

## E2 Band High Gain, High Power Amplifier

### Product Overview



AT-PA-8186-3327 is high gain high power amplifier with +27dBm output power in the frequency of 81-86GHz. The DC power requirement is +5V, with current 1.8A NO RF and 2.7A at Psat. The module is with a standard WR-12 waveguide.

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

It can also be used from 77-87Hz with some variation of performance. More information, please visit [www.atmicrowave.com](http://www.atmicrowave.com)

### Advantages

- ✓ Frequency: 81-86GHz
- ✓ Psat: +27dBm
- ✓ Small signal gain: 33dB
- ✓ Single Positive Supply

### Application

- ✓ E Band Point to Point Communication
- ✓ FOD (Foreigner Objects Debris)
- ✓ Test Equipment
- ✓ ROF (RF Over Fiber)
- ✓ Radar System

### Key Features

Parameter	Min	Typical	Max
Frequency	77GHz	81-86GHz	87GHz
Gain	30	33dB	
Drain Supply		+5V	+6V
P1dB		+25dBm	
Psat	+26	+27dBm	
Idd/NO RF		1.8A	
Idd/Psat		2.7A	3A
Input Return Loss		-7 dB	
Output Return Loss		-5 dB	
Spec Temp		25C	





# AT-PA-8186-3327

81-86GHz Power Amplifier,  $P_{sat}=+27\text{dBm}$

## Mechanical Information

Item	Description
Input Port	WR-12
Output Port	WR-12
Case Material	Copper
Finish	Gold Plated
Weight (Without Heatsink)	270g
Size:	See outline

## Absolute Maximum Ratings Table

Parameter	Value
Drain Supply	+7V
RF Input Power	+12dBm
Operating Temperature	0 to +50C
Storage Temperature	-65 to +150C

### Caution:

Please pay attention to the case temperature. If case temperature exceeds higher than +50C, 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.

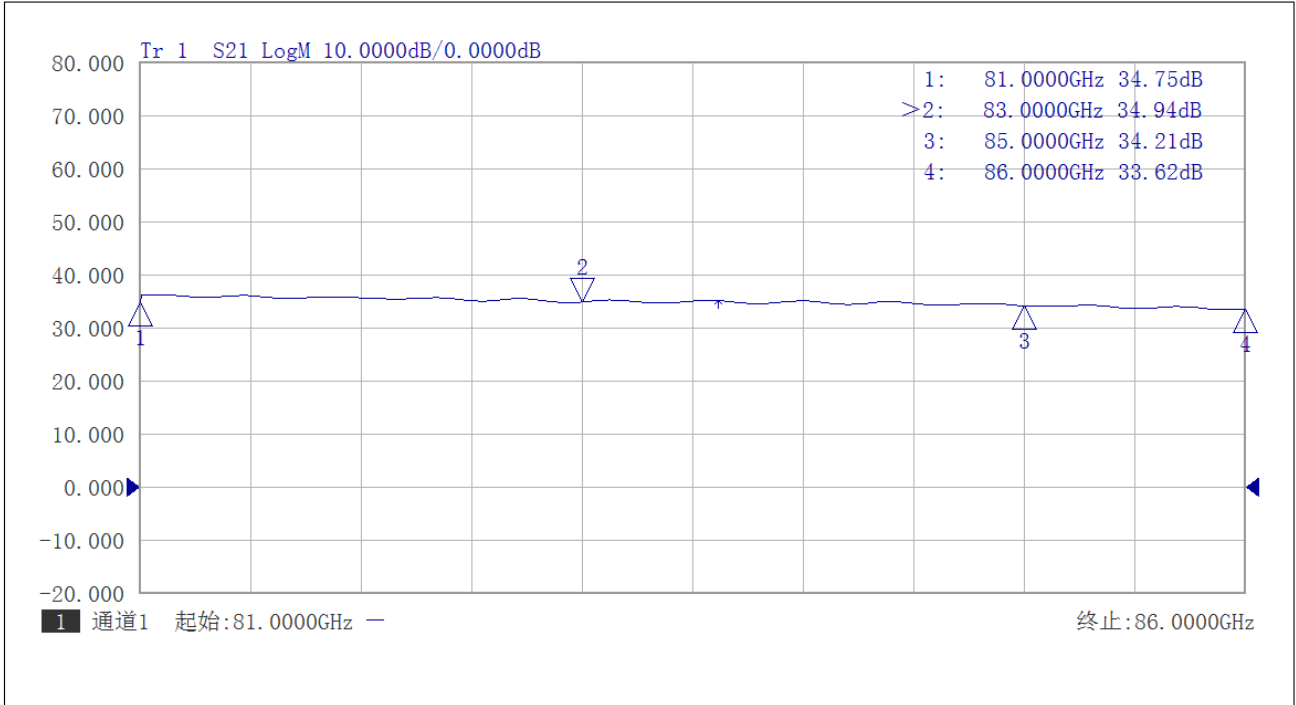




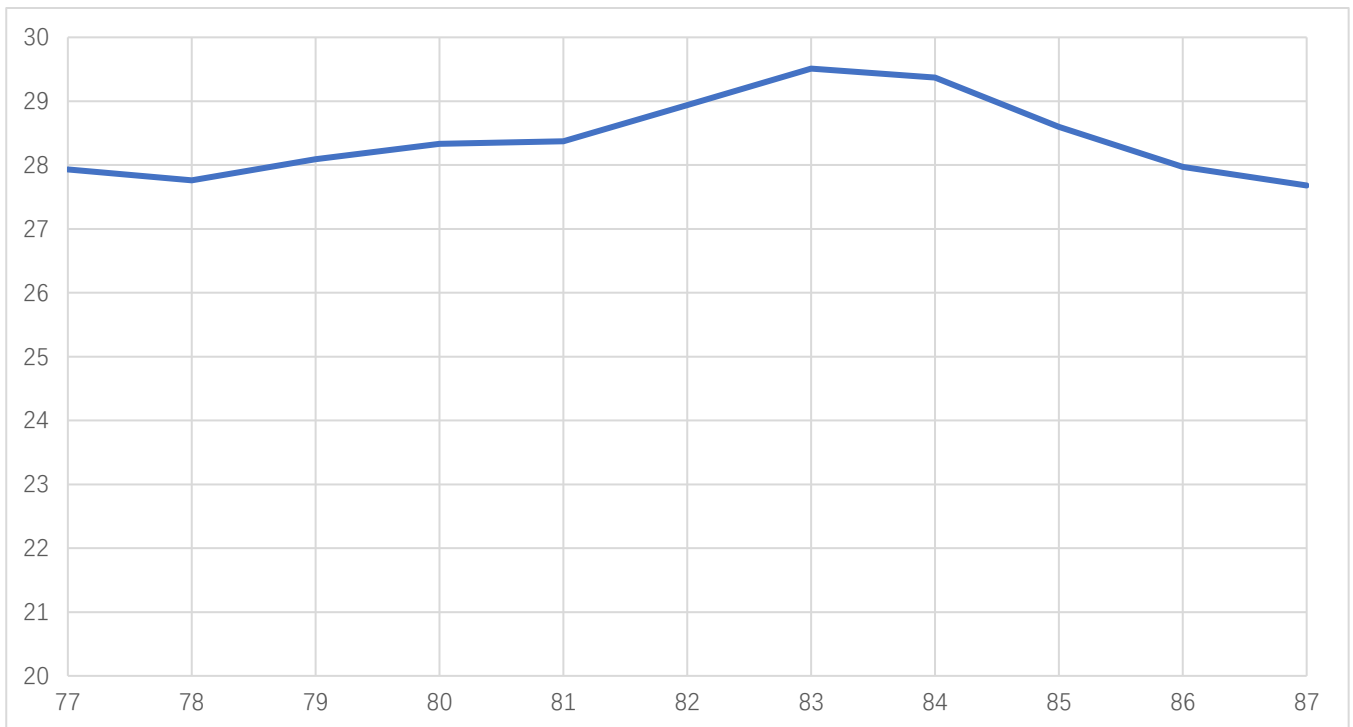
# AT-PA-8186-3327

81-86GHz Power Amplifier, Psat=+27dBm

## Test Data

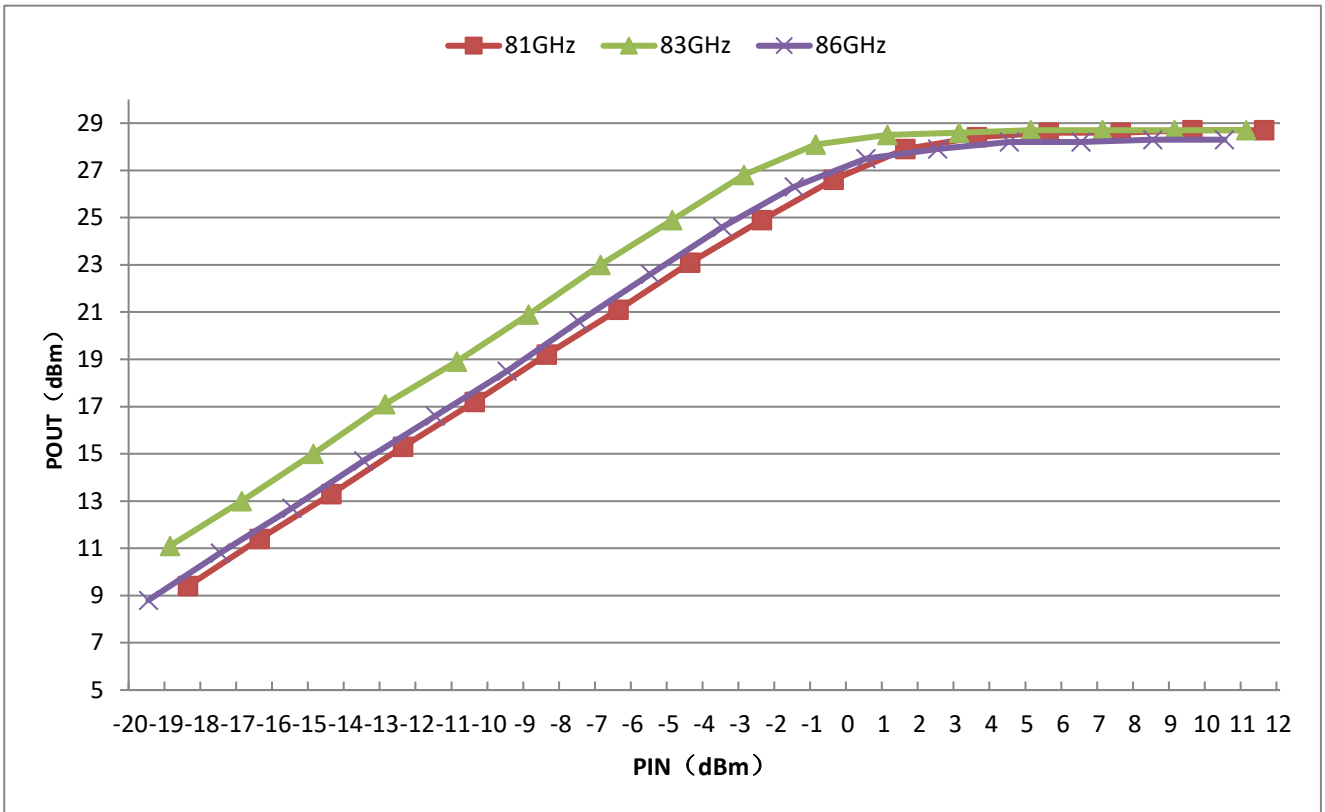


Gain vs Frequency 81-86GHz



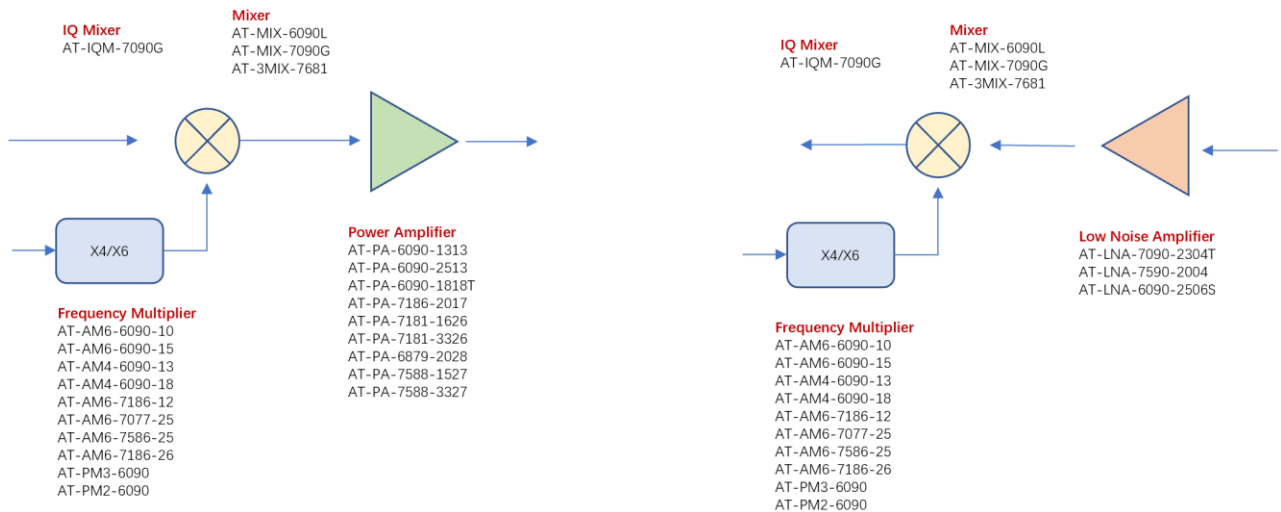
Psat vs Frequency



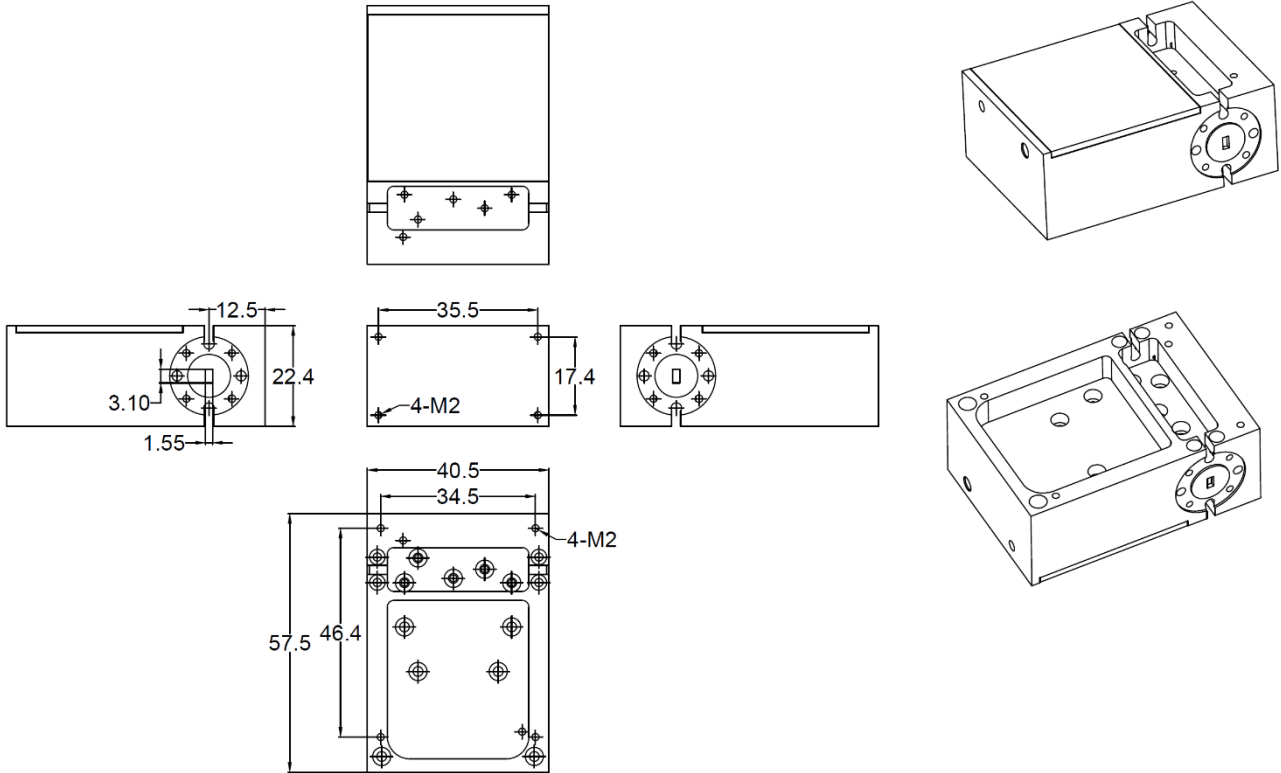


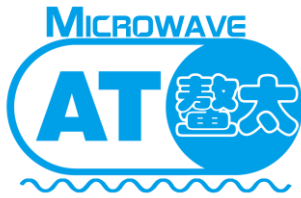
Pout vs Pin at 81/83/86GHz

### E Band 60-90GHz



**Dimension:**(unit in mm)

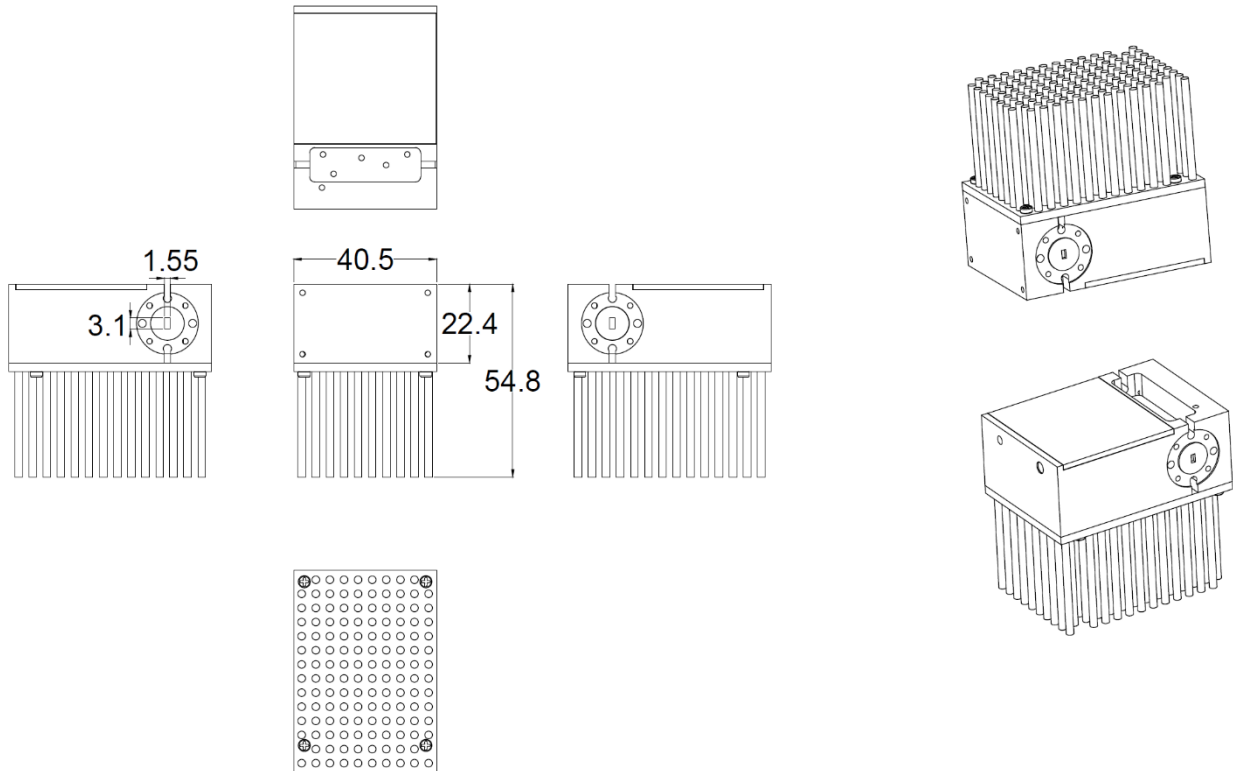




# AT-PA-8186-3327

81-86GHz Power Amplifier,  $P_{sat}=+27dBm$

## Dimension with heatsink:(unit in mm)



### Dimension with Heatsink

AT Microwave provides a heatsink in default if  $P_{out}$  is higher than +20dBm  
Customer can remove the heatsink easily and use their own heatsink if need.

