

## Low Noise Amplifier

WR-05/120-200GHz /4.5 NF/16dB Gain

Model: TMLA-120200-2040-05

TMLA-120200-2040-05 is a low noise amplifier with a typical small signal gain of 16 dB and a nominal noise figure of 4.5 dB across the frequency range of 120 to 200 GHz. The DC power requirement for the amplifier is +5 VDC/28 mA. The input and output port configuration offers an inline structure with WR-05 waveguides and UG-387/U-M anti-cocking flanges.

### Features:

- Frequency range:120-200GHz
- Gain: 16dB Typ
- Noise Figure: 4.5dB Typ
- Unconditional stability

### Applications:

- Passive Imaging
- 5G Systems

## 电气特性 Electrical Characteristics:

| 参数 Parameter            | Min | Typ | Max | 单位 Units |
|-------------------------|-----|-----|-----|----------|
| 频率范围 Frequency range    | 120 |     | 200 | GHz      |
| 小信号增益 Small Signal Gain |     | 16  |     | dB       |
| 噪声系数 Noise Figure       |     | 4.5 |     | dB       |
| 输出功率1dB压缩点 Output P1dB  |     | -2  |     | dBm      |
| 输入驻波 Input VSWR         |     | 2.5 |     | :1       |
| 输出驻波 Output VSWR        |     | 2.5 |     | :1       |
| 直流电压 DC Voltage         |     | 5   |     | V DC     |
| 直流供电 DC power supply    |     | 28  |     | mA       |

## 机械特性 Mechanical Specifications:

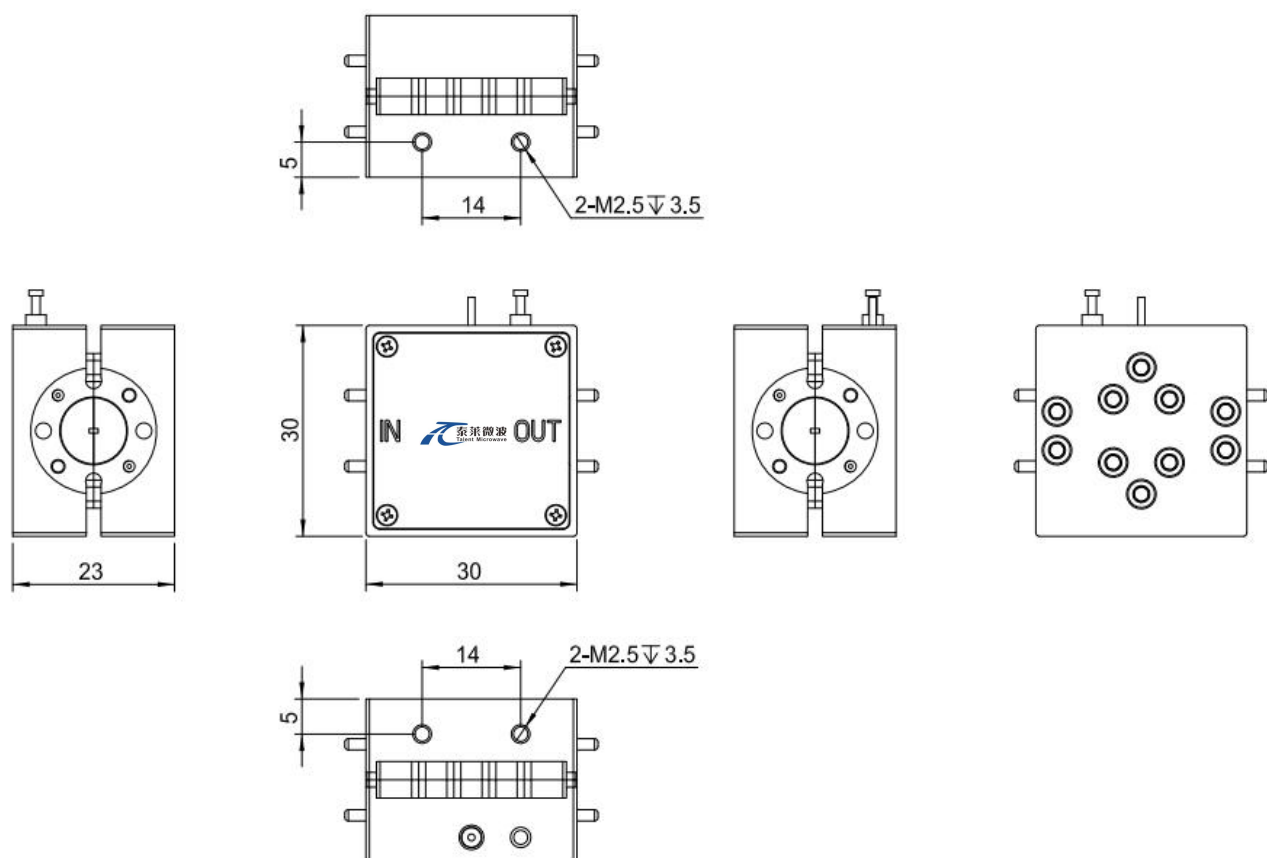
| 参数 Parameter          | 指标 Value        | 单位 Units |
|-----------------------|-----------------|----------|
| 输入接口 Input Connector  | WR-05/ UG-387/U |          |
| 输出接口 Output Connector | WR-05/ UG-387/U |          |
| 供电引脚 Power Supply Pin | Solder Pin      |          |
| 尺寸 Size               | 30*30*23        | mm       |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | +8 V                 |
| 输入功率 RF Input Power          | +10 dBm              |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



## 温度环境 Environmental Conditions:

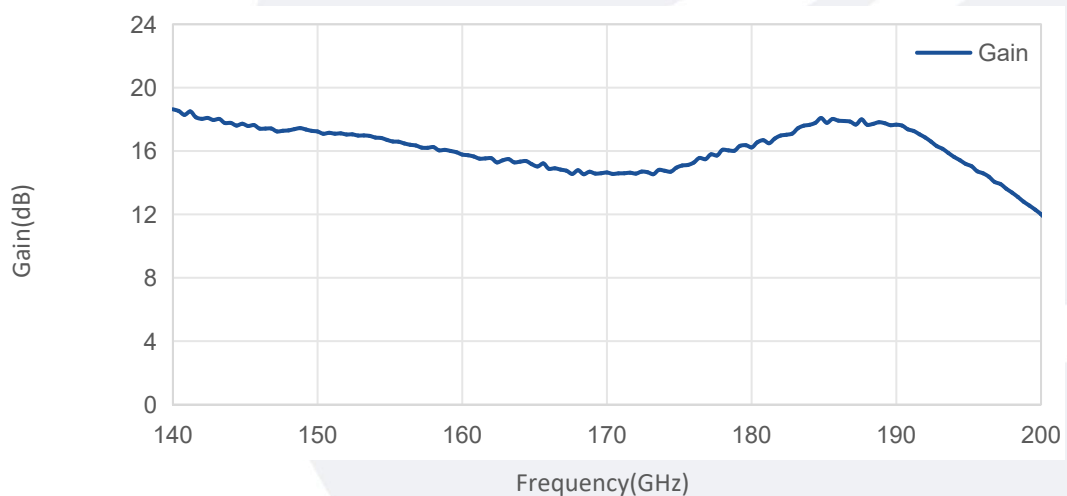
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | -10                          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

## 订货信息 Ordering Information:

| 标准型号 Base Number    | 描述 Description                                                             | 版本号 Revision |
|---------------------|----------------------------------------------------------------------------|--------------|
| TMLA-120200-2040-05 | Low Noise Amplifier,120-200GHz, Noise Figure:4.5dB, Gain:16dB,+5V DC,WR-05 | Rev.1.1      |

## 典型曲线 Typical Performance Data:

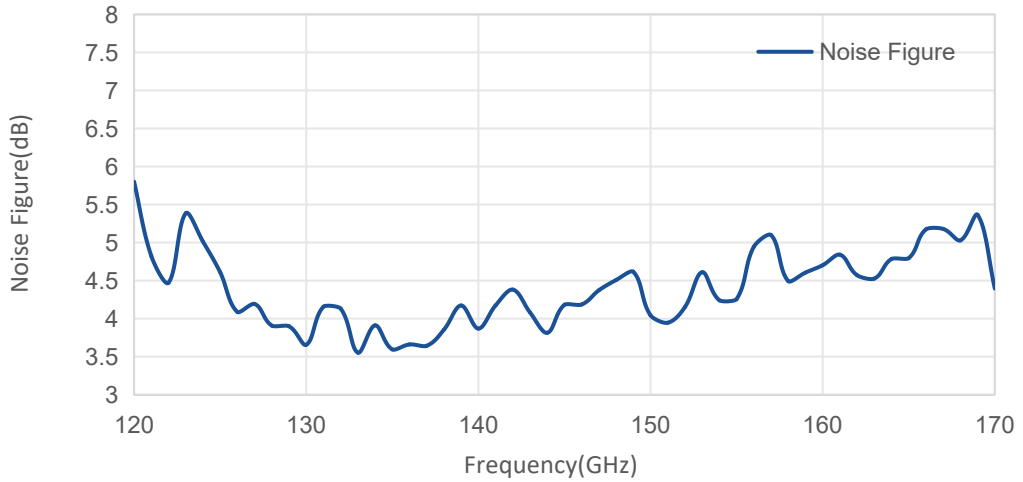
Gain vs Frequency



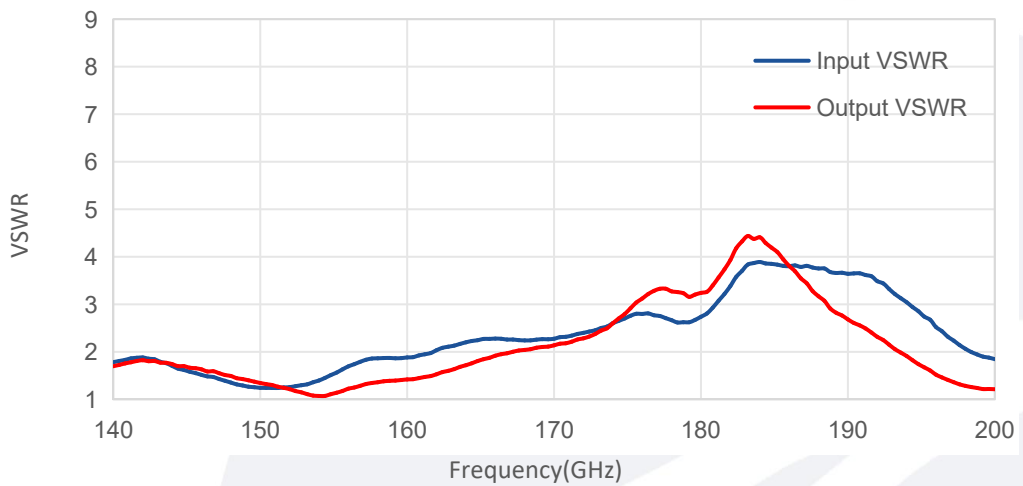
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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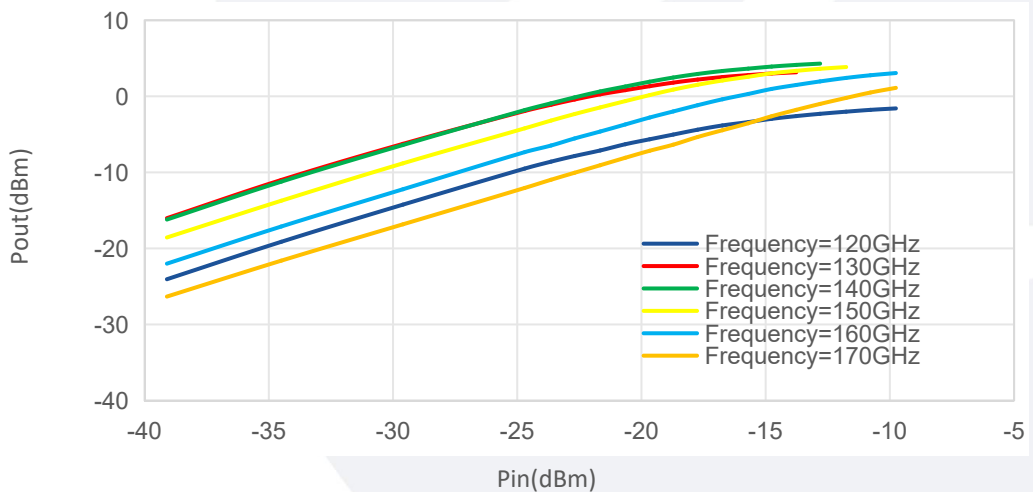
### Noise Figure vs Frequency



### VSWR vs Frequency



### Pout vs Pin



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