

VMLNA-50M/10G-41-12-SMAF

FEATURES

- ◆ Frequency Range: 50MHz ~ 10GHz
- ◆ Gain: 41dB Typ.
- ◆ Noise Figure: 1.8dB Typ.
- ◆ Output P1dB: +20dBm Typ.
- ◆ Power Supply: +12V
- ◆ 50 Ω Input/Output Impedance Matching



TYPICAL APPLICATIONS

- ◆ Wireless network infrastructure
- ◆ Broadband Signal Reception
- ◆ RF/Microwave Communication Networks
- ◆ Small Signal Linearity Enhancement
- ◆ Laboratory Test Assistance
- ◆ VSAT Satellite Communication Systems

RF PERFORMANCE

Parameter	Min.	Typ.	Max.	Unit
Frequency Range	0.05	-	10	GHz
Gain	-	41	-	dB
Gain Flatness	-2	-	+2	dB
P1dB Output Power	18	20	-	dBm
Noise Figure	1	1.8	3	dB
Input VSWR	-	1.6	2.2	:1
Output VSWR	-	1.6	2.2	:1
Input Power Range	-	-	-13	dBm
Supply Voltage	-	+12	-	V
Supply Current	-	100	-	mA@12V
Operating Temperature	-40	25	+85	°C
Port Impedance	-	50	-	Ω
Weight	-	51	-	g
Input/Output Connectors	Stainless Steel - SMA Female			/
Material	Aluminum Alloy Housing + Conductive Oxidation Sandblasting			/

ABSOLUTE MAXIMUM RATINGS

Parameter	Max. Rating
Maximum Operating Voltage	+15V
Maximum Input Power	-15dBm

Note: Output must not be open or short-circuited.

POWER ON/OFF SEQUENCE

Biasing Up Procedure

Step 1 Correctly connect the LNA power supply.

Step 2 Connect the LNA input and output.

Step 3 Turn on the +12V voltage.

Step 4 Check if the LNA current is normal.

Step 5 Apply power to the input.

Note: If the current is abnormal during the power-up process, disconnect the RF input and power supply immediately.

Power OFF Procedure

Step 1 Disconnect the LNA input power.

Step 2 Turn off the +12V power supply.

Step 3 Disconnect the ground connection.

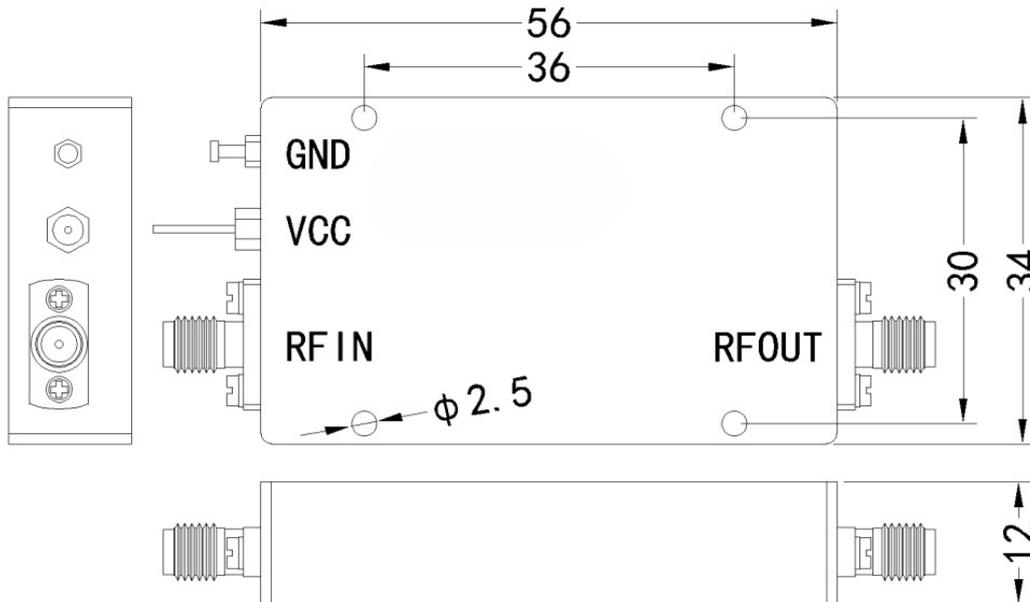
ENVIRONMENTAL SPECIFICATIONS

Parameter	Function
Operating Temperature	-40°C ~ +85°C
Storage Temperature	-25°C ~ +65°C
Altitude	30,000 feet (Epoxy sealed controlled environment)
	60,000 ft. 1.0psi min (Sealed non-controlled environment) (Optional)
Vibration	25g RMS (15 minutes, 2KHz) endurance time, 1 hour per axis
Humidity	100% Relative Humidity at 35°C, 95% Relative Humidity at 40°C
Shock	20G for 11 milliseconds half-sine wave, 3 axes bidirectional

Note: Exceeding the above limits may degrade performance or cause permanent damage to the device.

Special Statement: Before powering on the module, a load must be connected to the RF output port, otherwise it may cause permanent damage to the module. Maintain a good heat dissipation environment for optimal performance.

OUTLINE DRAWING

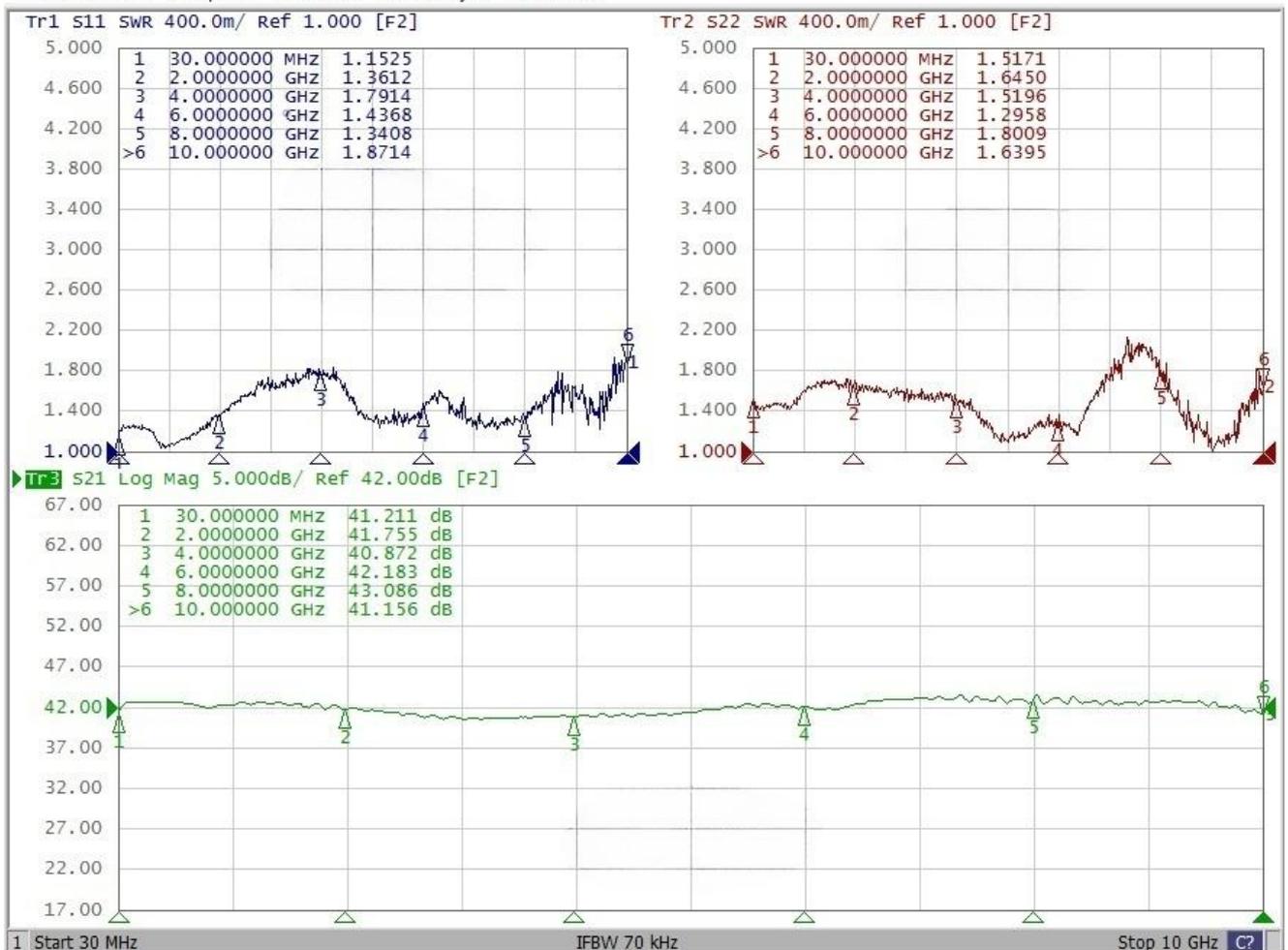


Unit: mm

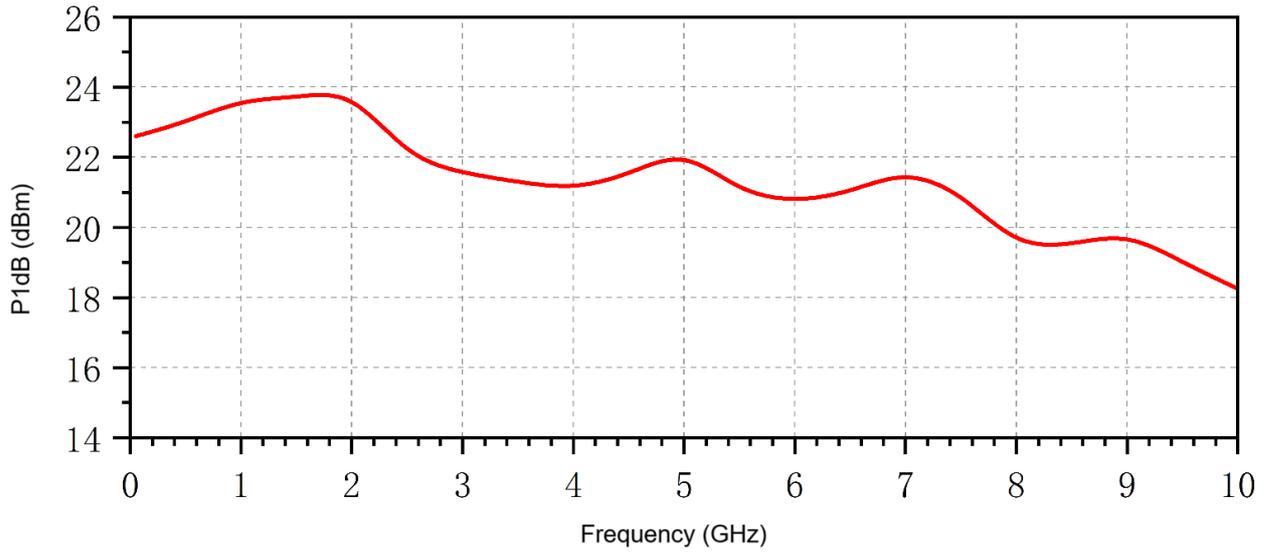
TYPICAL PERFORMANCE CURVES

E5071C Network Analyzer

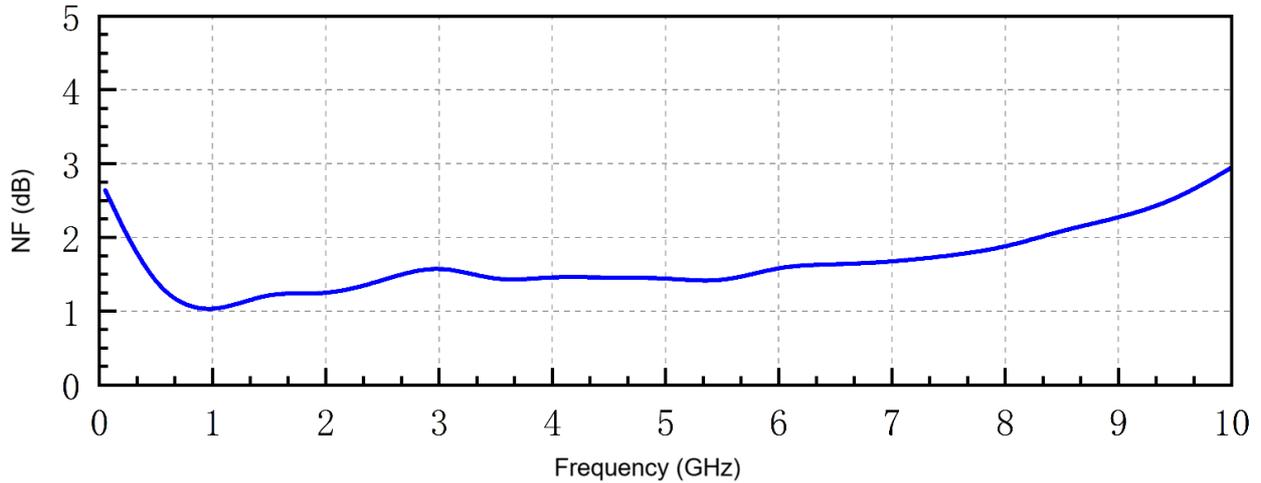
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State



P1dB VS. Frequency



NF VS. Frequency



Pout VS. Pin

