

## Power Amplifier

**WR-12/81-86GHz/15dB Gain/30dBm Psat****Model: TMPA-081086-1530-12**

TMPA-081086-1530-12 is a power amplifier with a typical gain of 15 dB and a nominal Psat of 30 dBm across the frequency range of 81 to 86 GHz. The DC power requirement for the amplifier is +12 VDC/2.2 A. The input and output port configuration offers an inline structure with WR-12 waveguides and UG-387/U-M anticocking flanges.

### Features:

- Frequency range: 81-86GHz
- Gain: 15dB Typ
- Output Power Psat: 30dBm Typ
- Good Power and Gain Flatness

### Applications:

- Passive Imaging
- Communication Systems
- Radar Systems

### Electrical Characteristics:

| Parameter         | Min   | Typ | Max | Units |
|-------------------|-------|-----|-----|-------|
| Frequency range   | 81-86 |     |     | GHz   |
| Gain              |       | 15  |     | dB    |
| Output Psat       |       | 30  |     | dBm   |
| Input VSWR        |       | 1.6 |     | :1    |
| Output VSWR       |       | 1.6 |     | :1    |
| DC Voltage        |       | 12  |     | V DC  |
| DC Supply Current |       | 2.2 |     | A     |

### Mechanical Specifications:

| Parameter               | Value                    | Units |
|-------------------------|--------------------------|-------|
| Input /Output Connector | WR-12/UG-387/U           |       |
| DC Bias                 | Solder Pin               |       |
| Size                    | 40*87*67 (With heatsink) | mm    |

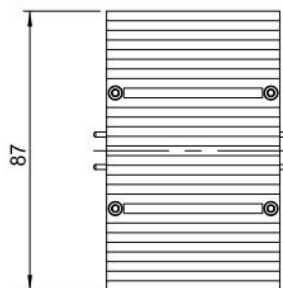
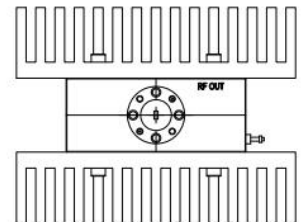
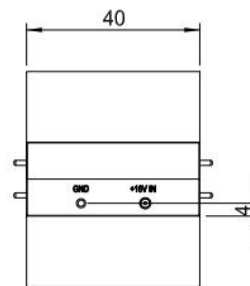
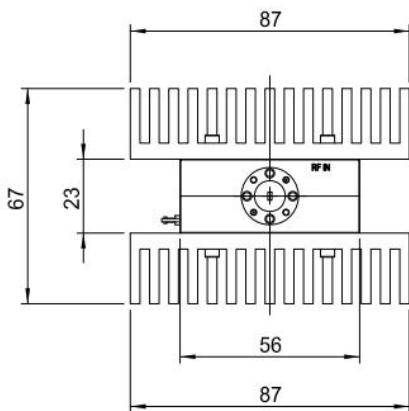
## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +15 V                |
| RF Input Power        | +16 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm

## Regulatory Compliance:



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

### Environmental Conditions:

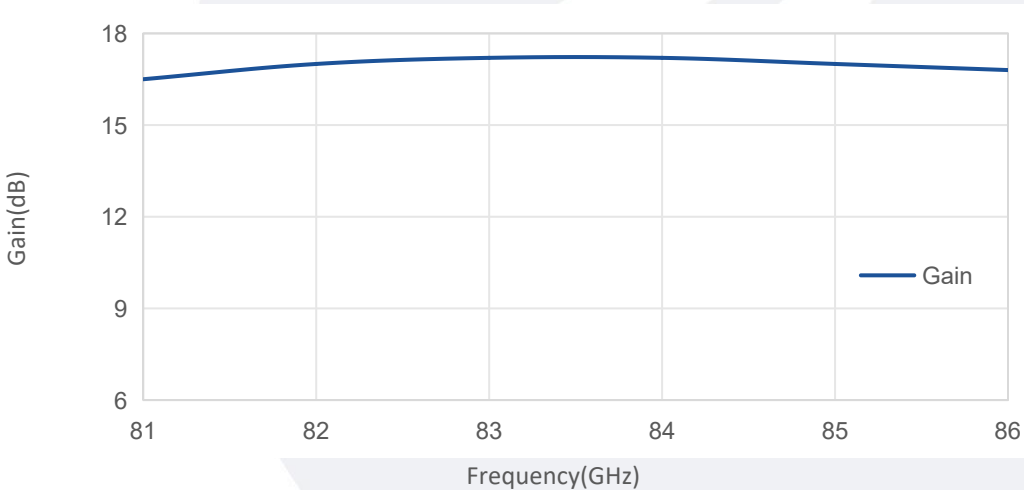
| Parameter                       | Min                                                 | Typ | Max | Units |
|---------------------------------|-----------------------------------------------------|-----|-----|-------|
| Operating Temperature           | -10                                                 |     | +65 | °C    |
| Non-operating Temperature       | -45                                                 |     | +85 | °C    |
| Relative humidity               |                                                     | 95  |     | %     |
| Altitude                        | 10,000                                              |     |     | feet  |
| Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |     |       |
| Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions  |     |     |       |

### Ordering Information:

| Base Number         | Description                                                                                 | Revision |
|---------------------|---------------------------------------------------------------------------------------------|----------|
| TMPA-081086-1530-12 | Power Amplifier, 81-86GHz, Gain: 15dB Type,<br>P <sub>sat</sub> : 30dBm Type, +12V DC,WR-12 | Rev.1.1  |

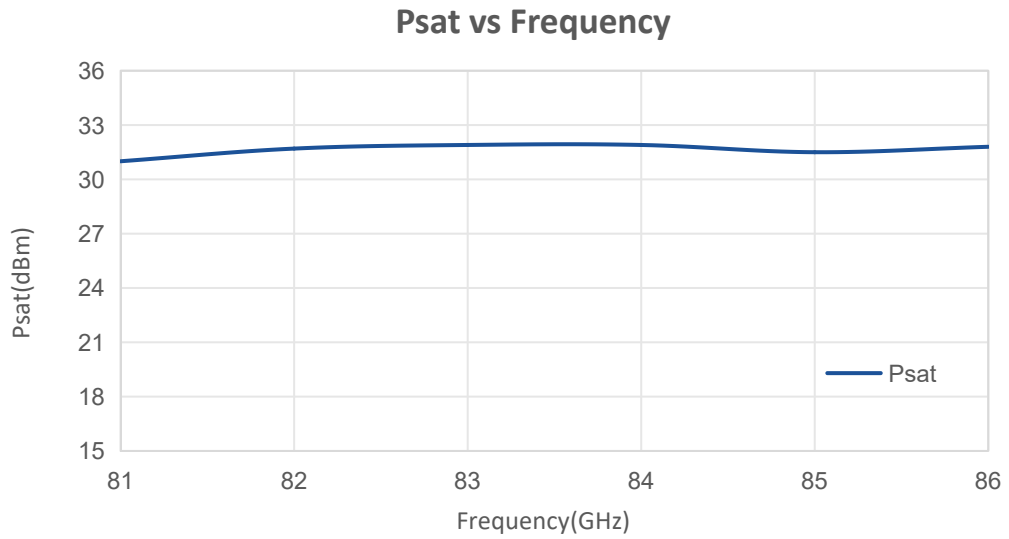
### Typical Performance Data:

Gain vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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