

Features:

- Broad band operation from 50MHz to 20GHz
- low noise figure
- Good VSWR, unconditional stable
- SMA female connector RF I/O
- Built-in voltage regulator, single DC power supply required only
- Operating temperature -40~+85°C, storage temperature -55~+85°C

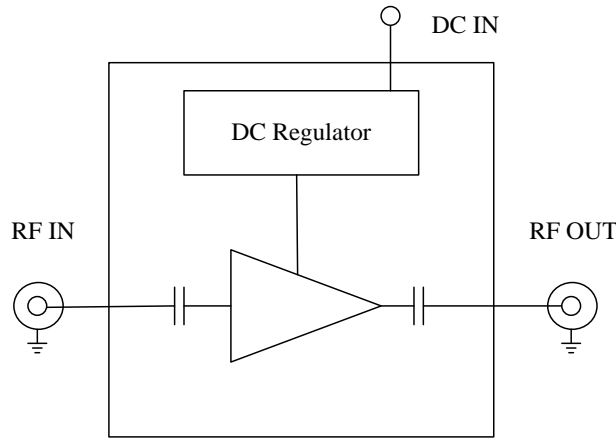
**General Description**

ABL2000-01-2222 is a single stage GaAs pHEMT MMIC based broadband low noise amplifier module operating in the frequency from 0.05 to 20.0GHz. The amplifier provides 22dB of small signal gain with 2.2dB typical noise figure. It requires only a single positive DC power supply. Its built-in voltage regulator allows the amplifier to functional at different DC supply voltages without affecting the RF performances.

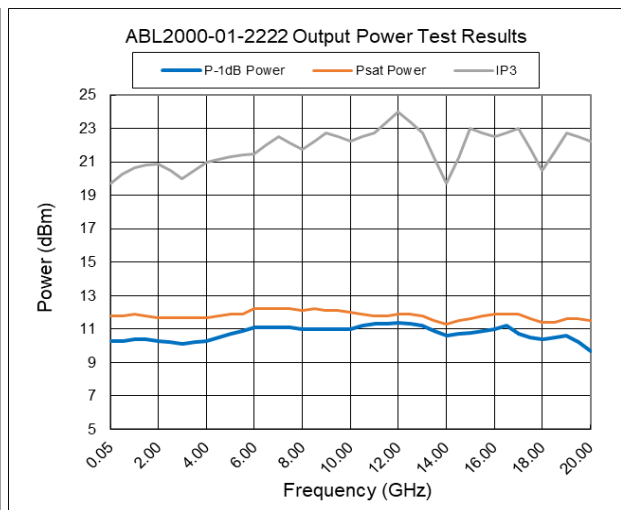
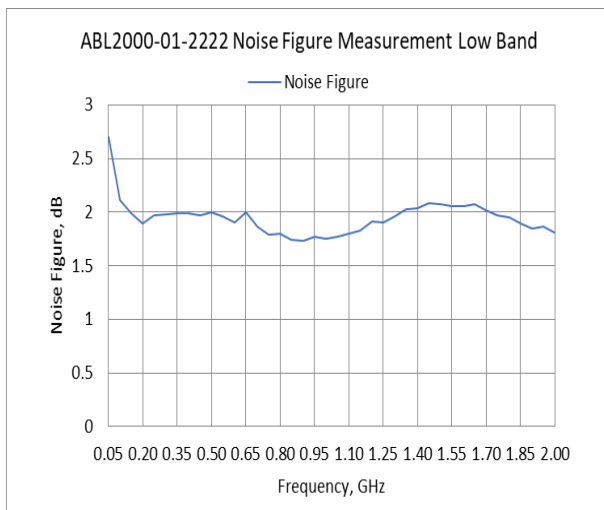
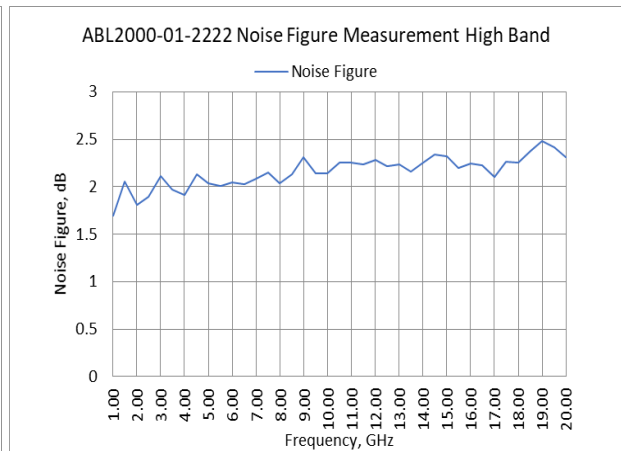
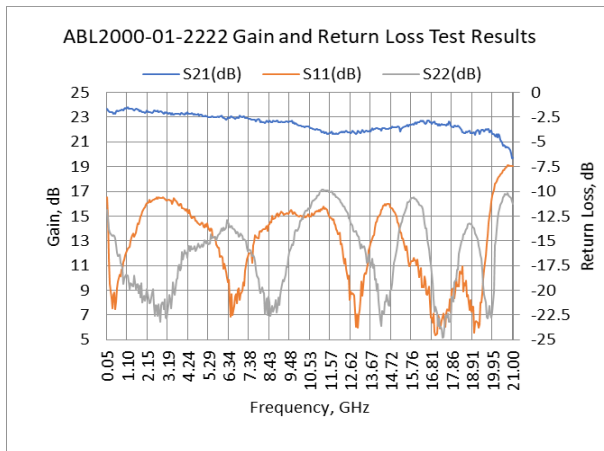
Electrical Specifications

Parameters	Units	Specifications		
		Minimum	Typical	Maximum
Frequency Range	GHz	0.05		20.0
Nominal Gain @25°C base plate temperature	dB	20.0	22.0	24.0
Gain flatness	dB		+/-1.0	+/-1.5
Gain Variation over Temperature Range	dB		+/-1.0	
Noise Figure @25°C base plate temperature 0.05~0.1GHz 0.1~20.0GHz	dB		2.5 2.2	3.0 2.7
Output P-1dB Power	dBm	9.0	10.0	
Output Saturated Power	dBm	10.0	11.5	
Output IP3	dBm	18.0	22.0	
Reverse Isolation	dB	25.0		
Input VSWR	-		1.7:1	2.2:1
Output VSWR	-		1.7:1	2.2:1
Spurious	dBc			-60.0
Operating Temperature	°C	-40.0		+75.0
Survival Temperature	°C	-45.0		+85.0
DC Power Supply Voltage	V	+8.0	+12.0	+15.0
DC Power Supply Current	mA	50.0	60.0	70.0
RF In/Out connectors		50 ohm SMA female		
DC Input Connector		Feedthru Pin		
Outline dimension	inches	1.20×1.00×0.40		

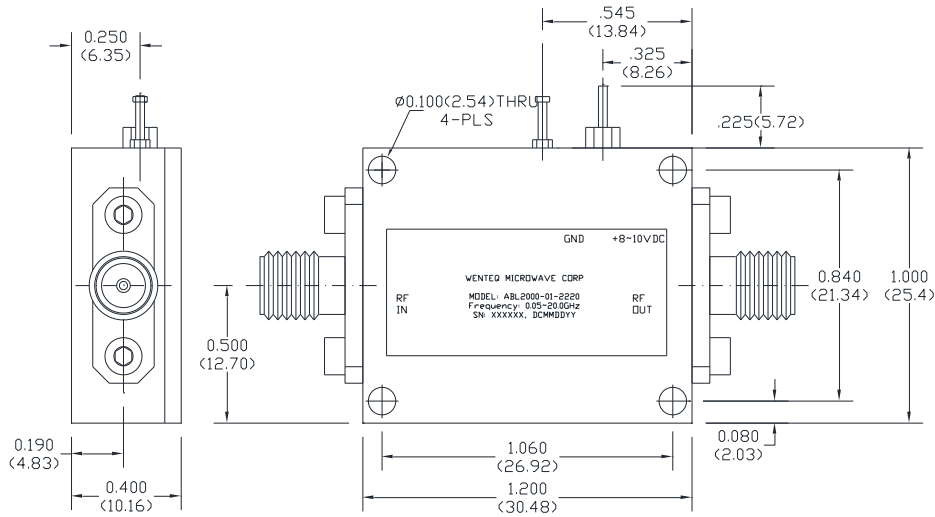
Functional Diagram



Test Results:



Mechanical Structure:



Note: All units are in inches(mm), and all tolerances are +/-0.005 inch unless otherwise specified

Housing Material and Surface Finish:

Body and cover material: aluminum
Surface finish: nickel plated
Connector material: Stainless Steel
Connector surface finish: Passivated

Absolute Maximum Ratings

DC Voltage	+18V
RF Input Power	+20 dBm
Storage Temperature	-55~+125°C
Operating Temperature	-40~+85°C

Revision History:

Revision	Date	Description	Comments
A00	11/18/2023	Initial Release	



WARNING: This device is electrostatic sensitive, please observe precautions for safe handling of this amplifier.

WARNING: This product can expose you to chemicals including Nickel (Metallic) and Gallium Arsenide which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65warnings.ca.gov.