

### 50kHz-43.5GHz Broadband Low Noise Amplifier

2022-7-1

#### Product Overview



AT-LNA-0043-2304Y broadband low noise amplifier from 50kHz to 43.5GHz. The NF is 4.5dB from 100MHz-43GHz. The DC power requirement is +5V/170mA. The module is with 2.92mm Female. 2.4mm connector is available according to request.

NF no guarantee for 50kHz to 100MHz. AT Microwave can provide all kinds of coaxial low noise amplifiers, with frequency from 0.01-67GHz, gain from 20 to 60dB, Pout from +5 to +27dBm, and connectors from SMA to 1.85mm.

More information, please visit [www.atmicrowave.com](http://www.atmicrowave.com)

#### Advantages

- ✓ Frequency: 50kHz-43.5GHz
- ✓ Small signal gain: 23dB
- ✓ Noise Figure 4.5dB
- ✓ Single Power Supply

#### Application

- ✓ Broadband Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

#### Key Features

Parameter	Min	Typical	Max
Frequency		50kHz-43.5GHz	
Gain	20dB	23dB	
Gain Flatness		+/-2dB	+/-3dB
NF(0.1-43GHz)		4.5dB	6
P1dB		+10dBm	
Psat		+13dBm	
Drain Supply		+5V	+8V
Current		250 mA	300mA
Input Return Loss		-12 dB	
Output Return Loss		-12 dB	
Spec Temp		25C	





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## Mechanical Information

Item	Description
Input Port	2.92mm Female
Output Port	2.92mm Female
Case Material	Copper
Package Sealing	Epoxy Sealed
Finish	Gold Plated
Weight (Without Heatsink)	50g
Size:	30x30x14 mm

## Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+13V
RF Input Power	+10dBm
Operating Temperature(note)	-20 to +70C
Storage Temperature	-65 to +150C

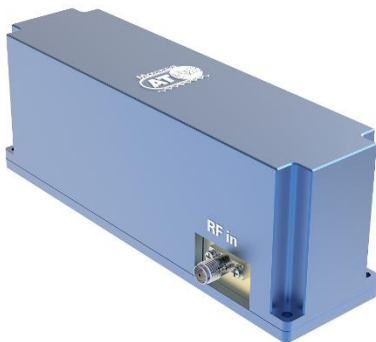
Note: -43 to +85C is available according to request.

## Notes:

1. Datasheet may be changed according to update of MMIC, Raw materials , process, and so on.
2. This data is only for reference, not for guaranteed specifications.
3. Please contact AT Microwave team to make sure you have the most current data.

## Part Number Selection Guide

Item	Description
PN	Stand Module with DC Power Supply
<b>PN-LCBT</b>	<b>L</b> ow Cost, <b>C</b> ompact <b>B</b> ench- <b>T</b> op, +220V Supply with AC/DC Adapter



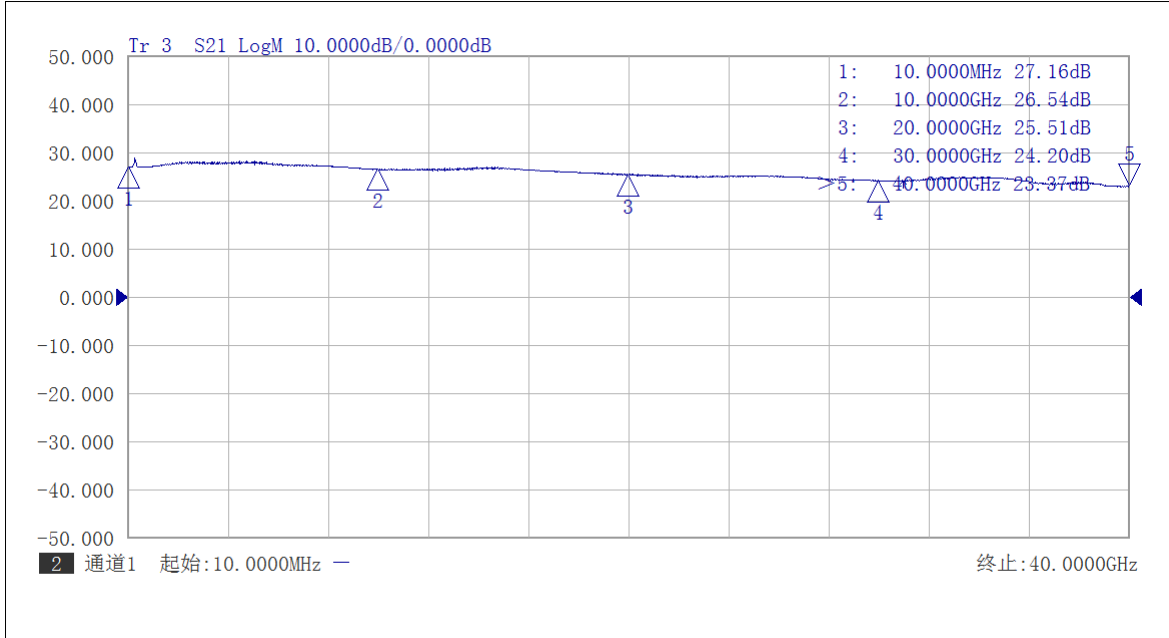


# AT-LNA-0043-2304Y

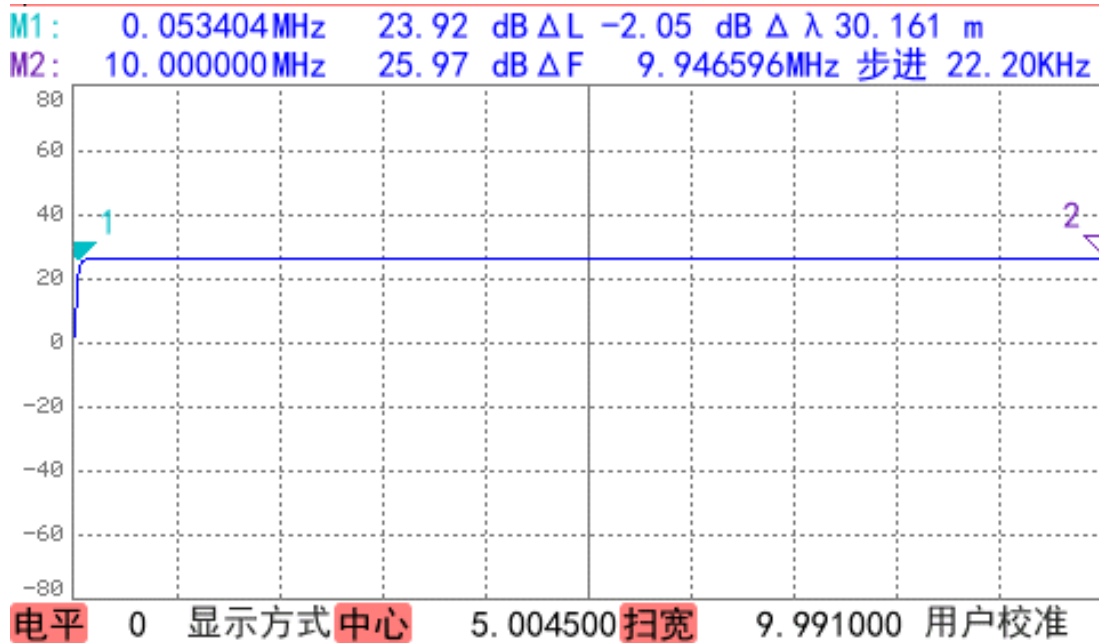
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## Test Data (25C)

Please note that test curves will vary slightly from unit to unit.



Gain vs Frequency from 10MHz-43GHz



Gain vs Frequency from 50kHz to 10MHz

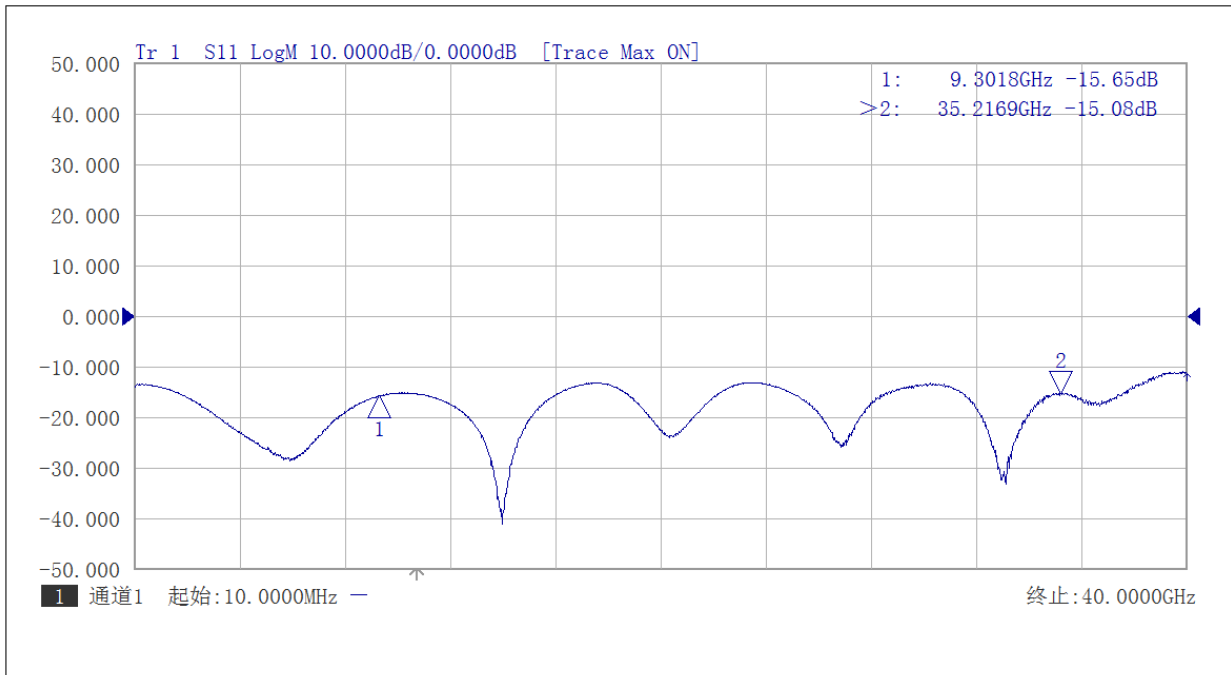
Shanghai AT Microwave Limited

Tel:021-6229 1233

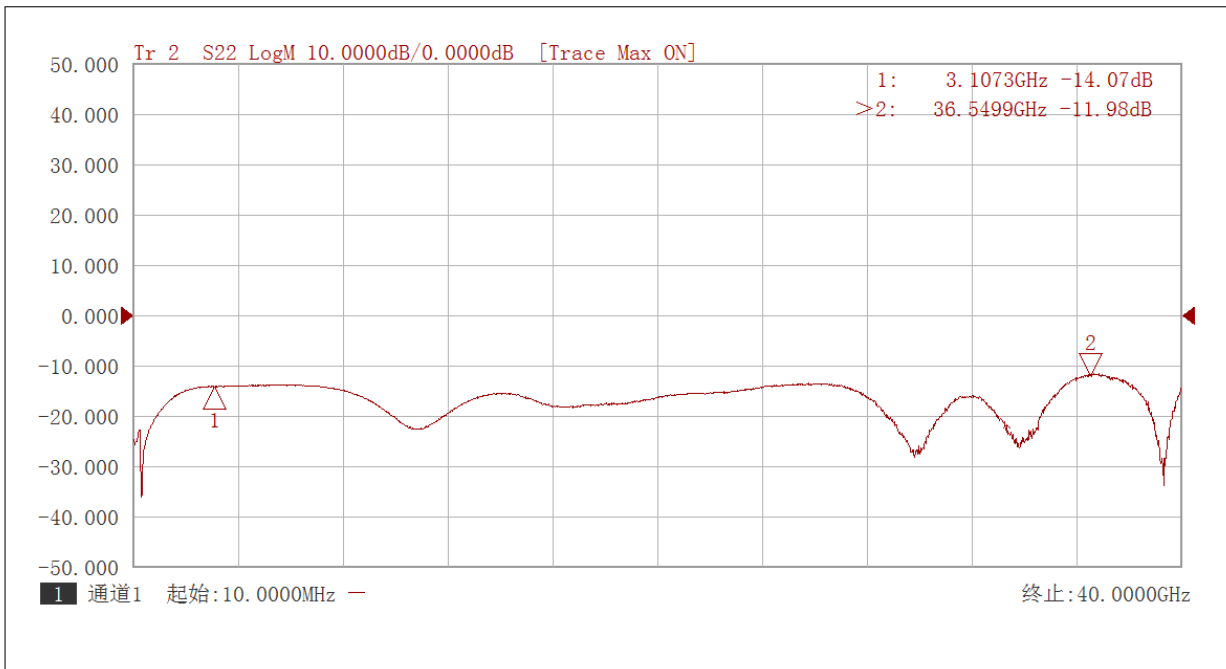
Email:sales@atmicrowave.com

www.atmicrowave.com



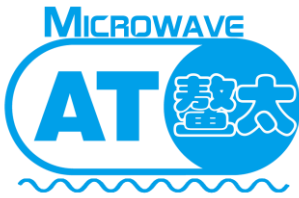


Input Return Loss vs Frequency



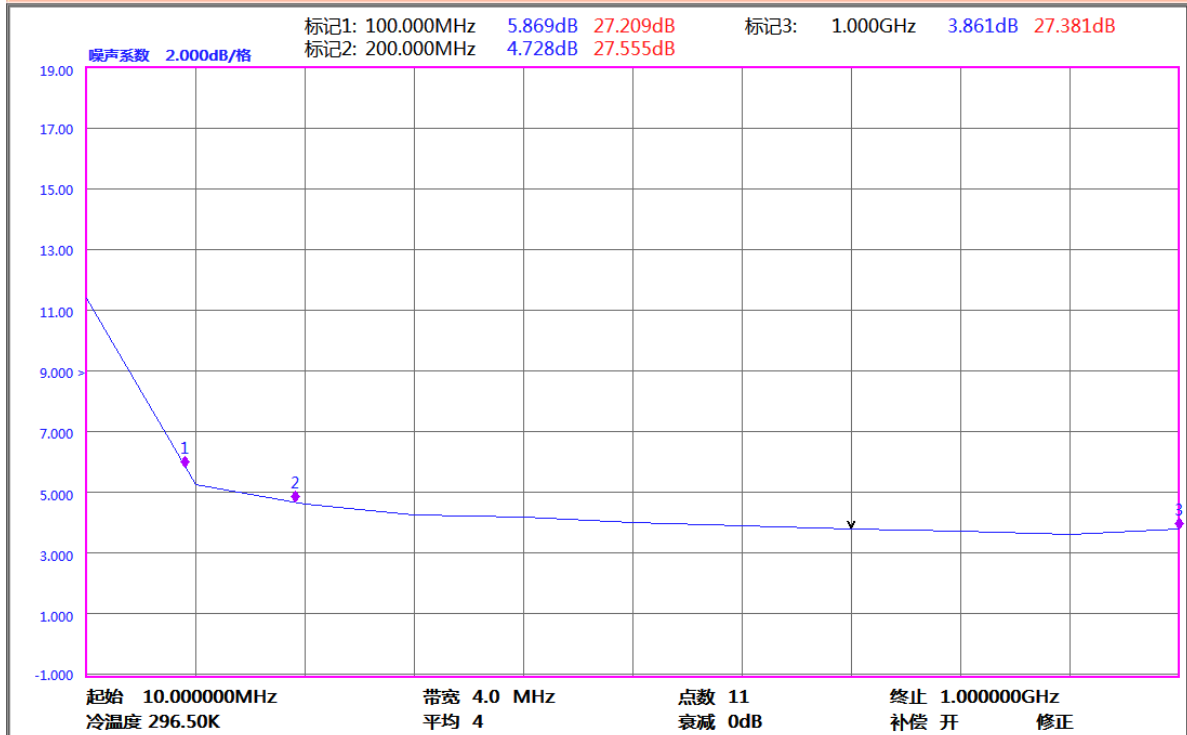
Output Return Loss vs Frequency



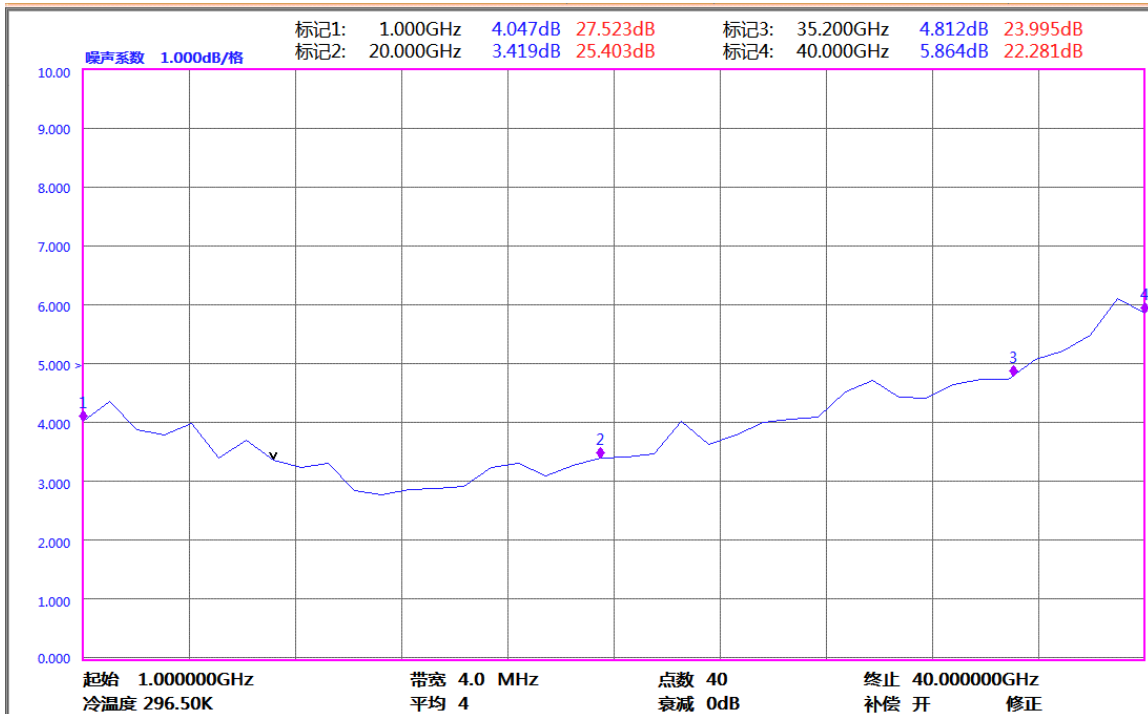


# AT-LNA-0043-2304Y

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NF test 10MHz to 1GHz



NF Test from 1GHz to 43GHz

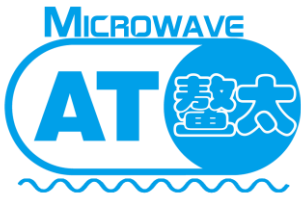
Shanghai AT Microwave Limited

Tel:021-6229 1233

Email:sales@atmicrowave.com

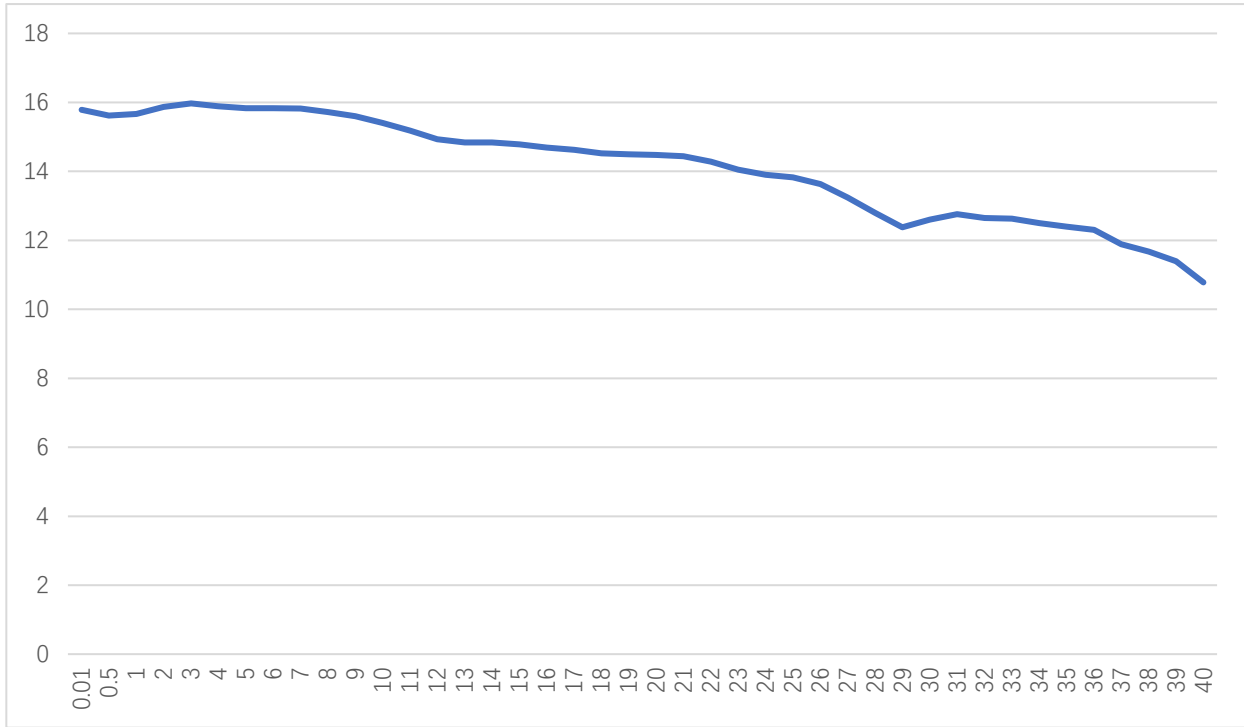
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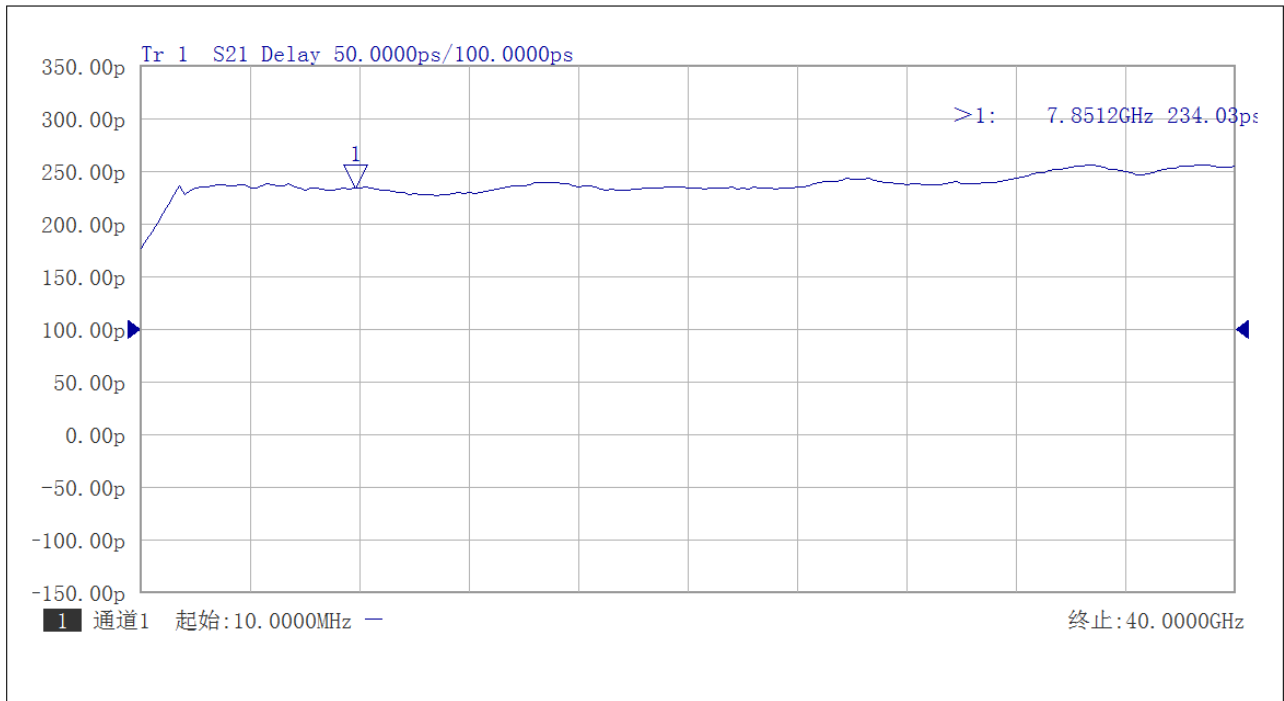


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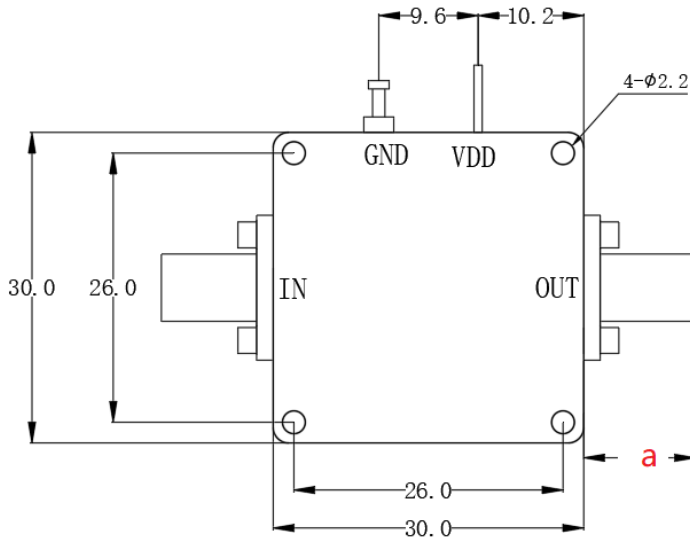
Psat vs Frequency , Pin=0dBm



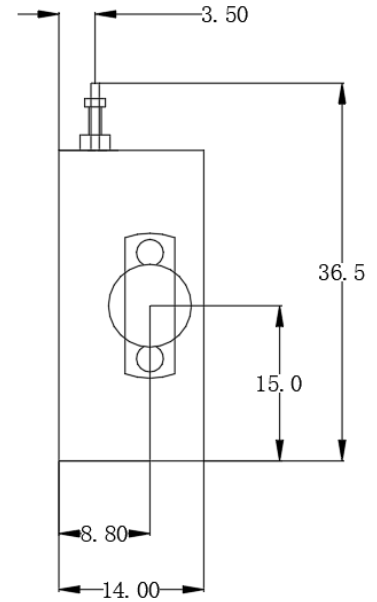
Phase Delay vs Frequency



**Dimension:** (unit in mm)



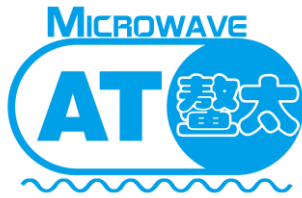
In millimetres



	<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.





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## Vpp vs dBm at 50 Ohms System

dBm	Vpp	Vrms	Power ( W )	dBm	Vpp	Vrms	Power ( W )
50	200.00	70.71	100.00	14	3.17	1.12	2.51E-02
49	178.25	63.02	79.43	13	2.83	1.00	2.00E-02
48	158.87	56.17	63.10	12	2.52	0.89	1.58E-02
47	141.59	50.06	50.12	11	2.24	0.79	1.26E-02
46	126.19	44.62	39.81	10	2.00	0.71	1.00E-02
45	112.47	39.76	31.62	9	1.78	0.63	7.94E-03
44	100.24	35.44	25.12	8	1.59	0.56	6.31E-03
43	89.34	31.59	19.95	7	1.42	0.50	5.01E-03
42	79.62	28.15	15.85	6	1.26	0.45	3.98E-03
41	70.96	25.09	12.59	5	1.12	0.40	3.16E-03
40	63.25	22.36	10.00	4	1.00	0.35	2.51E-03
39	56.37	19.93	7.94	3	0.89	0.32	2.00E-03
38	50.24	17.76	6.31	2	0.80	0.28	1.58E-03
37	44.77	15.83	5.01	1	0.71	0.25	1.26E-03
36	39.91	14.11	3.98	0	0.63	0.22	1.00E-03
35	35.57	12.57	3.16	-1	0.56	0.20	7.94E-04
34	31.70	11.21	2.51	-2	0.50	0.18	6.31E-04
33	28.25	9.99	2.00	-3	0.45	0.16	5.01E-04
32	25.18	8.90	1.58	-4	0.40	0.14	3.98E-04
31	22.44	7.93	1.26	-5	0.36	0.13	3.16E-04
30	20.00	7.07	1.00	-6	0.32	0.11	2.51E-04
29	17.83	6.30	0.79	-7	0.28	9.99E-02	2.00E-04
28	15.89	5.62	0.63	-8	0.25	8.90E-02	1.58E-04
27	14.16	5.01	0.50	-9	0.22	7.93E-02	1.26E-04
26	12.62	4.46	0.40	-10	0.20	7.07E-02	1.00E-04
25	11.25	3.98	0.32	-11	0.18	6.30E-02	7.94E-05
24	10.02	3.54	0.25	-12	0.16	5.62E-02	6.31E-05
23	8.93	3.16	0.20	-13	0.14	5.01E-02	5.01E-05
22	7.96	2.82	0.16	-14	0.13	4.46E-02	3.98E-05
21	7.10	2.51	0.13	-15	0.11	3.98E-02	3.16E-05
20	6.32	2.24	0.10	-16	0.10	3.54E-02	2.51E-05
19	5.64	1.99	7.94E-02	-17	8.93E-02	3.16E-02	2.00E-05
18	5.02	1.78	6.31E-02	-18	7.96E-02	2.82E-02	1.58E-05
17	4.48	1.58	5.01E-02	-19	7.10E-02	2.51E-02	1.26E-05
16	3.99	1.41	3.98E-02	-20	6.32E-02	2.24E-02	1.00E-05
15	3.56	1.26	3.16E-02	-21	5.64E-02	1.99E-02	7.94E-06

