

GNA Series

1.5 – 3000MHz Low Noise Amplifier

Features

- Frequency Range: 1.5-3000MHz
- Gain: 18dB
- P_{1dB}: +20dBm
- IP3: +35dBm
- Noise Figure: 2.2dB (typ.)
- DC Power: +5V @ 90mA
- RF Connector: SMA-F

Photo



Description

GNA-20F is a high performance Microwave Low Noise Amplifier, with standard frequency range of 1.5MHz to 3000MHz.

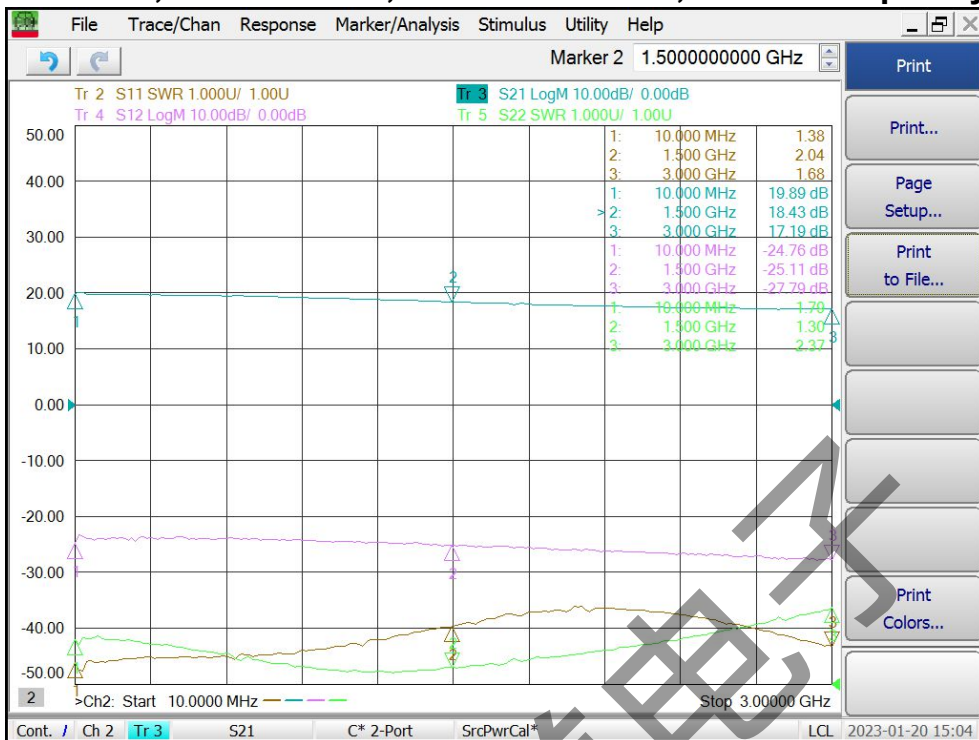
Electrical Specifications @+25°C, Z_{in}=Z_{out}=50 Ω, V_{supply} = +5VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	1.5		3000
Gain (S ₂₁) f = 1.5MHz	dB	16.5	18.0	
f = 10MHz	dB	17.5	19.0	
f = 1.5GHz	dB	16.5	18.0	
f = 3GHz	dB	15.5	17.0	
Gain Flatness	dB		±1.0	±1.5
Output Power P _{1dB} @ 1.5GHz	dBm	+18	+20	
Output Third Order IP3 @ 1.5GHz	dBm	+32	+35	
Noise Figure @ 1.5GHz	dB		2.2	2.7
Reverse Isolation (S ₁₂) @ 1.5GHz	dB	-20	-25	
VSWR-Input (S ₁₁)	ratio:1	1.5 @1.5MHz	2.0 @ 1.5GHz	1.7 @ 3GHz
VSWR-Output (S ₂₂)	(unitless)	2.0 @1.5MHz	1.5 @ 1.5GHz	2.5 @ 3GHz
DC Power Supply - Voltage	V	4.5	5	8
DC Power Supply - Current	mA		90	110
Operating Temperature	°C	-40		+85
Size (RF/DC feedthru's excluded)	Inch	1.00 (L) x 0.75 (W) x 0.45 (H)		
Weight	Oz	0.6 (17 grams)		

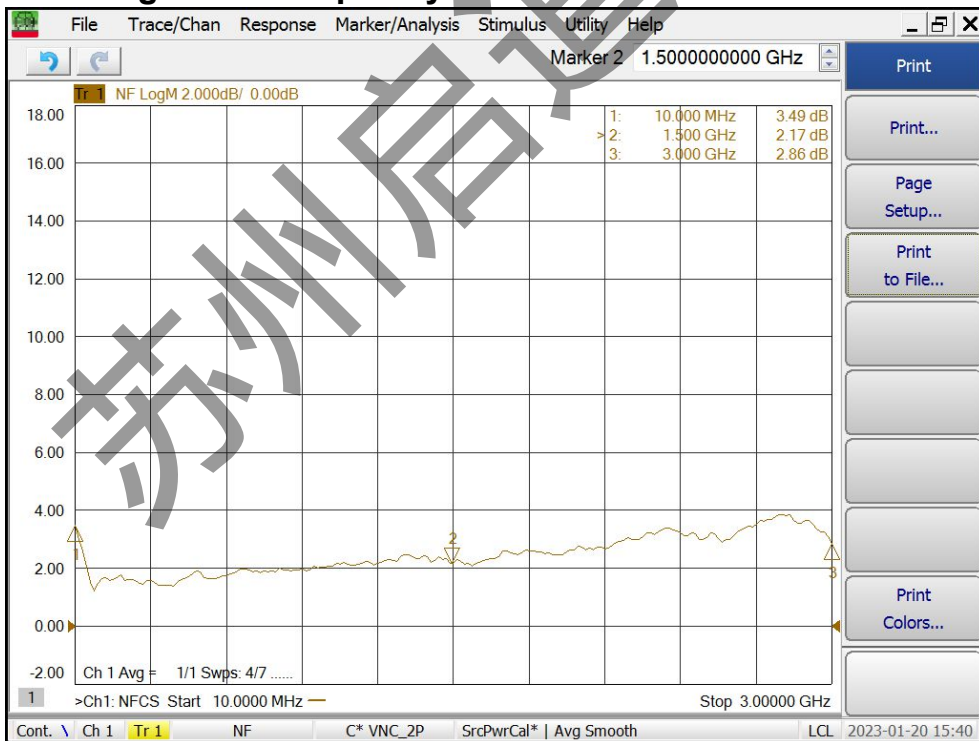
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Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency



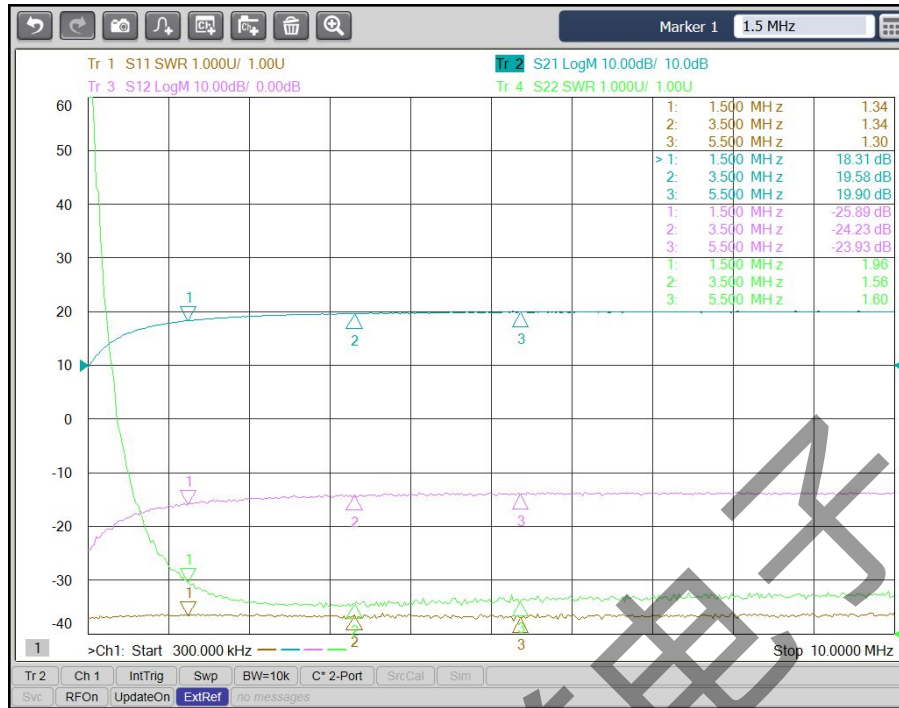
Noise Figure vs Frequency



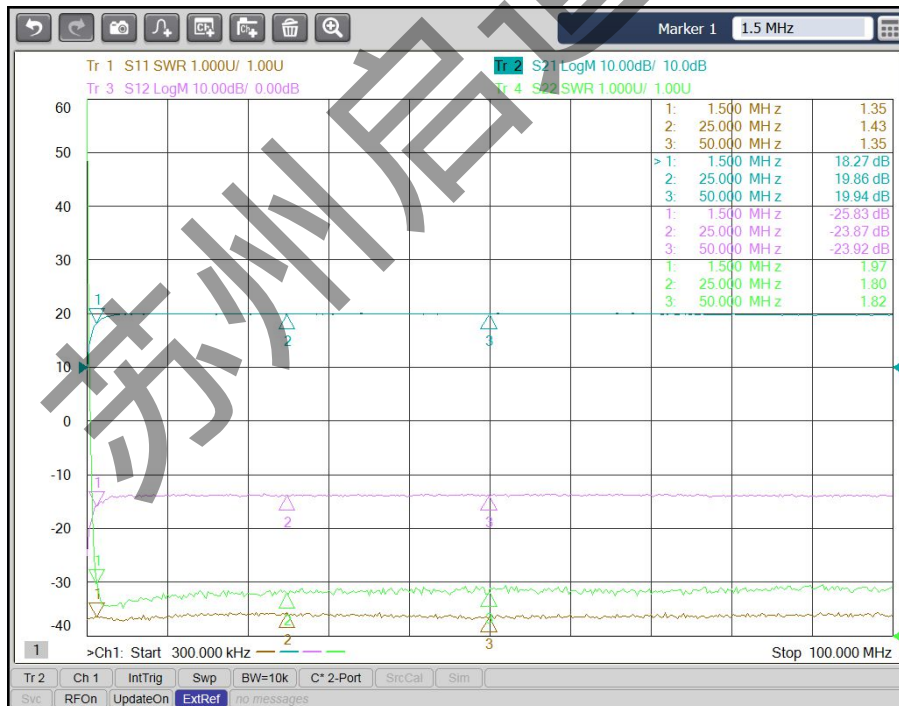
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Low Frequency Gain S21, Isolation S12, VSWR S11, S22



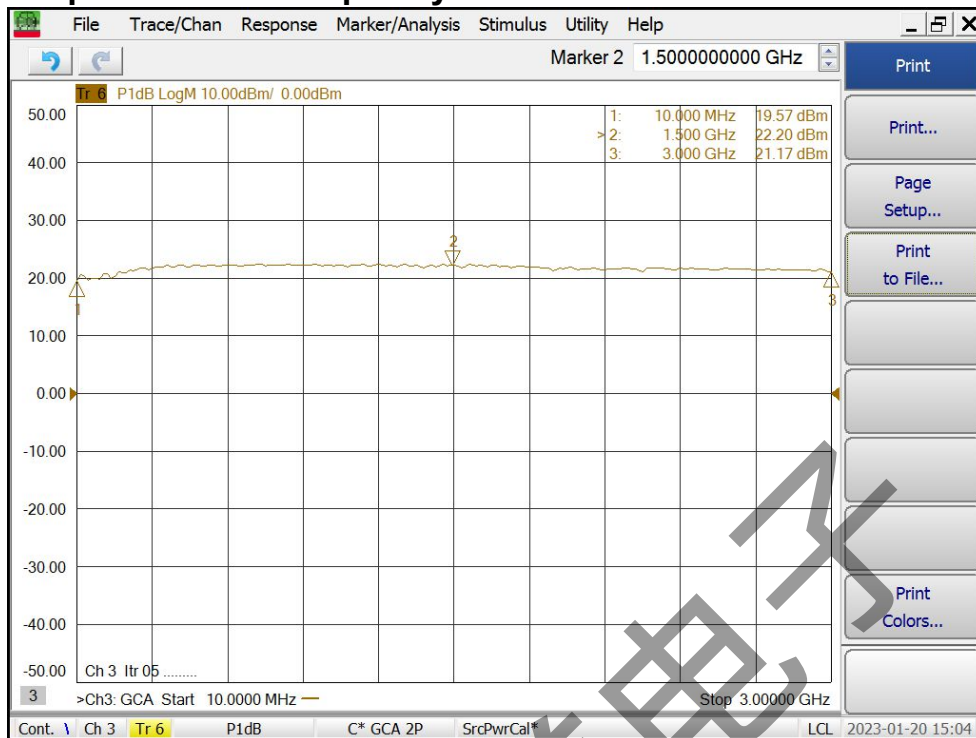
Low Frequency Gain S21, Isolation S12, VSWR S11, S22



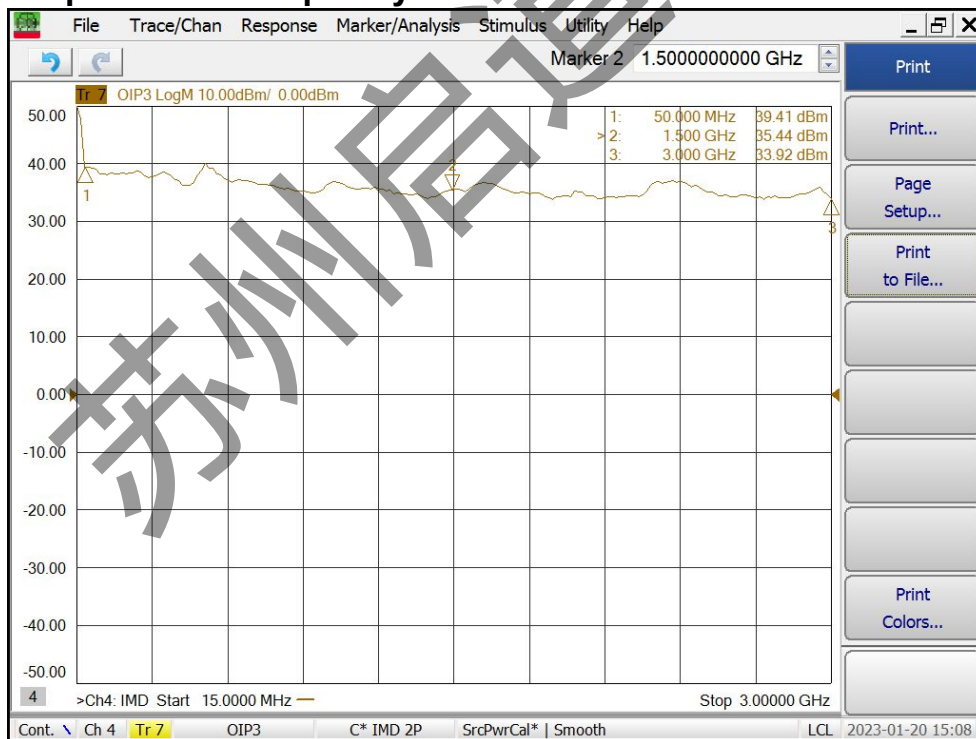
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Output P1dB vs Frequency



Output IP3 vs Frequency



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Absolute Maximum Ratings

Parameter	Absolute Maximum
Supply Voltage (Survival)	+10V
RF Input Power	+20dBm
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

ESD Sensitive Material



Outline

