

Broadband Low Noise RF Amplifier (LNA)

Dual $\pm$ RF output, 50kHz-20GHz, 35 dB gain



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Features

- Frequency: 50kHz-20GHz
- Signal Gain: 30dB
- NF = 3dB
- Vout = 4.48Vpp

Applications

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



This LNA broadband low-noise RF amplifier delivers up to 17 dBm output power with 35 dB gain across a frequency range of 50 kHz to 18 GHz. It features a typical noise figure (NF) of 3 dB over the 0.1–20 GHz range. The amplifier provides dual $\pm$ RF outputs to drive a dual Mach-Zehnder (MZ) modulator, enabling up to 40 GHz modulation bandwidth. The unit operates from a +12 V DC supply at 120 mA and is equipped with GPPO connectors as standard, with SMA female connectors available as an option.

Specifications

Parameter	Min	Typical	Max	Unit
Frequency Range	0.00005	18	20	GHz
Gain		30	35	dB
NF (0.1-20GHz)		3	5	dB
Input Power		-10	0	dBm
P1dB		+17		dBm
Psat		+16		dBm
Output Vpp		4.48		Vpp
Drain Supply	+8	+12	+15	V
Current		80		mA
Input Return Loss		-10		dB
Output Return Loss		-10		dB
Spec Temp		25		°C
RF Input Power		+20		dBm
Input Vpp		3.56		Vpp
Operating Temperature(note)	-20		60	°C
Storage Temperature	-40		85	°C
Input Port		GPPO Male	2.92mm Female	
Output Port		GPPO Male	2.92mm Female	
Weight (Without Heatsink)		50		g

Note: -40 to +85°C is available according to request.

Caution

Please pay attention to the case temperature. If case temperature exceed higher than +50°C, heat sink and fan are required, or the amplifier may be damaged.

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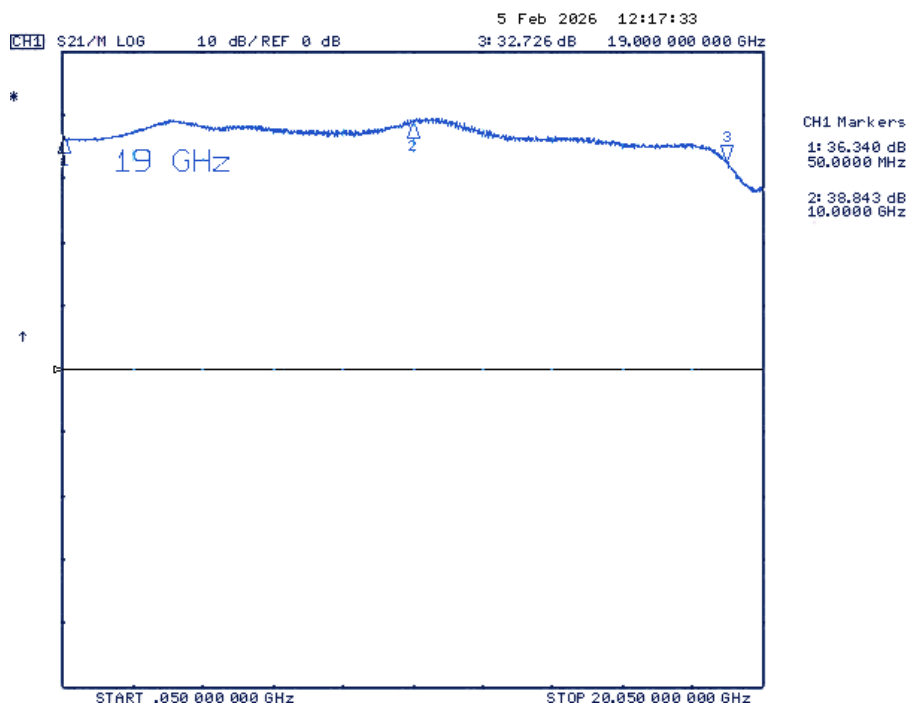
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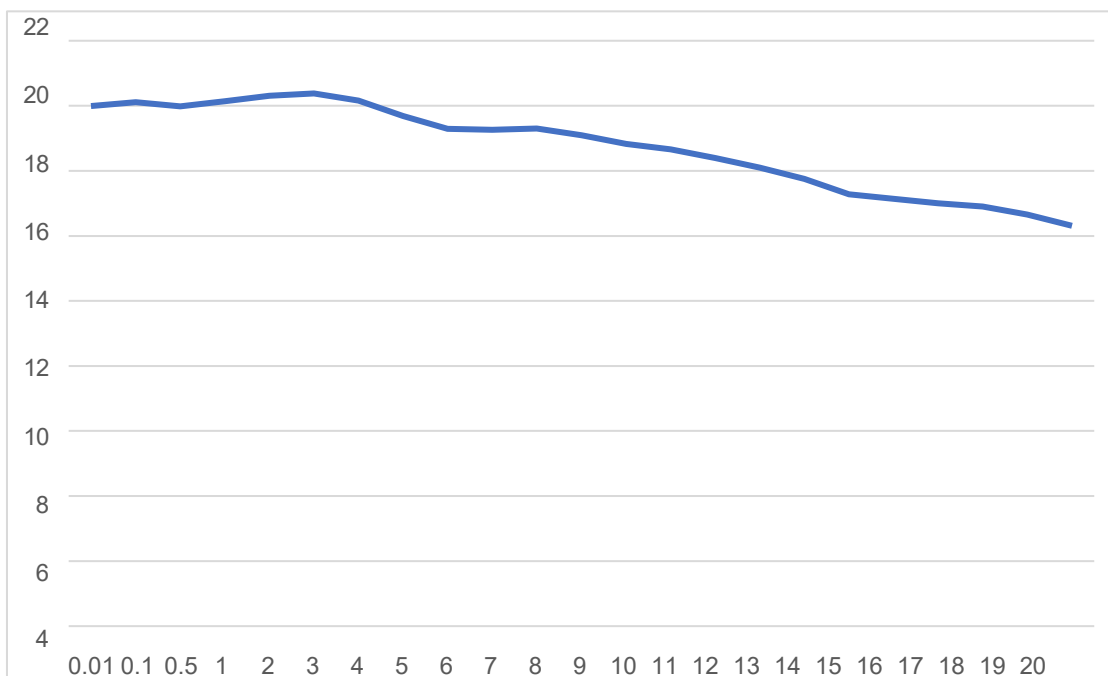
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Test Data (25°C)

S21 50MHz-20GHz



Psat vs Frequency



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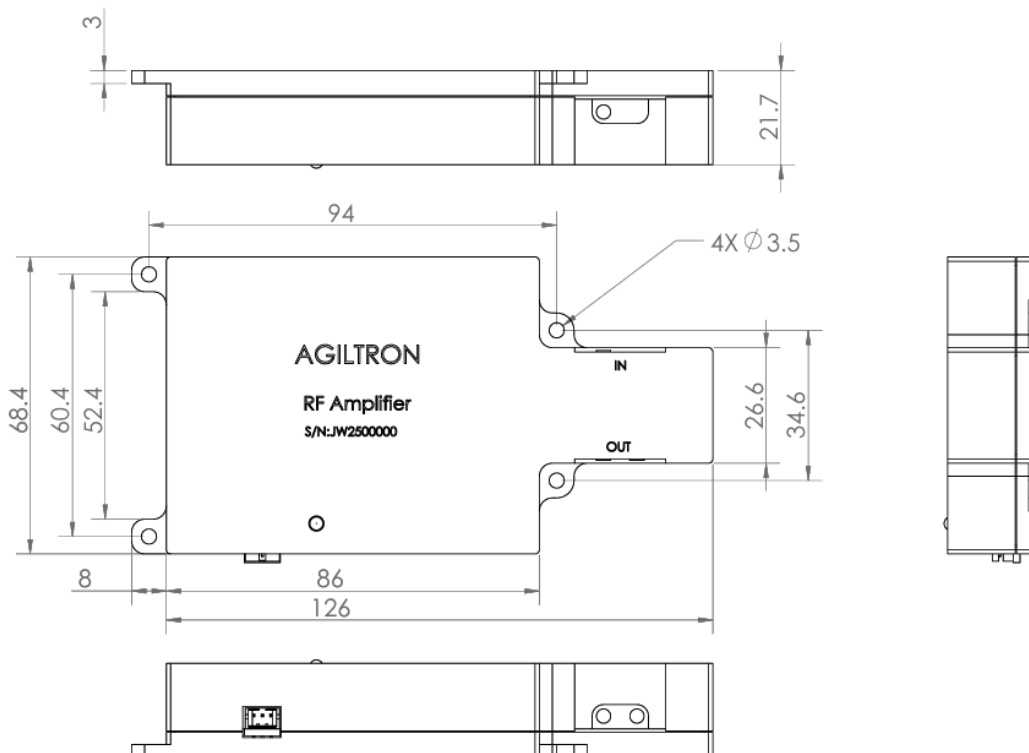
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Dimensions (mm)



Ordering Information (Part Number)

	0005	20	30	3	17	☐
Prefix	Low Frequency	High Frequency	Gain	NF	P1dB	Module ^[1]
LNAM-	0.05MHz = 0005	20GHz = 20	30dB = 30	3dB = 3	17dBm = 17	No = 0 Yes = 1

[1]. The module is a small metal box integrated with a power supply inside.

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