

## RigExpert® 2.4GPA Bi-directional 2.4 GHz Power Amplifier

### Product Overview

Bi-directional 2.4G band amplifier, designed for low voltage application. Provides around 10dB RX gain for small signals in passband and 22 dB for TX. The output power +36dBm in Pulse mode can be reached and +34 dBm in CW mode. 50 Ohm matched. VOX based TX/RX switching. VOX level can be adjusted by replacing resistors

### Applications

- TX/RX Amplifier for UAV Systems
- SDR
- HAM Radio
- IoT
- Test & Measurement

### Main Features

- 2.0-2.6 GHz Operation
- Automatic TX/RX switching
- Tiny Size
- Low Voltage Operation, 5 V Power Supply
- 22 dB TX RF gain
- 10 dB RX RF gain
- 34dBm CW TX Power
- 36 dBm Pulse TX Power
- ESD Protection



## Specifications

**Table 1. Absolute Maximum Ratings**

Parameter	Rating
Max RF Input TX Power	14.5 dBm
Min RF Input TX Power	9 dBm
Max RF Input RX Power	-2 dBm
Device Voltage	5.5 V

\*\*Important note: Input TX Power can be adjusted by changing input ATT.

**Table 2. Recommended Operating Conditions**

Parameter	Min	Typ.	Max	Units
RF Input TX Power	9	13	14.5	dBm
Device Voltage	+4.75	+5	+5.25	V

**Table 3. Electrical Specifications**

Parameter	Conditions	Min	Typ.	Max	Units
Operational Frequency Range		2000		2600	MHz
TX Gain			22		dB
RX Gain			10		dB
Output Power CW	Input RF Power 13dBm @ 2.4 GHz	33.5	34.5	35	dBm
Output Power Pulse	Input RF Power 13dBm @ 2.4 GHz	34	35	36	dBm
2 <sup>nd</sup> Harmonic CW	Output Power 34.4dBm @ 2.4 GHz		0		dBm
2 <sup>nd</sup> Harmonic Pulse	Output Power 35dBm @ 2.4 GHz		2		dBm
Power Consumption in CW	Input RF Power 13dBm @ 2.4 GHz		9.1		W
Power Consumption in RX			0.3		W

## Mechanical Specifications

**Table 4. Absolute Maximum Ratings**

Dimensions, mm	40x56x15
Weight, g	46

Laboratory measurement results

NOTICE. All measurements are done with 5 V power supply and room temperature 22°C.

Figure 1. LNA Gain sweep. Input RF signal -20dBm



Figure 2. LNA Gain sweep. Input RF signal -40dBm

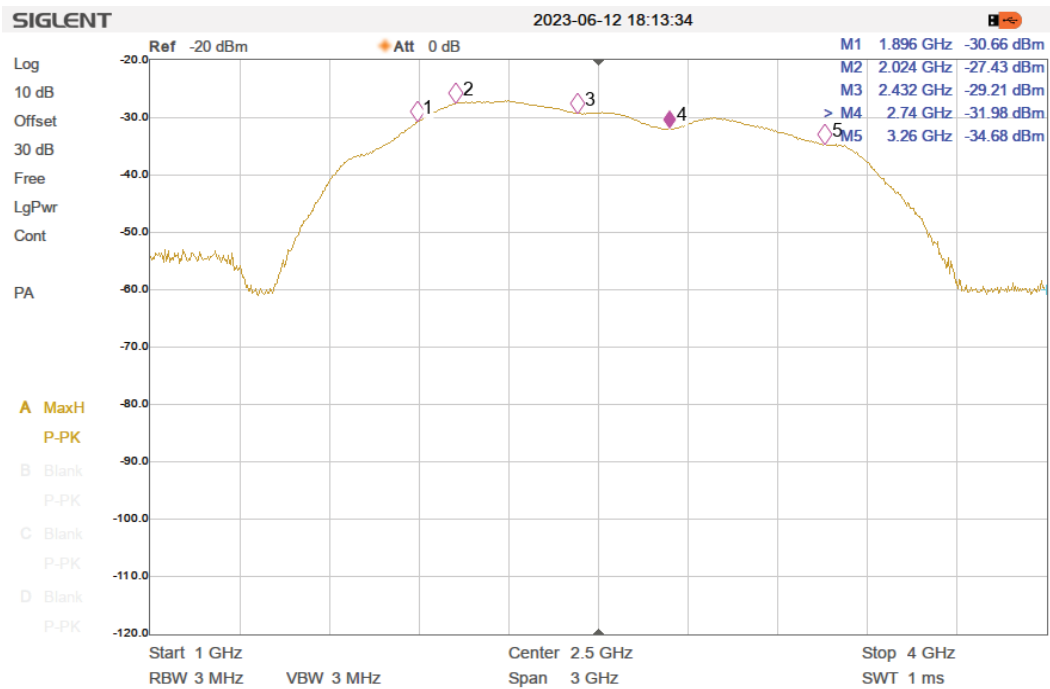
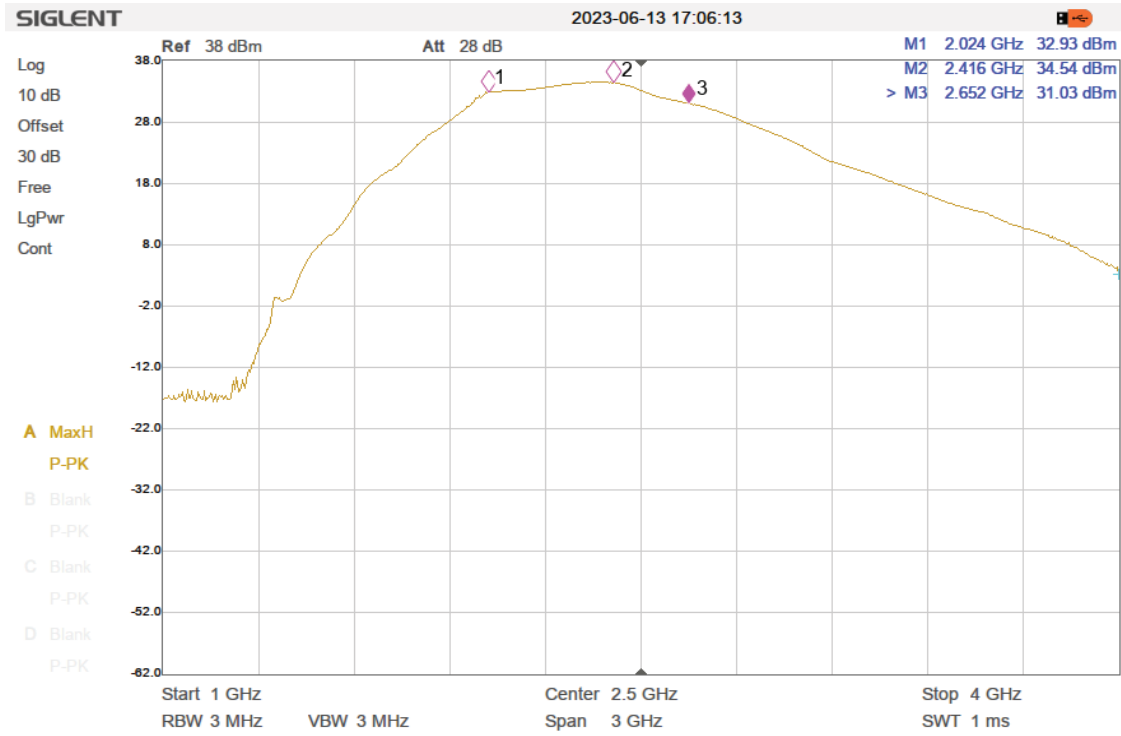


Figure 3. PA Gain sweep. Input RF signal CW 13 dBm



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Figure 4. PA Gain sweep. Input RF signal Pulse 13 dBm

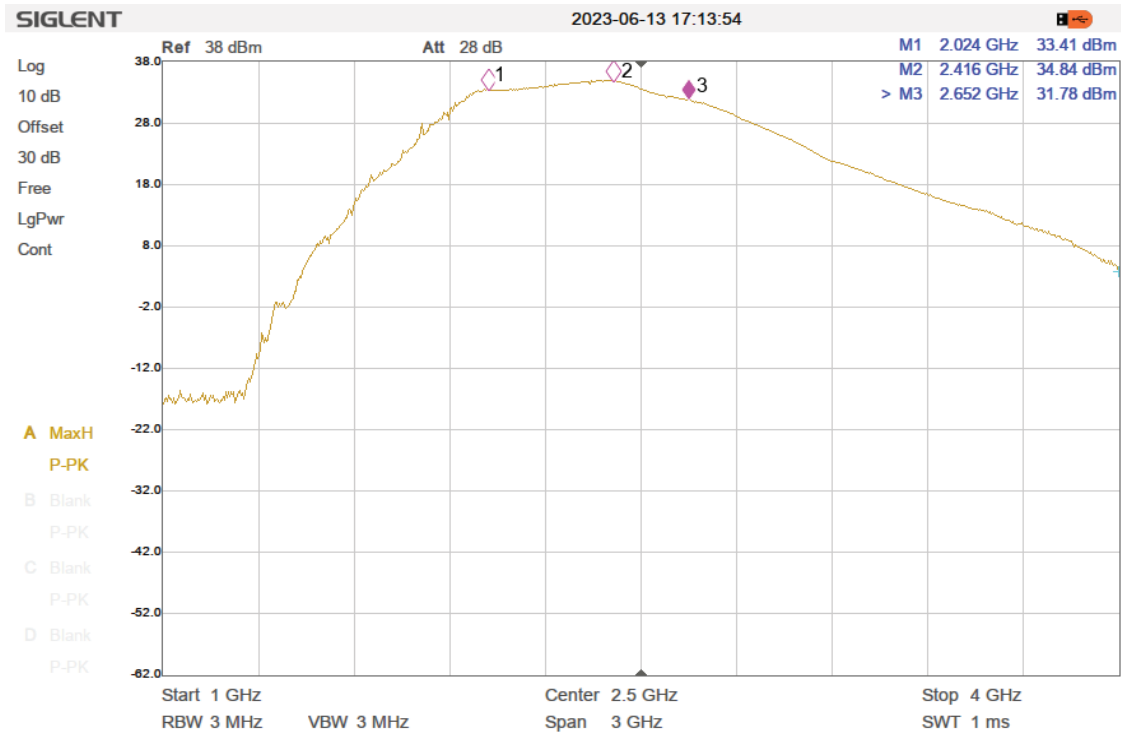
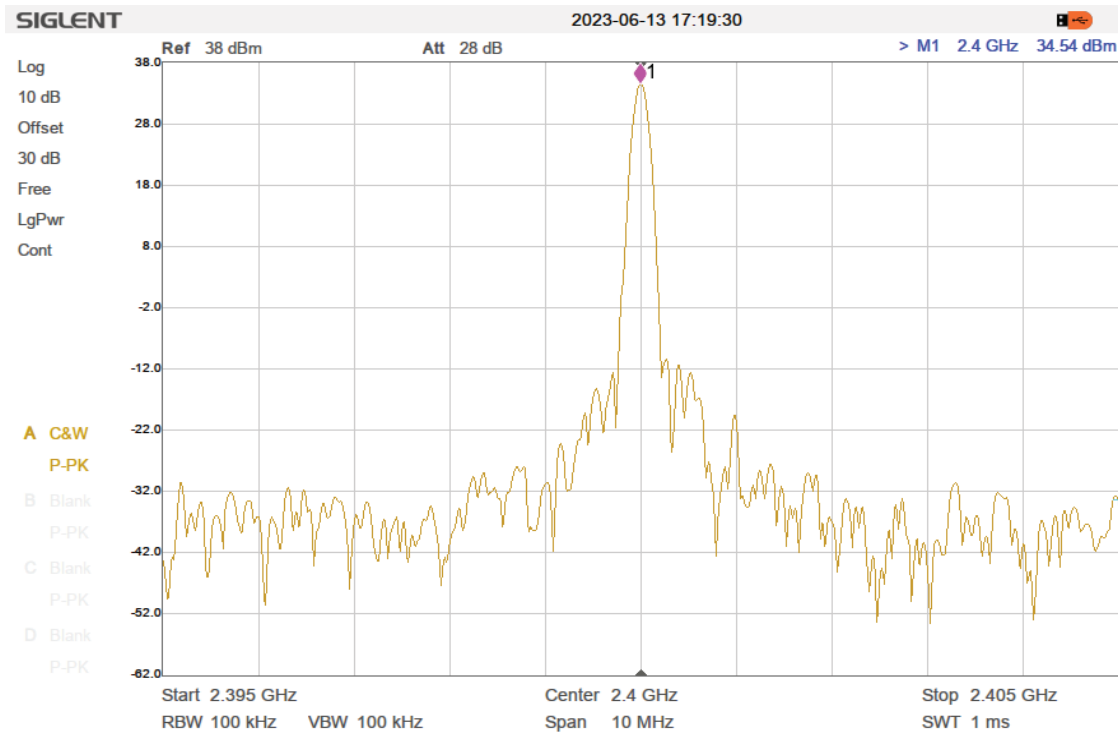


Figure 5. PA Gain. Input RF signal CW 13 dBm @ 2400 MHz



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Figure 6. PA Gain. Input RF signal Pulse 13 dBm @ 2400 MHz

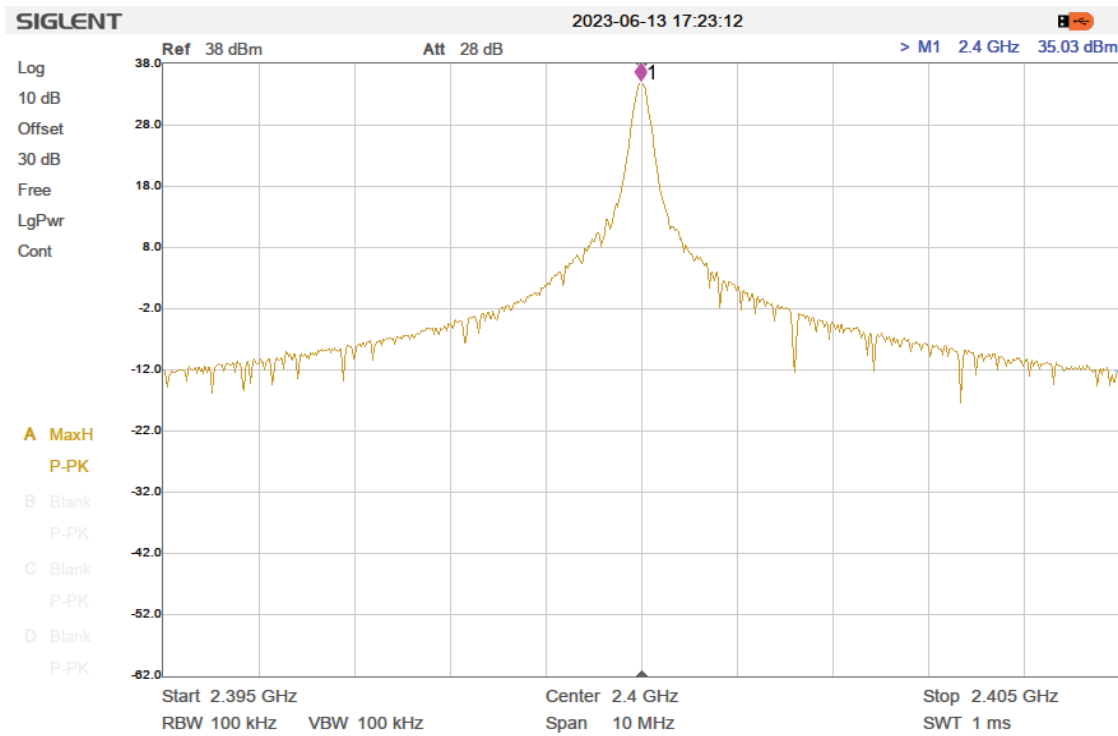
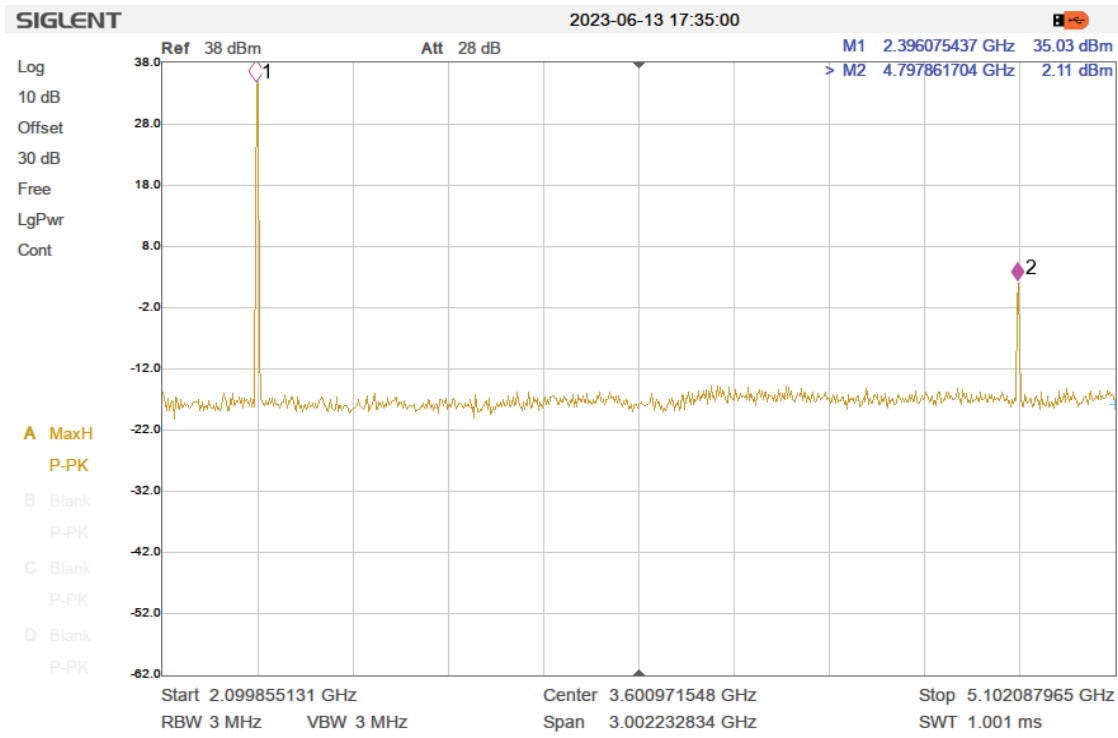


Figure 7. 2nd Harmonic. Output Power Pulse 35 dBm



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Figure 8. 2nd Harmonic. Output Power CW 34 dBm

