

### 20-40GHz Broadband Amplifier, +23dBm



#### Product Overview

AT-PA-2040-3023Y is high gain power amplifier with +23dBm output power in the frequency of 20-40GHz. The DC power requirement is +8V/560mA. The module is with 2.92mm connector. The amplifier NF is 4dB, which can also be used as low noise amplifier.

The power 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: 20-40GHz
- ✓ Psat:+23dBm
- ✓ Small signal gain: 30dB
- ✓ NF=4dB

#### Application

- ✓ 5G Communication
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

#### Key Features

Parameter	Min	Typical	Max
Frequency		20-40GHz	
Gain	30	32dB	
P1Db		+22dBm	
Psat		+23dBm	
OIP3(Pout=+5dBm)		+26dBm	
Drain Supply	+5.5V	+8V	+10V
Current		560 mA	
NF		4 dB	
Input Return Loss		-10dB	
Output Return Loss		-10dB	
Spec Temp		25C	





# AT-PA-2040-3023Y

20-40GHz Power Amplifier/Low Noise Amplifier

## Mechanical Information

Item	Description
Input Port	2.92mm Female
Output Port	2.92mm Female
Case Material	Copper
Finish	Gold Plated
Package Sealing	Epoxy Sealed
Weight (Without Heatsink)	150g
Size:	45x34x8.5 mm

## Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+13V
RF Input Power	+5 dBm
Operating Temperature	-20 to +70C
Storage Temperature	-65 to +150C

### Bias Procedure:

Make sure GND is connected before Vdd Power ON.

Module may be damaged when Vdd Power ON without GND.





# AT-PA-2040-3023Y

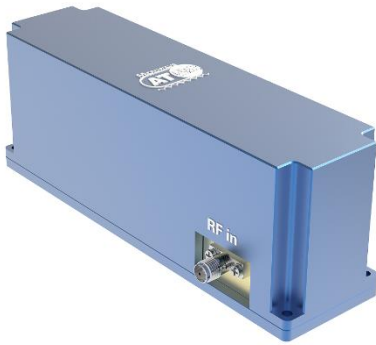
20-40GHz Power Amplifier/Low Noise Amplifier

## 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.

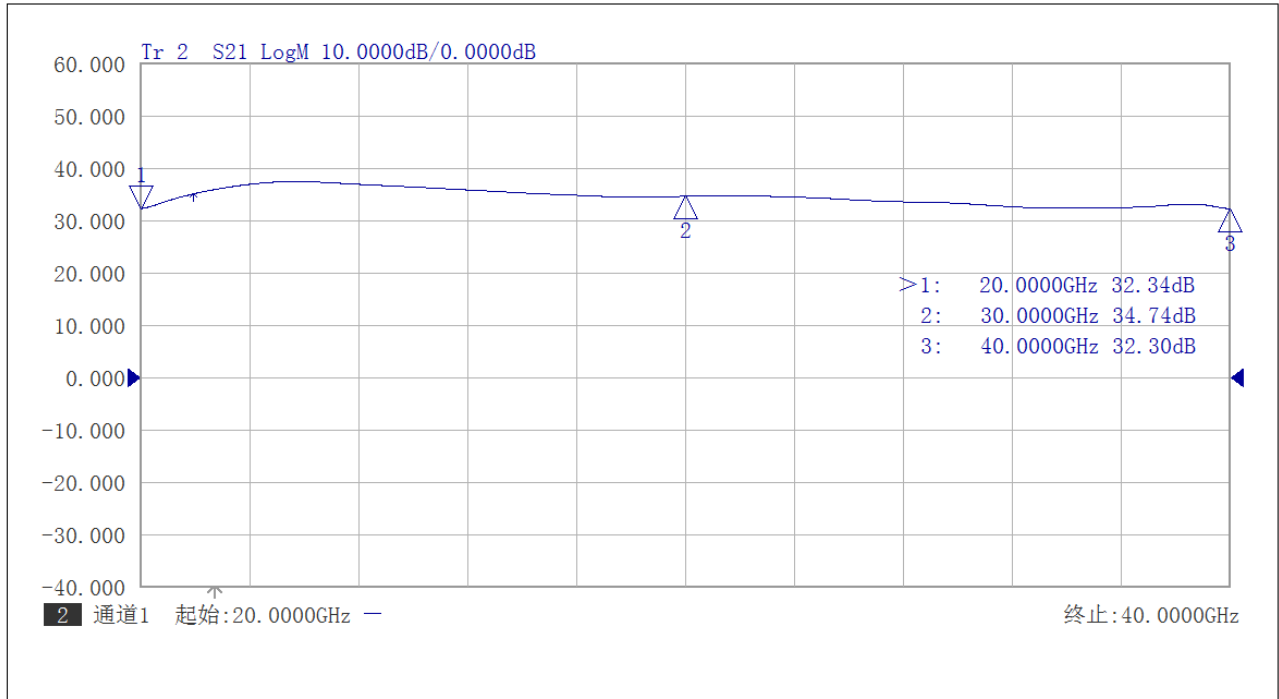
## Part Number Selection Guide

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

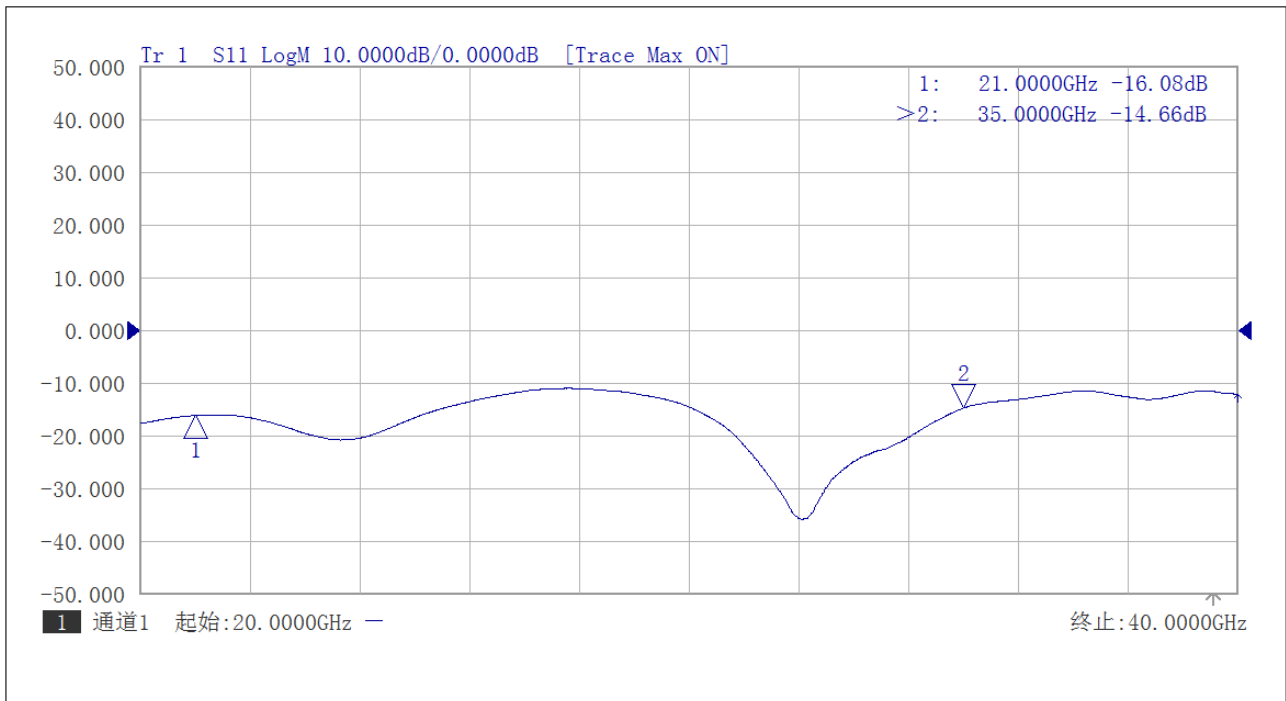


### Test Data

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



Gain VS Frequency



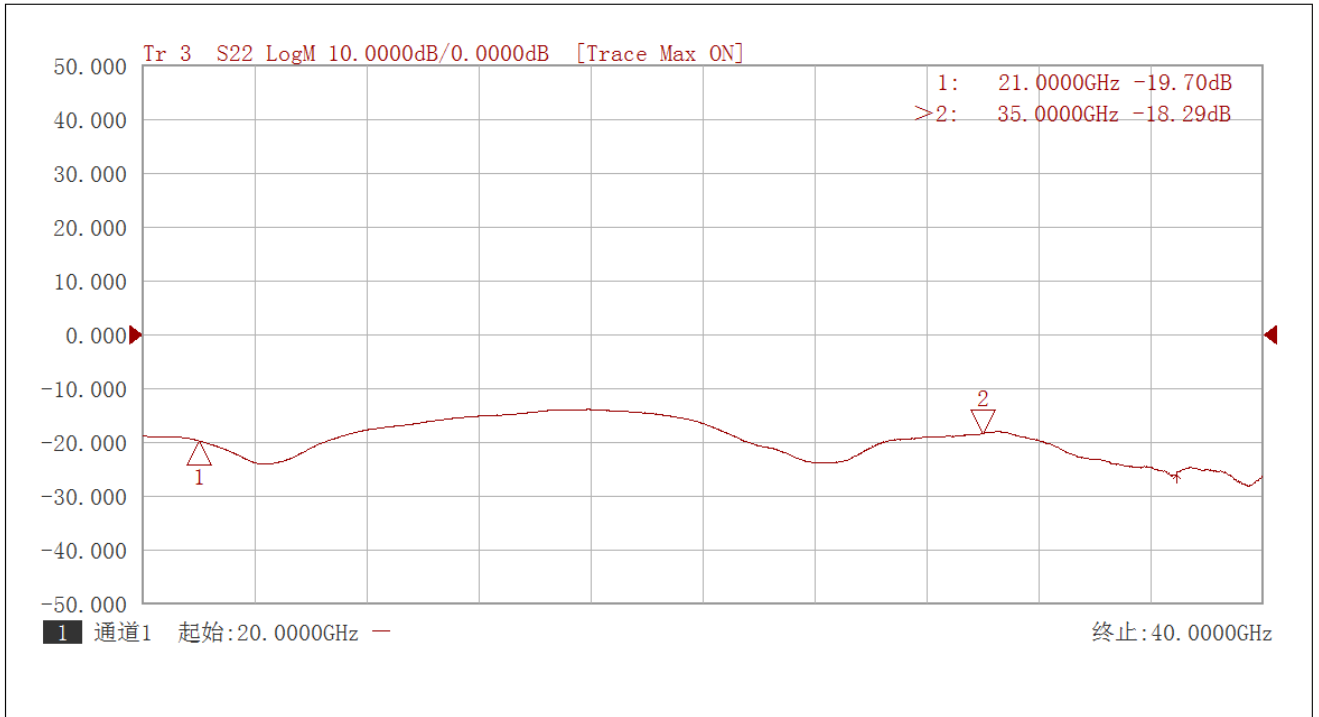
Input Return Loss vs Frequency



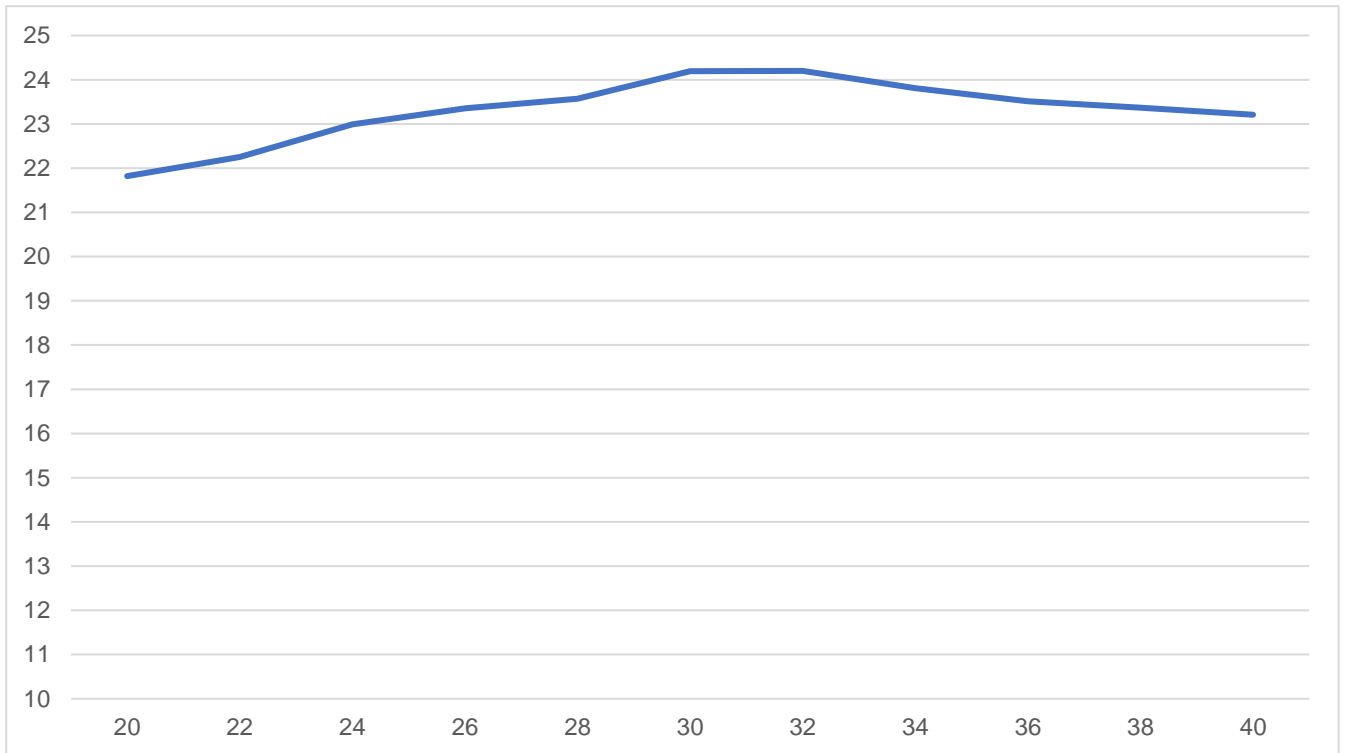


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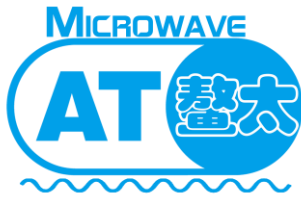


Output Return Loss



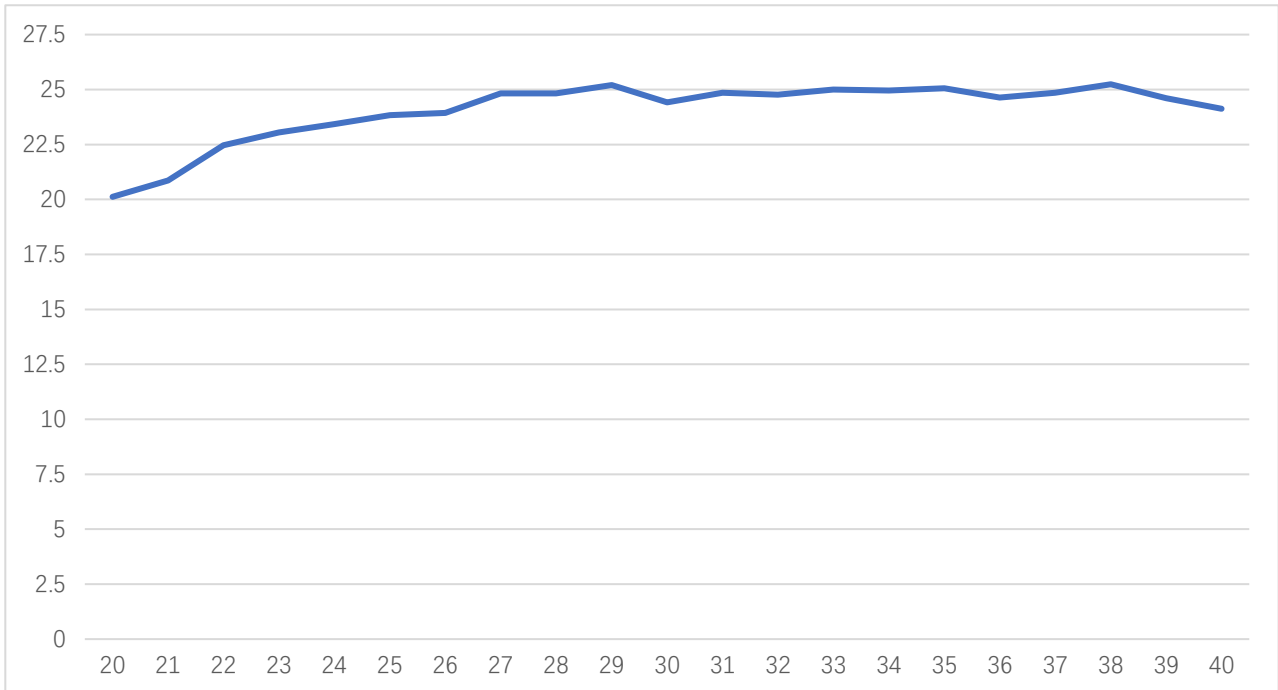
P1dB vs Frequency



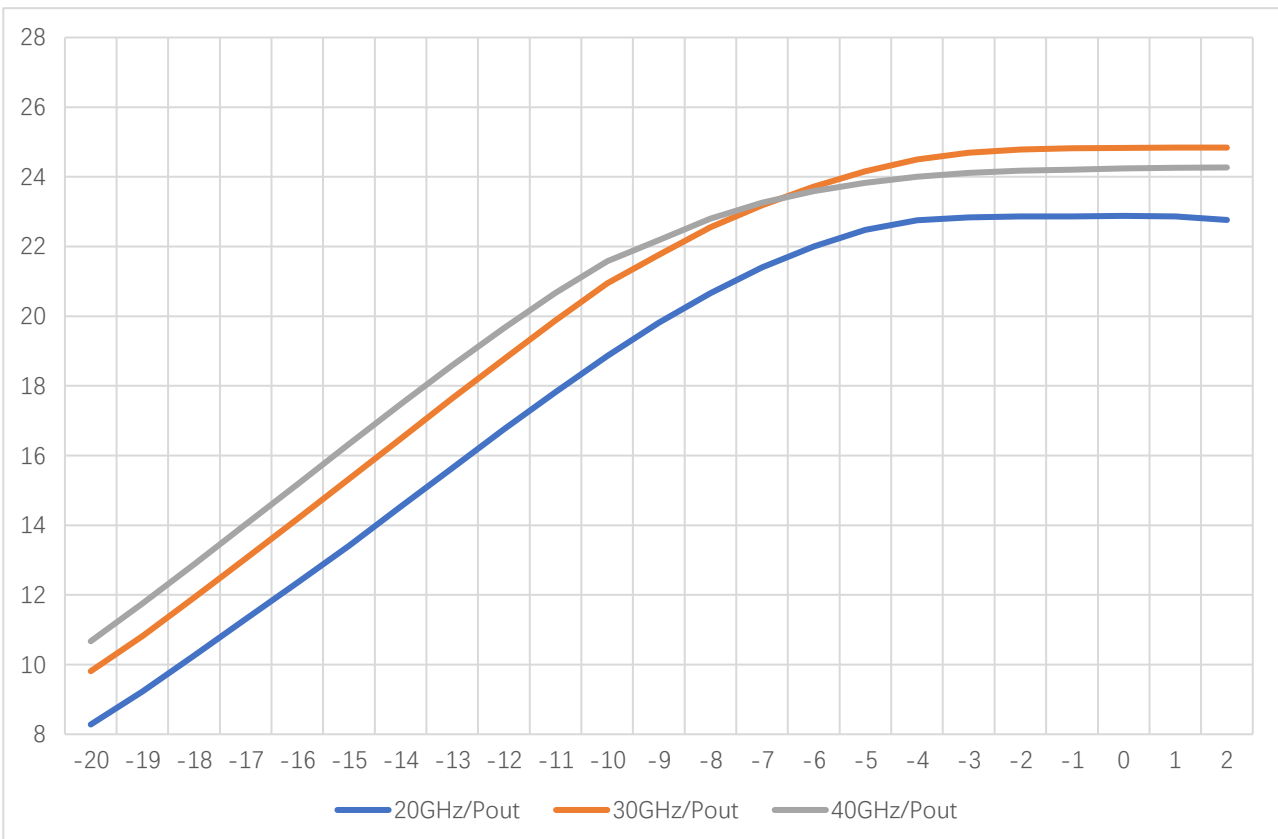


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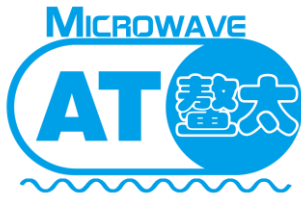


Psat Vs Frequency



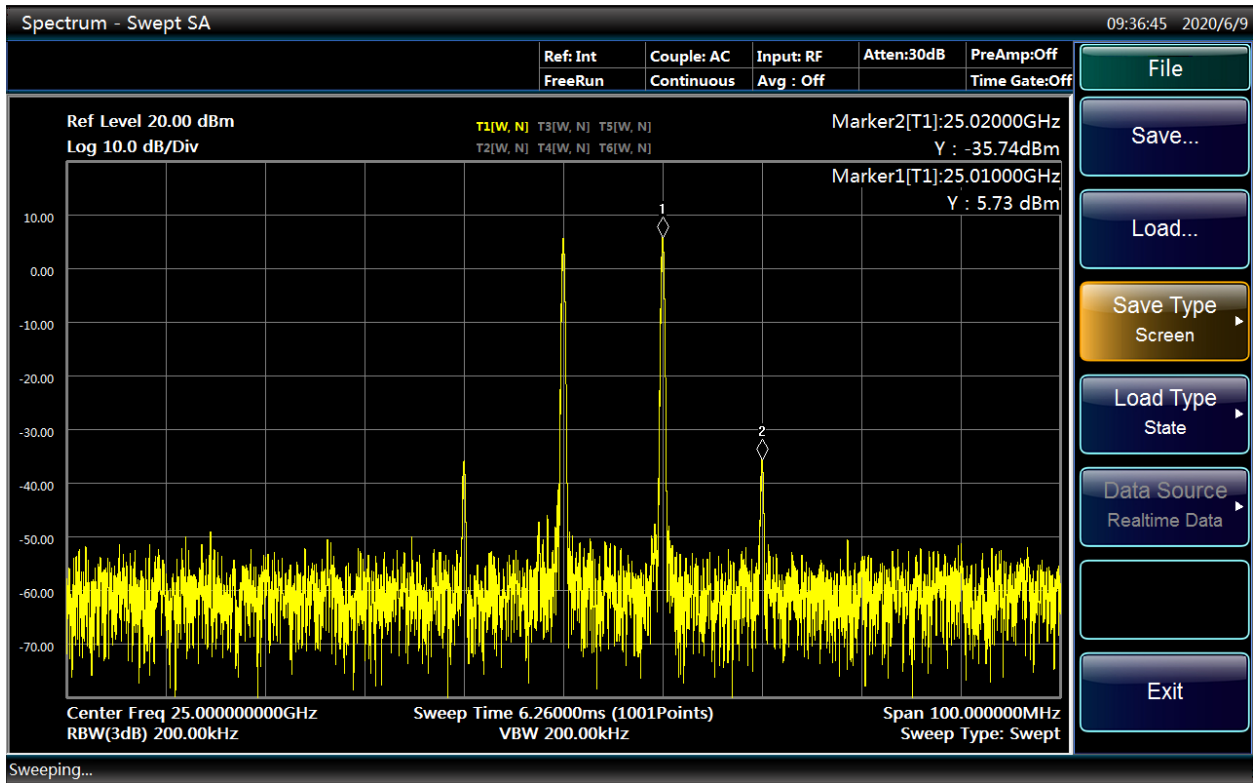
Pout vs Pin at 20/30/40GHz





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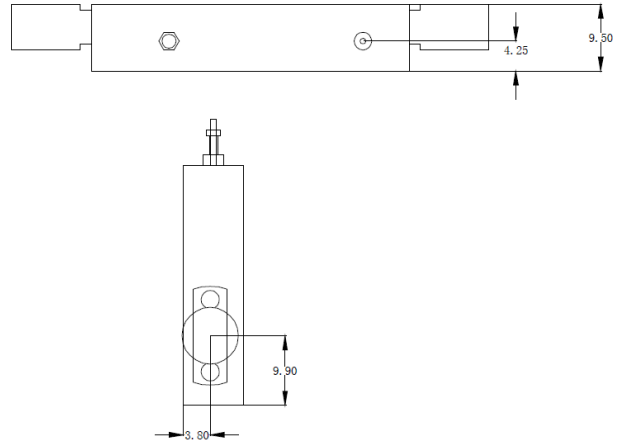
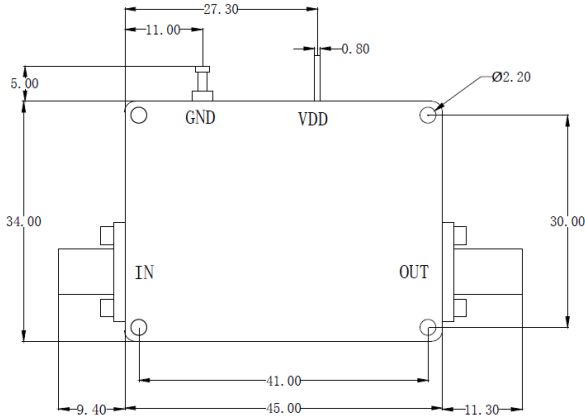
OIP3 TEST,  $OIP3 = POUT + IDM3/2 = +26dBm$



NF vs Frequency

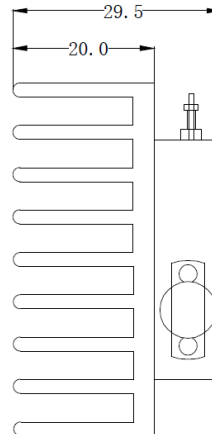
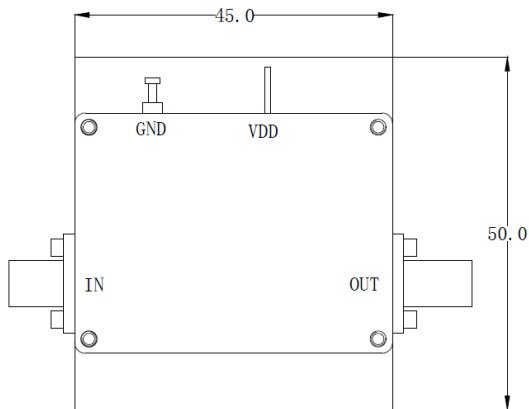


### Dimension: (unit in mm)



	<26.5GHz	<40GHz	<50GHz	<67GHz
Connector	SMA	2.92mm	2.4mm	1.85mm
Lenth 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 removed it or use their own heatsink according to actual situation.

Heat Sink Required During Operation if case Temp higher than 50C

