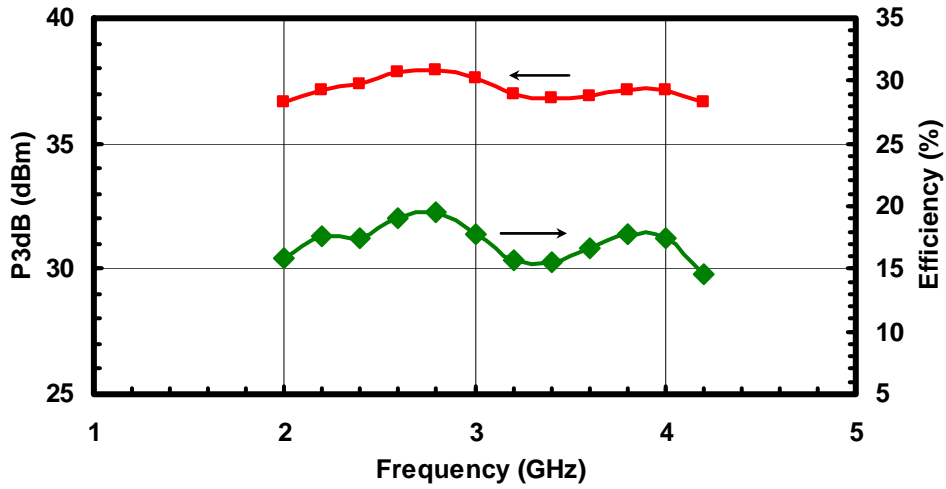


Figure 3:  $P_{3dB}$  and Efficiency ( $V_{dd} = 12V$ ) versus Frequency

Figure 4 shows the 3<sup>rd</sup> order inter-modulation intercept.

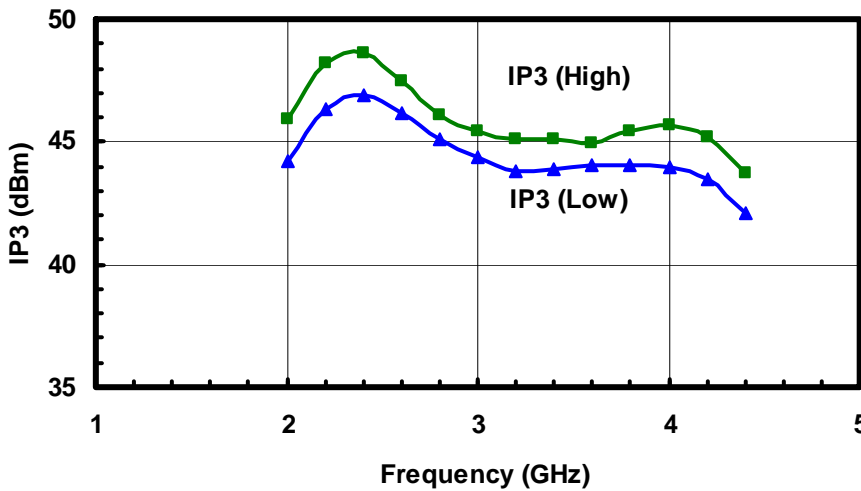


Figure 4: Third order inter-modulation intercept versus Frequency

**PACKAGE OUTLINE**

Figure 6 is the photograph of the housing. Figure 7 shows the package outline. The dimension is 2.8”(L) x 2”(W) x 0.56”(H). The module needs a single +12V x 2A DC supply. It has SMA connectors for RF input and output, and DC pins for +12V and ground.



Figure 6: Photograph of PA Module

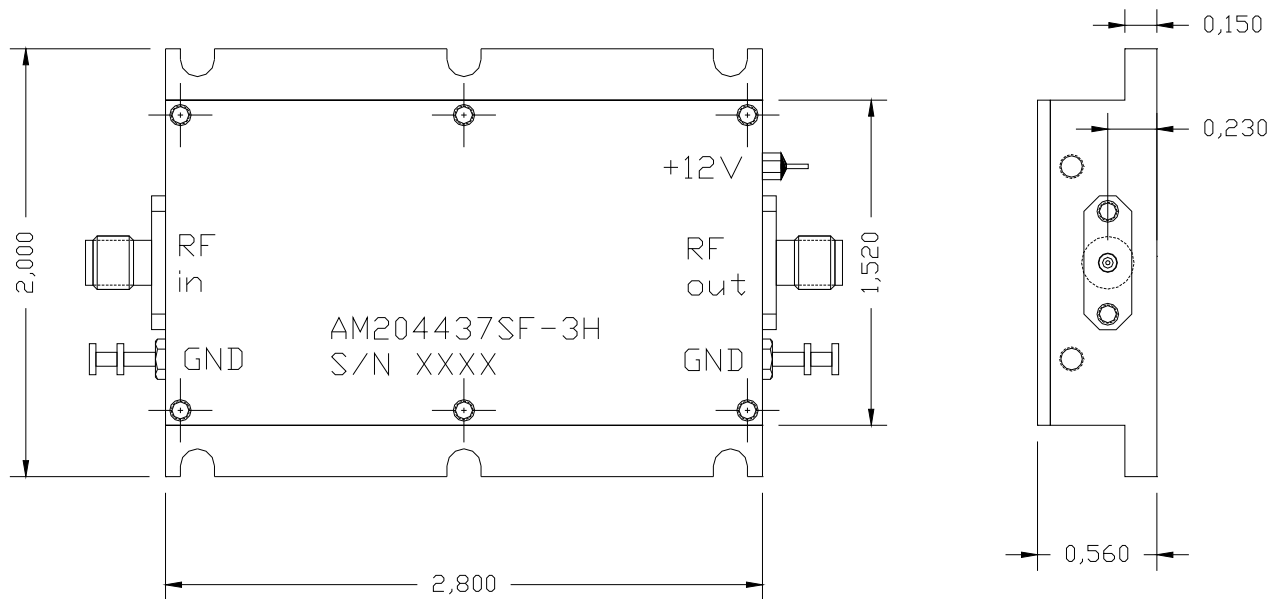


Figure 7: Outline of PA Module. 2.8”(L) x 2”(W) x 0.56”(H)