

Broadband Low Noise RF Amplifier (LNA)

50kHz-20GHz, 28 dB gain



DATASHEET

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This LNA broadband Low Noise RF Amplifier provides output power up to 16 dBm with a gain of 28 dB across a frequency range of 50kHz to 20GHz. It features a noise figure (NF) of 3 dB within the 0.1-20GHz range. The amplifier operates on +12V DC at 160 mA and is equipped with a SMA Female connector.

Features

- Frequency: 50kHz-20GHz
- Small Signal Gain: 28dB
- NF = 3dB
- Vout = 4.48Vpp

Applications

- 5G Communication
- Test Equipment
- Optical Modulator Driver
- Radar System



Specifications

Parameter	Min	Typical	Max	Unit
Frequency Range	0.00005		20	GHz
Gain	26	28		dB
NF (0.1-20GHz)		3	5	dB
Input Power		-20	-10	dBm
P1dB		+15		dBm
Psat		+16		dBm
Drain Supply	+8V	+12	+15	V
Current		160		mA
Input Return Loss		-10		dB
Output Return Loss		-10		dB
Spec Temp		25		°C
Drain Supply		+18		V
RF Input Power		+15		dBm
Operating Temperature(note)	-40		+85	°C
Storage Temperature	-55		+125	°C
Input Port		SMA Female		
Output Port		SMA Female		
Case Material		Copper		
Finish		Gold Plated		
Weight (Without Heatsink)		80		g
Size		See outline		

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Rev 05/06/26

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Broadband Low Noise RF Amplifier (LNA)

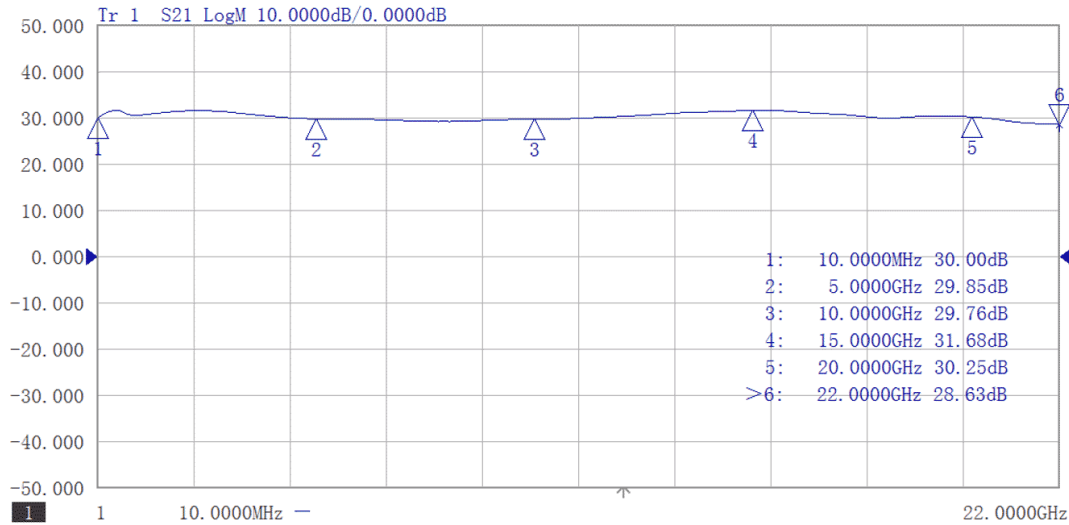
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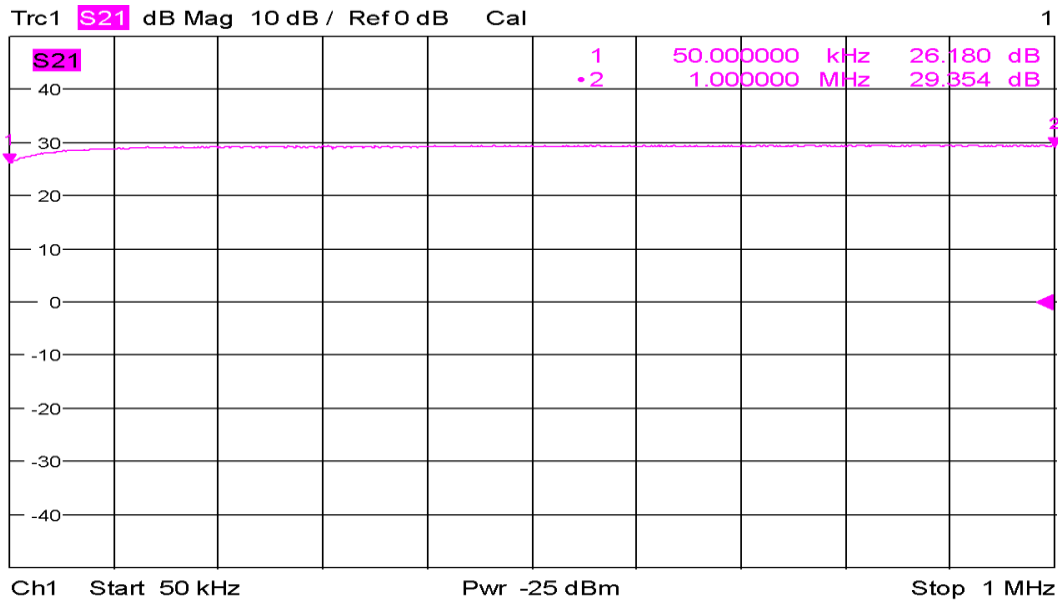
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Test Data (25°C)

Gain vs Frequency 10MHz-20GHz



Gain vs Frequency 50kHz-1MHz



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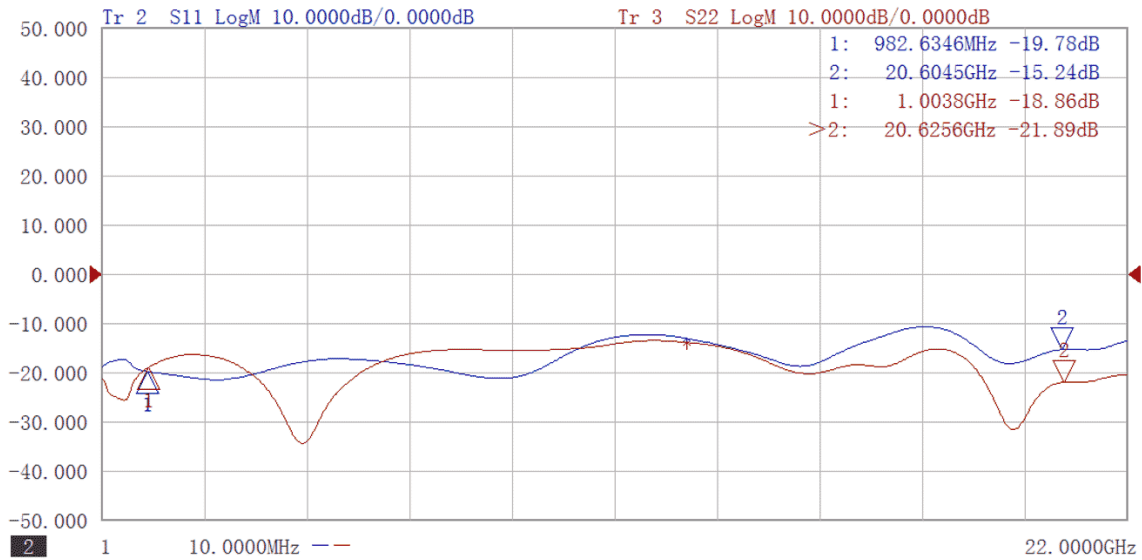
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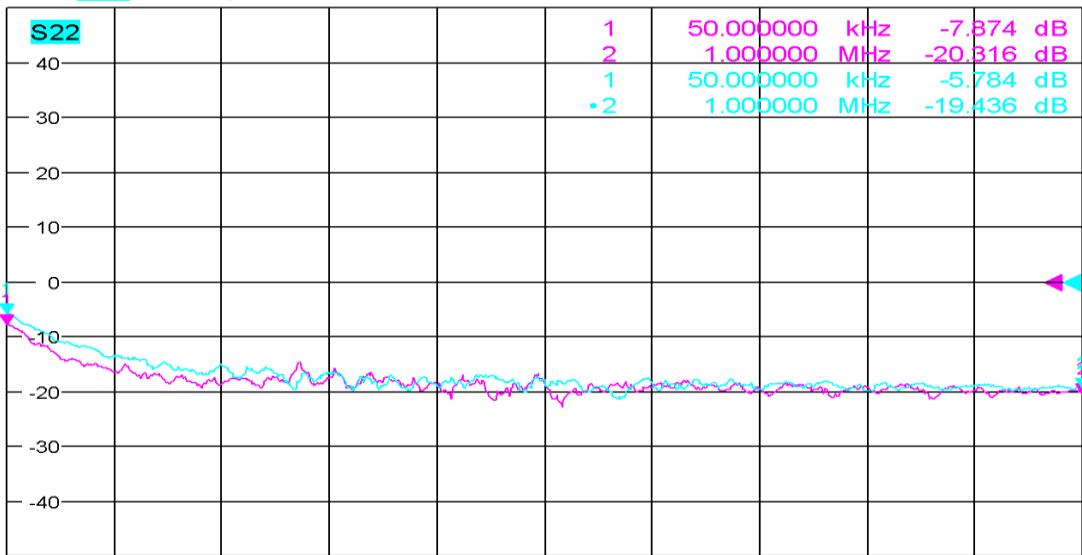
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Return Loss vs Frequency 10MHz-20GHz



Return Loss vs Frequency 50kHz-1MHz

Trc1 S11 dB Mag 10 dB / Ref 0 dB Cal Smo 1
 Trc2 S22 dB Mag 10 dB / Ref 0 dB Cal Smo



Ch1 Center 525 kHz Pwr -25 dBm Span 950 kHz

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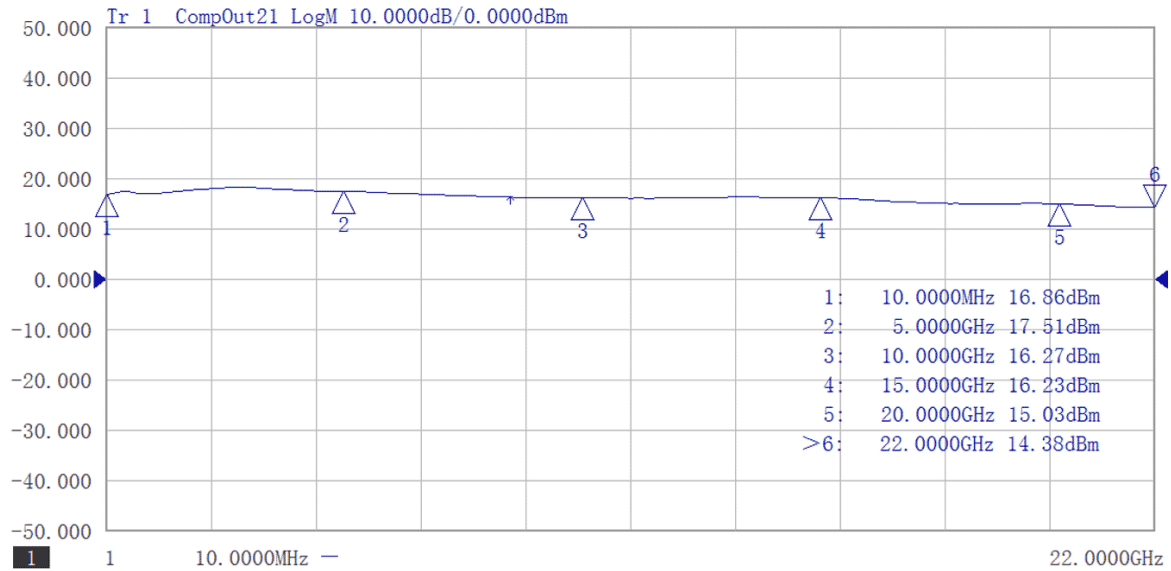
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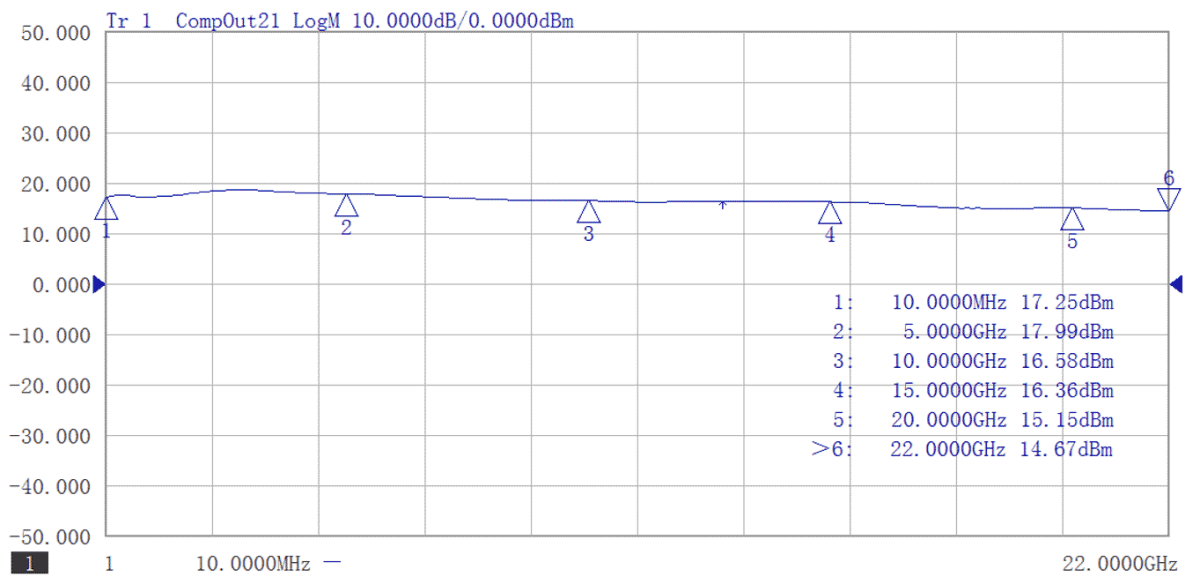


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P1dB vs Frequency



P3dB vs Frequency



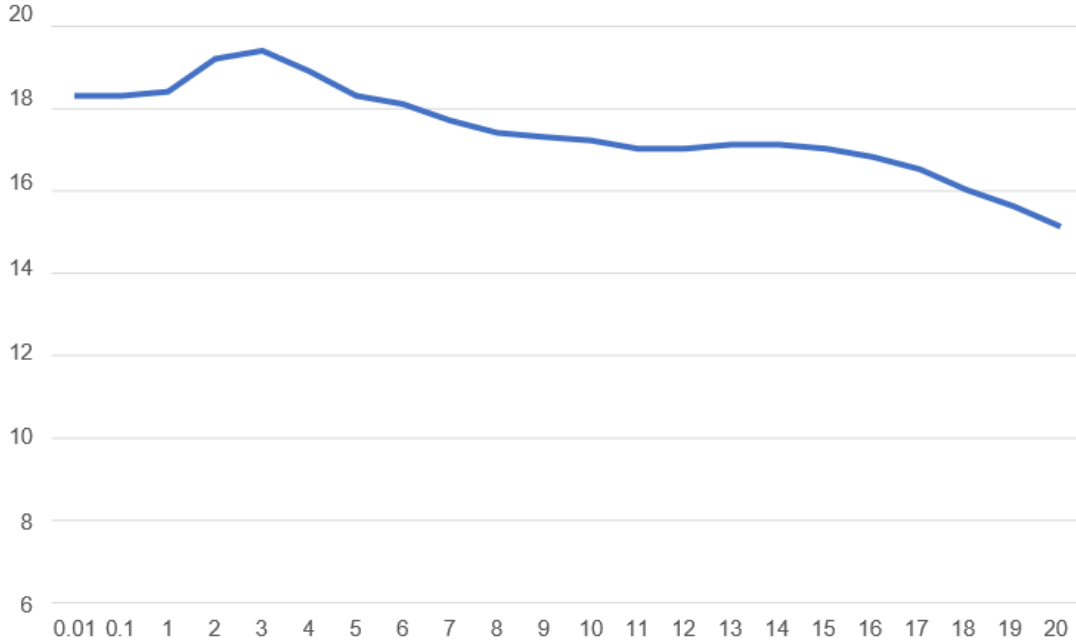
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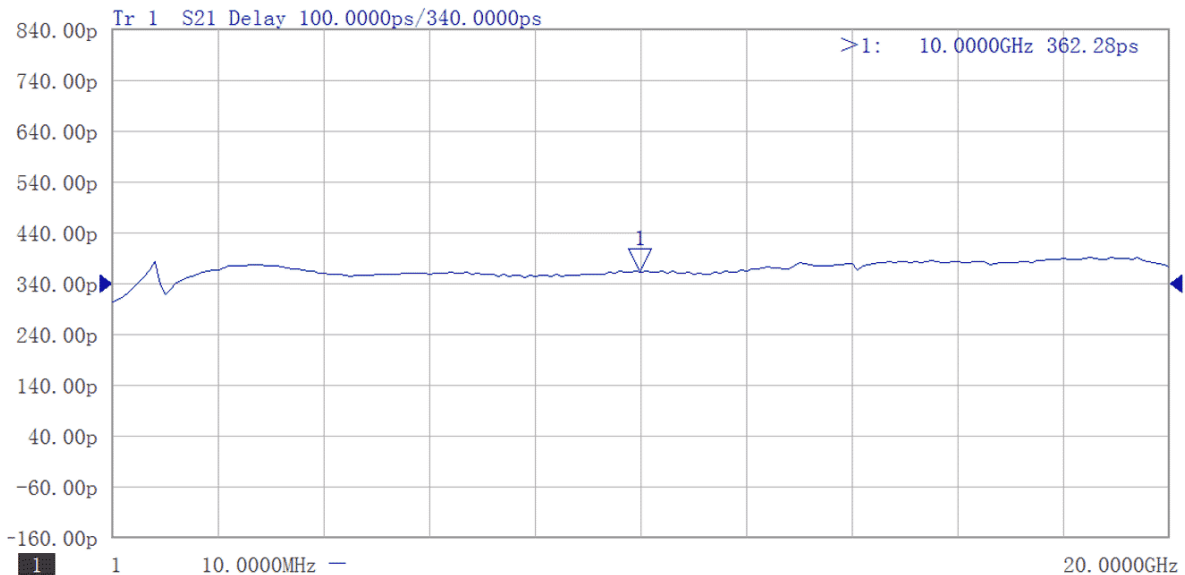


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Psat vs Frequency at Pin=-5dBm from 10MHz-20GHz



Phase delay vs Frequency



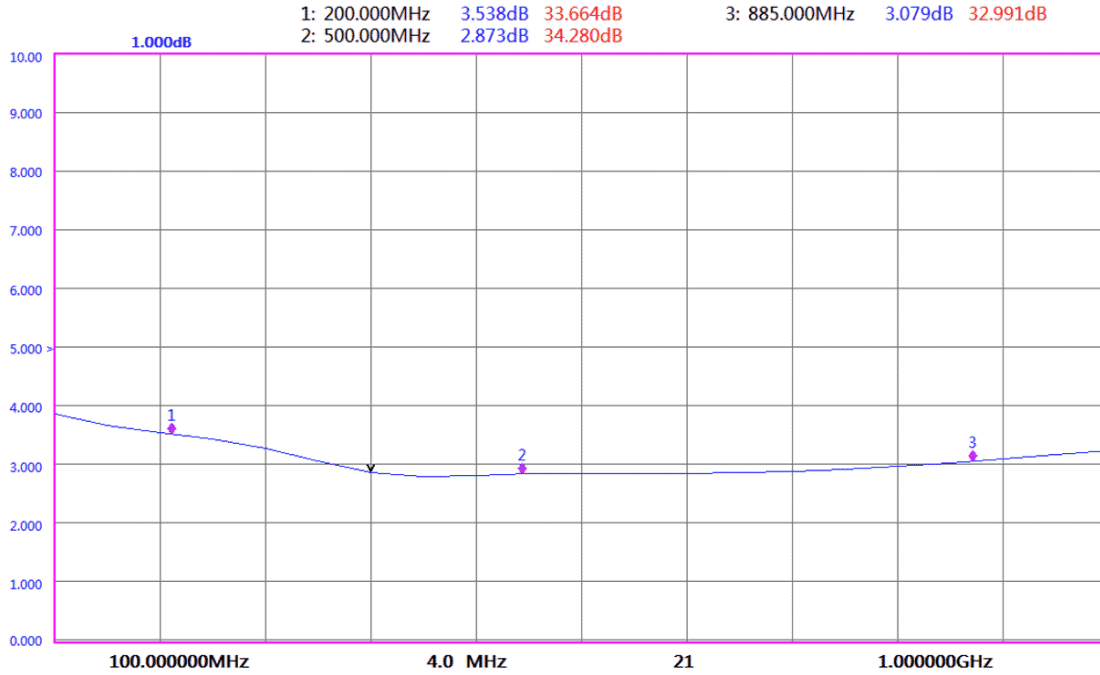
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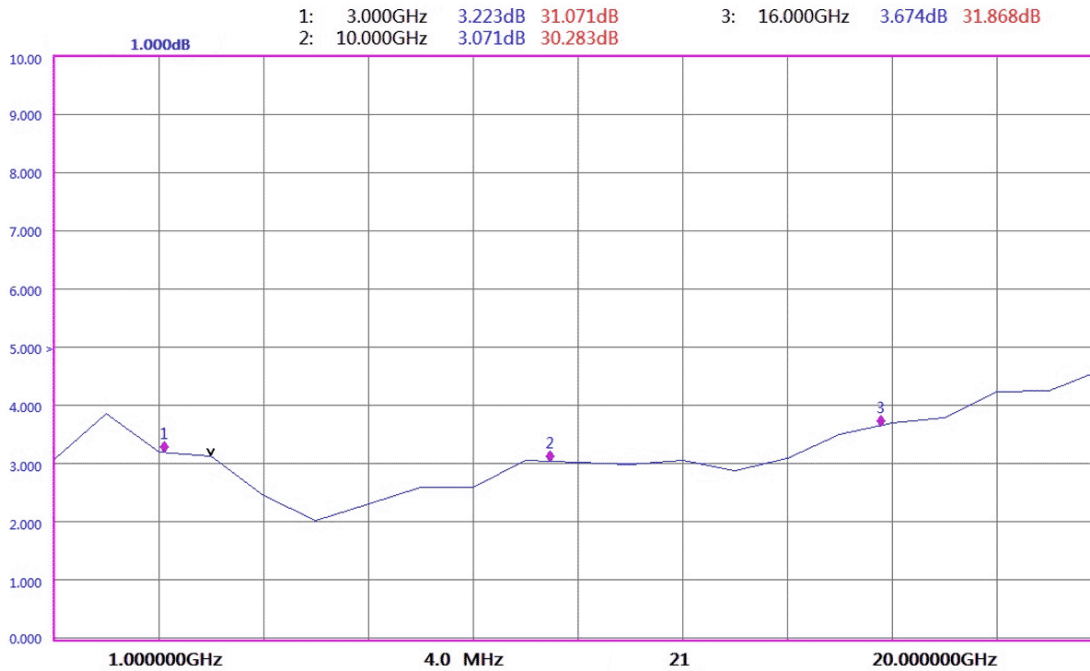


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NF test vs Frequency 10MHz-1GHz



NF test vs Frequency 1-20GHz



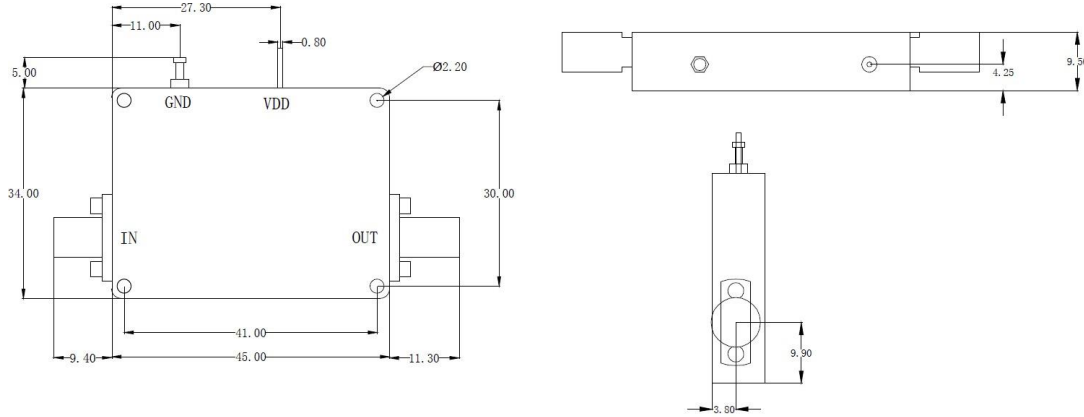
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Dimensions (mm)

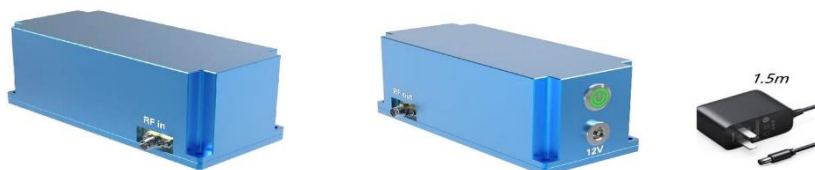
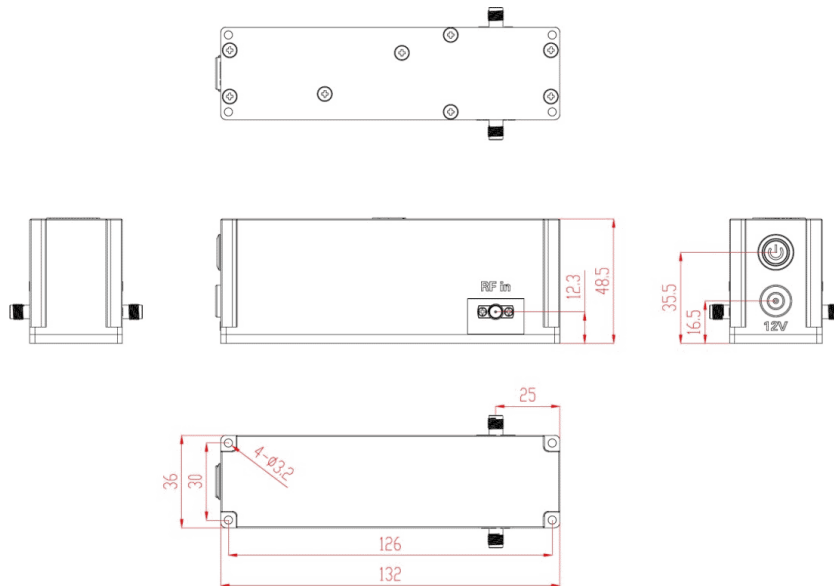


	<26.5GHz	<40GHz	<50GHz	<67GHz
Connector	SMA	2.92mm	2.4mm	1.85mm
Length of a	9.4mm	9.5mm	10.8mm	11.3mm

Note: Female Default. Contact with us for other types.

Standard module outline, Heat sink required if case temp exceeds 50°C

-LCBT Option Dimension (mm)



Module *

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Ordering Information (Part Number)

Prefix	Low Frequency	High Frequency	Gain	NF	P1dB	Module *
LNAM-	50kHz = 0005	20GHz = 20	28dB = 28	3dB = 3	15dBm = 15	No = 0 Yes = 1