

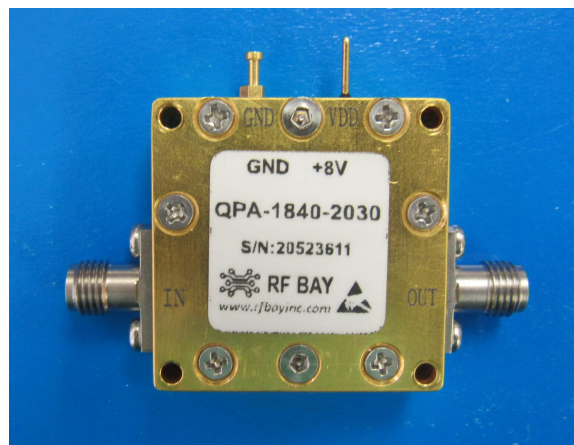
## QPA Series

## 18 – 40GHz Broadband RF Amplifier

### Features

- Frequency Range: 18-40GHz
- Gain: 30dB
- P<sub>1dB</sub>: +20dBm
- OIP3: +27dBm
- Noise Figure: 4.0dB
- DC Power: +8V @ 310mA
- RF Connector: 2.92mm-female

### Photo



### Description

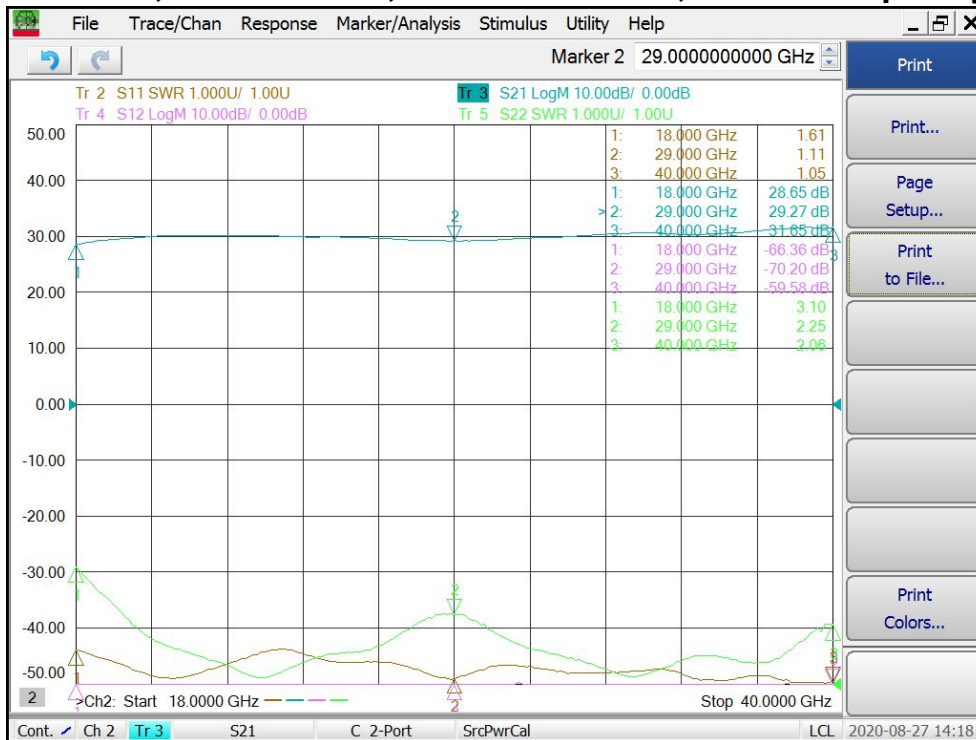
QPA-1840-2030 is a wide band high performance broadband RF Amplifier, with standard frequency range of 18 to 40GHz.

### Electrical Specifications @+25 °C, Z<sub>in</sub>=Z<sub>out</sub>=50 Ω, DC Supply = +8VDC

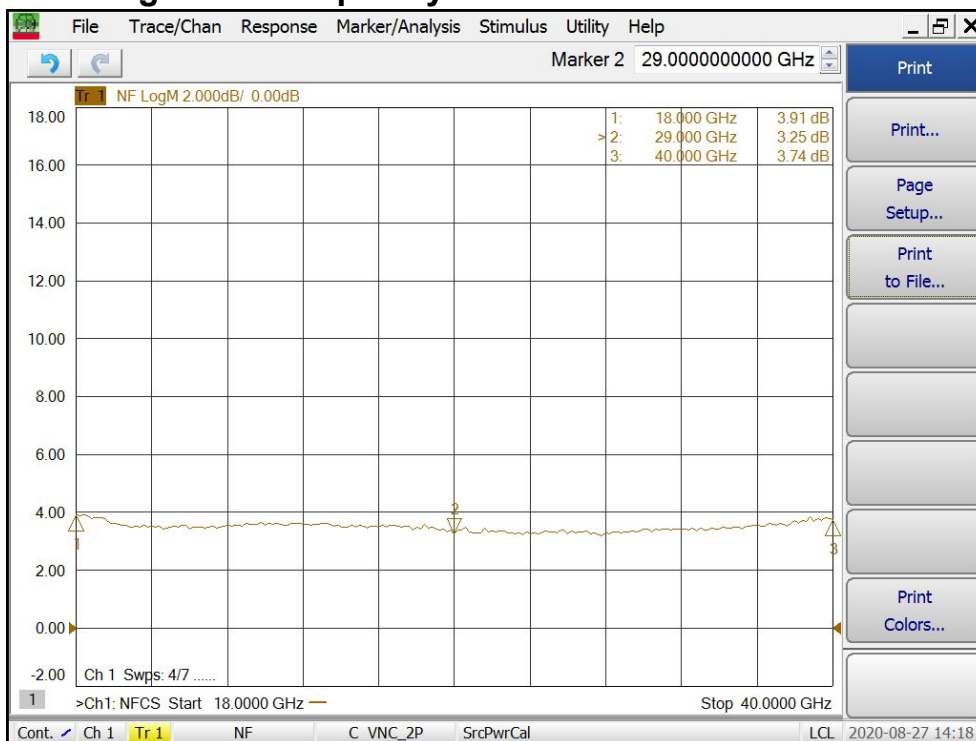
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	18		40
Gain S <sub>21</sub>	f = 18GHz	26	28	
	f = 29GHz	28	30	
	f = 40GHz	28	31	
Gain Flatness	dB		±1.5	±2.0
Output Power P <sub>1dB</sub>	f = 29GHz	+18	+20	
Output Power P <sub>SAT</sub>	f = 29GHz	+19	+21	
Output Third Order Intercept IP3	f = 29GHz	+25	+27	
Noise Figure	f = 29GHz		4.0	5.0
Reverse Isolation S <sub>12</sub>	f = 29GHz	-55	-65	
Input VSWR S <sub>11</sub>	f = 29GHz		1.5:1	2.2:1
Output VSWR S <sub>22</sub>	f = 29GHz		2.5:1	2.8:1
DC Power Supply - voltage	V	+5.5	+8	+10
DC Power Supply - current	mA		310	350
Size (RF/DC feedthrough excluded)	Inch (mm)	1.18"x1.18"x0.37" (30x30x9.5mm)		
Weight	Oz	2.0		

**WARNING: MUST USE HEAT SINK OR MOUNT ON LARGE METAL PLATE**

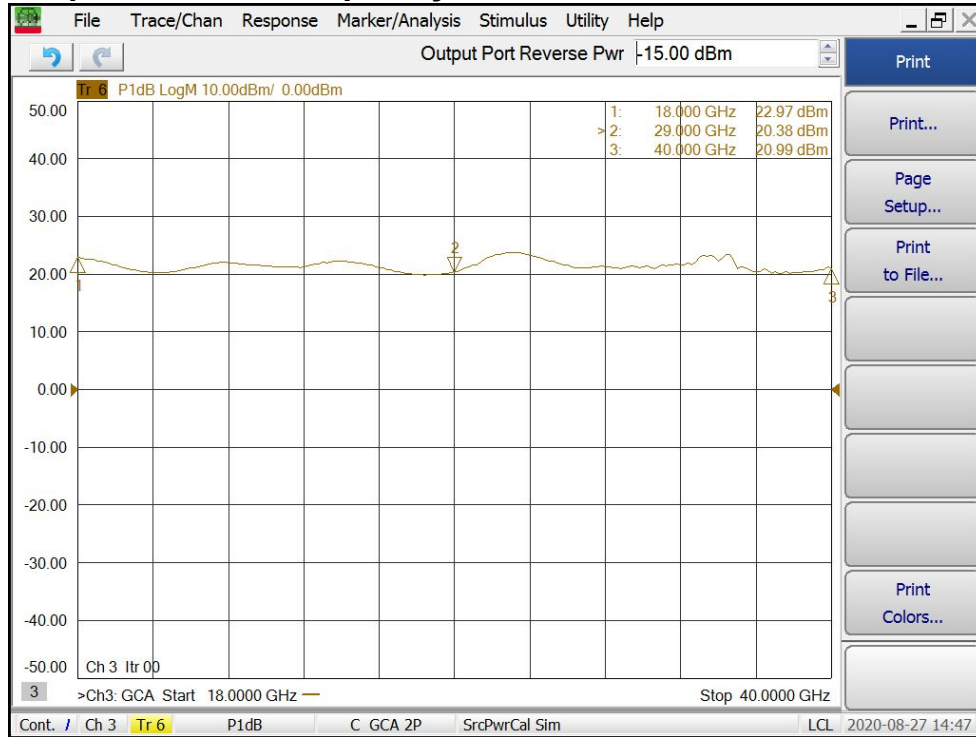
### Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



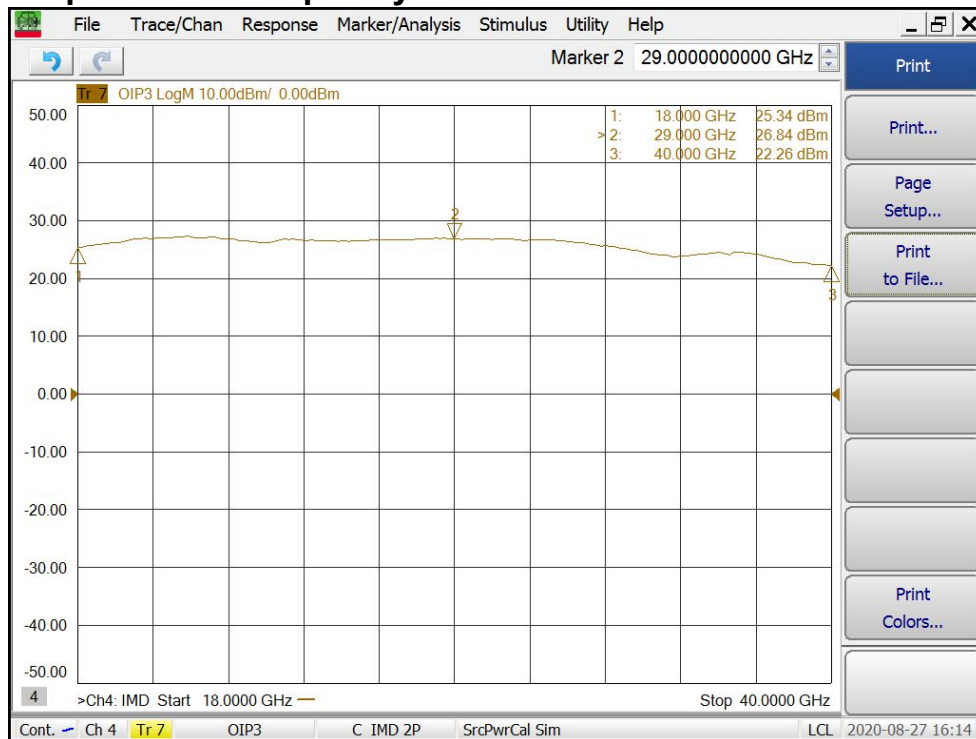
### Noise Figure vs Frequency



**Output P1dB vs Frequency**



**Output IP3 vs Frequency**



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## 18 – 40GHz Broadband RF Amplifier

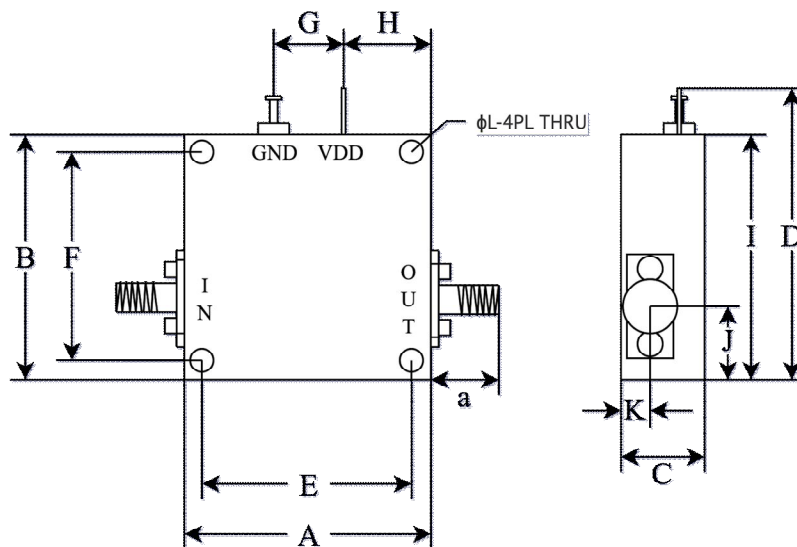
### Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+13V
RF Input Power	0dBm
Operating Temperature	0 °C to +50 °C
Storage Temperature	-65 °C to +150 °C

### ESD Sensitive Material



### Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.181	1.181	0.374	1.437	1.024	1.024	0.378	0.402	1.181	0.390
mm	30.00	30.00	9.50	36.50	26.00	26.00	9.60	10.20	30.00	9.90

	K	L	a (SMA)	a (2.92mm)	a (2.4mm)	a (1.85mm)
Inch	0.150	0.087	0.370	0.374	0.425	0.445
mm	3.80	2.20	9.40	9.50	10.80	11.30