

10MHz-47GHz Broadband Amplifier

2022-6-10



Product Overview

AT-BB-0047-1520C is broadband amplifier from 10MHz-47GHz, with $P_{out}=+20dBm$, $NF=6dB$. It can be used both as Power amplifier or low noise amplifier. The DC power requirement is +9V/200mA. The module is with 2.4mm Female

+5V Single power supply (With 3dB lower output power) is also available according to request. Bench-top test equipment type with 110-240V power supply is available according to request.

More information, please visit www.atmicrowave.com

Advantages

- ✓ Frequency: 10MHz-47GHz
- ✓ P_{sat} : +20dBm
- ✓ Small signal gain: 15dB
- ✓ Single Power Supply

Application

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

Key Features

Parameter	Min	Typical	Max
Frequency		10MHz-47GHz	
Gain	13dB	15dB	
P1dB (10MHz-40GHz)		+20dBm	
P_{sat} (10MHz-40GHz)		+22dBm	
Drain Supply	+8V	+9V	+12V
Current		200 mA	247mA
NF(1-40GHz)		6dB	
Input Return Loss	-5	-10 dB	
Output Return Loss	-5	-10 dB	
Spec Temp		25C	

Note1: Lower Vdd is preferred due to lower power consumption. Same RF Performance with +8V to +12V.





AT-BB-0047-1520C

10MHz-47GHz Broadband Amplifier

Mechanical Information

Item	Description
Input Port	2.4mm Female
Output Port	2.4mm Female
Case Material	Copper
Finish	Gold Plated
Package Sealing	Epoxy Sealed
Weight	80g
Size:	30X30X14 mm

Absolute Maximum Ratings Table

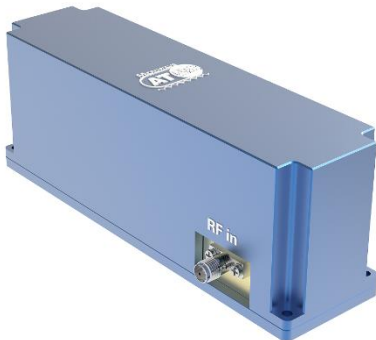
Parameter	Value
Drain Supply	+13V
RF Input Power	+15 dBm
Operating Temperature	-20 to +70C
Storage Temperature	-65 to +147C

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.

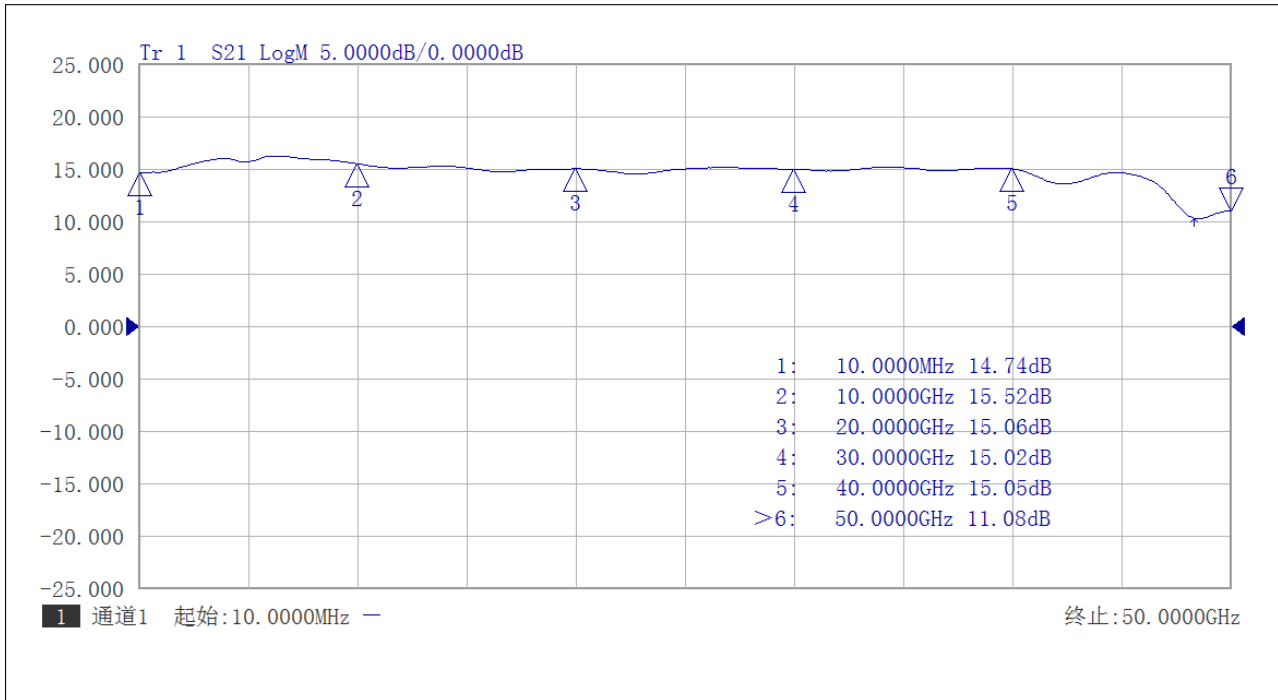
Part Number Selection Guide

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

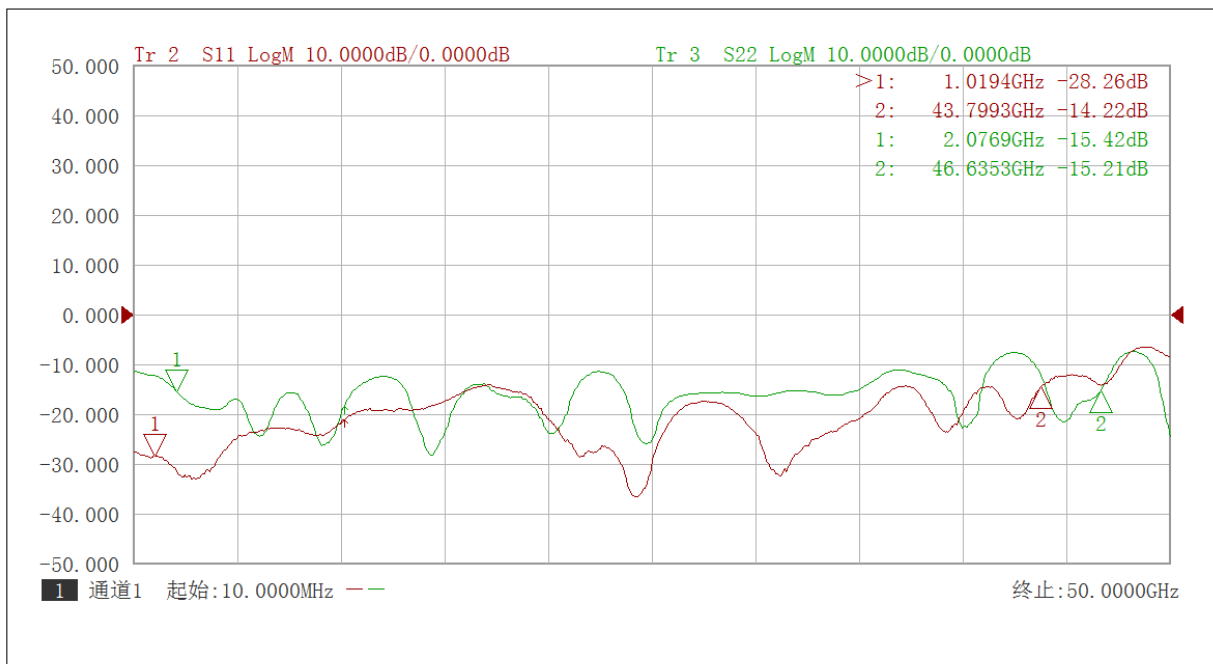


Test Data (25C)

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

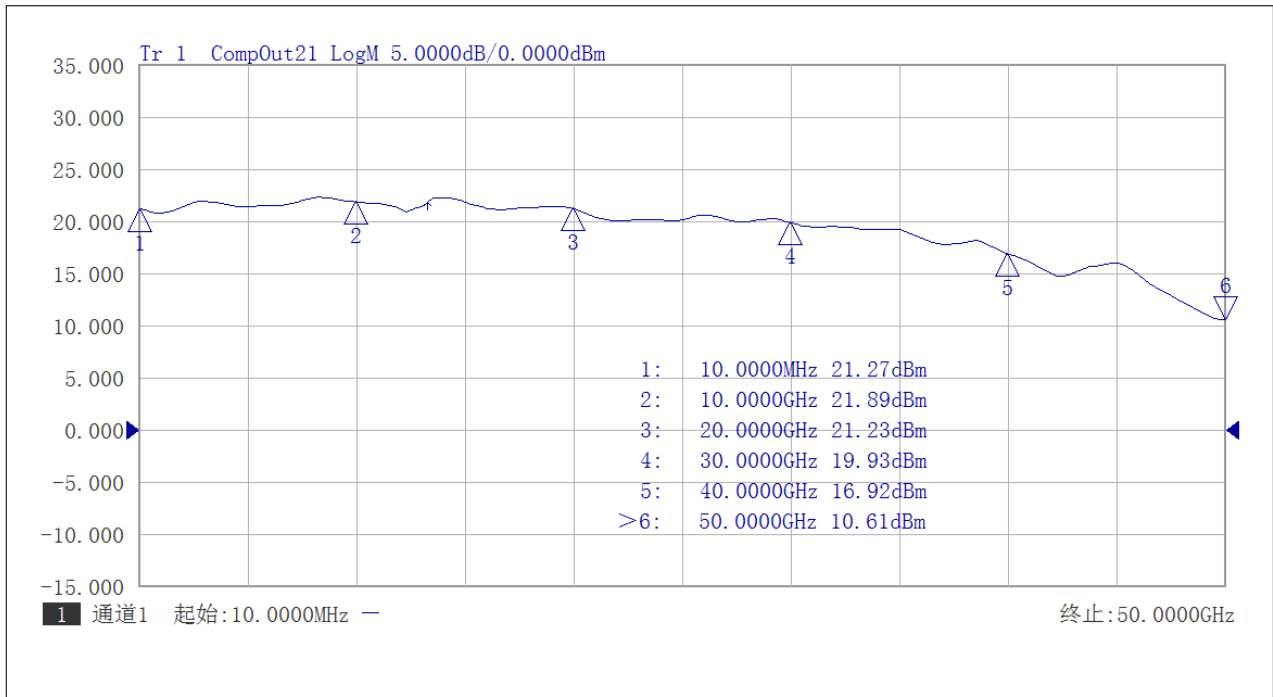


Gain vs Frequency

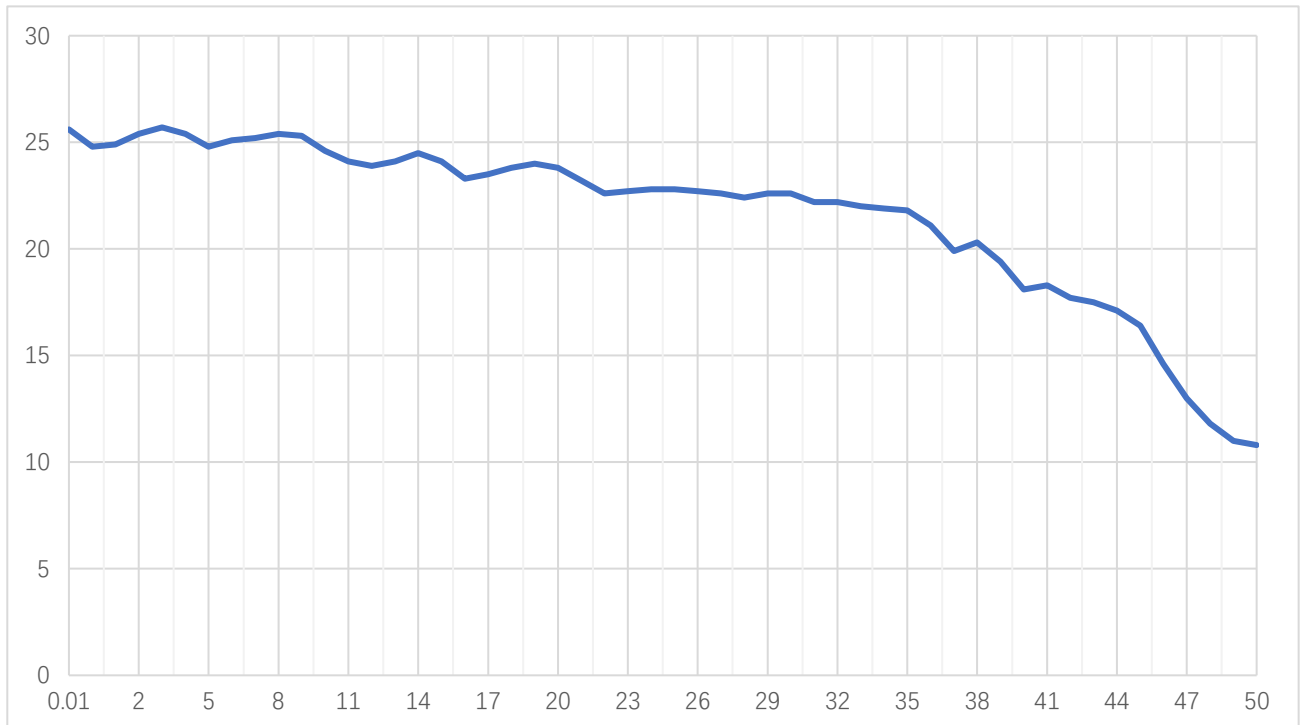


Return Loss vs Frequency



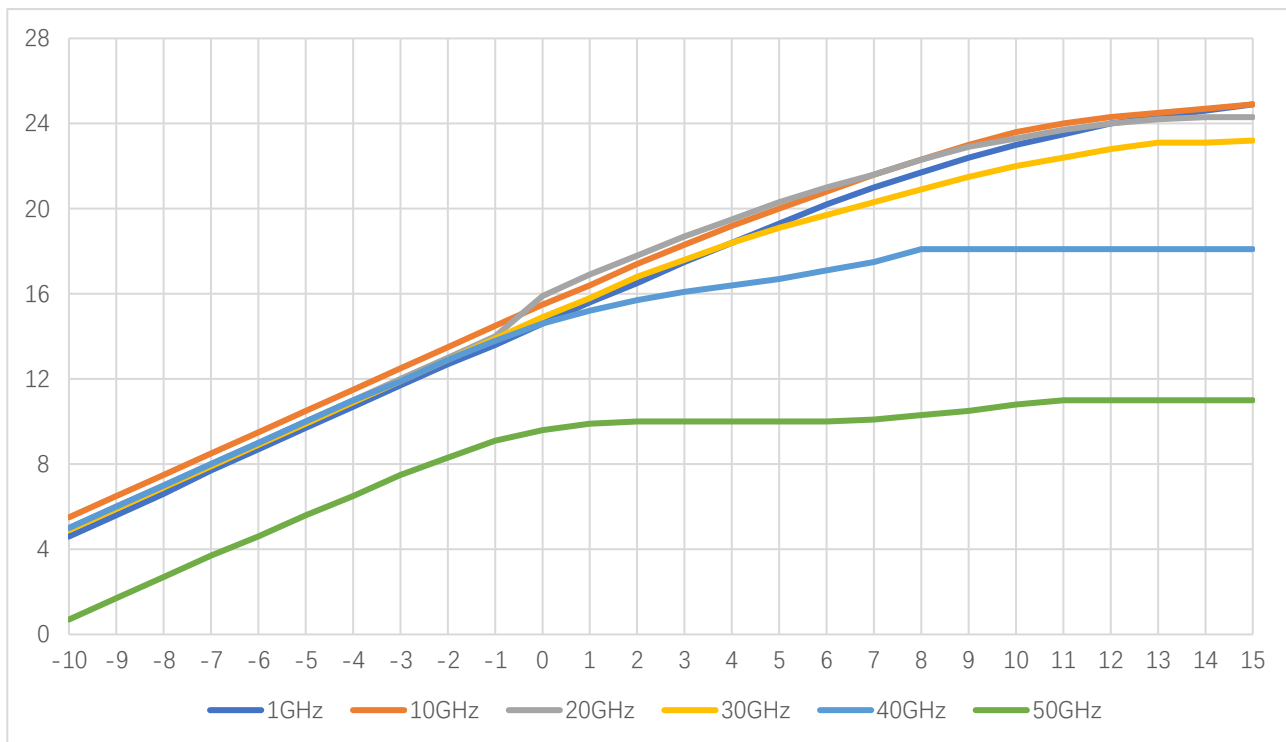


P1 vs Frequency

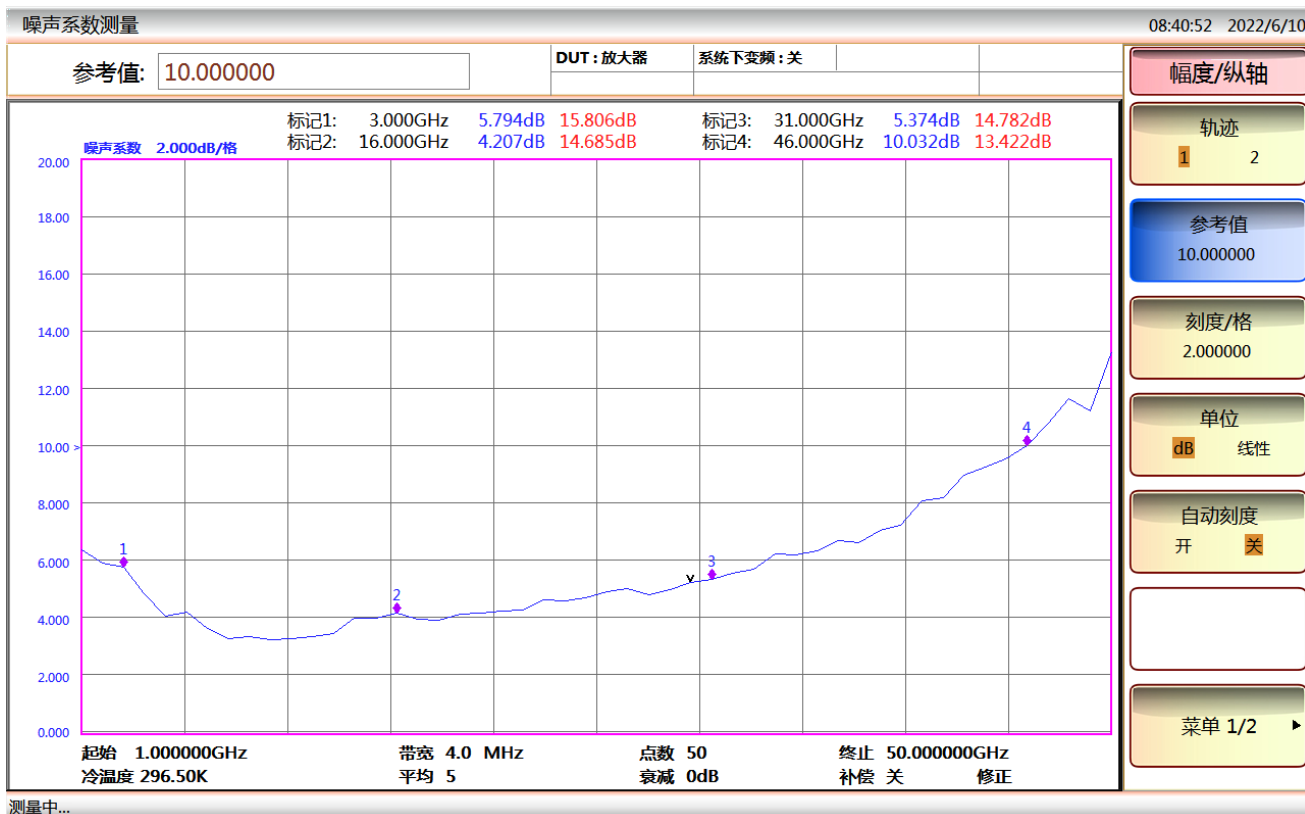


Psat vs Frequency





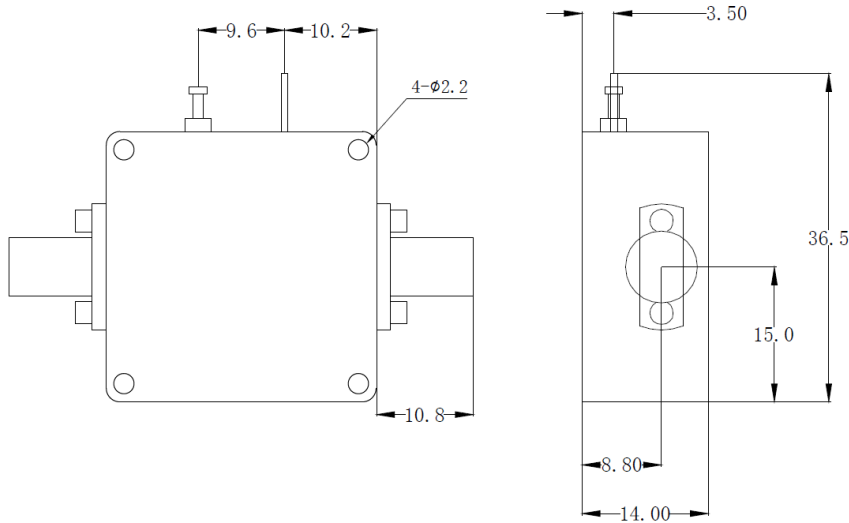
Pout vs Pin



NF vs Frequency

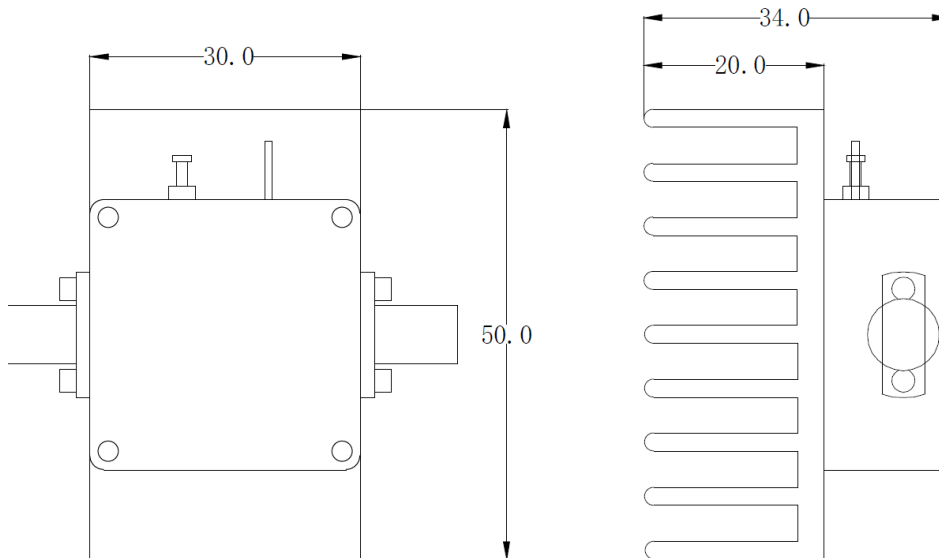


Dimension: (unit in mm)



	<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

