

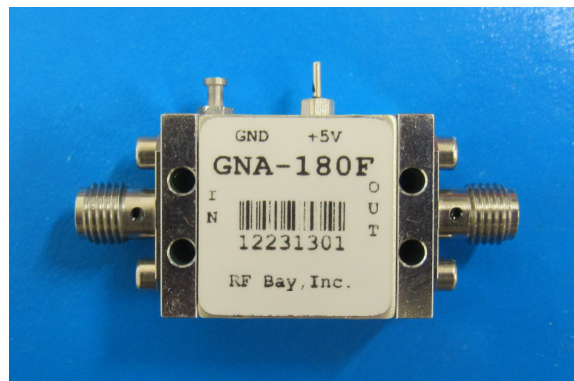
## GNA Series

## 10 – 8000MHz Low Noise Amplifier

### Features

- Frequency Range: 10-8000MHz
- Gain: 20dB
- P<sub>1dB</sub>: +18dBm
- IP3: +32dBm
- Noise Figure: 1.6dB (typ.)
- DC Power: +5V @ 70mA
- RF Connector: SMA-F

### Photo



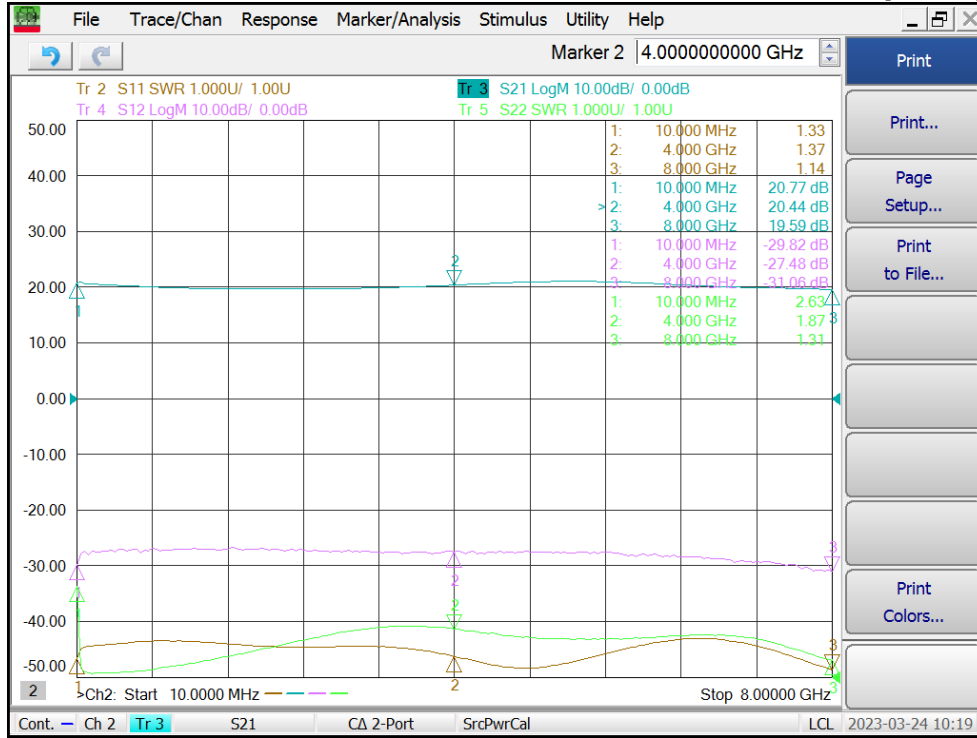
### Description

GNA-180F is a high performance Microwave Low Noise Amplifier, with standard frequency range of 10MHz to 8000MHz.

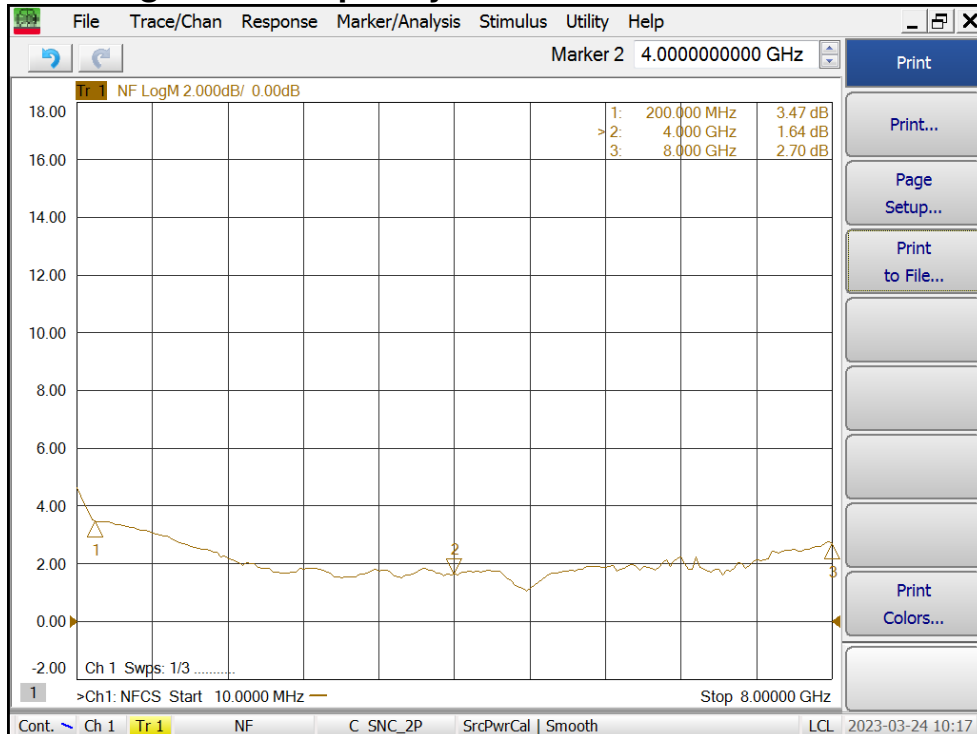
### Electrical Specifications @+25°C, Z<sub>in</sub>=Z<sub>out</sub>=50 Ω, V<sub>supply</sub> = +5VDC

Parameter	Unit	Minimum	Typical	Maximum
Frequency Range	MHz	10		8000
Gain (S <sub>21</sub> ) f = 10MHz	dB	19.0	20.5	
f = 4GHz	dB	19.0	20.0	
f = 8GHz	dB	18.0	19.5	
Gain Flatness	dB		±0.6	±1.0
Output Power P <sub>1dB</sub> @ 4GHz	dBm	+17	+18	
Output Third Order IP3 @ 4GHz	dBm	+30	+32	
Noise Figure @ 4GHz	dB		1.6	2.0
Reverse Isolation (S <sub>12</sub> ) @ 4GHz	dB	-20	-25	
VSWR-Input (S <sub>11</sub> )	ratio:1	1.4 @10MHz	1.4 @ 4GHz	1.2 @ 8GHz
VSWR-Output (S <sub>22</sub> )	(unitless)	2.6 @10MHz	1.9 @ 4GHz	1.2 @ 8GHz
DC Power Supply - Voltage	V	4.5	5	5.5
DC Power Supply - Current	mA		70	90
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)		

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



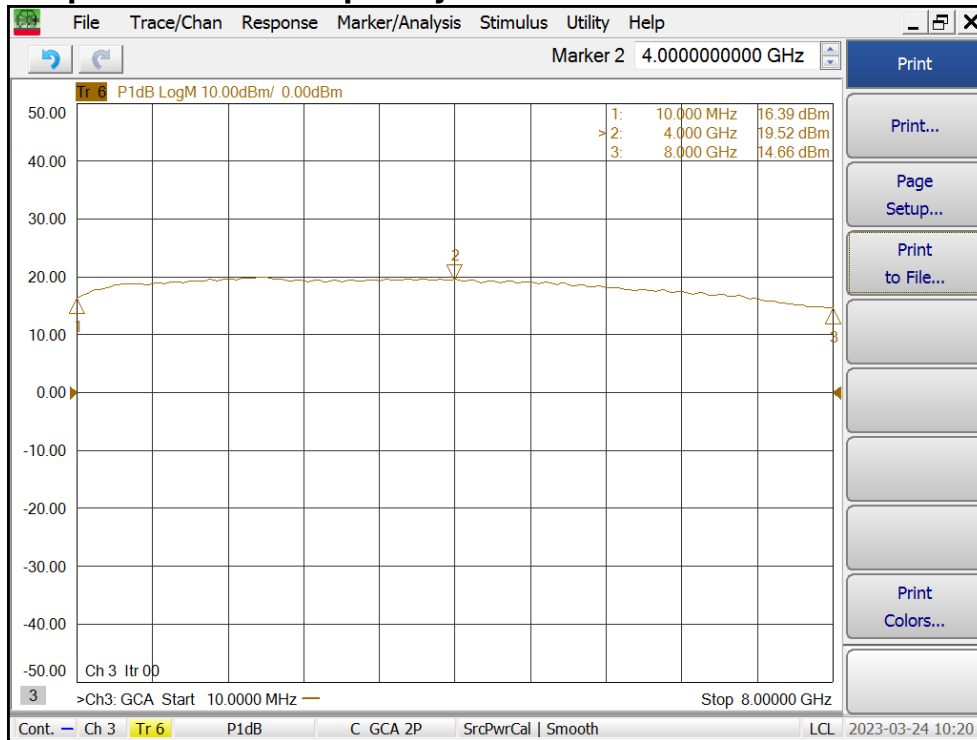
**Noise Figure vs Frequency**



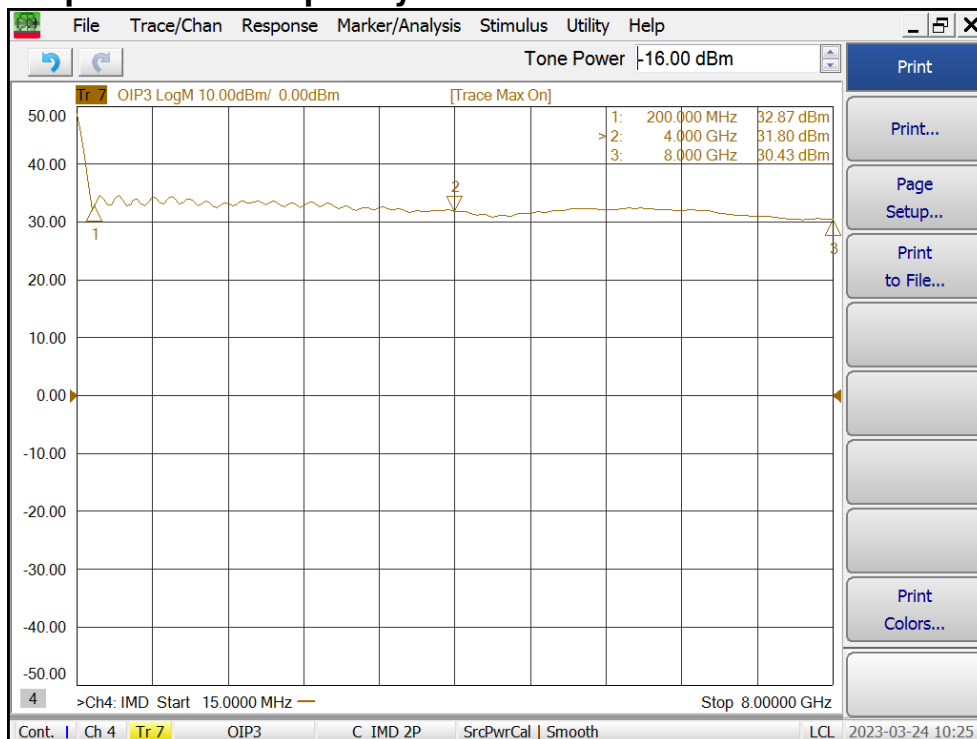
**GNA Series**

**10 – 8000MHz Low Noise Amplifier**

**Output P1dB vs Frequency**



**Output IP3 vs Frequency**



**GNA Series**

**10 – 8000MHz Low Noise Amplifier**

**Absolute Maximum Ratings**

Parameter	Absolute Maximum
Supply Voltage (Survival)	+6V
RF Input Power	+20dBm
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-55 °C to +125 °C

**ESD Sensitive Material**



**Outline**

