泰莱微波 Talent Microwave

Suzhou Talent Microwave,Inc
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# Power Amplifier

## 11.7-15GHz/53dB Gain/53dBm Psat  Model: TLPA11.7G15G-53-53-IP65

TLPA11.7G15G-53-53-IP65 is a power amplifier with a minimum power gain of 53 dB and a minimum Psat of 53 dBm across the frequency range of 11.7 to 15 GHz. The DC power requirement for the amplifier is +28VDC. The input port configuration offers coax adapter structure with N female and output port is WR75.

### Features:

- Frequency range: 11.7-15 GHz
- Power Gain: 53dB Min
- Output Power Psat: 53dBm Min
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### 电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|---|---|---|---|---|
| 频率范围 Frequency range | 11.7 | | 15 | GHz |
| 线性增益 Linear Gain | | 65 | | dB |
| 线性增益平坦度 Linear Gain Flatness | | ±4 | | dB |
| 功率增益 Power Gain | 53 | | | dB |
| 饱和输出功率 Output Psat | 53 | | | dBm |
| 饱和输出功率平坦度 Output Psat flatness | | | ±1.5 | dB |
| 增益调节范围 Gain adjust Range | 30 | | | dB |
| 增益调节步进 Gain adjust Step | | 0.5 | | dB |
| 增益稳定度 Gain stability@24h | | ±0.25 | | dB |
| 杂散 Spurious@Pout=53dBm | | | -60 | dBc |
| 谐波抑制 Harmonic@Pout=53dBm | | | -25 | dBc |
| 驻波 VSWR | | | 1.5 | :1 |
| 匹配负载驻波 Load VSWR | | | 3 | :1 |
| 直流电压 DC Voltage | | 28 | 29 | V DC |

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## 电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|---|---|---|---|---|
| 功耗 Power Consumption@Pout=53dBm | | 1.5 | | kW |
| 功耗 Power Consumption@Psat | | | 2 | kW |
| 防护等级 Ingress Protection Grade | IP-65 | | | |
| 阻抗 Impedance | 50 | | | Ohms |

## 机械特性 Mechanical Specifications:

| 参数 Parameter | 指标 Value | 单位 Units |
|---|---|---|
| 输入/输出接口 Input /Output Connector | N Female/WR75 | |
| 直流供电接口 DC Power Connector | Y50DDX-1203 | |
| 下载接口 Update connector | J30J-9ZKP | |
| 监测&通信接口 M&C connector | Ethernet:RJ-45 | DCU/UDP（choose one） |
| 尺寸 Size | 440*370*150 | mm |
| 重量 Weight | ≤30 | Kg |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|---|---|
| 供电偏置电压 Supply Bias Voltage | +29 V |
| 输入功率 RF Input Power | +10 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

Simple 220V System
Available SAC option

## 主要功能 Key Features:

| 参数 Parameter | 特点 Advantages |
|---|---|
| 保护功能 Protection functions | 1,Over TEM:≥+65℃ shutdown<br>2,Over voltage:≥29.5V shutdown<br>3,Load VSWR protection:The unit disables RF when reverse power exceeds the safe level of 3:1 VSWR or reduces power by 6dB |
| 监控功能 Monitoring function | 1,Chip-level: status of power chip(gate voltage, drain current, case-temp);<br>2,System-level: output power, reverse power, load VSWR, DC voltage, DC current, environment temp, Cool-plate temp. |

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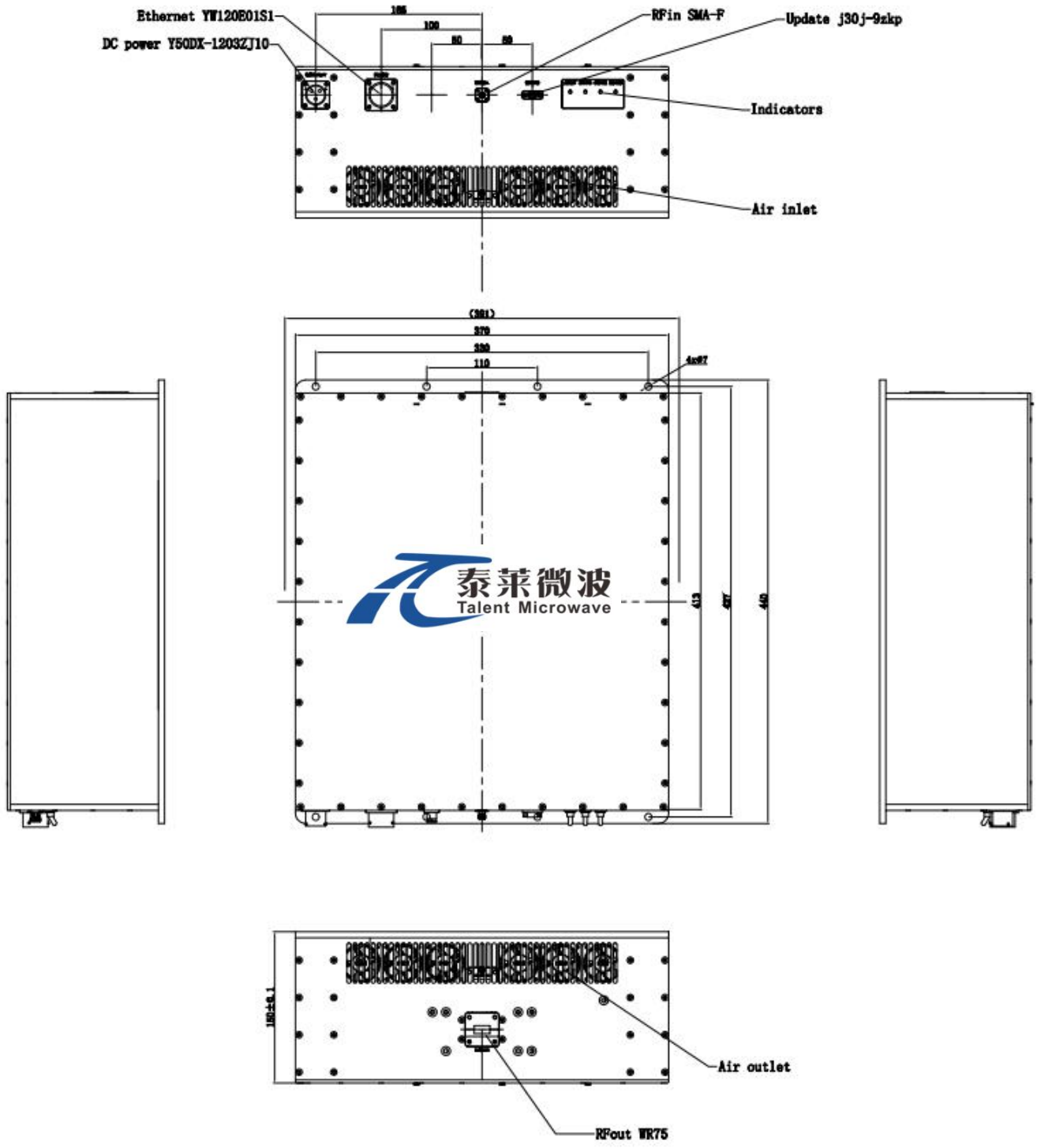
## 外形图 Outline Drawing:

Unit:mm




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

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## 温度环境 Environmental Conditions:

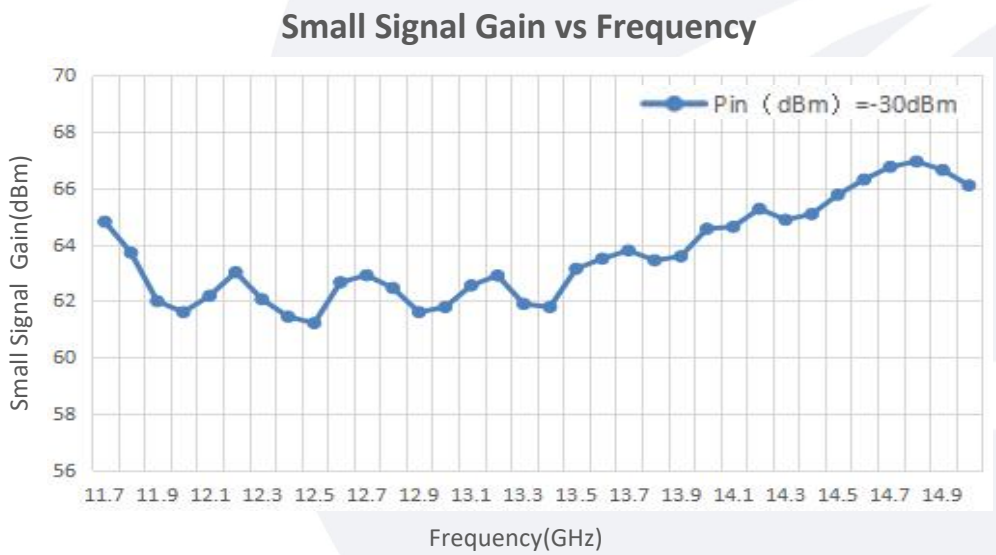
| 参数 Parameter | Min | Typ | Max | 单位 Units |
|---|---|---|---|---|
| 操作温度 Operating Temperature* | -20 | | +60 | ℃ |
| 存储温度 Non-operating Temperature* | -50 | | +70 | ℃ |
| 相对湿度 Relative humidity | | | 95 | % |
| 海拔 Altitude | | | 3000 | meters |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis | | | |
| 冲击 Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions | | | |

*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|---|---|---|
| TLPA11.7G15G-53-53-IP65 | Power amplifier 11.7-15GHz,Gain:53dB,Psat:53dBm, +28V DC,Ingress Protection Grade:IP-65 | Rev.1.1 |

## 典型曲线 Typical Performance Data:




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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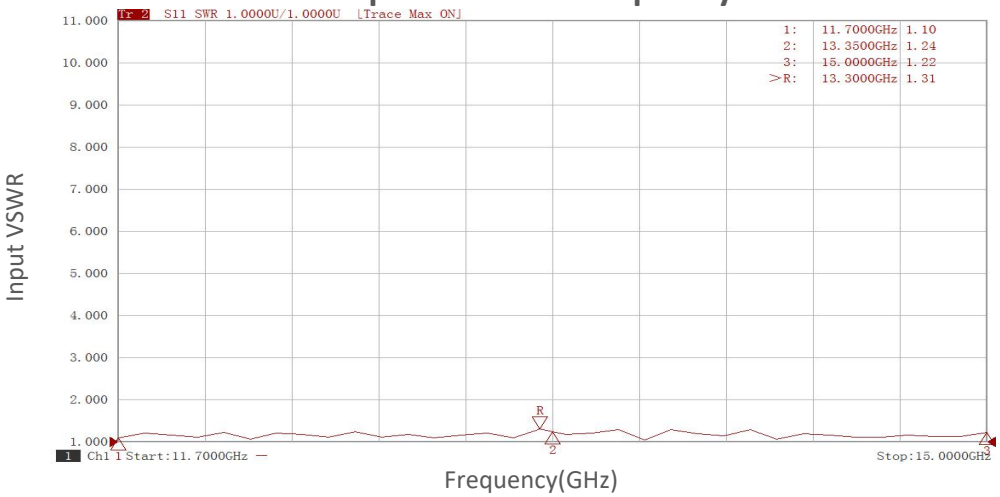
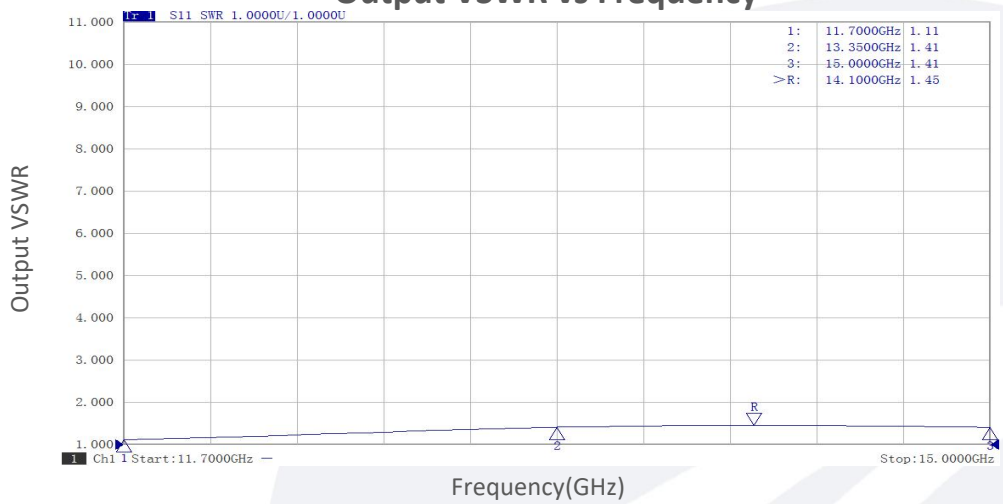
# 典型曲线 Typical Performance Data:

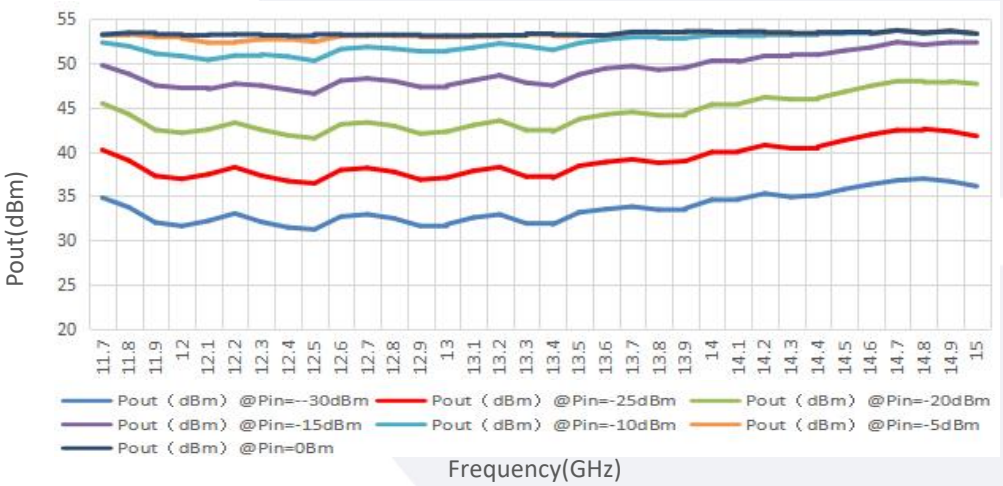
## Input VSWR vs Frequency




## Output VSWR vs Frequency




## Pout@Equal-Pin

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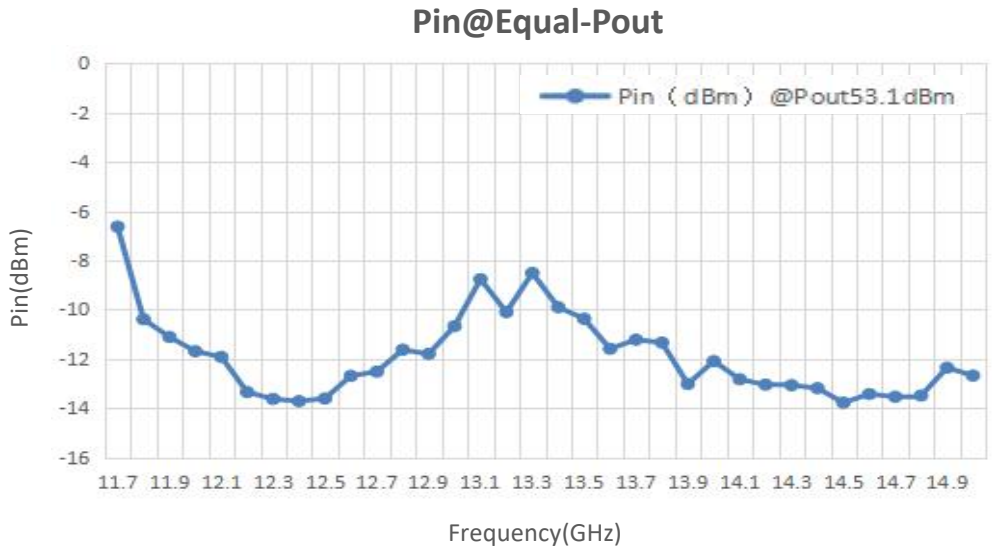


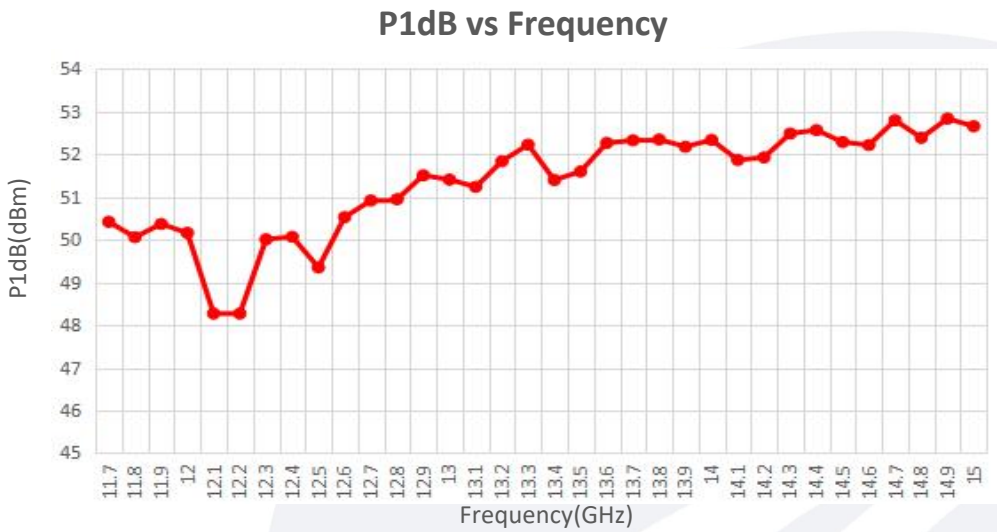


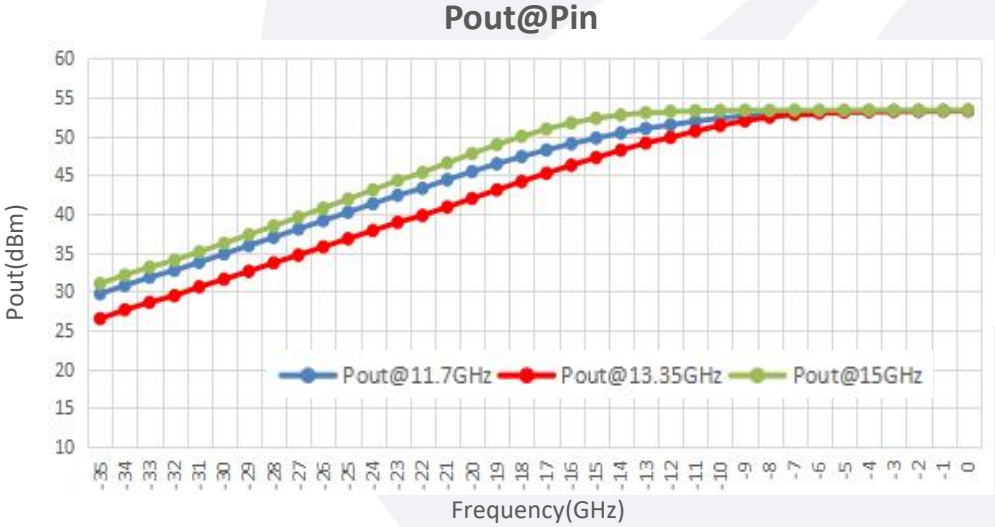


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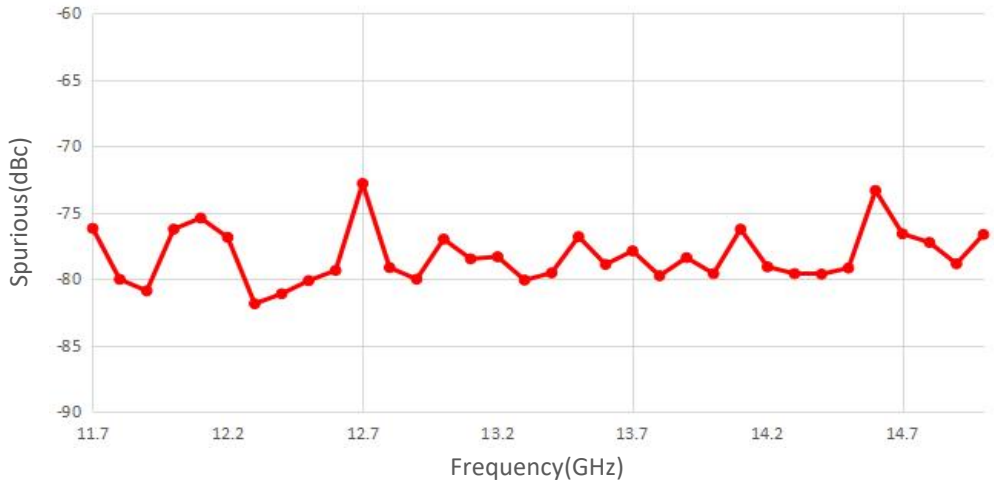
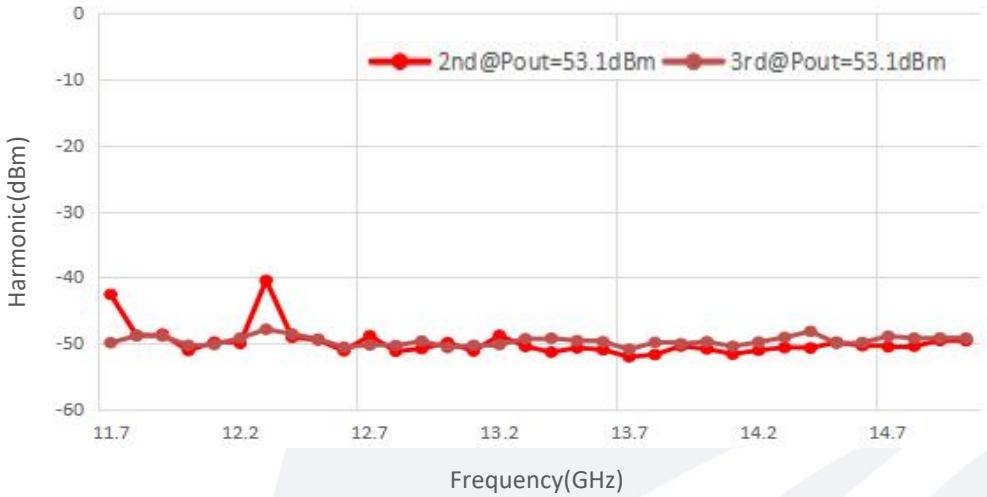
## 典型曲线 Typical Performance Data:

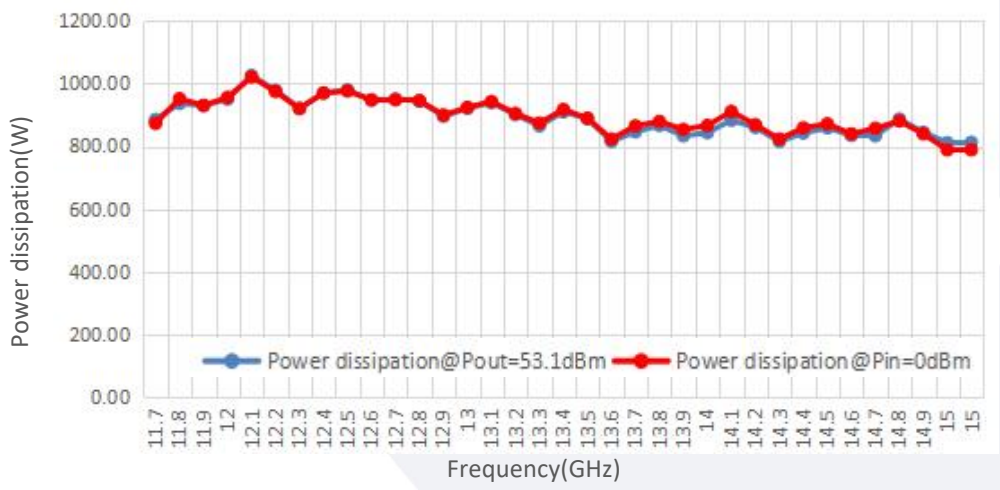
### Spurious vs Frequency




### Harmonic vs Frequency




### Power dissipation

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