

VMLNA-5G/18G-38-8-SMAF

FEATURES

- ◆ Frequency Range: 5GHz ~ 18GHz
- ◆ Gain: 38dB Typ.
- ◆ Noise Figure: 1.5dB Typ.
- ◆ Output P1dB: +17dBm Typ.
- ◆ Power Supply: +8V
- ◆ 50 Ω Input/Output Impedance Matching



TYPICAL APPLICATIONS

- ◆ 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	5	-	18	GHz
Gain	-	38	-	dB
Gain Flatness	-2	-	+2	dB
P1dB Output Power	16	17	-	dBm
Noise Figure	-	1.5	1.9	dB
Input VSWR	-	1.8	2.6	:1
Output VSWR	-	1.8	2.6	:1
Input Power Range	-	-	-8	dBm
Supply Voltage	-	+8	-	V
Supply Current	-	200	-	mA@8V
Operating Temperature	-40	25	+55	°C
Port Impedance	-	50	-	Ω
Weight	-	53	-	g
Input/Output Connectors	Stainless Steel - SMA Female			/
Material	Aluminum Alloy Housing + Conductive Oxidation Sandblasting			/

ABSOLUTE MAXIMUM RATINGS

Parameter	Max. Rating
Maximum Operating Voltage	+12V
Maximum Input Power	-8dBm

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 +8V 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 +8V power supply.

Step 3 Disconnect the ground connection.

ENVIRONMENTAL SPECIFICATIONS

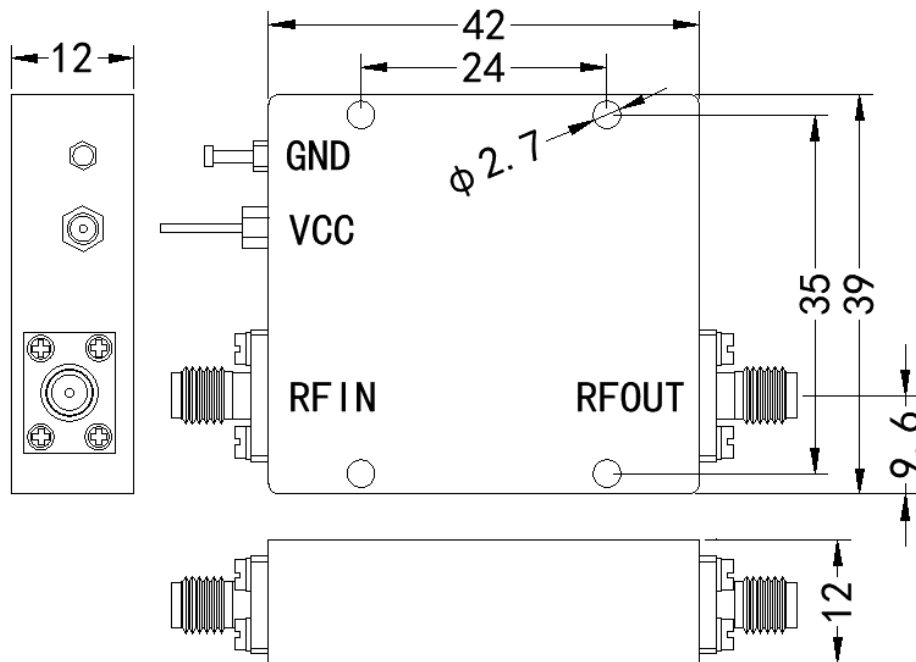
Parameter	Function
Operating Temperature	-40℃ ~ +55℃
Storage Temperature	-25℃ ~ +65℃
Altitude	30,000 feet (Epoxy sealed controlled environment)
	60,000 ft. 1.0psi min (Sealed non-controlled environment) (Optional)
Vibration	25g RMS (15 minutes, 2KHz) endurance time, 1 hour per axis
Humidity	100% Relative Humidity at 35℃, 95% Relative Humidity at 40℃
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

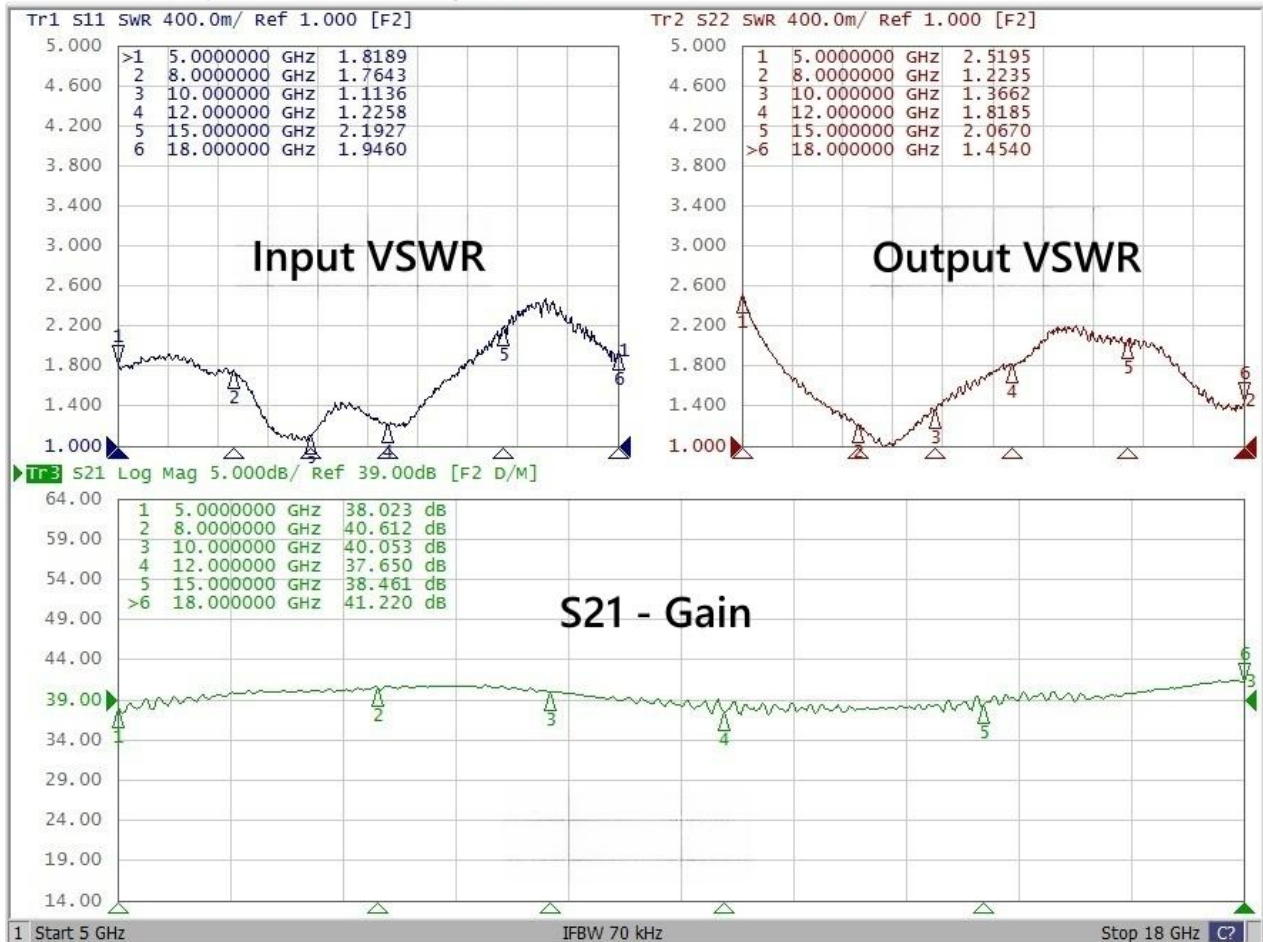
Unit: mm



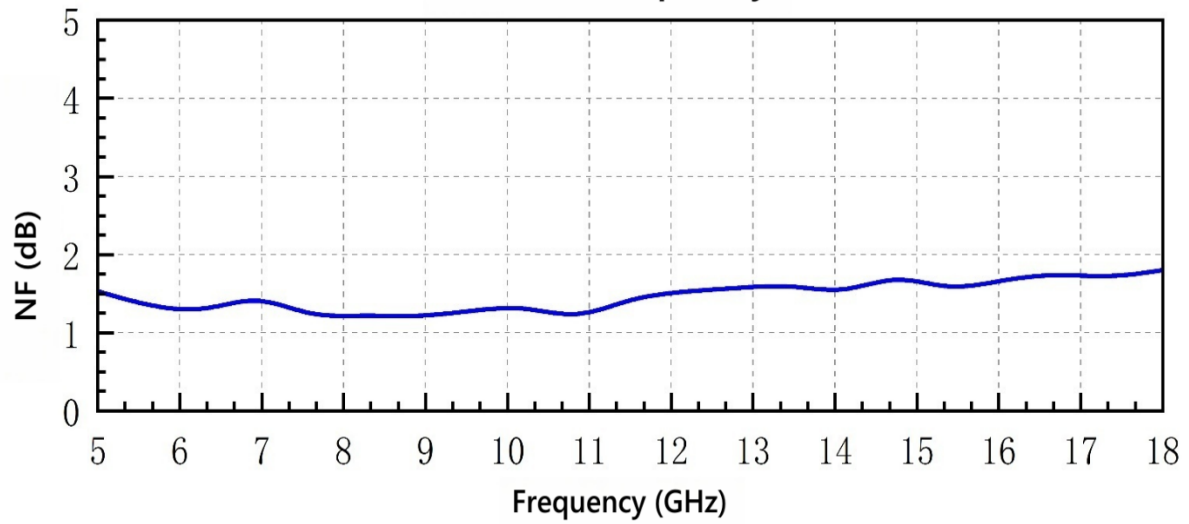
TYPICAL PERFORMANCE CURVES

E5071C Network Analyzer

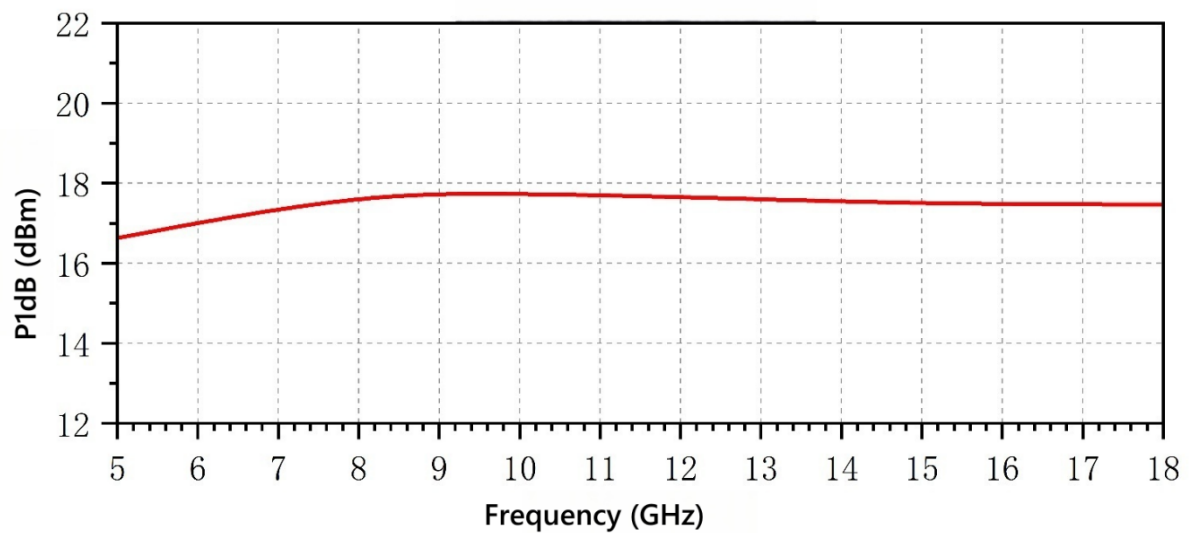
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State



NF VS Frequency



P1dB VS Frequency



Gain VS. Pout

