



# AT-BBLF-0067-1815C

75kHz-67GHz Broadband Amplifier

## 75kHz-67GHz Optical Modulator Driver

2021-11-11



### Product Overview

AT-BBLF-0067-1815C is broadband amplifier from 75kHz-67GHz, with  $P_{out}=+15dBm$ ,  $NF=6dB$ . It can be used both as Power amplifier or low noise amplifier. The DC power requirement is +9V/220mA. The module is with 1.85mm Female Input port and Male output port.

The broadband amplifier has high gain, high linearity, low input/output return loss and flat gain response.

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

### Advantages

- ✓ Frequency: 75kHz-67GHz
- ✓  $P_{sat}=+15dBm$
- ✓ Small signal gain: 18dB
- ✓ Single Power Supply

### Application

- ✓ Optical Modulator Driver
- ✓ 5G Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)

### Mechanical Information

Item	Description
Input Port	1.85mm Female
Output Port	1.85mm Male
Case Material	Copper
Finish	Gold Plated
Package Sealing	Epoxy Sealed
Weight (Without Heatsink)	80g
Size:	100x30x9.5mm





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## Key Features

Parameter	Min	Typical	Max
Lower Frequency	75kHz	90kHz	
Upper Frequency	65GHz	67GHz	
Small Signal Gain	16dB	18dB	
P1dB		10MHz-50GHz: +15dBm, 3.56Vpp 50GHz-67GHz: +12dBm, 2.52Vpp	
Psat		10MHz-50GHz: +17dBm, 4.48Vpp 50GHz-67GHz: +13dBm, 2.83Vpp	
Drain Supply		+9V	+12V
Current		250 mA	
NF(1-50GHz)		6dB	
Input Return Loss		-10dB	
Output Return Loss		-5dB	
Spec Temp		25C	

## Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+13V
RF Input Power	+4 dBm
Input Voltage	1Vpp
Operating Temperature	-20 to +70C
Storage Temperature	-65 to +125C

### Caution:

Please pay attention to the case temperature. If case temperature exceed higher than +100C, heat sink and fan are required, or the amplifier may be damaged.

## 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.

Shanghai AT Microwave Limited

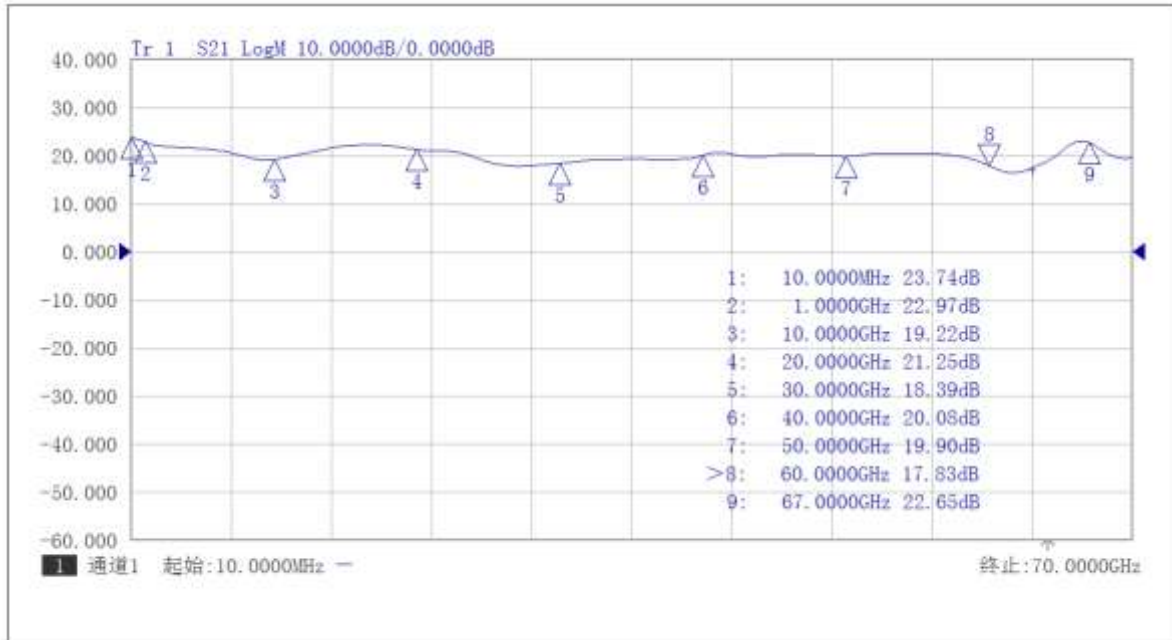
Tel:021-6229 1233

Email:sales@atmicrowave.com

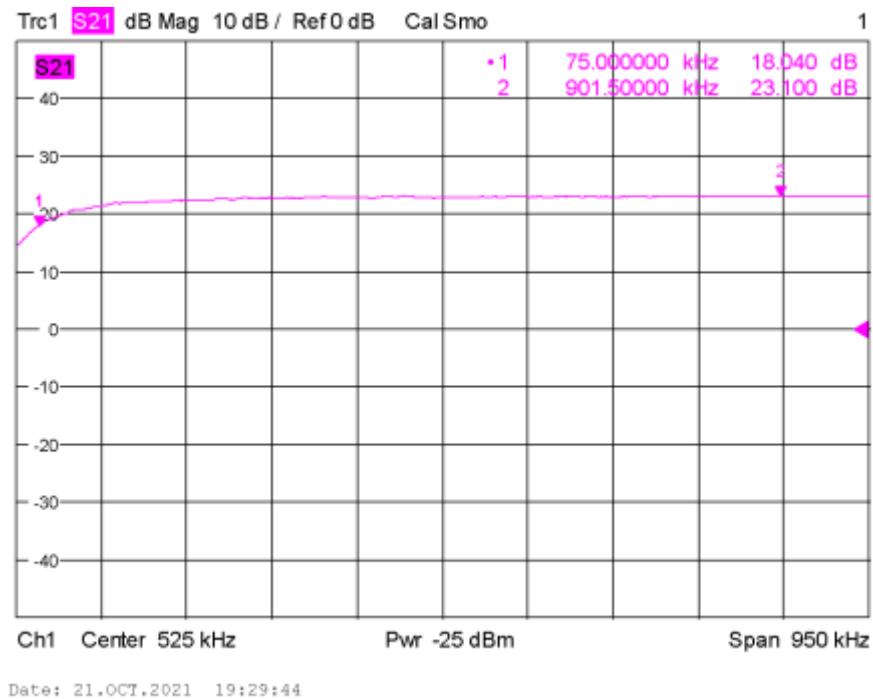
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## Test Data

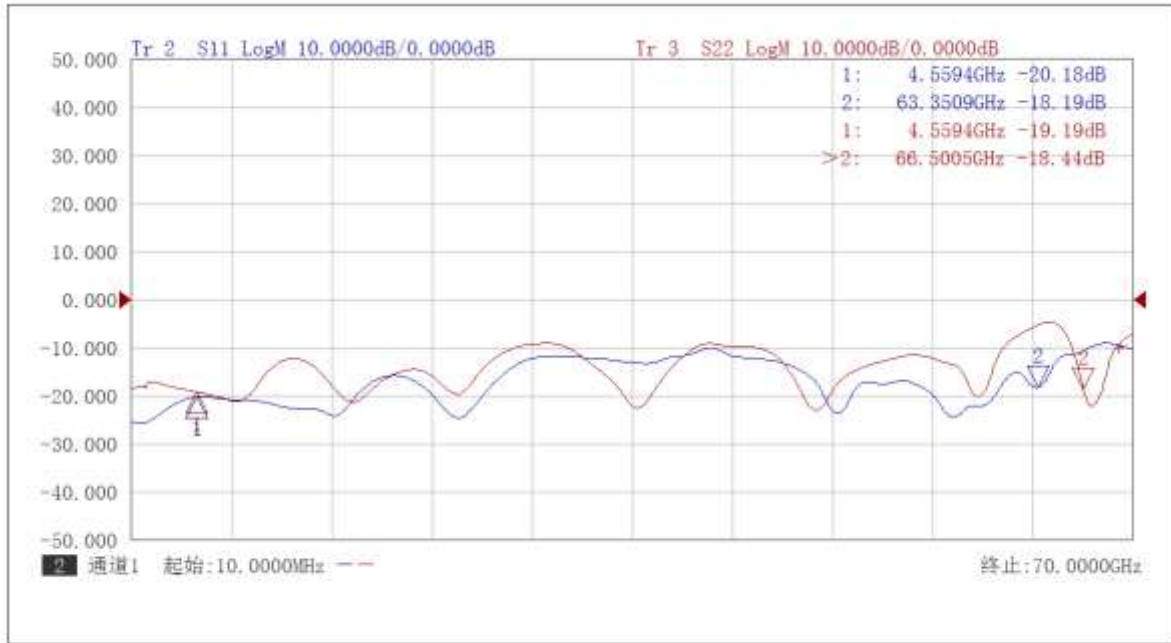


Gain vs Frequency 10MHz-67GHz

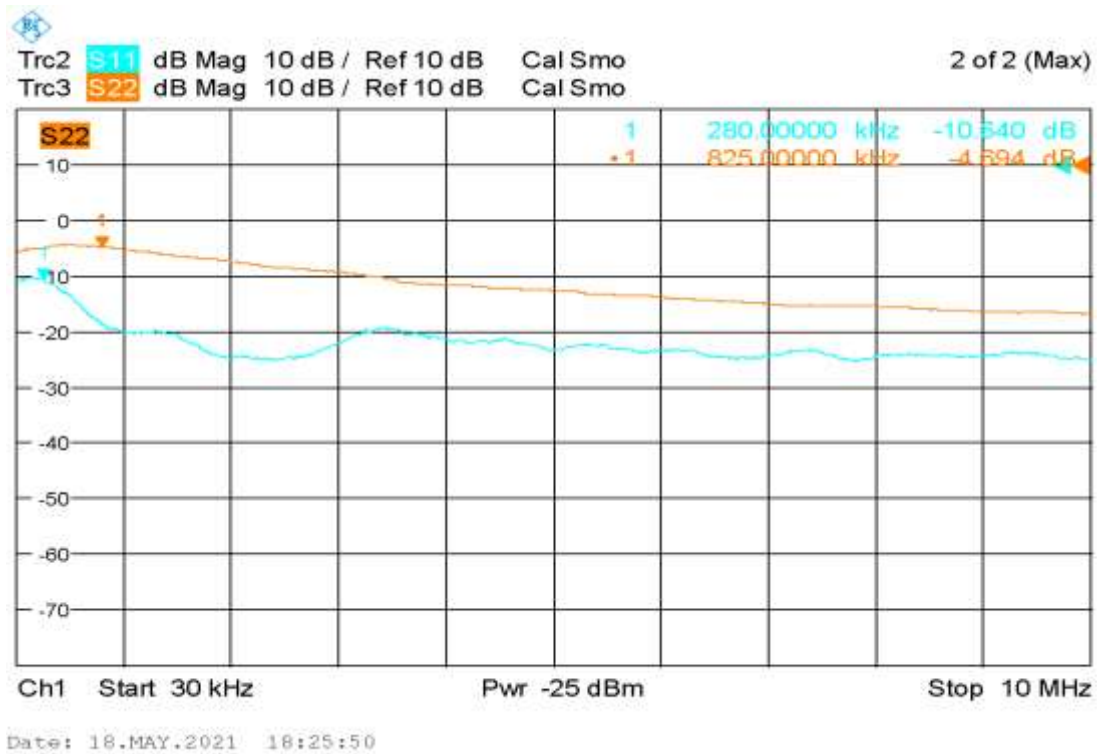


Gain vs Frequency 75kHz-1MHz



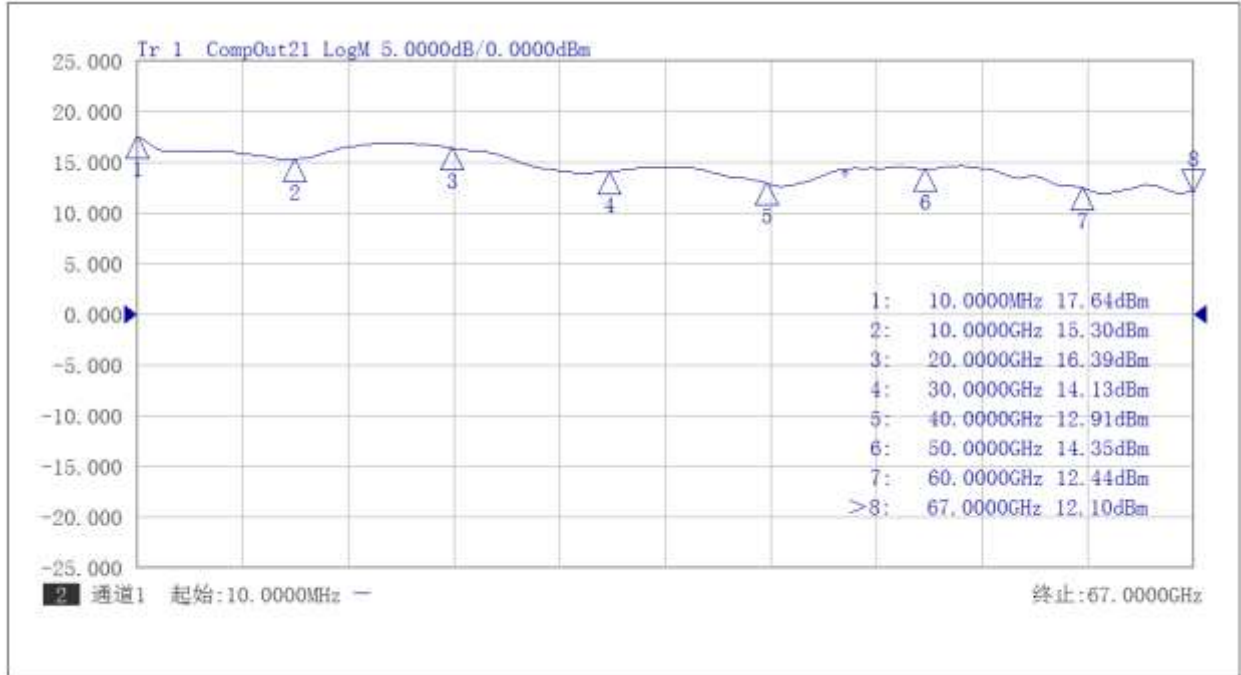


S11/S22 Return Loss vs Frequency 10MHz-67GHz

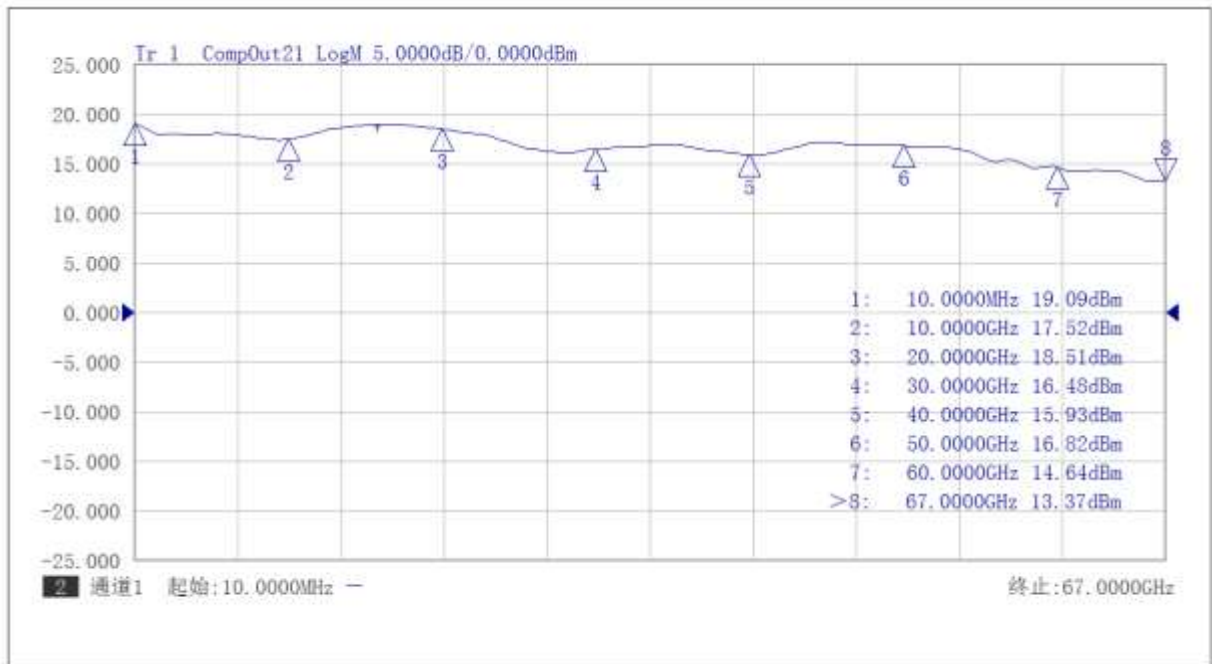


S11/S22 Return Loss vs Frequency 50kHz-10MHz





P1dB Test 10MHz-67GHz



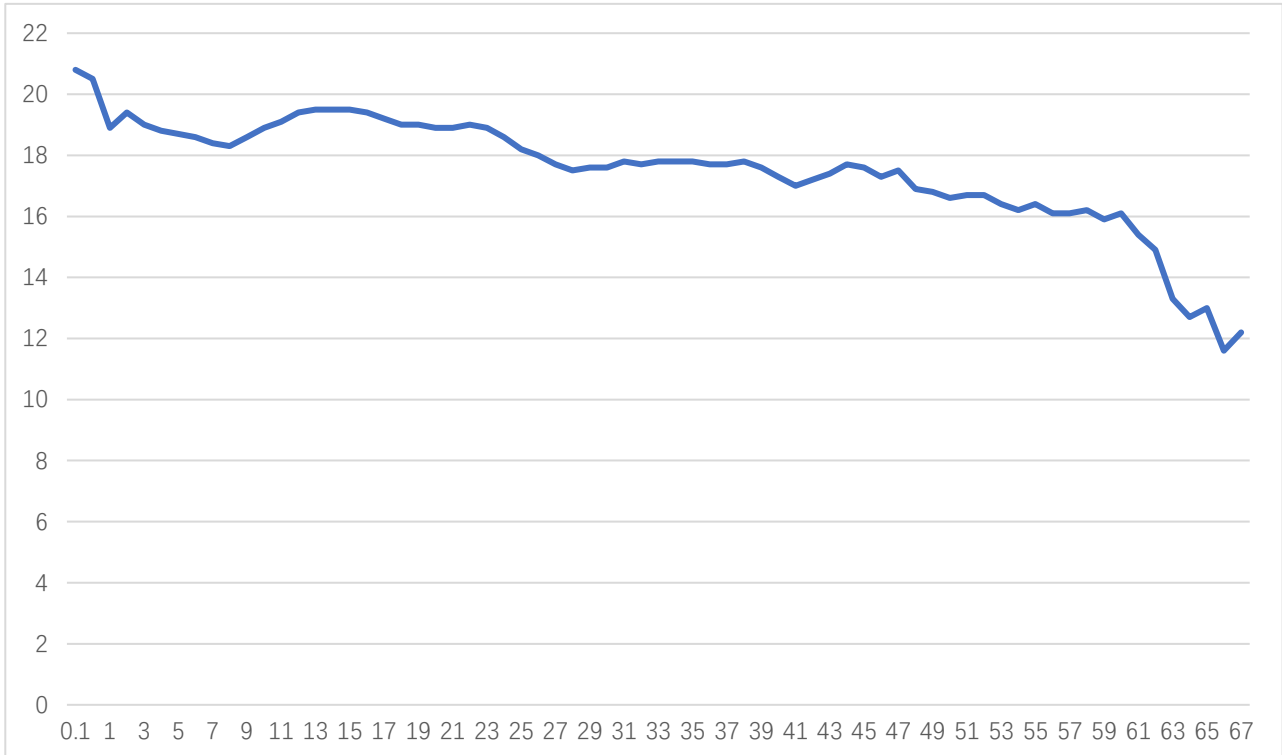
P3dB test 10MHz-67GHz



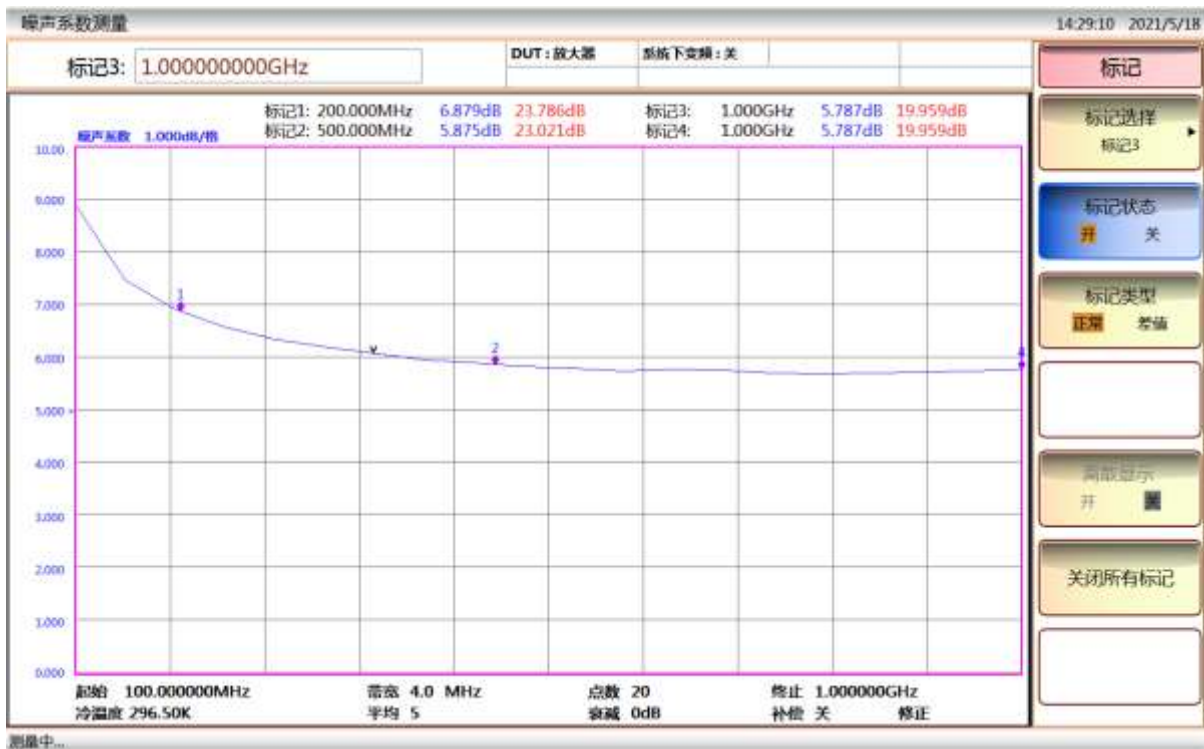


# AT-BBLF-0067-1815C

## 75kHz-67GHz Broadband Amplifier

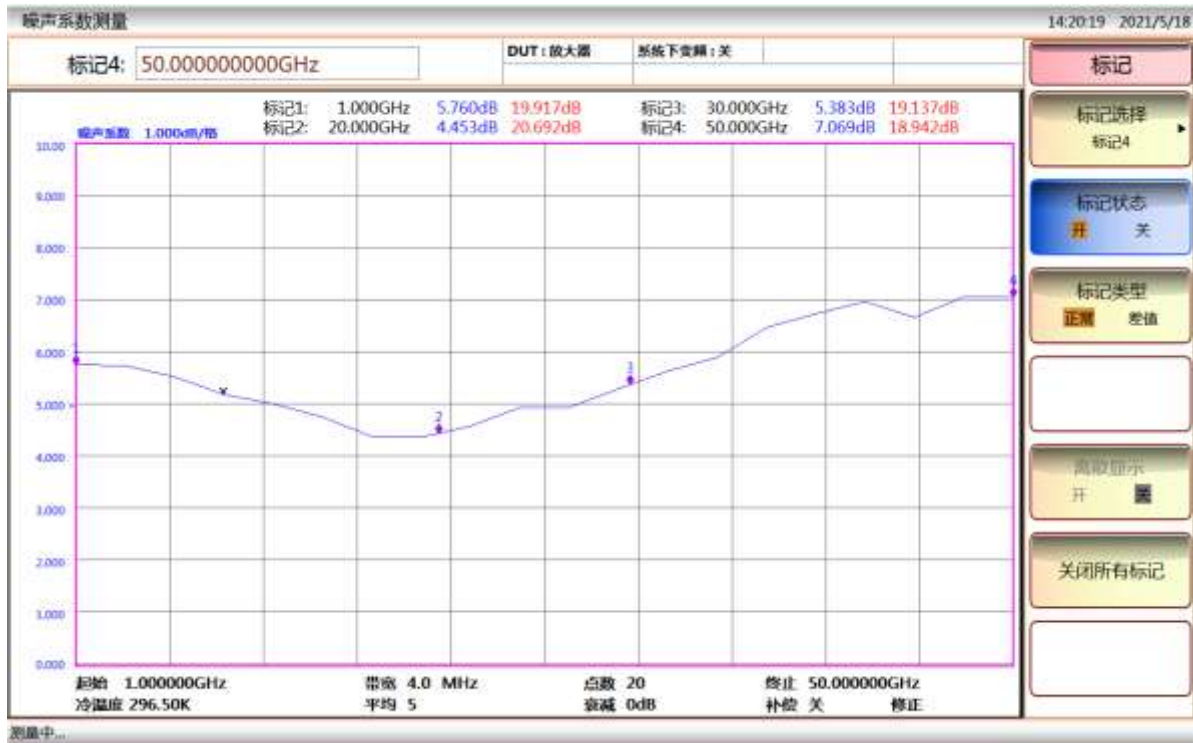


Psat vs Frequency 10MHz-67GHz

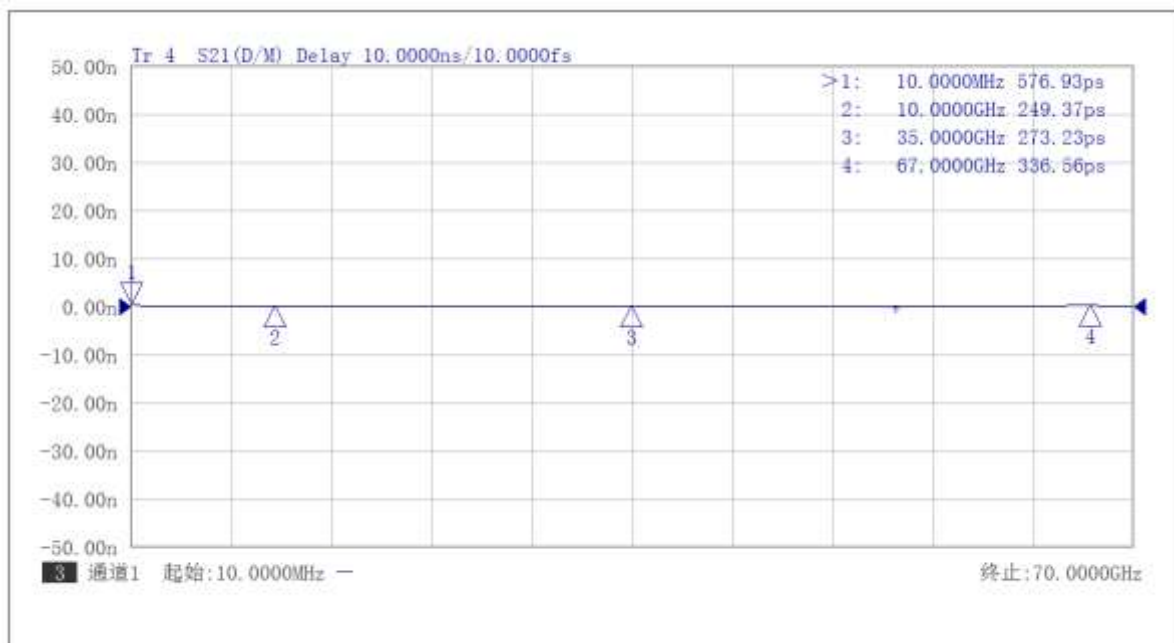


NF test from 10MHz to 1GHz





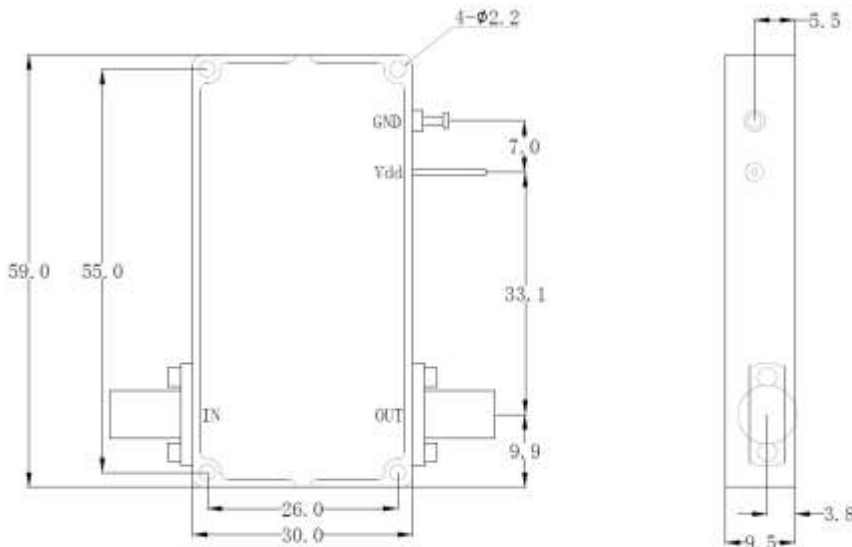
NF test From 1-50GHz



Group delay vs Frequency

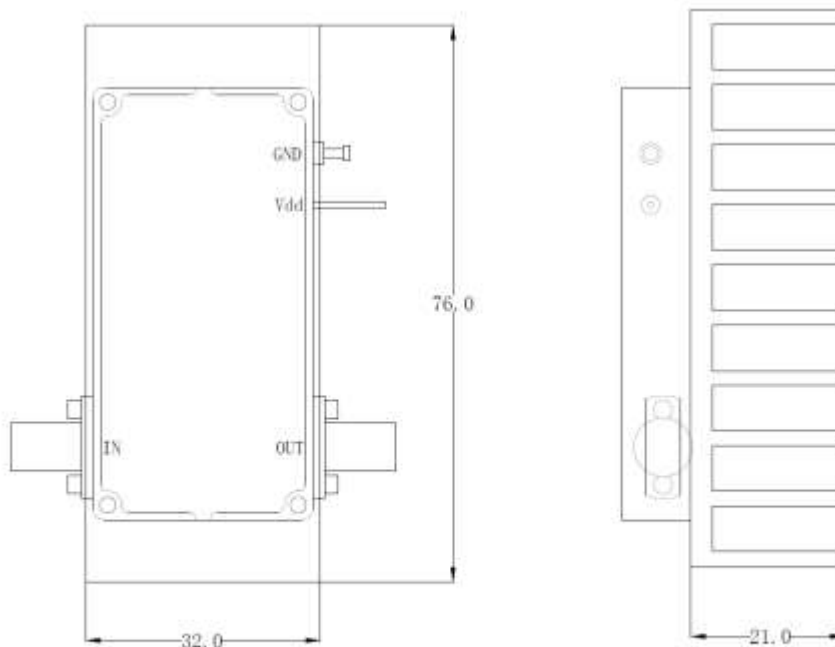


### Dimension: (unit in mm)



	<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.



Including a small heatsink without Fan if output Power higher than +20dBm.  
Customers can remove it or use their own heatsink according to actual situation.

**Heatsink required during Operation**







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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

