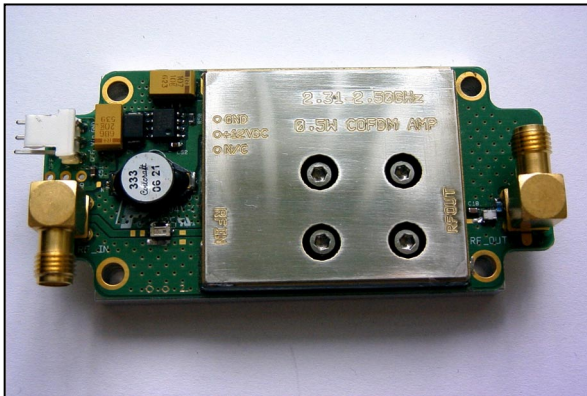


400MHz 500mW (COFDM) PA Module Data Sheet



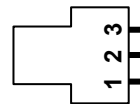
Features

- +27dBm Ave (ACPR <-45dBc @5MHz Offset)
- Very Small Size (81mm x 38mm x 11mm)
- Gain 15 - 28dB (adjustable via pad)
- Single 12V +/-2Vdc Supply
- Integral Heatsink can be removed
- Input and Output Filtering
- Supports Various Standard Connectors

Applications

- COFDM Wireless Links
- Hi Power WLAN
- Body Worn Surveillance

Power Connector



- Pin 3 — GND
- Pin 2 — +12V
- Pin 1 — /OFF

Overview

This high quality power amplifier offers excellent linearity and efficiency with an extremely small footprint. The LPA2-400-50-20 is a 2 stage design based on highly reliable InGaP HBT technology and is optimised for multi-carrier applications. This model covers the 375 - 425MHz band and requires a single 12V DC supply.

With an integrated switching power supply, extremely compact size for its class, this module is ideal for system builders and integrators. To save power when not in use the module can be powered down under logic control by pulling the /OFF pin to 0V. If this function is not needed then this pin should be left unconnected.

The power gain can be set between anywhere between 14 and 28dB by changing the input pad resistors. Please state requirement at time of order.

DC Specification

Parameter	Min	Typ	Max	Unit
Input Voltage (Vin)	10	12	14	V
Quiescent Current Vin = 12V, No Signal		350		mA
Operating Current Vin = 12V, Pout=+27dBm Avg		460		mA
Power Consumption Pout=+27dBm Avg	5	5.5	6.5	W
Power OFF Input (/OFF) Threshold	0		2	V
Power ON Input (/OFF) Threshold	3		6	V
Power OFF Input (/OFF) Leakage current (Pin @ 0V)	0		50	uA
Operating Temperature (with suitable heatsink)	0		+50	°C

400MHz 500mW (COFDM) PA Module Data Sheet

RF Specification

Parameter	Min	Typ	Max	Unit
Frequency Band	375		425	MHz
Linear Power Gain	14	20	28	dB
Linear Power Output @ ACPR=-45dBc	27	28.5		dBm
ACPR @5MHz offset WCDMA Pout=+27dBm Avg		-48	-45	dBc
Gain Flatness	-1		1	dB
2 nd Harmonic WCDMA Pout=+27dBm Avg		-58	-50	dBc
Input Return Loss (S11)		-20	-20	dB
Output Return Loss (S22)		-10	-5	dB
Max Input Power			+15	dBm
Load VSWR			4:1	

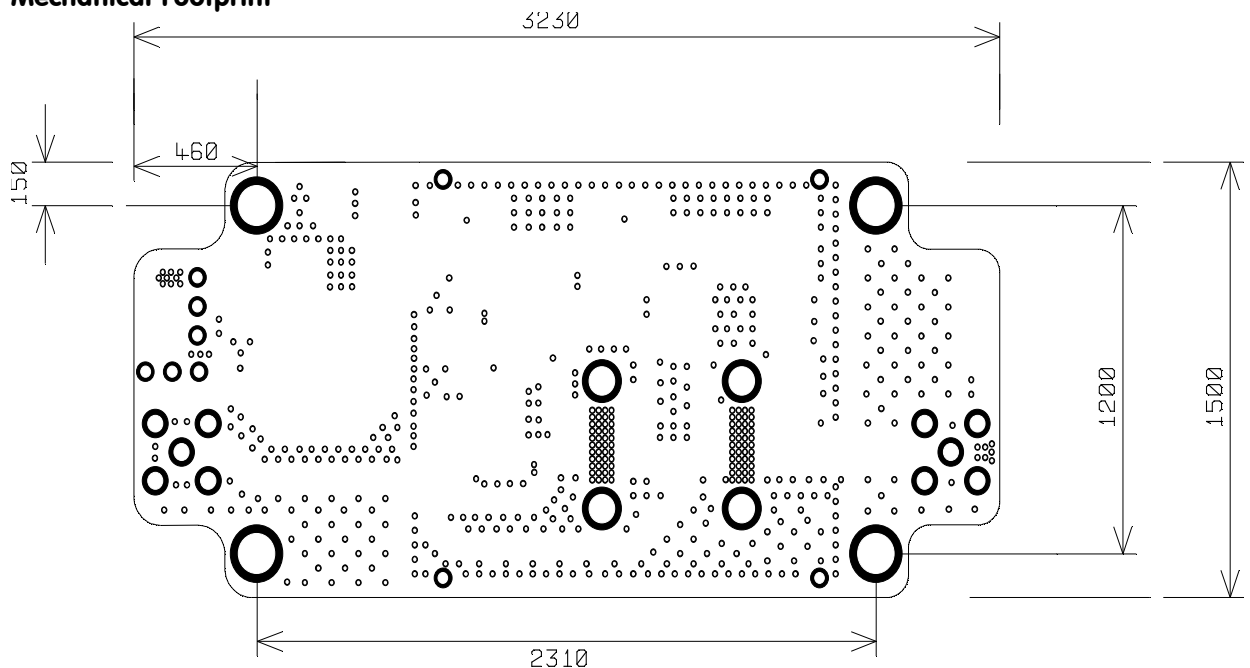
adaptiveRF can provide customised versions of this module to support different frequencies, bandwidths and gain requirements.

Mechanical

Parameter	Typical Performance
RF Connectors	MCX or SMA Right Angle Female jack
Power Connector	3 Way 2.54mm AMP MTA Series
Dimensions (Including Heatsink and SMA Connectors)	81mm x 38mm x 18mm (3.2" x 1.5" x 0.7")

Note: Additional heatsinking must be provided under continuous operating conditions, by bolting the module to the product casework or bulkhead via the four M3 mounting holes provided.

Mechanical Footprint



DIMENSIONS ARE IN INCHES/1000

**400MHz 500mW (COFDM) PA Module
Data Sheet**

Typical Characteristics

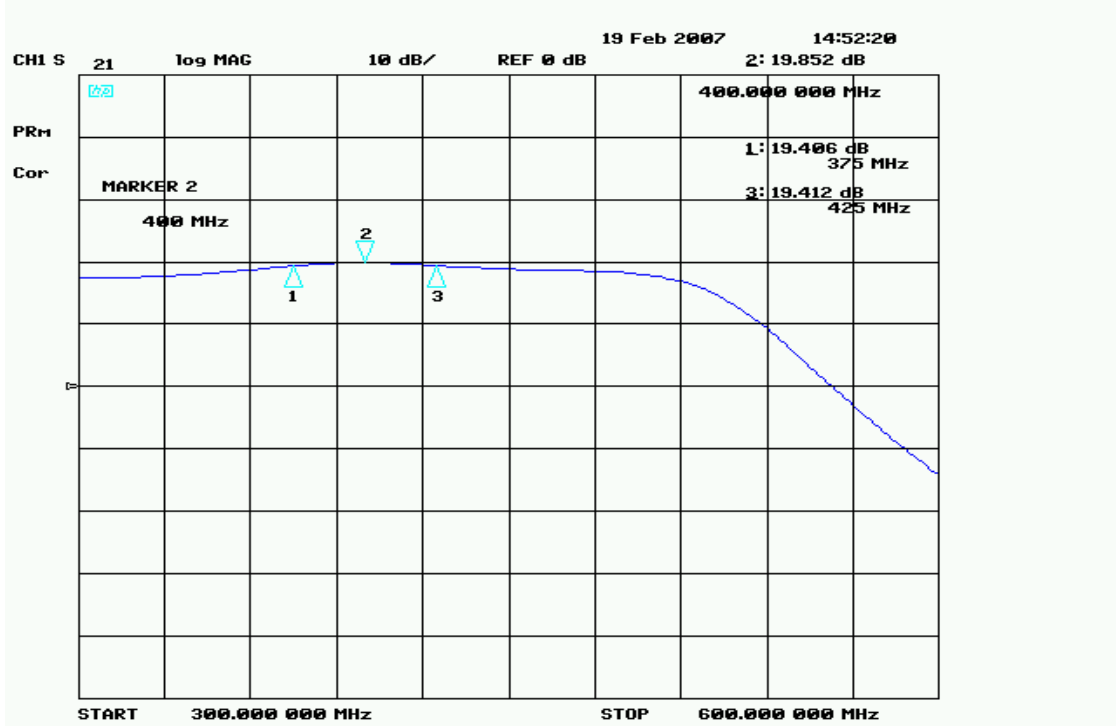


Figure 1 Small Signal Power Gain

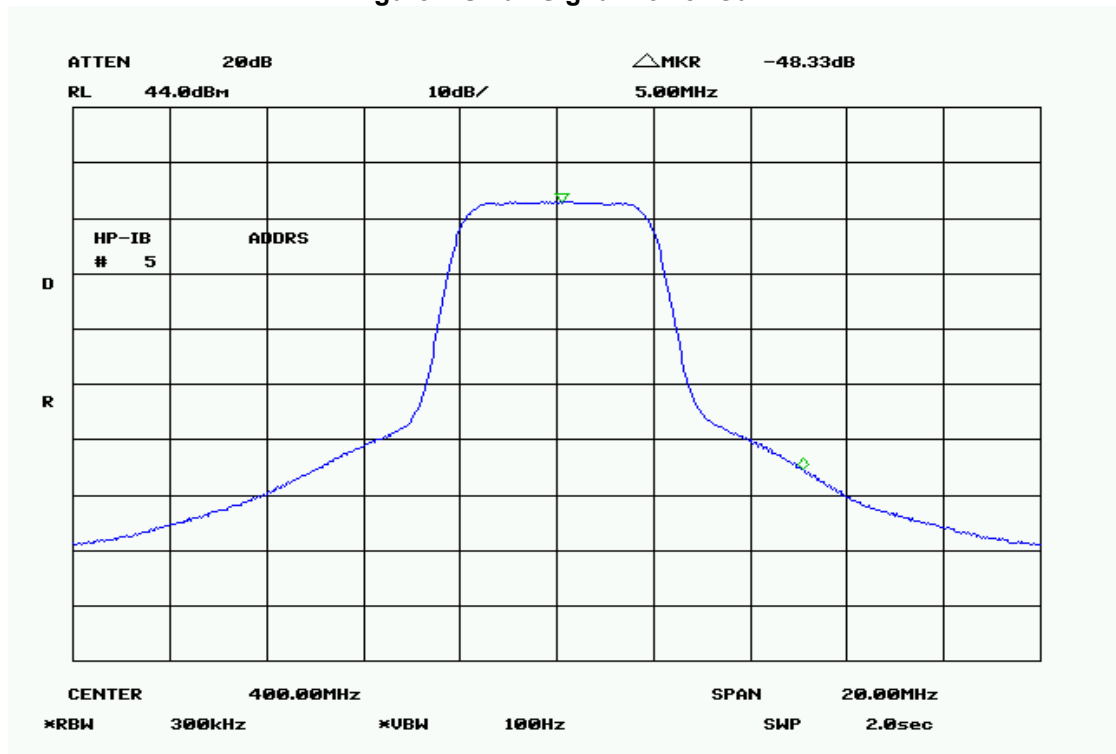


Figure 2 Adjacent Channel Power Ratio (Pout=+27dBm)

400MHz 500mW (COFDM) PA Module Data Sheet

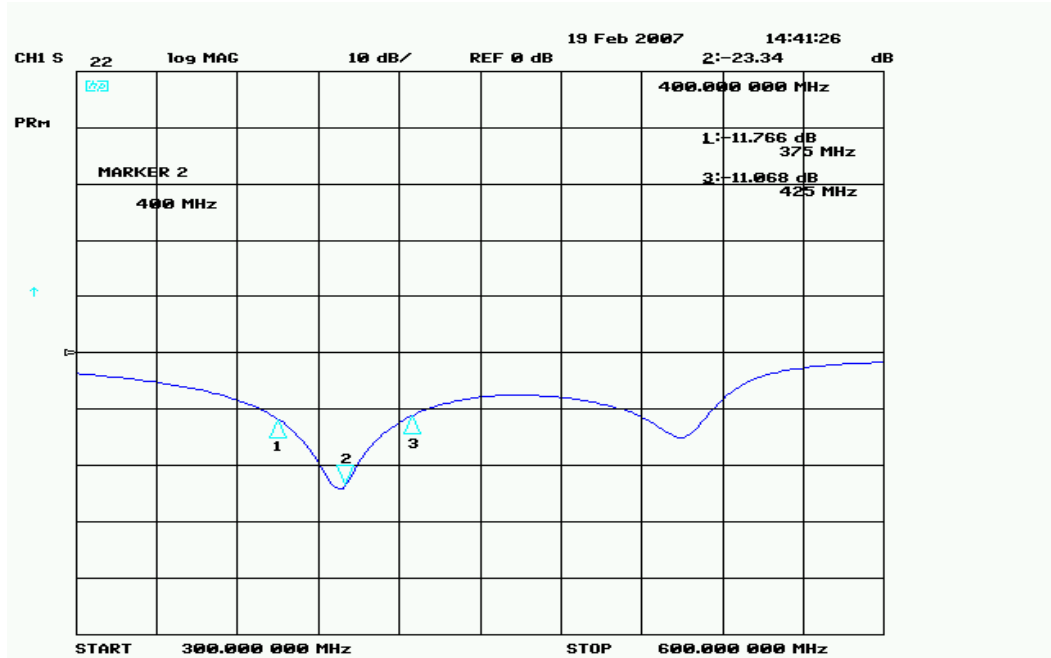


Figure 3 Output Return Loss (S22)

adaptiveRF Ltd reserves the right to modify these specifications without further notice.

We are continuously extending our product range, so if you cannot see a suitable module please contact us for a more up to date product list.

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