

Power Amplifier

80-1000MHz/50dB Gain/50dBm Psat

Model: TLPA80M1000M-50-50

TLPA80M1000M-50-50 is a power amplifier with a minimum small signal gain of 50 dB and a minimum Psat of 50 dBm across the frequency range of 80 to 1000 MHz. The DC power requirement for the amplifier is +28 VDC/15 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 80-1000MHz
- Gain: 50dB Min
- Output Power : 50dBm 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	80-1000			MHz
小信号增益 Small Signal Gain	50	52		dB
增益平坦度 Gain Flatness		±2	±3	dB
线性输出功率 Output P1dB	47	47.5		dBm
饱和输出功率 Output Psat	50	50.5		dBm
谐波 Harmonics		-15	-8	dBc
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		28	30	V DC
静态电流 Static Current		2		A
饱和电流 Saturation current		13	15	A
阻抗 Impedance	50			Ohms

机械特性 Mechanical Specifications:

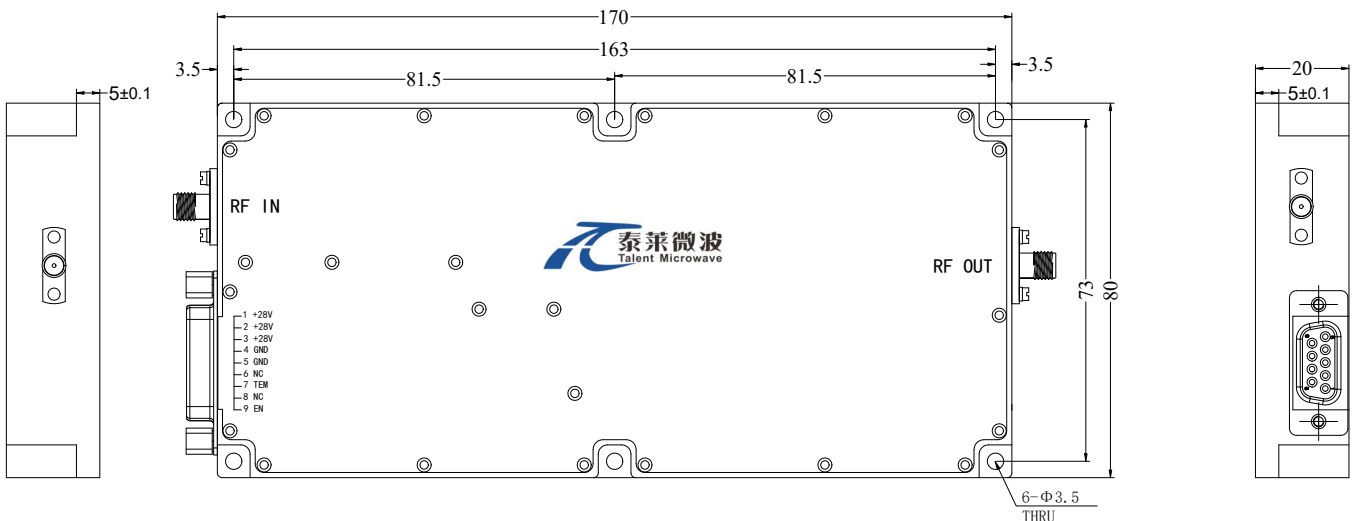
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	D-SUB-9	
尺寸 Size	170*80*20	mm
重量 Weight	500	g

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	5dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

外形图 Outline Drawing:

Unit:mm



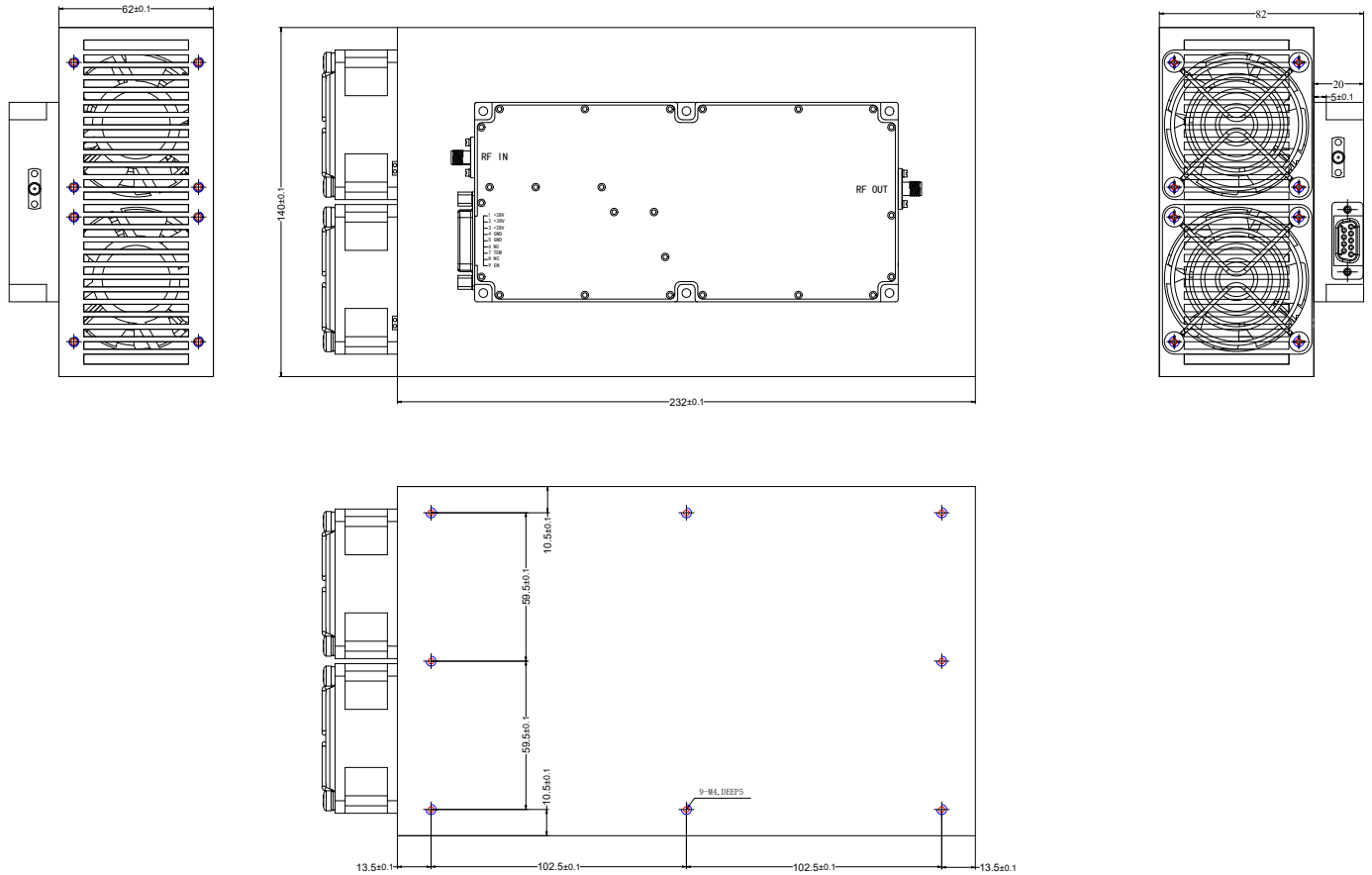
*****Heat Sink Required During Operation**



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

外形图 Outline Drawing:

Unit:mm



风扇供电 Fan power supply

Red line	Power supply positive, +24.0-28.0VDC DC current: 0.3A
Black line	Ground

直流供电接口 DC Supply Connector (D-SUB9 Female):

引脚 Pin	名称 Name	功能 Function
1~3	+36V	Power supply positive, +34.0-36.0VDC
4~5	GND	Ground
6、8	NC	Not connected
7	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 80 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

使用说明 Instruction Manual:

Power on	
1	Connect ground and RF input connector
2	Connect the RF output port to the load (The VSWR of the load should be less than 3:1)
3	Connect the 24V power supply to the fan
4	Connect the 28V power supply to the amplifier
5	Turn on the RF signal and ensure that the input signal does not exceed 5dBm

Power off	
1	Turn off RF signal
2	Disconnect the 28V power supply to the amplifier
3	Disconnect the 24V power supply to the fan
4	Disconnect the RF connectors

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-45		+75	°C
存储温度 Non-operating Temperature*	-55		+125	°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			

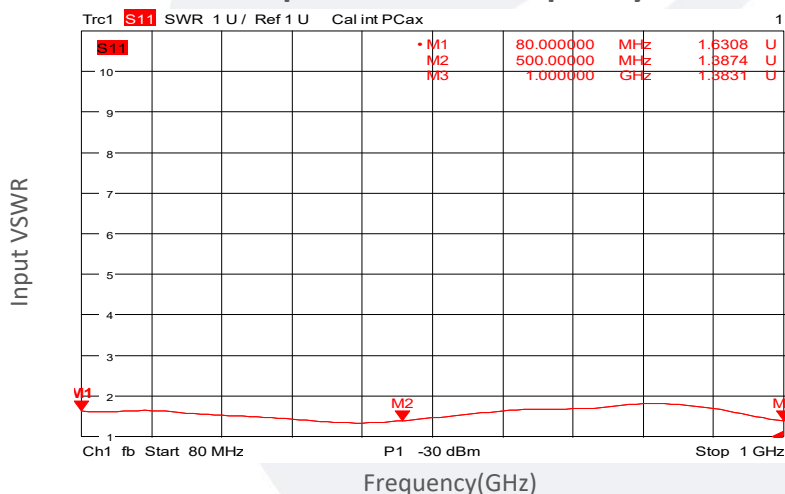
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA80M1000M-50-50	Power amplifier 80-1000MHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA80M1000M-50-50-HS	Power amplifier 80-1000MHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

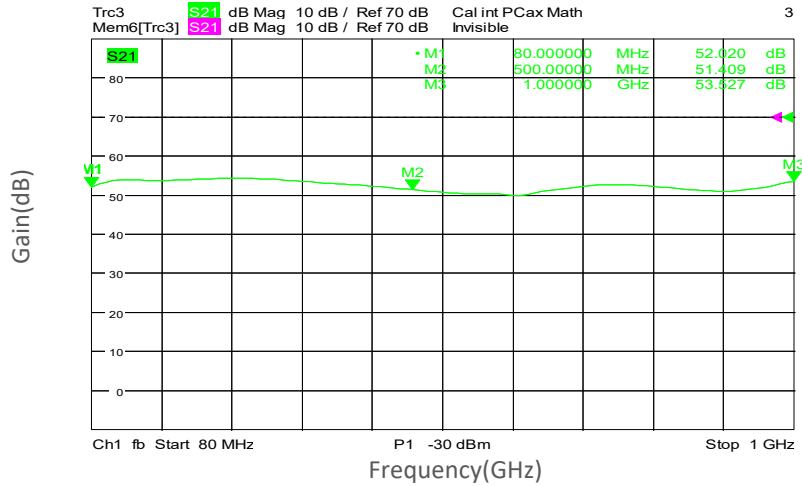
Input VSWR vs Frequency



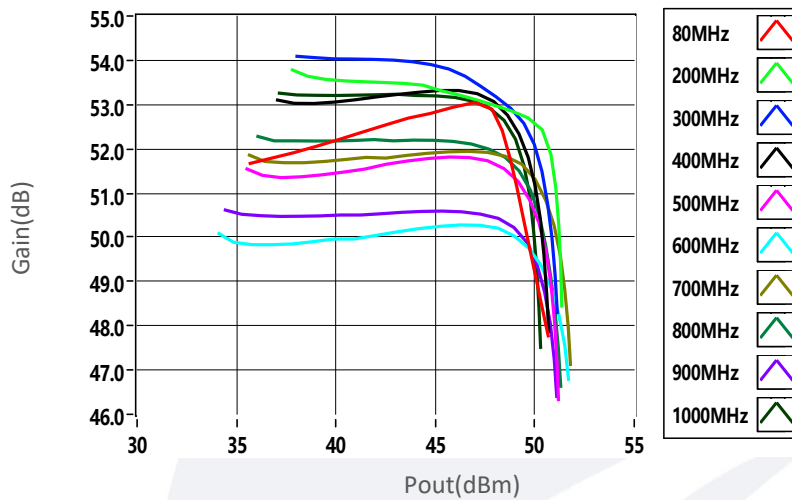
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

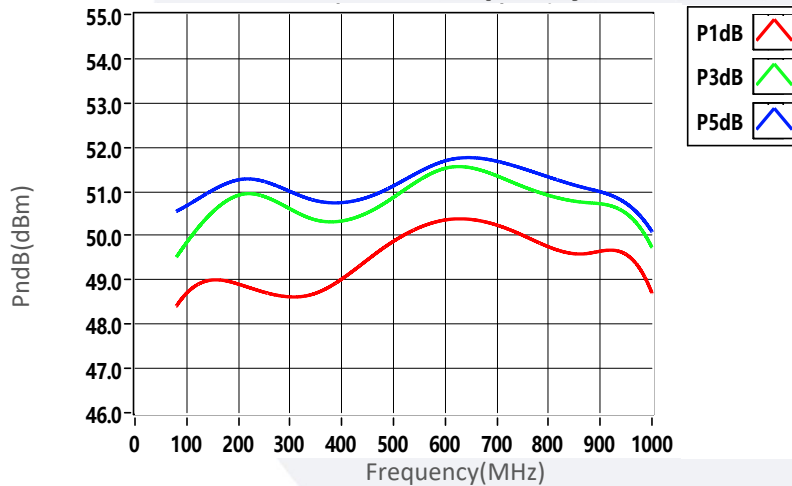
Small Signal Gain vs Frequency



Gain vs Output Power



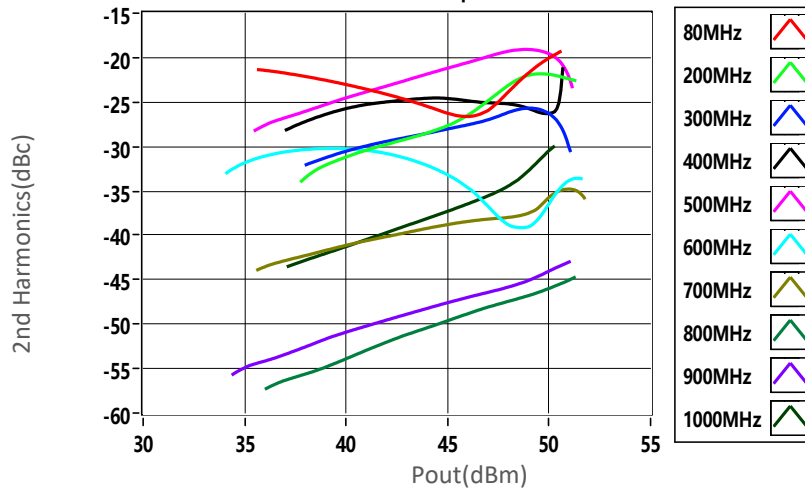
PndB vs Frequency



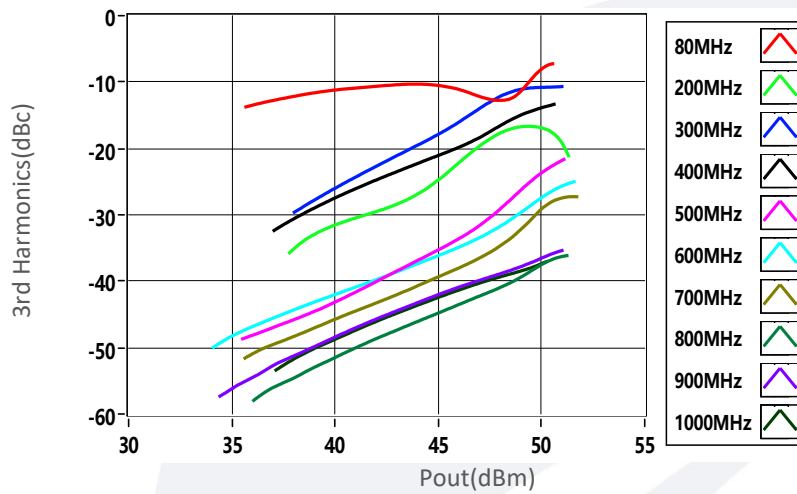
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典型曲线 Typical Performance Data:

2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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