

Power Amplifier

20MHz-1GHz /43dB Gain/43dBm Psat

Model: TLPA20M1G-43-43

TLPA20M1G-43-43 is a power amplifier with power gain of 43 dB and a nominal Psat of 43 dBm across the frequency range of 20MHz to 1 GHz. The DC power requirement for the amplifier is +28 VDC/1 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 20MHz-1GHz
- Gain: 43dB Min
- Output Power Psat: 43dBm 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	20MHz		1GHz	
功率增益 Power Gain	43	45		dB
增益平坦度 Gain Flatness		±2	±3	dB
线性输出功率 Output P1dB		41		dBm
饱和输出功率 Output Psat	43	44		dBm
谐波 Harmonic		-10		dBc
输入驻波 Input VSWR		1.5	2	:1
直流电压 DC Voltage		28	30	V DC
直流电流 DC Supply Current		1	5	A
阻抗 Impedance	50			Ohms

机械特性 Mechanical Specifications:

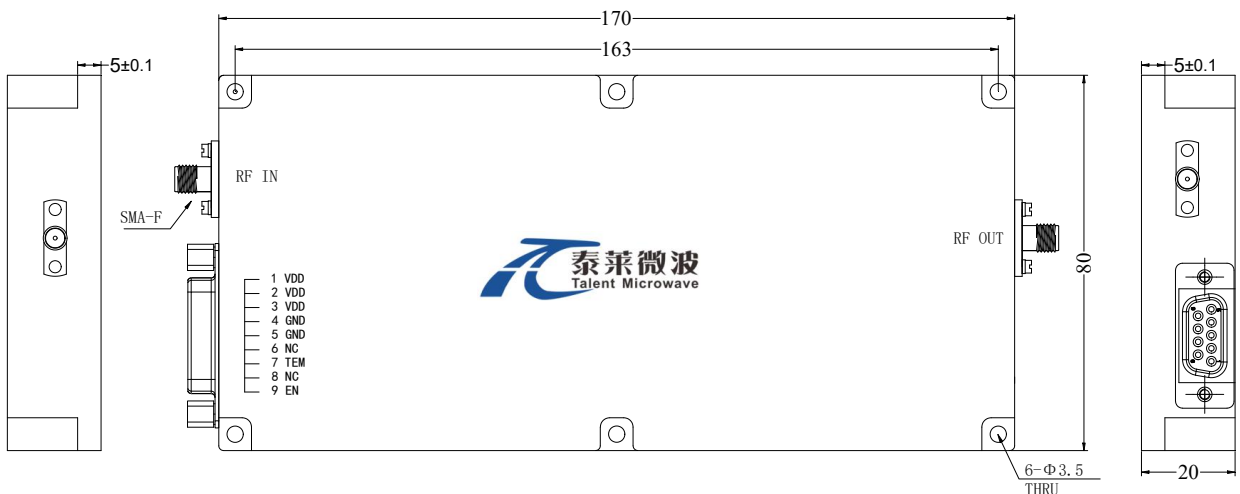
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流供电接口 DC Power Supply Connector	DSUB-9	
尺寸 Size	170*80*20(Without Heatsink) 264*140*82(With Heatsink)	mm
重量 Weight	3.7	Kg

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

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm

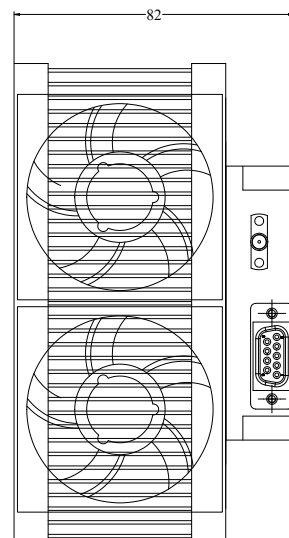
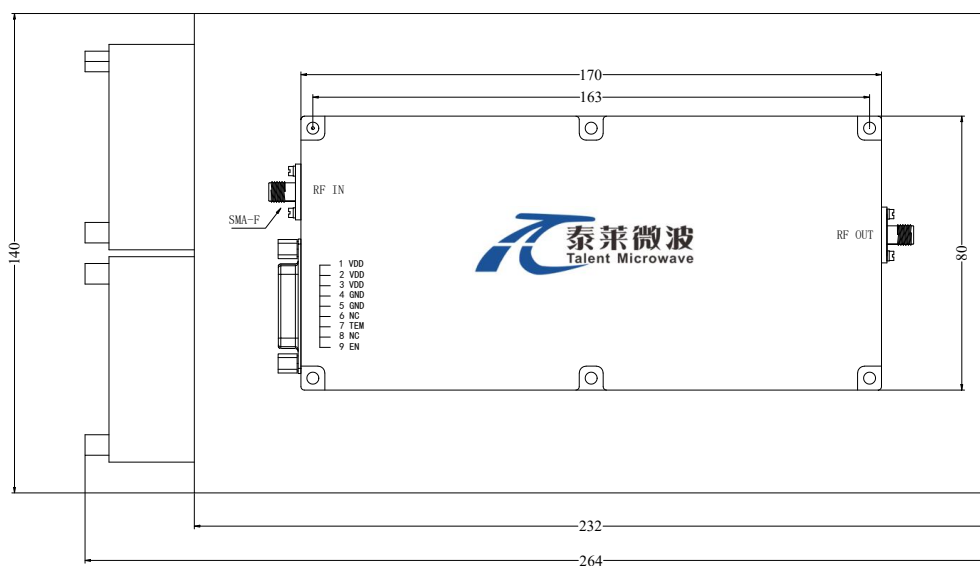


***Heat Sink Required During Operation



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

Unit:mm; Tolerance:±0.1mm



风扇供电 Fans Supply Current: 0.4A@24V

直流供电接口 DC Supply Connector(DSUB-9 Female):

引脚 Pin	名称 Name	功能 Function
1	+28V	Power supply positive,+26.0-30.0VDC
2	+28V	Power supply positive,+26.0-30.0VDC
3	+28V	Power supply positive,+26.0-30.0VDC
4	GND	Ground
5	GND	Ground
6	NC	Not connected
7	Over TEM	When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
8	NC	Not connected
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+50	°C
存储温度 Non-operating Temperature*	-50		+60	°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			

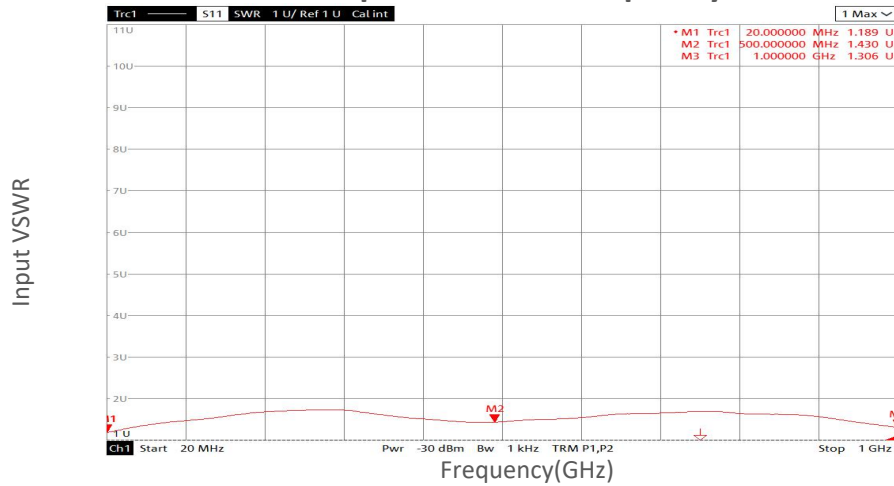
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

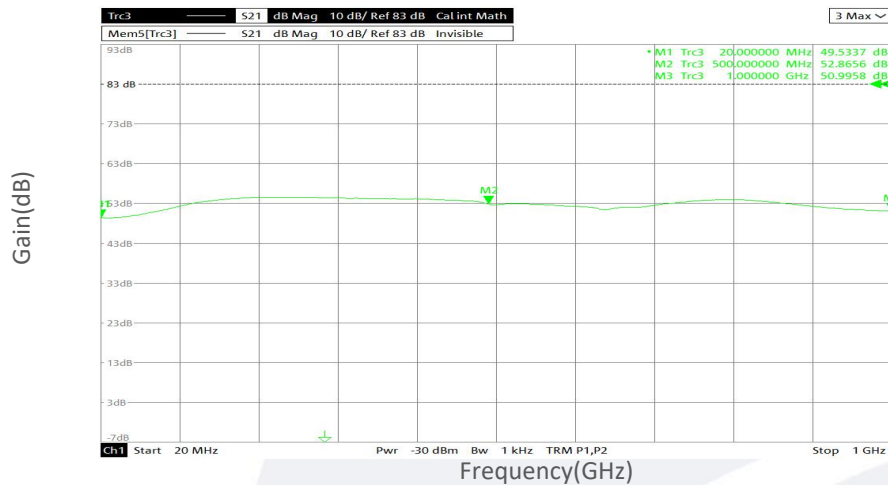
标准型号 Base Number	描述 Description	版本号 Revision
TLPA20M1G-43-43	Power amplifier 20MHz-1GHz, Gain:43dB,Psat:43dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA20M1G-43-43-HS	Power amplifier 20MHz-1GHz, Gain:43dB,Psat:43dBm,+28V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

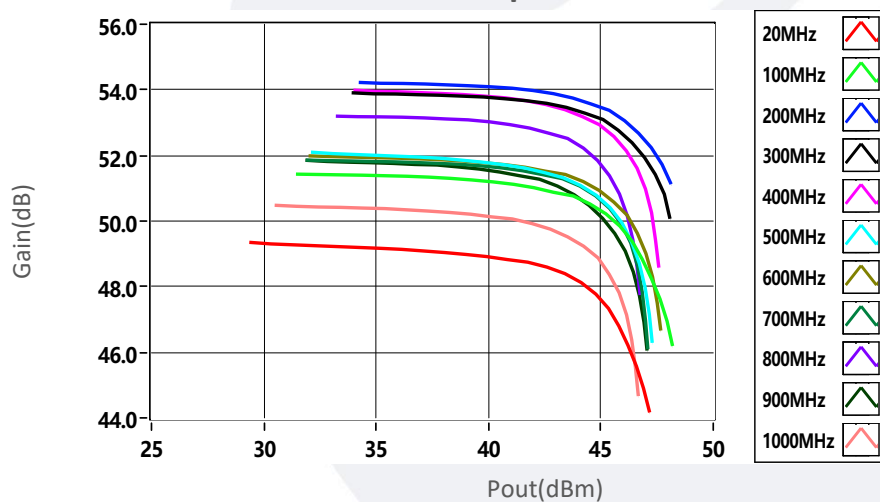
Input VSWR vs Frequency



Small Signal Gain vs Frequency

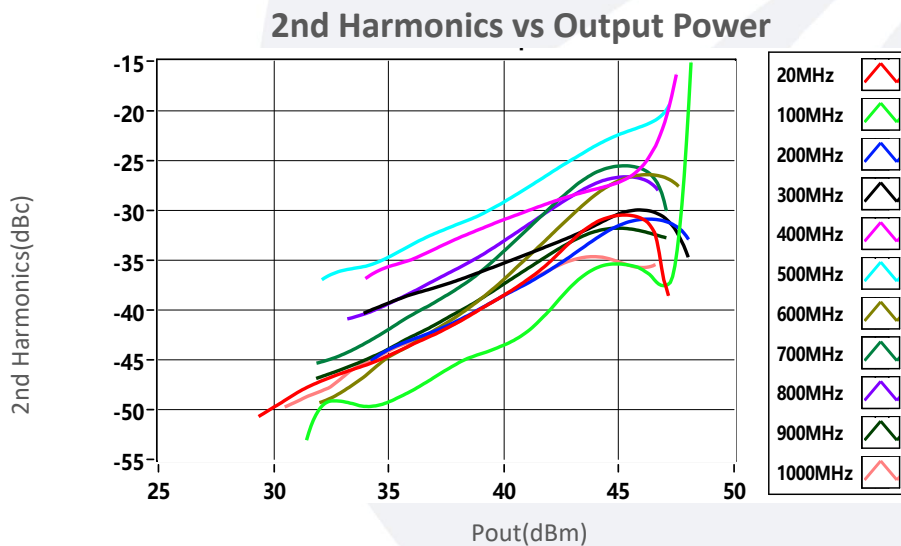
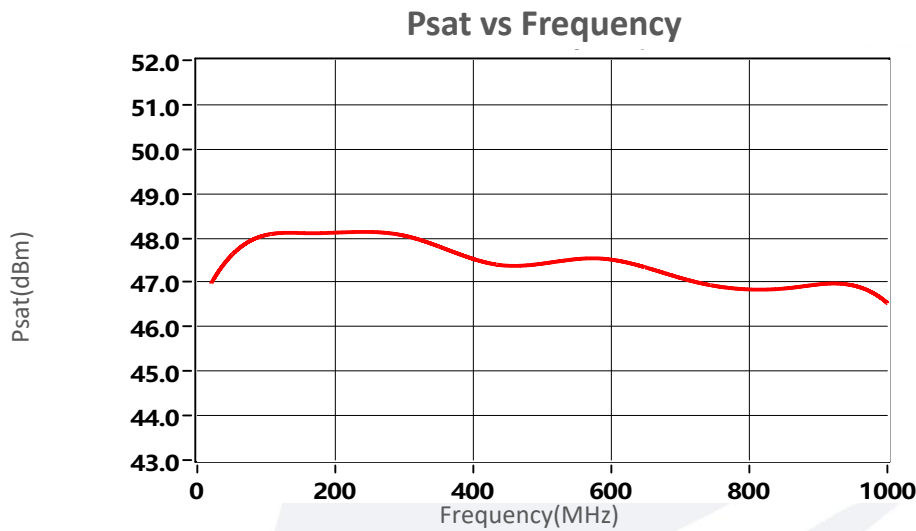
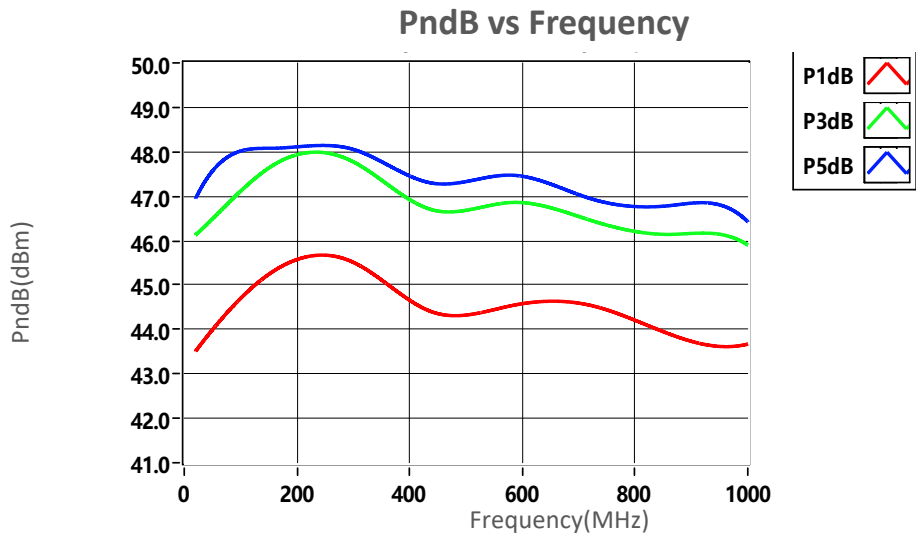


Gain vs Output Power



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.

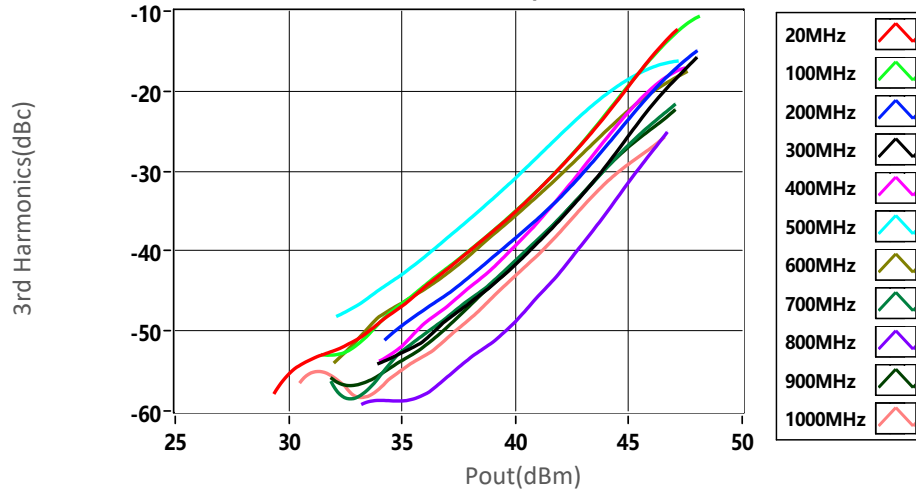
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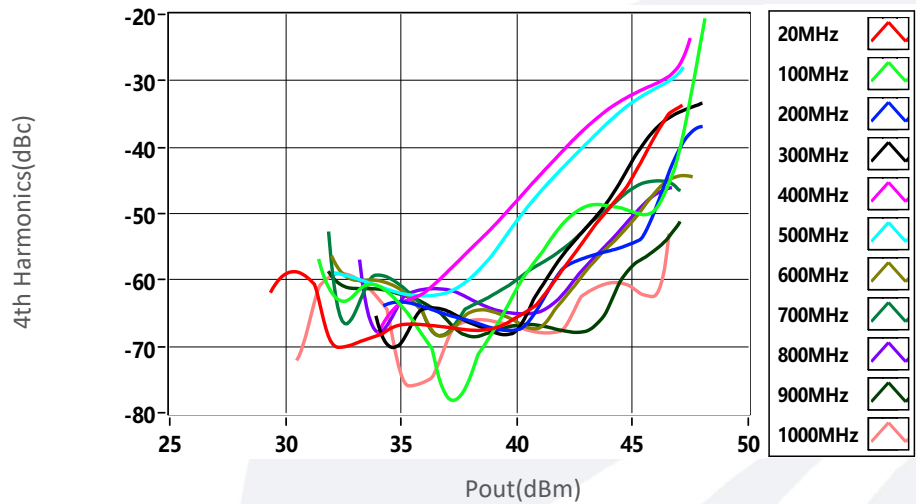
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典型曲线 Typical Performance Data:

3rd Harmonics vs Output Power



4th Harmonics vs Output Power



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