

## MNA Series

## 400-1600MHz Low Noise Amplifier

### Features

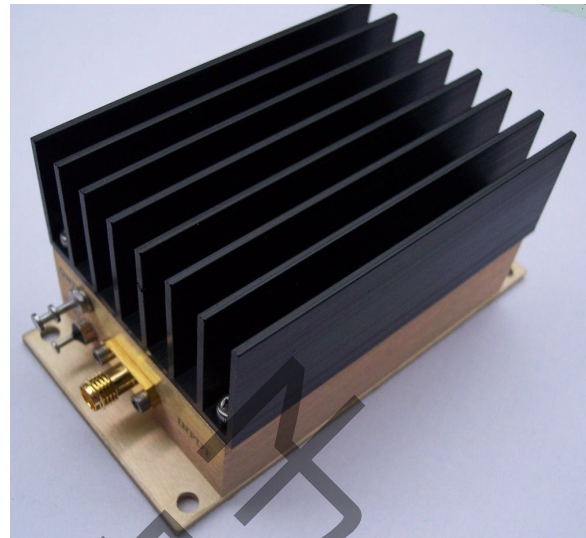
- Frequency Range: 400-1600MHz
- Gain: 35dB
- $P_{1dB}$ : +30dBm (1Watt)
- IP3: +46dBm
- Noise Figure: 0.8dB
- DC Power: +12V to +18V
- DC Reverse Protected
- Internally Voltage Regulated
- SMA Connector

Performance measured @ 1000MHz

### Description

MNA-1000 is a High Dynamic Range Low Noise Amplifier operating from single 12V to +18V DC power supply with frequency from 400MHz to 1600MHz.

### Picture



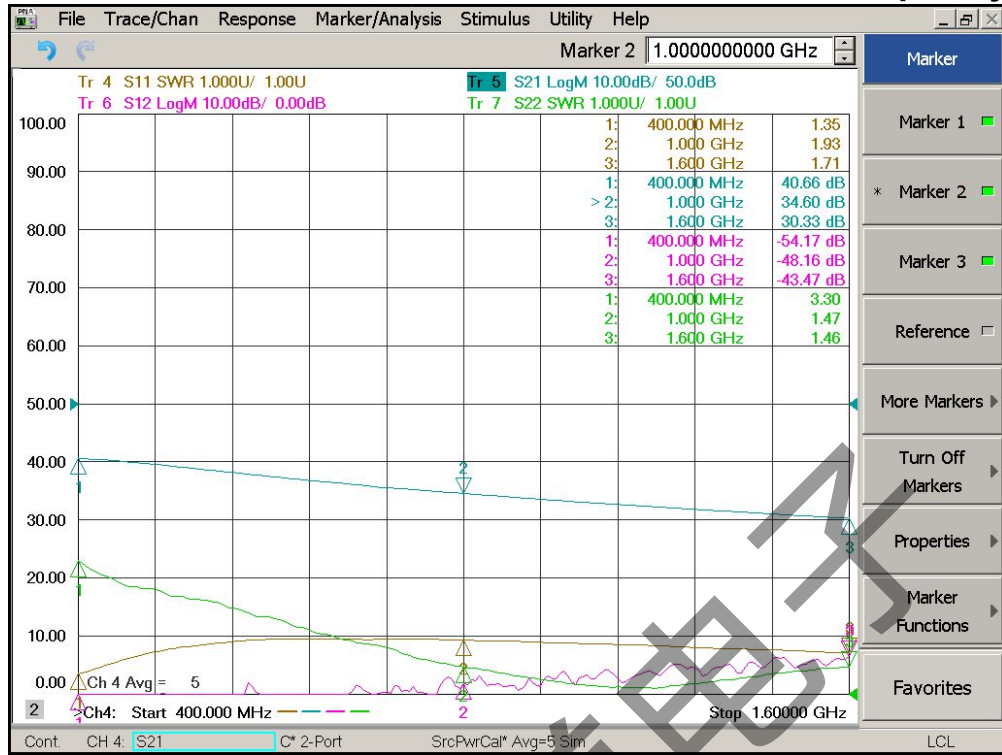
### Electrical Specifications @ +25°C, $Z_{IN} = Z_{OUT} = 50\Omega$ , DC Supply = +15V

Parameter	Unit	Minimum	Typical	Maximum	
Frequency Range	MHz	400		1600	
Small Signal Gain $S_{21}$	f = 400MHz	dB	38	40	
	f = 1000MHz	dB	33	35	
	f = 1600MHz	dB	28	30	
Gain Flatness	dB		$\pm 5.0$	$\pm 6.0$	
Output Power $P_{1dB}$	f = 1000MHz	dBm	+29	+30	
Output IP3	f = 1000MHz	dBm	+43	+46	
Reverse Isolation $S_{12}$	f = 1000MHz	dB	-40	-47	
Noise Figure	f = 1000MHz	dB	0.8	1.0	
VSWR	Input VSWR $S_{11}$	f = 1000MHz		2.0:1	2.5:1
	Output VSWR $S_{22}$	f = 1000MHz		1.5:1	2.0:1
DC Power Supply	V	12	15	18	
DC Current	mA		500	550	

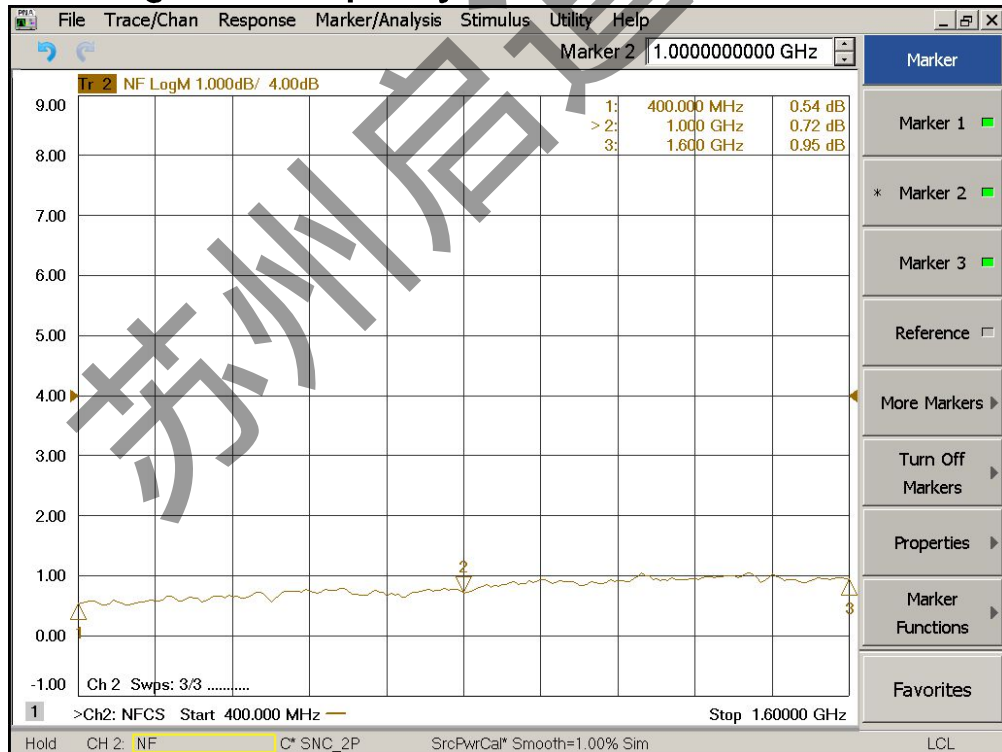
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**Gain S21, Isolation S12, Return Loss S11, S22 vs Frequency**



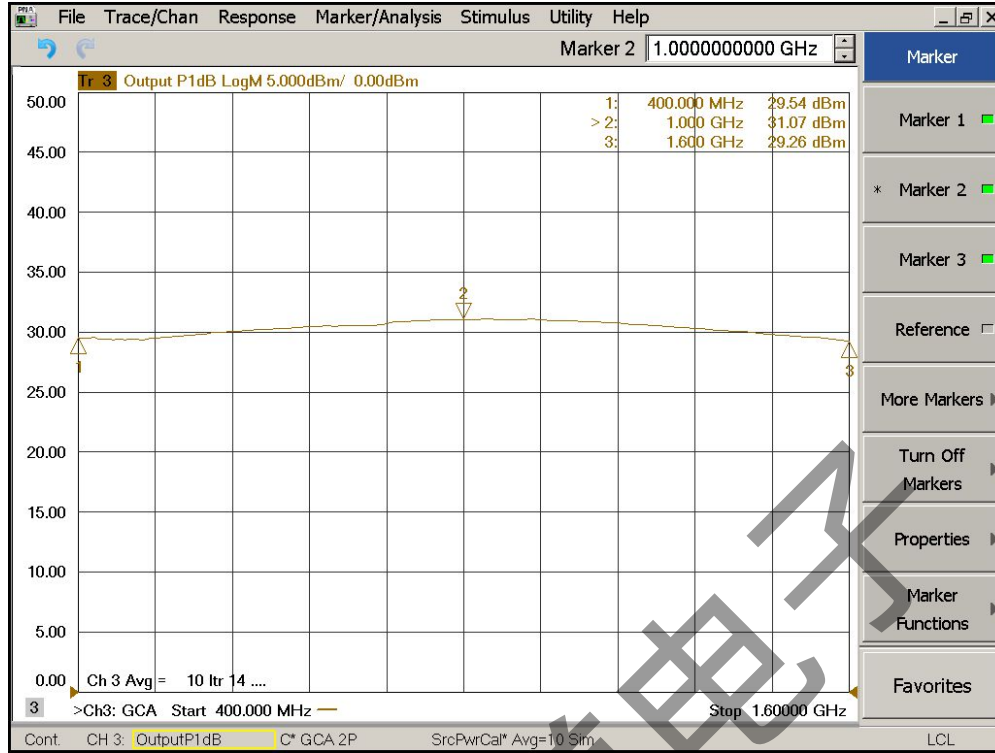
**Noise Figure vs Frequency**



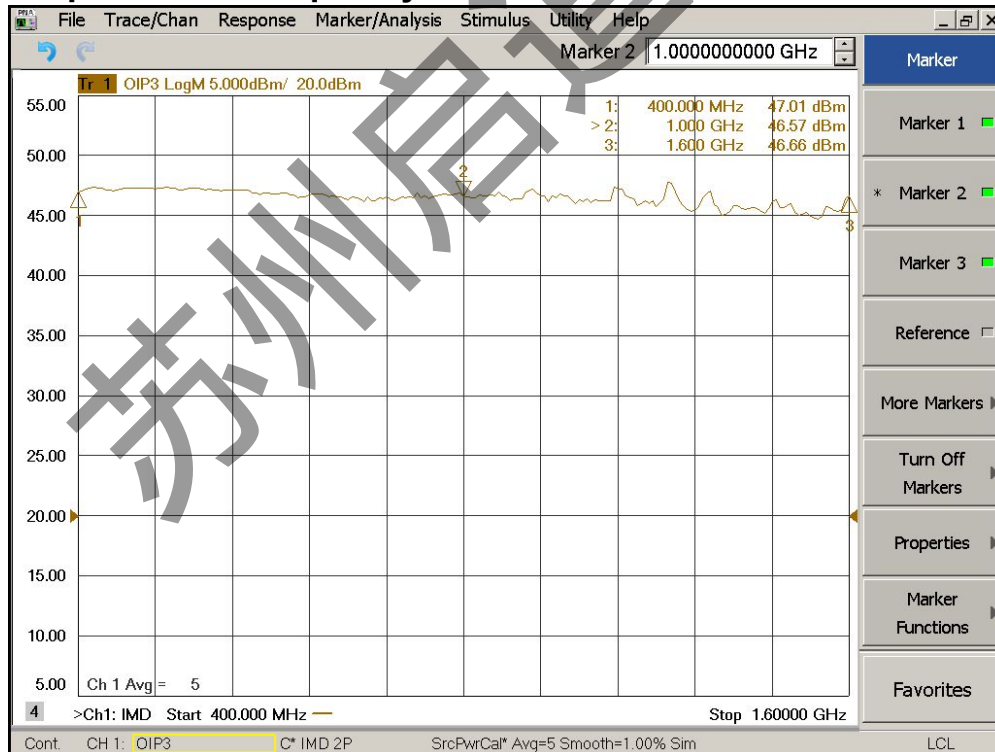
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**Output P1dB vs Frequency**



**Output IP3 vs Frequency**



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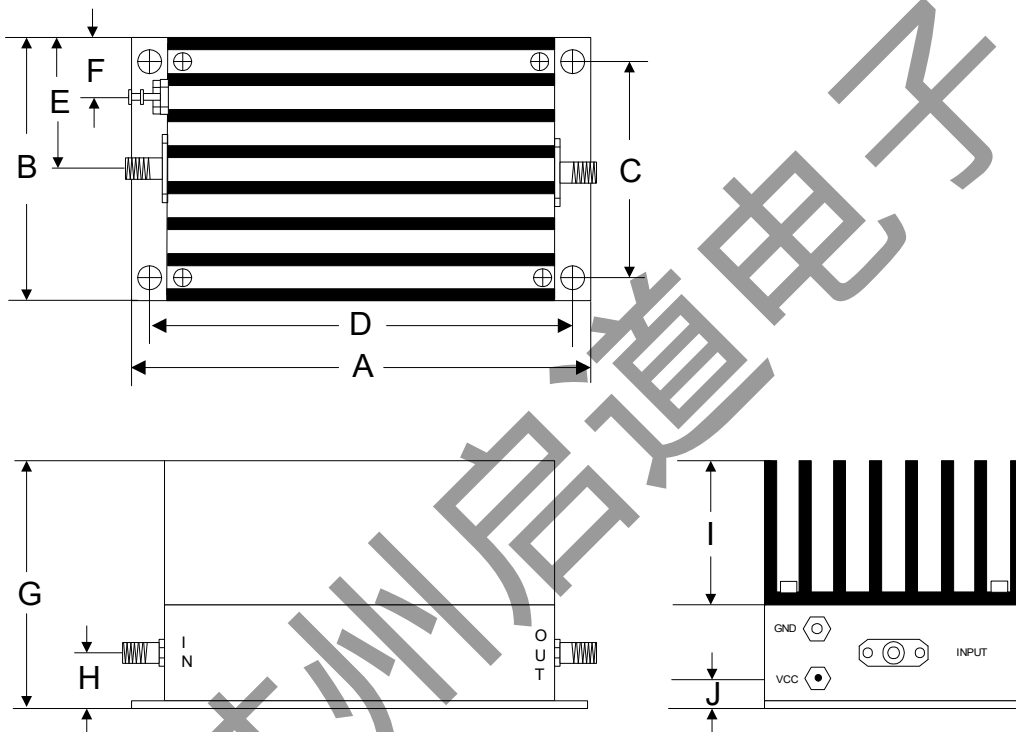
### Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Input Power	+22dBm
DC Supply Voltage	+30V
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

### ESD Sensitive Material



### Outline



	A	B	C	D	E	F	G	H	I	J
Inch	3.750	2.000	1.750	3.400	1.000	0.400	1.813	0.375	1.000	0.238
mm	92.25	50.80	44.45	86.36	25.40	10.16	46.05	9.53	25.40	6.03