泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
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Power Amplifier

20MHz-6GHz/35dB Gain/38dBm Psat

Model: TLPA20M6G-35-38

TLPA20M6G-35-38 is a power amplifier with a typical power gain of 35 dB and a nominal Psat of 38 dBm across the frequency range of 20MHz to 6 GHz. The DC power requirement for the amplifier is +28 VDC/0.5 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 20MHz-6GHz
- Gain: 35dB Typ
- Output Power Psat: 38dBm Typ
- 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	20MHz		6GHz	
功率增益 Power Gain	33	35		dB
增益平坦度 Gain Flatness		±3	±5	dB
线性输出功率 Output P1dB	35	37		dBm
饱和输出功率 Output Psat	37	38		dBm
谐波 Harmonics@Pout=37dBm			-10	dBc
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage	+26	+28	+30	V DC
直流电流 DC Supply Current		0.5	1.7	A
阻抗 Impedance		50		Ohms

*Performance may degrade below 300 MHz. Please refer to below typical test plots

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机械特性 Mechanical Specifications:

参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流供电接口 DC Power Supply Connector	J30J-9TJL	
尺寸 Size	100*86*40(With heatsink)	mm
重量 Weight	250	g

绝对最大值 Absolute Maximum Ratings:

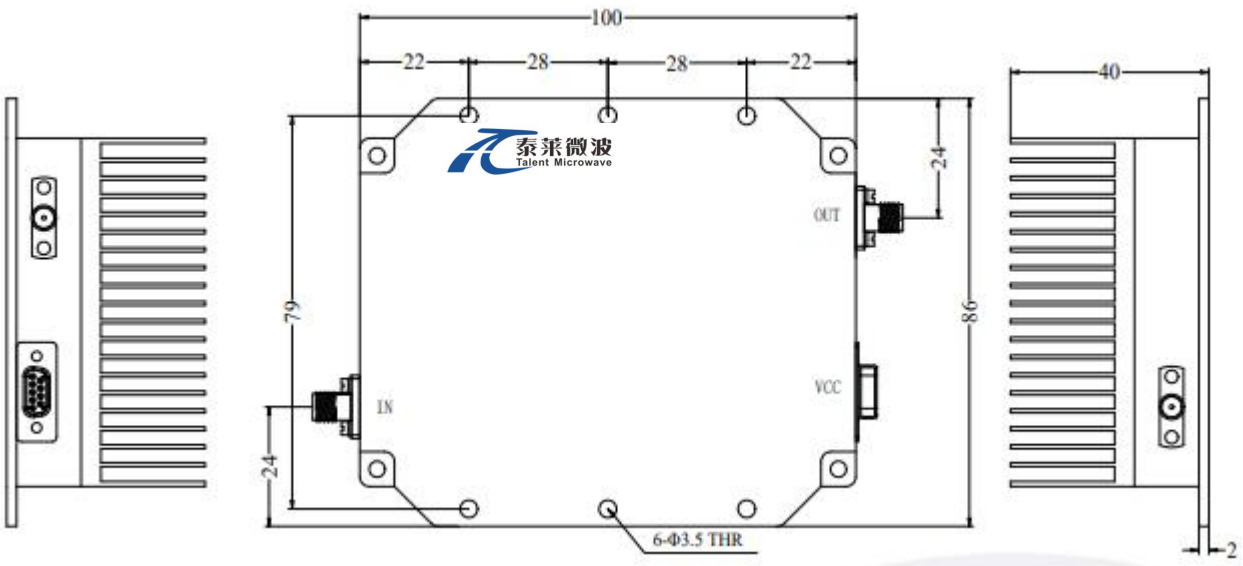
参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+30 V
输入功率 RF Input Power	+5 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



Simple 220V System
Available SAC option

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

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直流供电接口 DC Supply Connector J30J-9ZKW-J(J30J-9TJL):

引脚 Pin	名称 Name	功能 Function
1	G	高电平（或悬空电平）使功率放大器开启，低电平则使其关闭。
2	GND	地
3	GND	地
4	GND	地
5	GND	地
6	+28V	电源正极,+26.0-30.0VDC
7	+28V	电源正极,+26.0-30.0VDC
8	+28V	电源正极,+26.0-30.0VDC
9	+28V	电源正极,+26.0-30.0VDC

Note: TTL is 5V.

使用说明 Instruction Manual:

开机 Power on	
1	连接地和射频输入端口。
2	将射频输出端口与负载连接(负载的驻波比应小于3:1)。
3	当Pin1引脚悬空，功放启用。
4	给功放加+28V电。
5	打开射频信号，确保输入信号不超过5dBm。

关机 Power off	
1	关闭射频信号。
2	给功放断电。
3	移除输入端信号源。

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温度环境 Environmental Conditions:

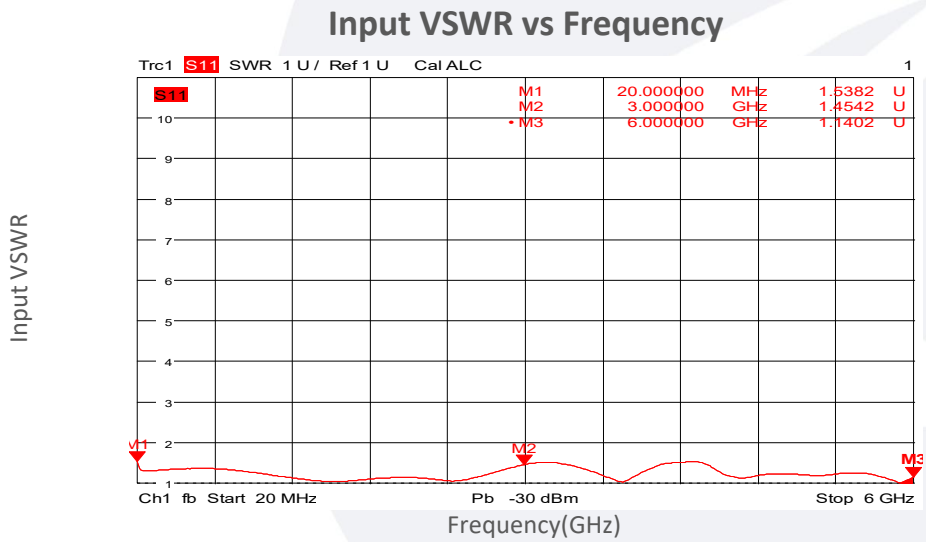
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+60	℃
存储温度 Non-operating Temperature*	-50		+70	℃
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

*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
TLPA20M6G-35-38	Power amplifier 20MHz-6GHz, Gain:35dB,Psat:38dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA20M6G-35-38-HS	Power amplifier 20MHz-6GHz, Gain:35dB,Psat:38dBm,+28V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

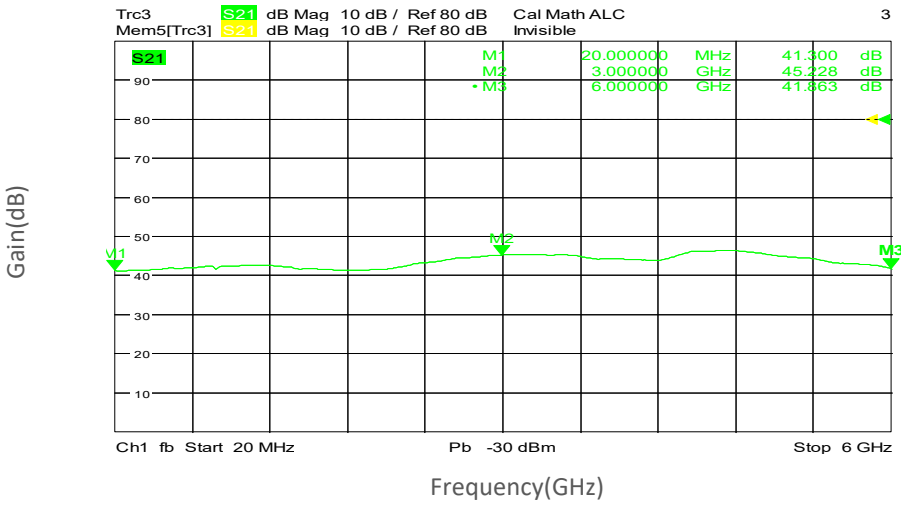


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

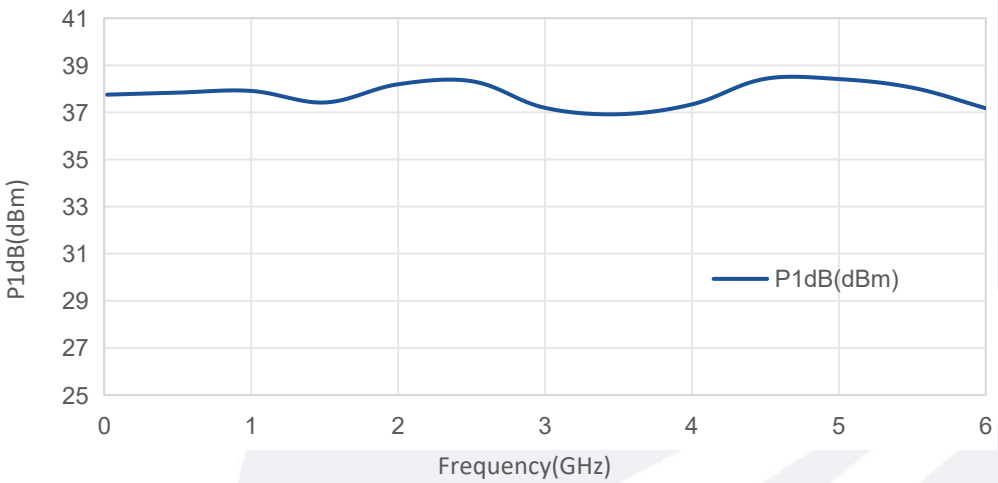
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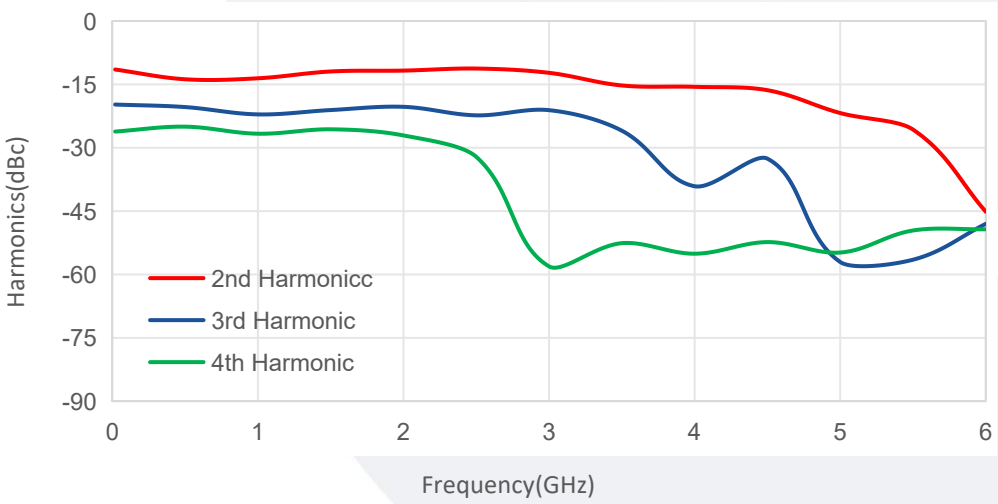
Small Signal Gain vs Frequency



P1dB vs Frequency



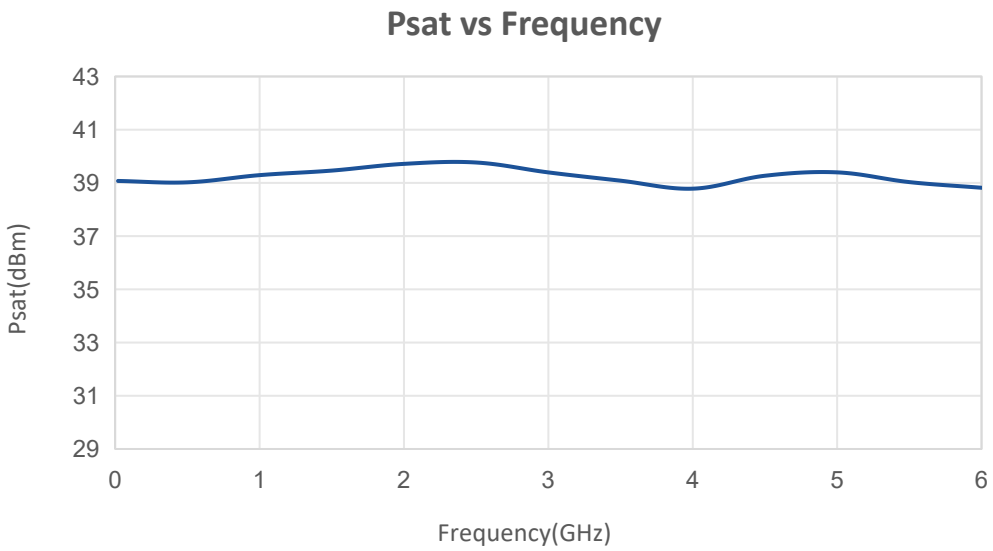
Harmonics vs Output Power



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