

## Features:

- 14.0 dB Gain
- 33 dBm P1dB
- 45 dBm IP3
- EVM < 2.5% at 26 dBm Pout
- Prematch for Easy Cascade
- Pb Free Surface Mount Package
- MTTF > 100 yrs @ T<sub>C</sub> 150°C



## Applications:

- 802.16 WiMax
- 802.11 WLAN
- Wireless Communications
- Telecomm Infrastructure

---

## Product Description:

The WPS-3437 22-02 is a 2.0 watt amplifier pre-matched to 50 ohm operating over frequency range 3.4 GHz to 3.7 GHz. The RF gain is 14 dB. The typical output IP3 is 47 dBm and P<sub>1dB</sub> is 33 dBm.

The WPS-3437 22 amplifier has excellent performance for 802.11 WLAN and 802.16 WiMax applications. At 2.5% error vector magnitude (EVM), the amplifier can achieve an average output power of 26 dBm.

The WPS-3437 22-02 is packaged in a leadless chip carrier with a proprietary copper alloy for excellent thermal conductance. The package construction is environmentally 'lead free' and 'cadmium free'.

---

### Electrical Specifications: @ 25°C, $V_{ds} = 7.5\text{ V}$ , $Z_o = 50\text{ ohms}$

SYMBOL	PARAMETERS	Min	Typical	Max	Unit
Freq.	Frequency Range	3.4		3.7	GHz
SSG	Small Signal Gain	12	13.5		dB
VSWR	Input/ Output VSWR		3.0:1/2.0:1		-
P1dB	Pout at 1 dB Compression Point		+32		dBm
EVM	Error Vector Magnitude (see note 1)		2.5		%
OIP3	Output Third Order Intercept (see note 2)		45		dBm
Ids	DC Current		600		mA
Vgs	Gate Voltage		-0.7		Volt
Rth	Thermal Resistance Junction to Case		18		°C/W

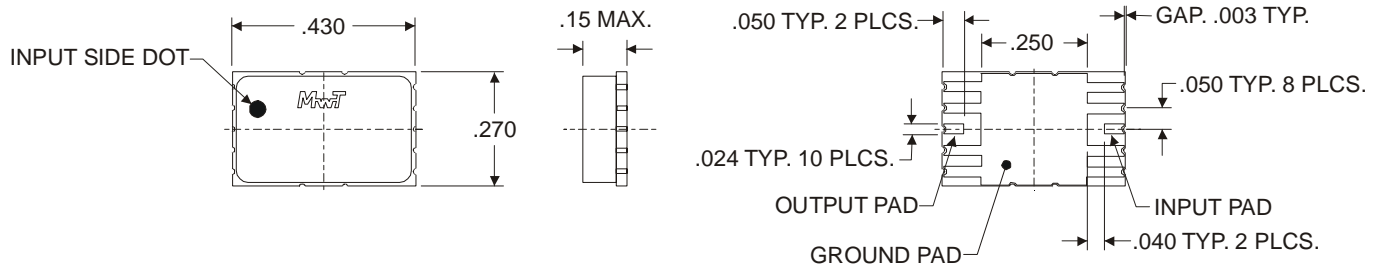
**Notes:**

- The output power is 25 dBm for 2.5% EVM and the test signal is 802.16, 256 carriers, 64 QAM with 2/3 coding factor. The measured EVM includes the accumulated errors (1.6%) from the modulator and driver stages.
- The output power per tone is 22 dBm and the tone separation is 20 MHz center at 5.5 GHz.

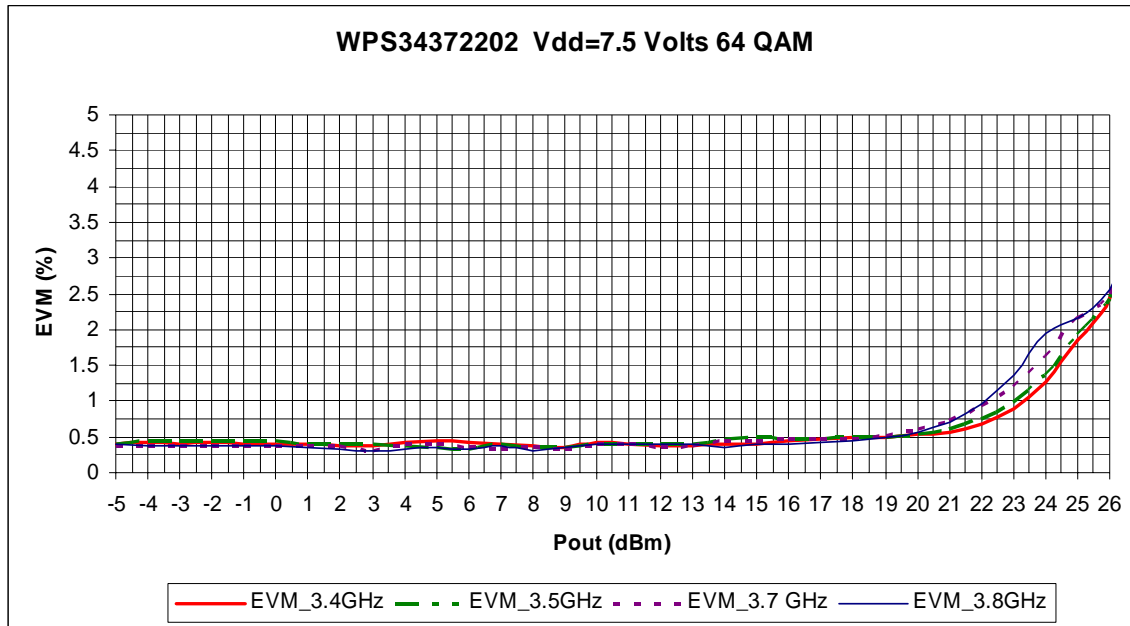
### Absolute Maximum Ratings:

Maximum Bias Voltage	8.5 V
Maximum Continuous RF Input Power	+30 dBm
Maximum Peak Input Power	+33 dBm
Maximum Case Operating Temperature	+70 °C
Maximum Storage Temperature	- 65 to + 150 °C

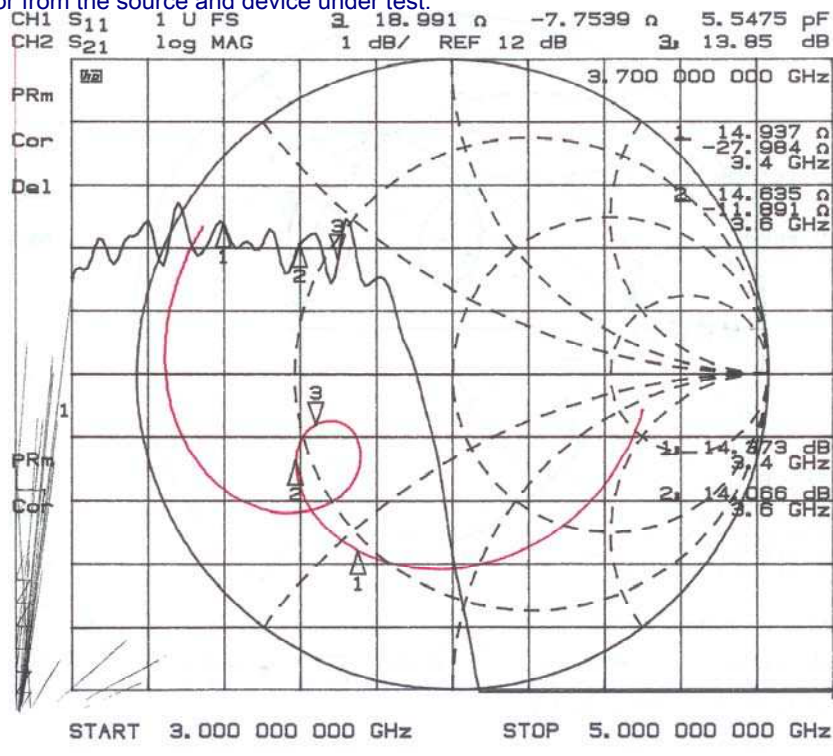
### Package Outline Diagram (Package 02)



### Typical Test Data @ 25°C Vdd=7.5V and Vgs=-0.7V



Error Vector Magnitude (EVM) versus output power is shown in above figure. The test signal is 802.16d -2004 std, QPSK, 16QAM and 64QAM. The frame length is 10 milli-seconds. The SMU200A is the source modulator and the FSQ26 is the demodulator. The EVM data is the accumulated error from the source and device under test.



Typical gain response is shown in the above figure. The bias condition is Vdd=7.5, Vgs=-0.7 and Ids=550 mA.

