

RPA Series

20 – 40GHz RF Power Amplifier

Features

- Frequency Range: 20-40GHz
- Gain: 30dB
- P_{OUT}: +23dBm
- OIP3: +30dBm
- Noise Figure: 4.0dB (typ.)
- DC Power: +8V @ 560mA
- RF Connector: 2.92mm-female

Photo



Description

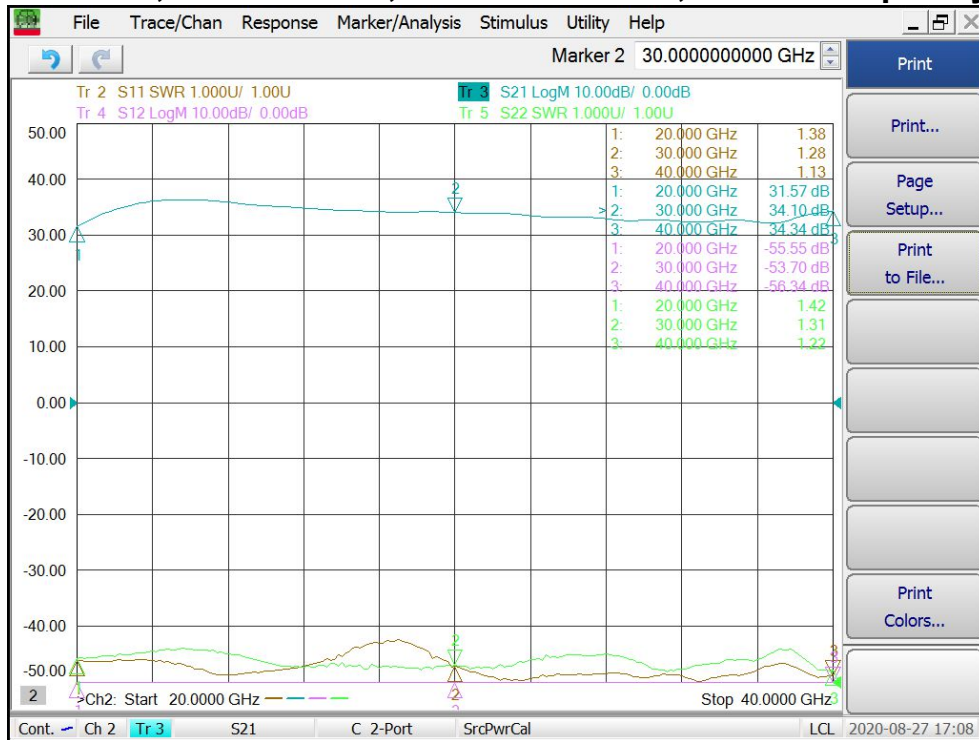
RPA-2040-2330 is a wide band high performance RF Power Amplifier, with standard frequency range of 20 to 40GHz.

Electrical Specifications @+25 °C, Z_{in}=Z_{out}=50 Ω, DC Supply = +8VDC

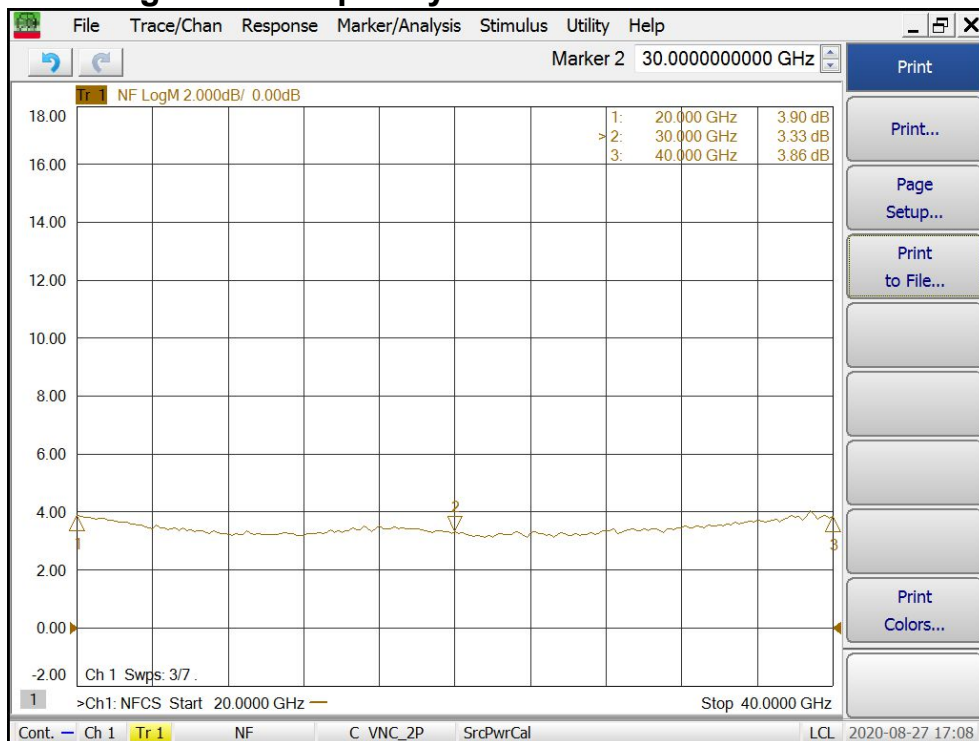
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	20		40
Gain S ₂₁	f = 20GHz	28	31	
	f = 30GHz	30	33	
	f = 40GHz	31	34	
Gain Flatness	dB		±2.0	±3.0
Output Power P _{1dB}	f = 30GHz	+21	+22	
Output Power P _{SAT}	f = 30GHz	+22	+23	
Output Third Order Intercept IP3	f = 30GHz	+27	+30	
Noise Figure	f = 30GHz		4.0	5.0
Reverse Isolation S ₁₂	f = 30GHz	-45	-50	
Input VSWR S ₁₁	f = 30GHz		1.5:1	2.2:1
Output VSWR S ₂₂	f = 30GHz		1.5:1	2.2:1
DC Power Supply - voltage	V	+5.5	+8	+10
DC Power Supply - current	mA		560	600
Size (RF/DC feedthrough excluded)	Inch (mm)	1.772"x1.339"x0.335" (45x34x8.5mm)		
Weight	Oz	2.0		

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

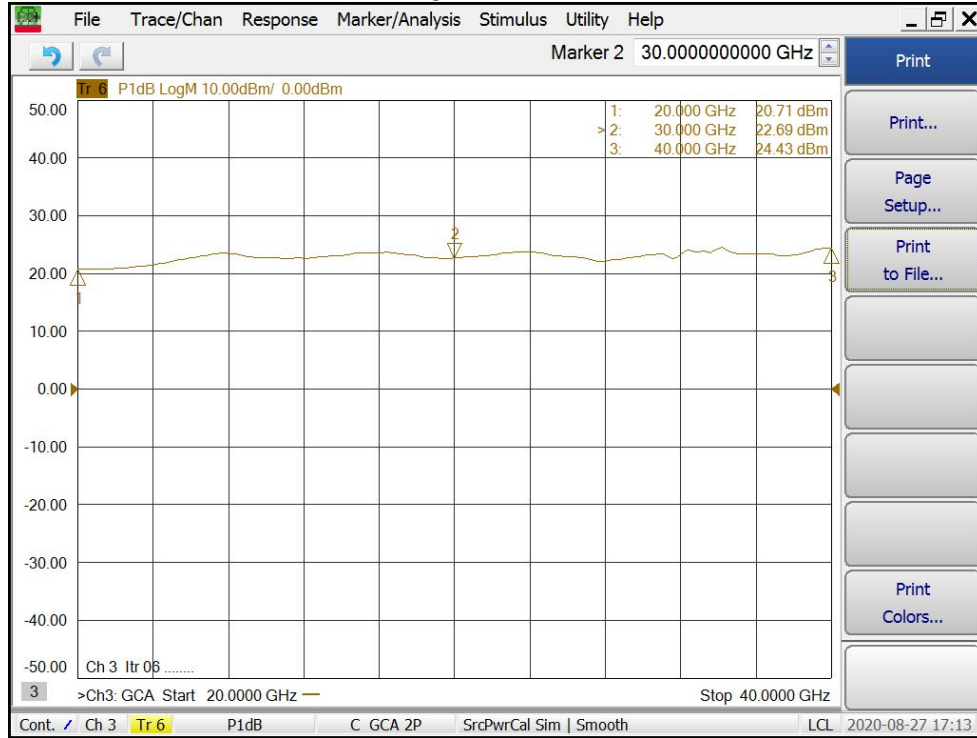
Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



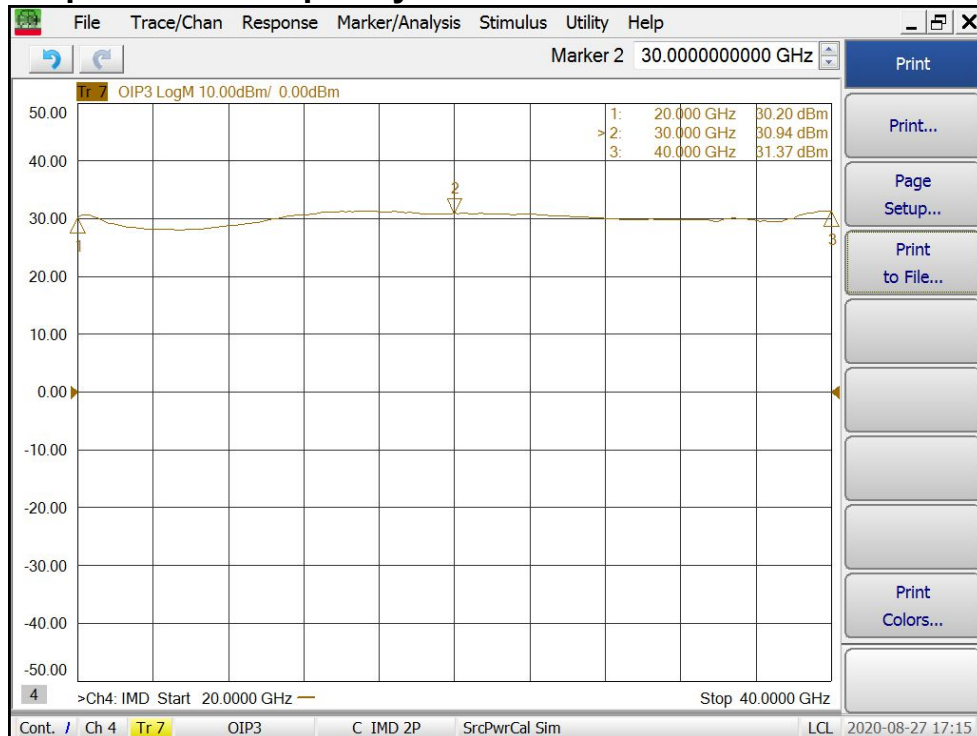
Noise Figure vs Frequency



Output P1dB vs Frequency



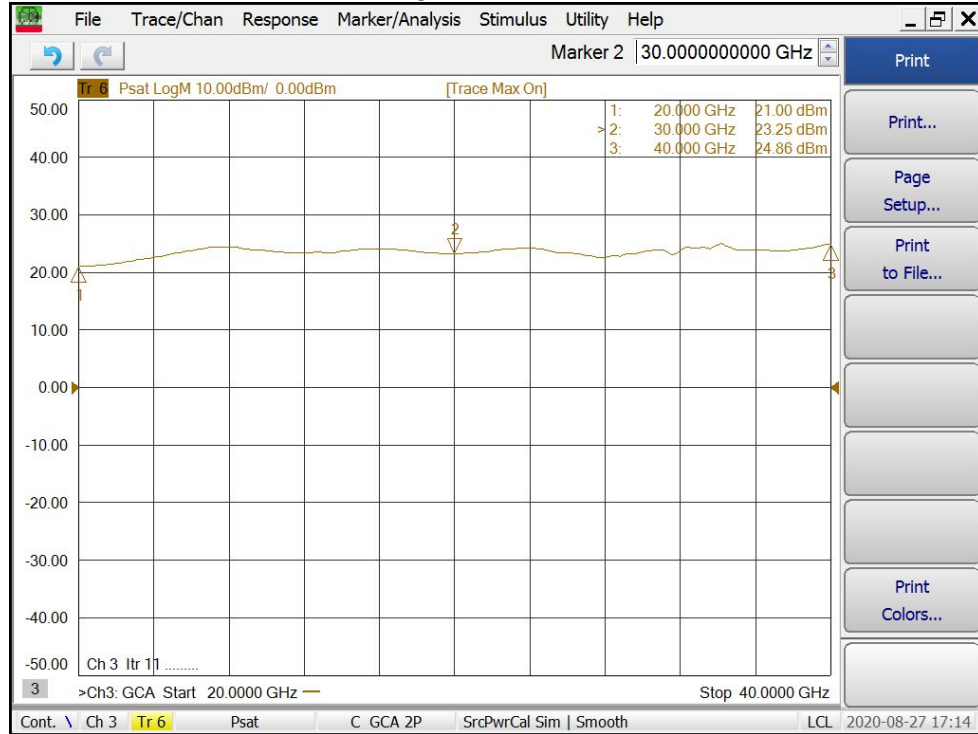
Output IP3 vs Frequency



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Output Psat vs Frequency



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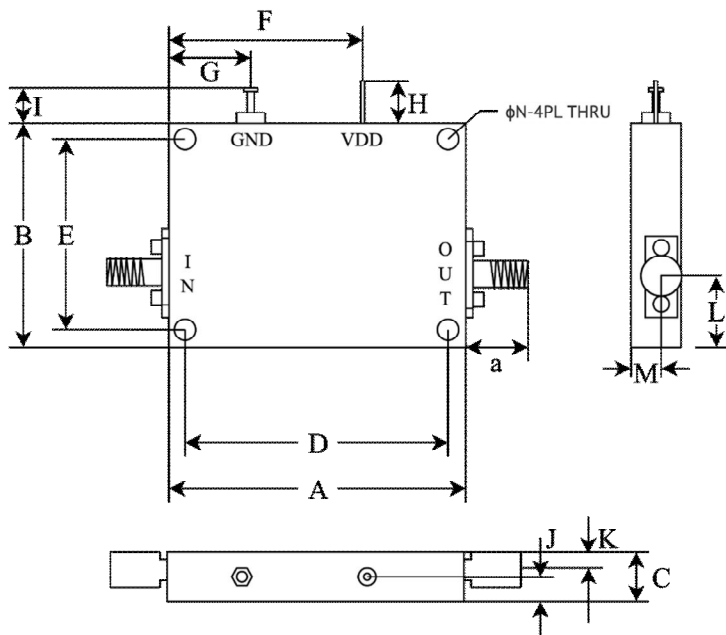
Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+13V
RF Input Power	+5dBm
Operating Temperature	-20 °C to +55 °C
Storage Temperature	-65 °C to +150 °C

ESD Sensitive Material



Outline



	A	B	C	D	E	F	G	H	I	J
Inch	1.772	1.339	0.335	1.614	1.181	1.075	0.256	0.256	0.197	0.167
mm	45.00	34.00	8.50	41.00	30.00	27.30	6.50	6.50	5.00	4.25

	K	L	M	N	a (SMA)	a (2.92mm)	a (2.4mm)	a (1.85mm)
Inch	0.130	0.390	0.205	0.087	0.370	0.374	0.425	0.445
mm	3.30	9.90	5.20	2.20	9.40	9.50	10.80	11.30