

RNA Series

50KHz – 20GHz Low Noise Amplifier

Features

- Frequency Range: 50KHz-20GHz
- Gain: 28dB
- P_{1dB}: +15dBm
- OIP3: +24dBm
- Noise Figure: 3.0dB (typ.)
- DC Power: +12V @ 160mA
- RF Connector: SMA-female

Photo



Description

RNA-0020-301528 is a wide band high performance Low Noise (& Driver) Amplifier, with standard frequency range of 50KHz to 20GHz.

Electrical Specifications @+25 °C, Z_{in}=Z_{out}=50 Ω, DC Supply = +12VDC

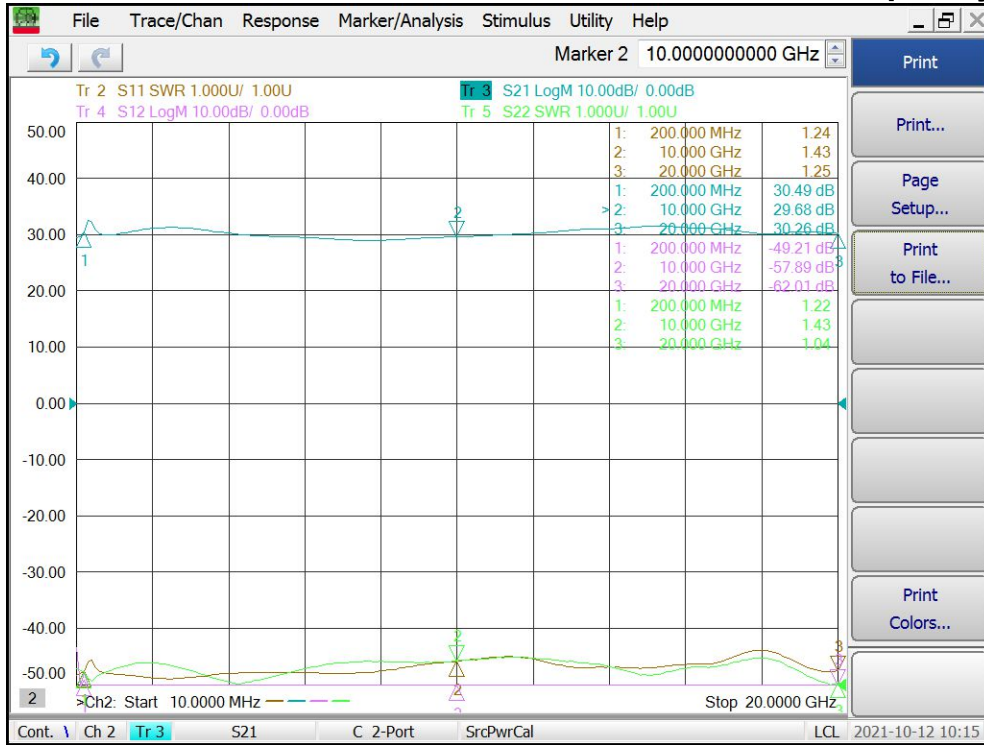
Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	GHz	0.00005		20
Gain S21	f = 1MHz	26	28	
	f = 10GHz	26	28	
	f = 20GHz	26	28	
Gain Flatness	dB		±1.0	±2.0
Output Power P _{1dB}	f = 10GHz	+13	+15	
Output Third Order Intercept IP3	f = 10GHz	+22	+24	
Noise Figure	f = 10GHz		3.0	4.0
Reverse Isolation S12	f = 10GHz	-40	-50	
Input VSWR S11	f = 10GHz		1.5:1	2.0:1
Output VSWR S22	f = 10GHz		1.5:1	2.0:1
DC Power Supply - voltage	V	+8	+12	+13
DC Power Supply - current	mA		160	180
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

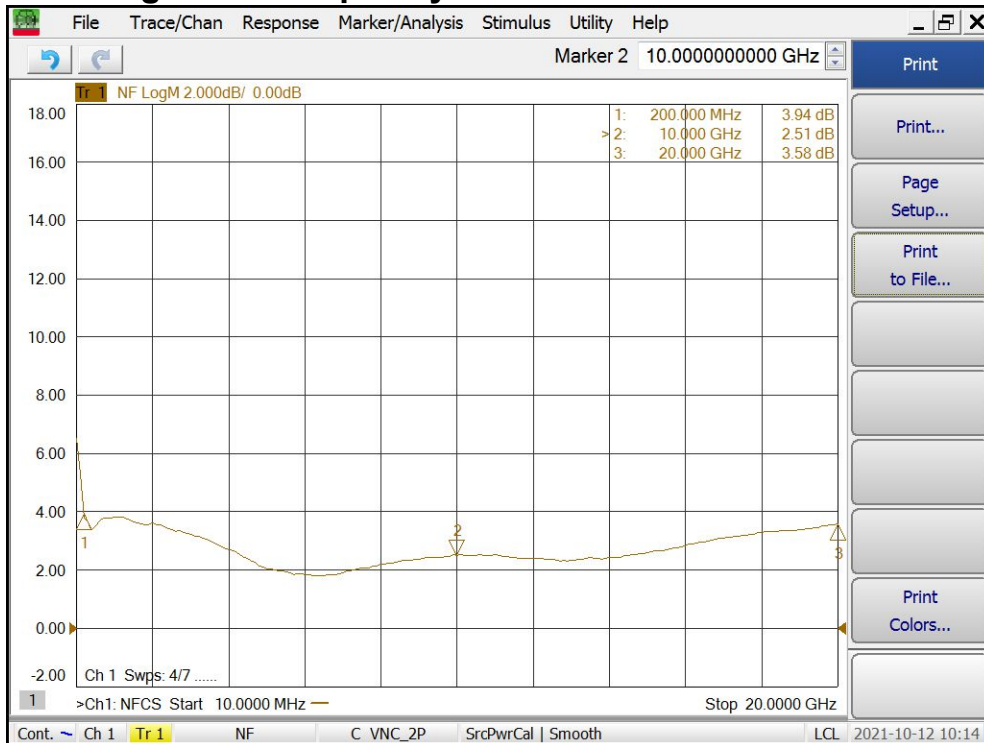
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Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



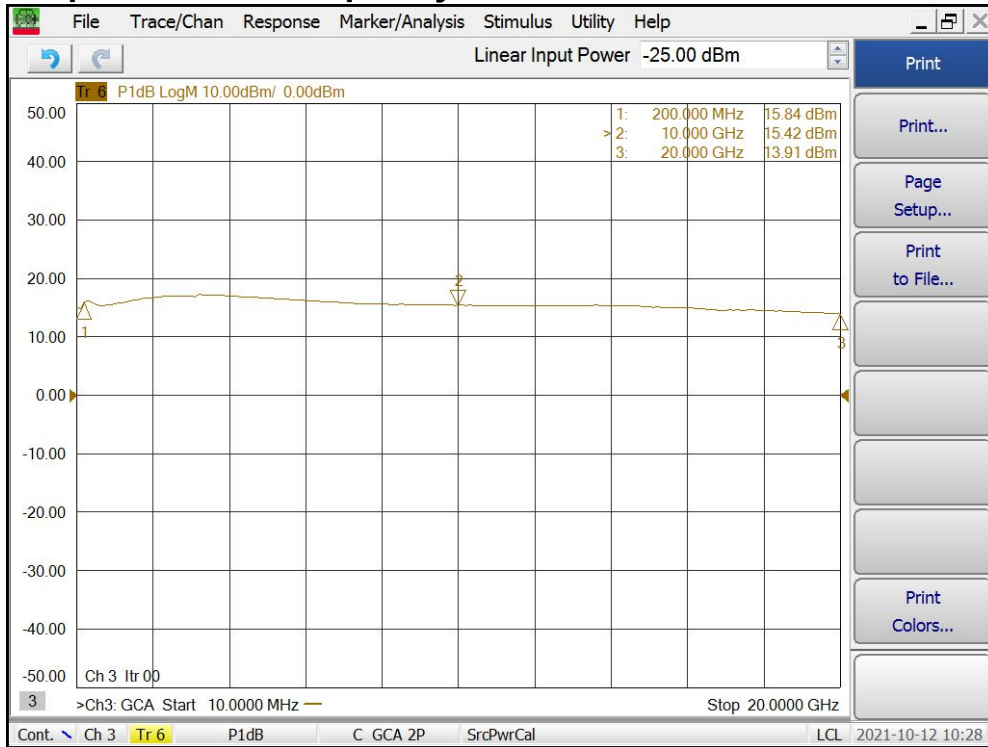
Noise Figure vs Frequency



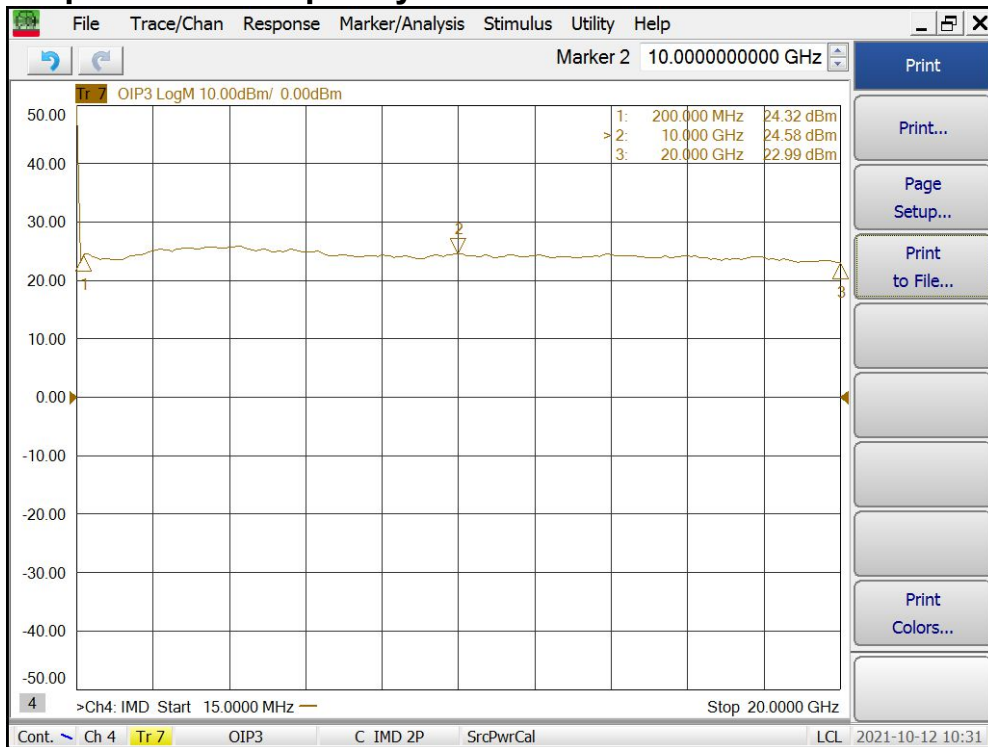
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Output P1dB vs Frequency



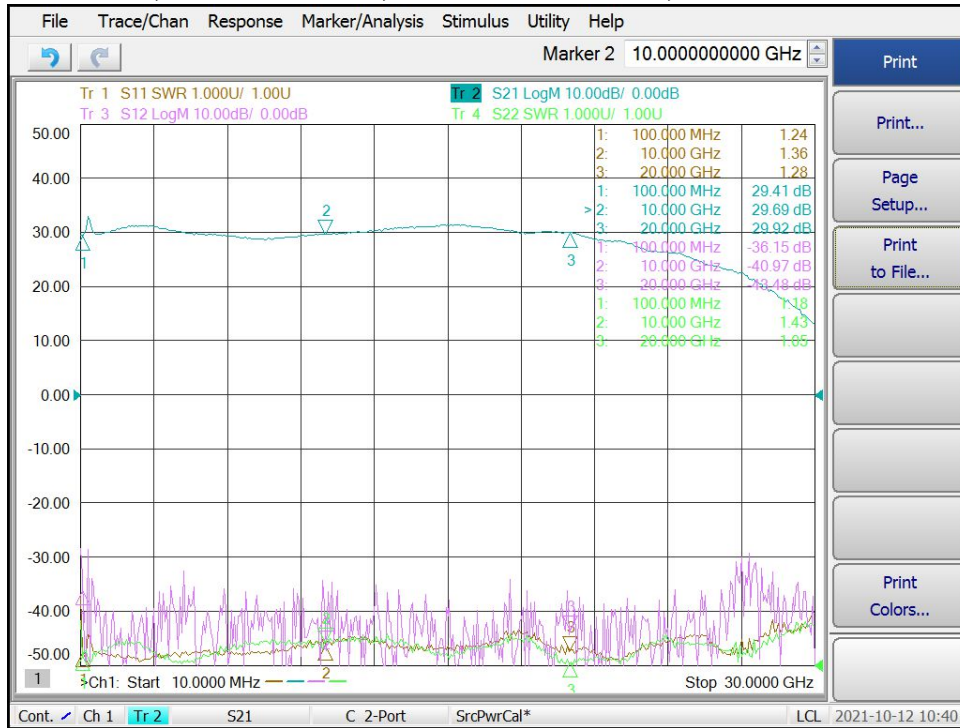
Output IP3 vs Frequency



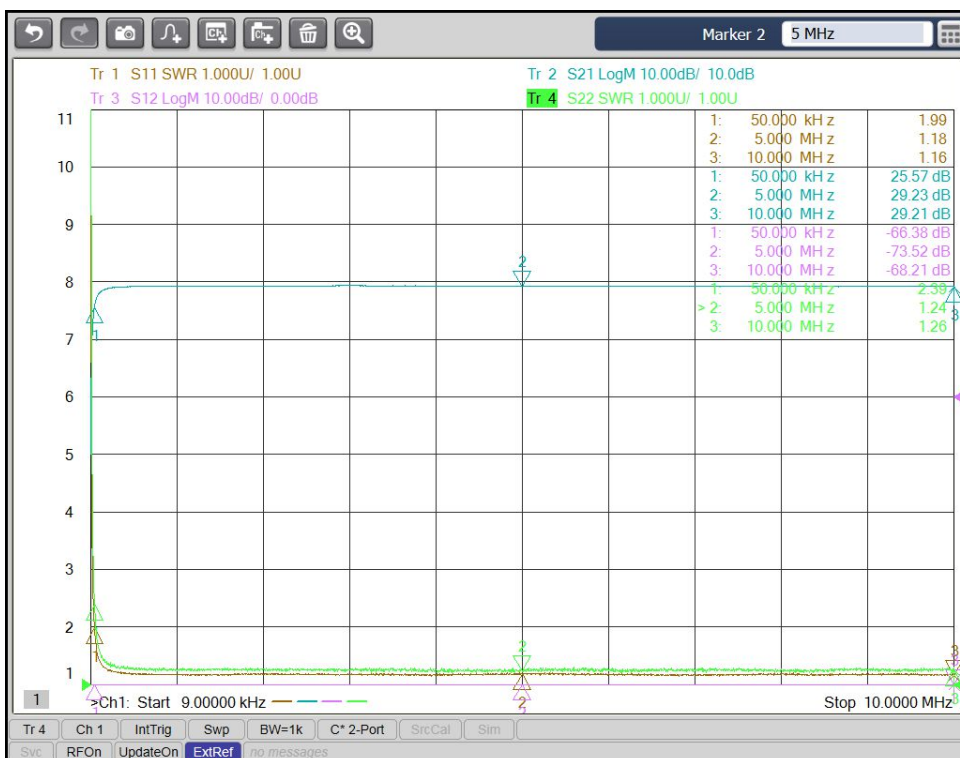
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Gain S21, Isolation S12, Return Loss S11, S22 vs Broadband



Low Frequency Response



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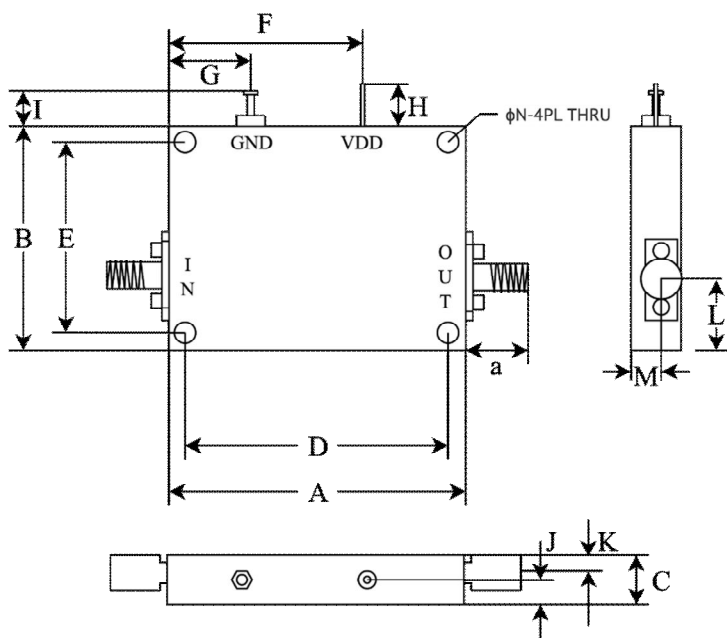
Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage	+16V
RF Input Power	+20dBm
Operating Temperature	-45 °C to +85 °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