# 10MHz-47GHz Broadband Amplifier

2021-5-30

## Product Overview

AT-BB-0047-4320C is broadband amplifier from 10MHz-47GHz, with Pout=+22dBm, NF=6dB. It can be used both as Power amplifier or low noise amplifier. The DC power requirement is +9V/430mA. 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
- ✓ Psat:+22dBm
- ✓ Small signal gain: 43dB
- ✓ Single Power Supply

## Application

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

## Key Features

| Parameter | Min | Typical | Max |
|---|---|---|---|
| Frequency | | 10MHz-47GHz | |
| Gain | 38dB | 43dB | |
| Gain Flatness | | +/-3dB | +/-5dB |
| P1dB | | 10MHz-40GHz: +20dBm<br>40GHz-47GHz: +16dBm | |
| Psat | | 10MHz-40GHz: +22dBm<br>40GHz-47GHz: +18dBm | |
| Drain Supply | +8V | +9V | +12V |
| Current | | 430 mA | |
| NF (1-43GHz) | | 6dB | |
| Input Return Loss | | -10dB | |
| Output Return Loss | | -10dB | |
| Spec Temp | | 25C | |

Note1: Lower Vdd is preferred due to lower power consumption. Same RF Performance with +8V to +13V.

# AT-BB-0047-4320C

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## 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 (Without Heatsink) | 80g |
| Size: | 45x25x14 mm |

## Absolute Maximum Ratings Table

| Parameter | Value |
|---|---|
| Drain Supply | +13V |
| RF Input Power | +10 dBm |
| Operating Temperature | -40 to +85C |
| Storage Temperature | -55 to +125C |

## 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 | Low Cost, Compact Bench-Top, +220V Supply with AC/DC Adapter |

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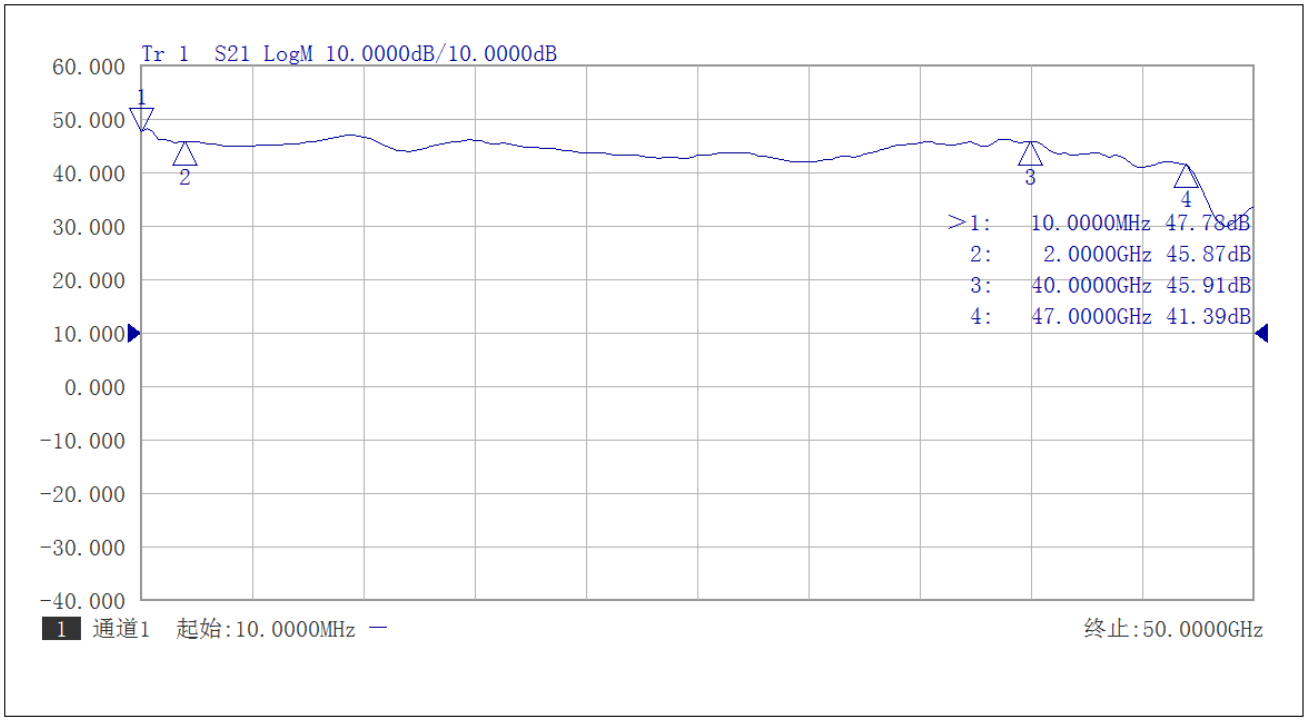
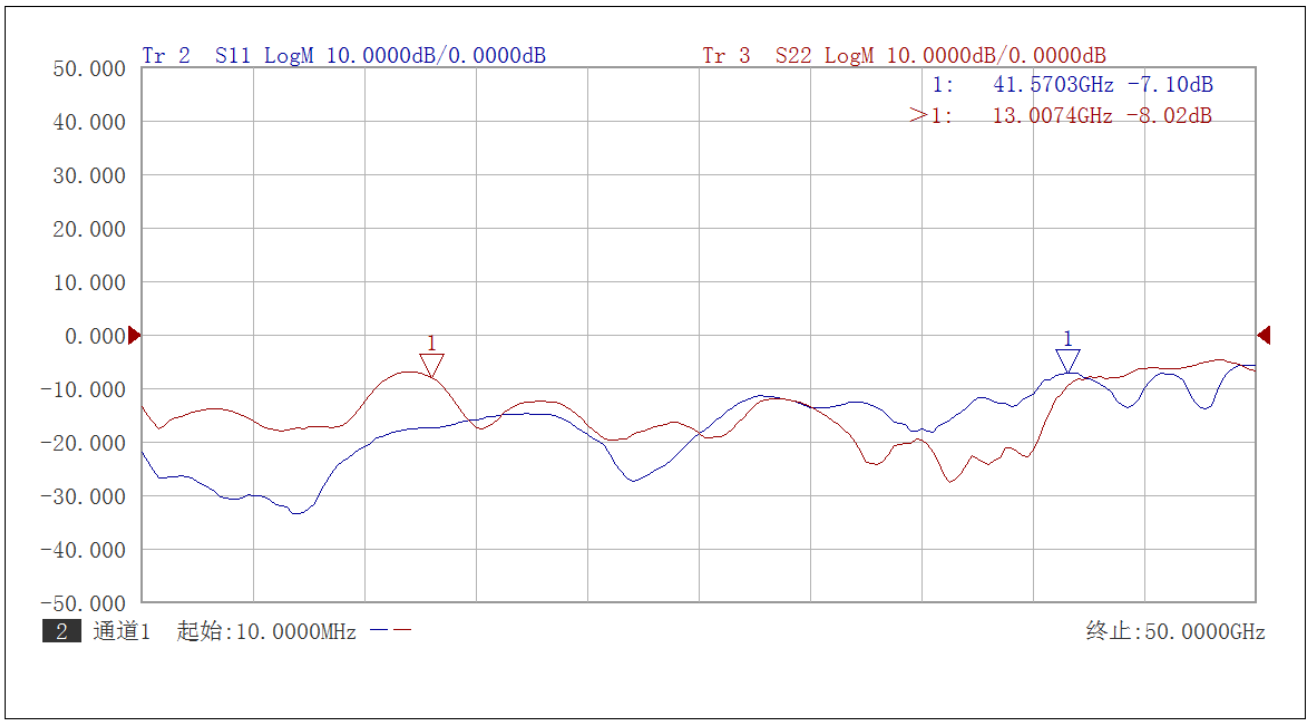
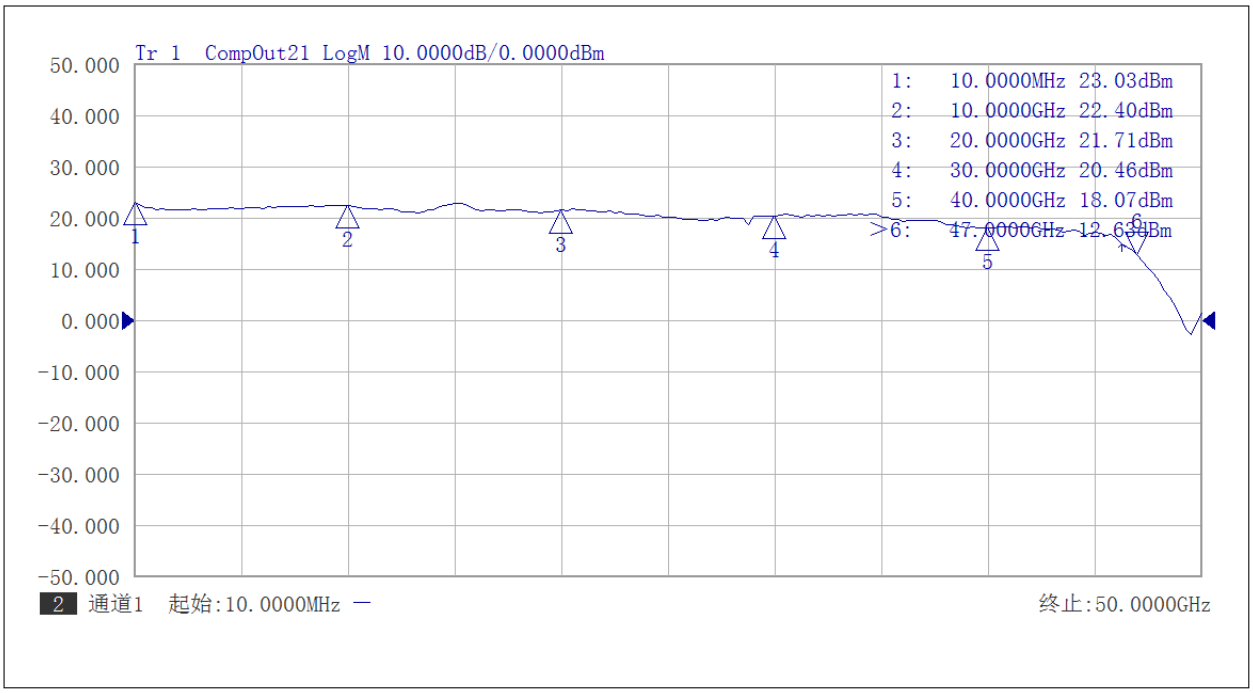
## Test Data(25C)



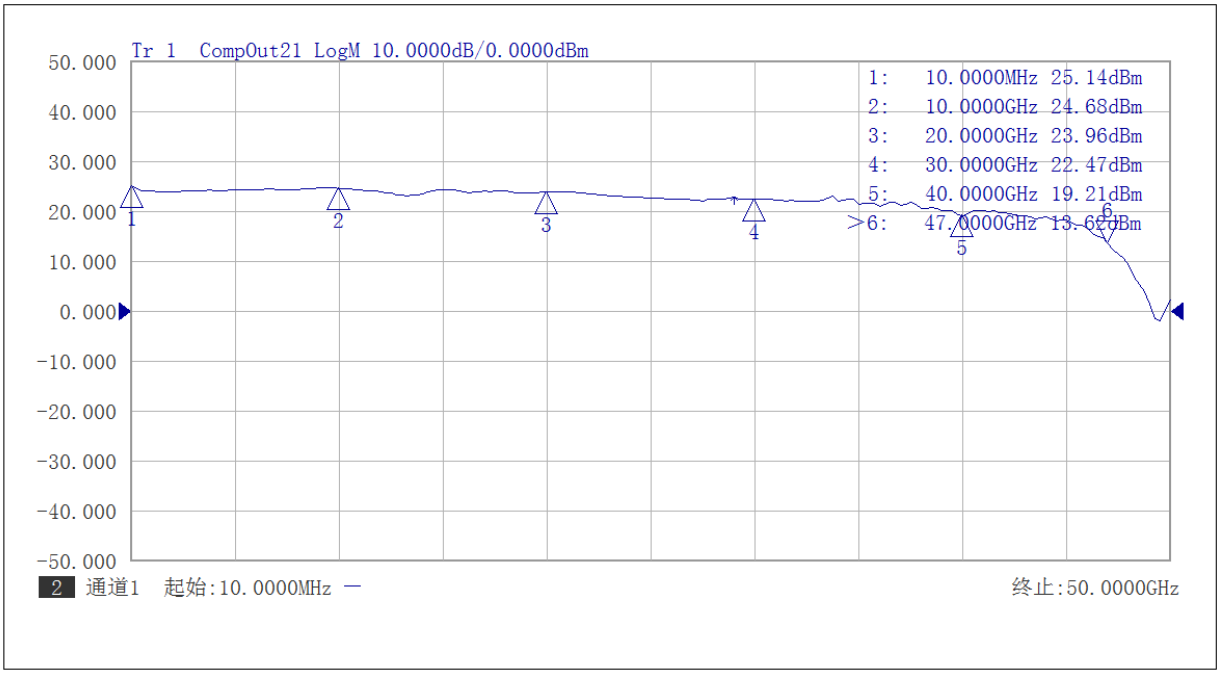

Gain vs Frequency



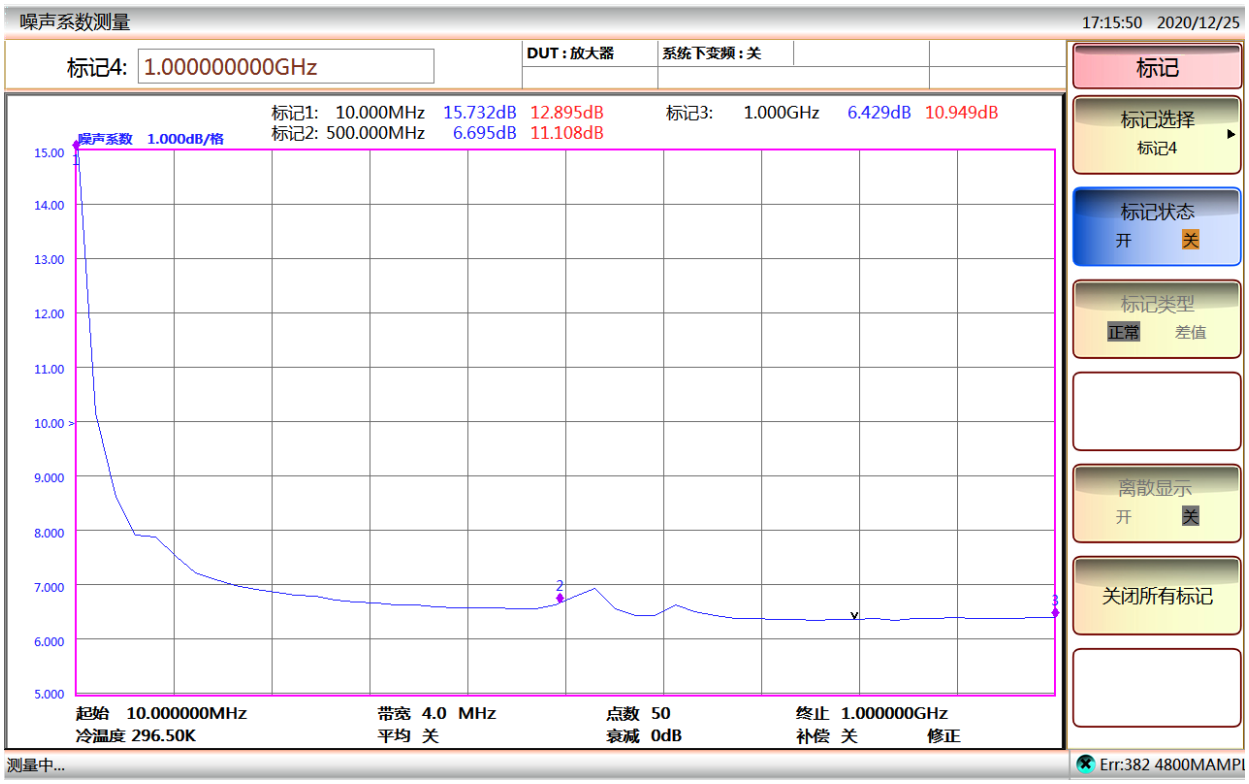

Input and Output Return Loss vs Frequency




P1 vs Frequency 10MHz-47GHz




P3 vs Frequency 10MHz-47GHz




10MHz-1GHz NF

1-47GHz NF

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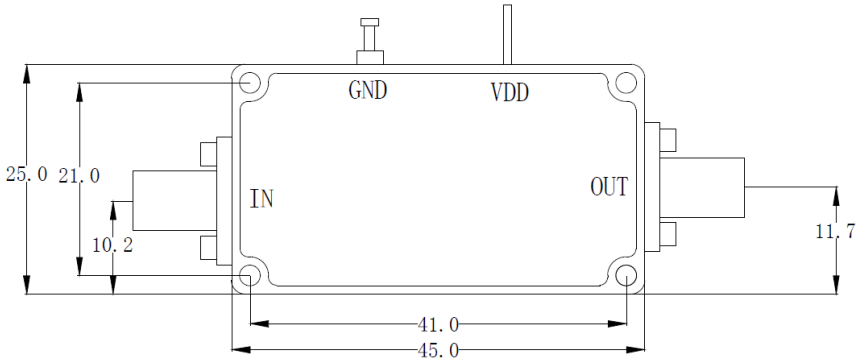
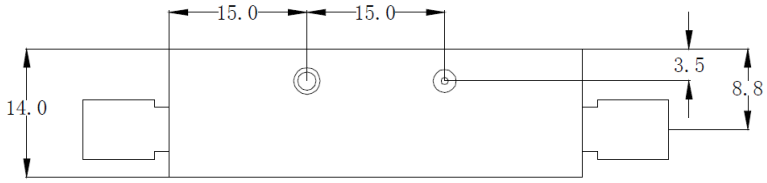
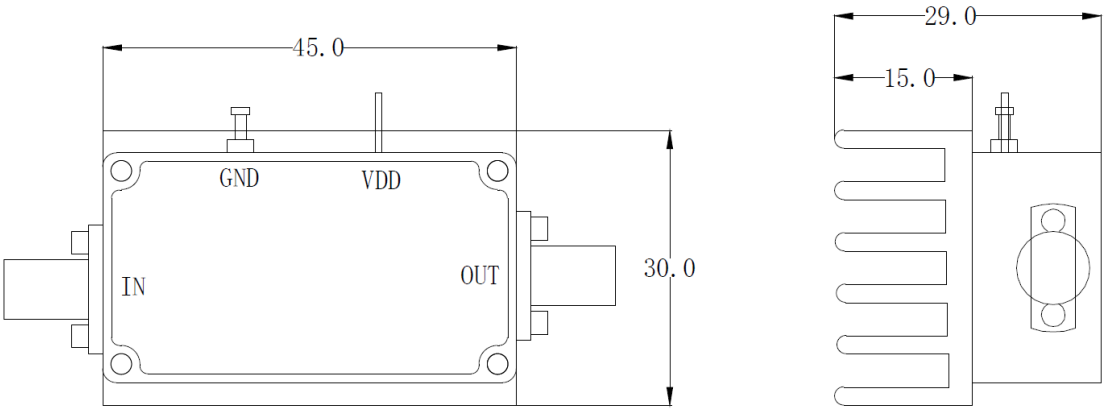
## Dimension: (unit in mm)




| | <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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