

## Power Amplifier

0.1-20MHz/45dB Gain/45dBm Psat

Model: TLPA0.1M20M-45-45

TLPA0.1M20M-45-45 is a power amplifier with a minimum small signal gain of 45 dB and a minimum Psat of 45 dBm across the frequency range of 0.1 to 20 MHz. The DC power requirement for the amplifier is +28 VDC/3.5 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 0.1-20MHz
- Gain: 45dB Min
- Output Power Psat: 45dBm 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	0.1		20	MHz
小信号增益 Small Signal Gain	45	47		dB
增益平坦度 Gain Flatness		±1	±2	dB
线性输出功率 Output P1dB		42		dBm
饱和输出功率 Output Psat	45	45.5		dBm
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		2.5		A
饱和电流 Saturation Current		3.5	4	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	D-SUB-9	
尺寸 Size	154*94*20(Without Heatsink) 264*140*82(With Heatsink)	mm
重量 Weight	500	g

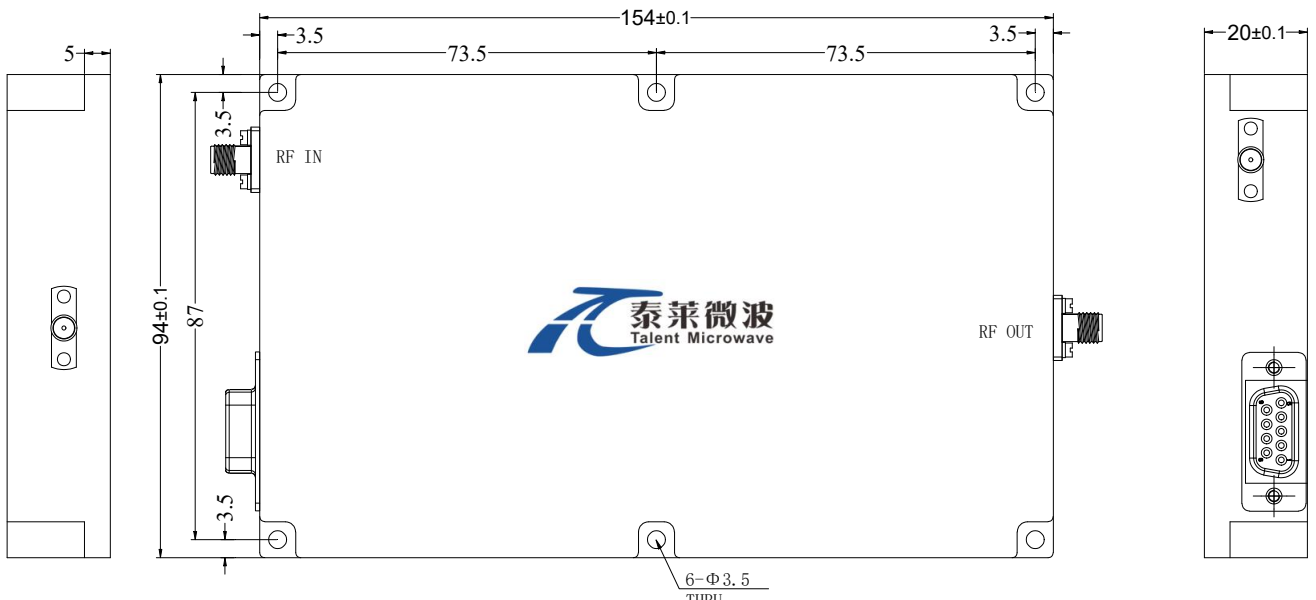
## 绝对最大值 Absolute Maximum Ratings:

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



## 外形图 Outline Drawing:

Unit:mm



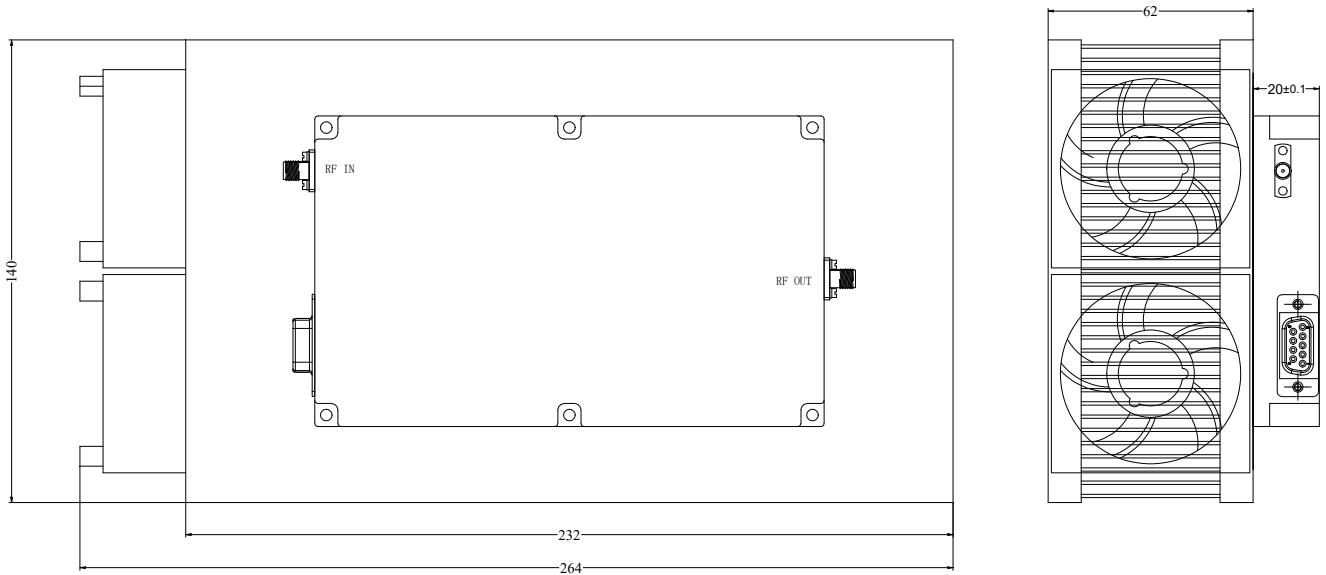
**\*\*\*Heat Sink Required During Operation**



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

外形图 Outline Drawing:

Unit:mm



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

引脚 Pin	名称 Name	功能 Function
1~3	VCC	Power supply positive,+26.0-30.0VDC
4~5	GND	Ground
6	NC	Not connected
7	Over Temperature	When the temperature of the case exceeds 75 °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			

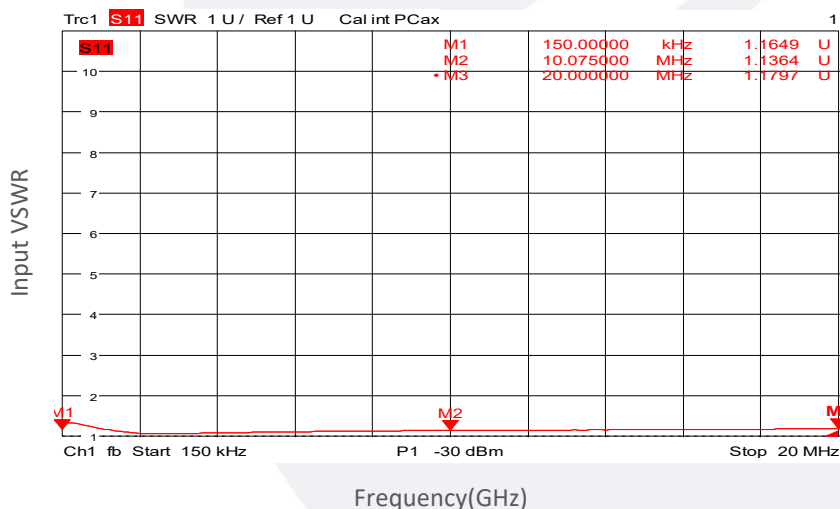
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA0.1M20M-45-45	Power amplifier 0.1-20MHz,Gain:45dB,Psat:45dBm, +28V DC,Without Heatsink	Rev.1.0
TLPA0.1M20M-45-45-HS	Power amplifier 0.1-20MHz,Gain:45dB,Psat:45dBm, +28V DC,With Heatsink	Rev.1.0

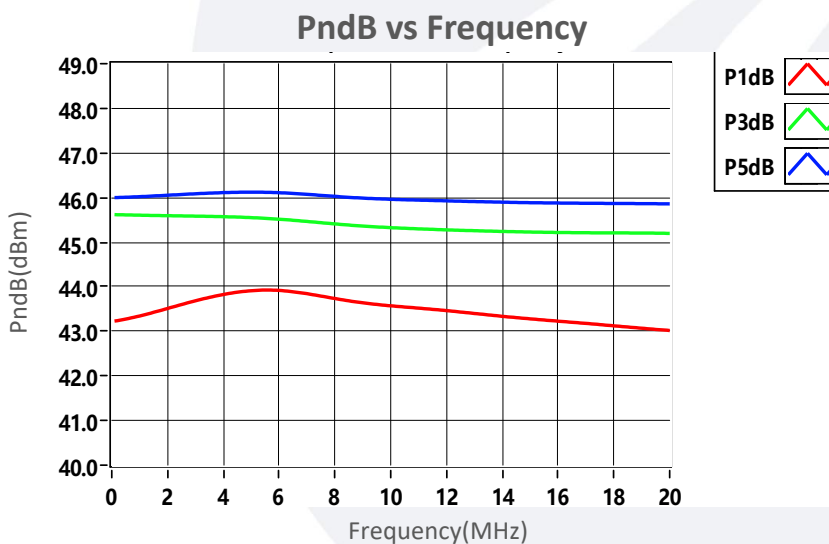
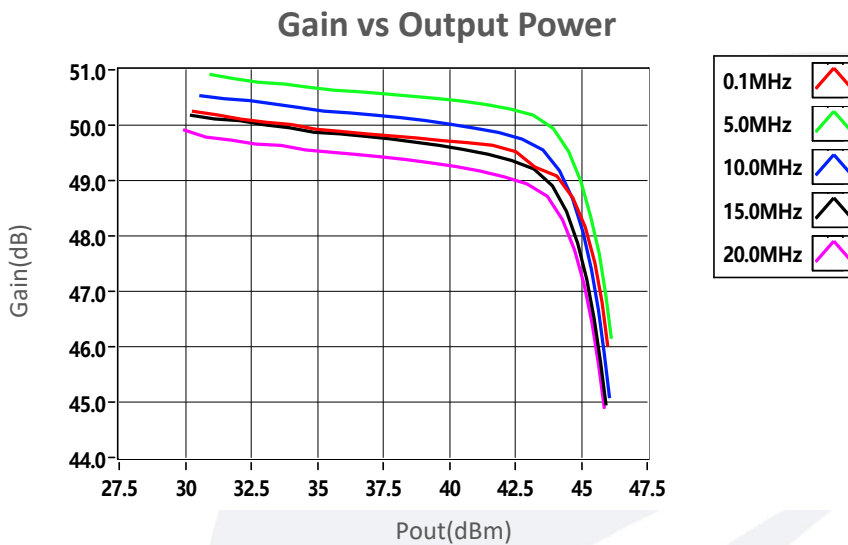
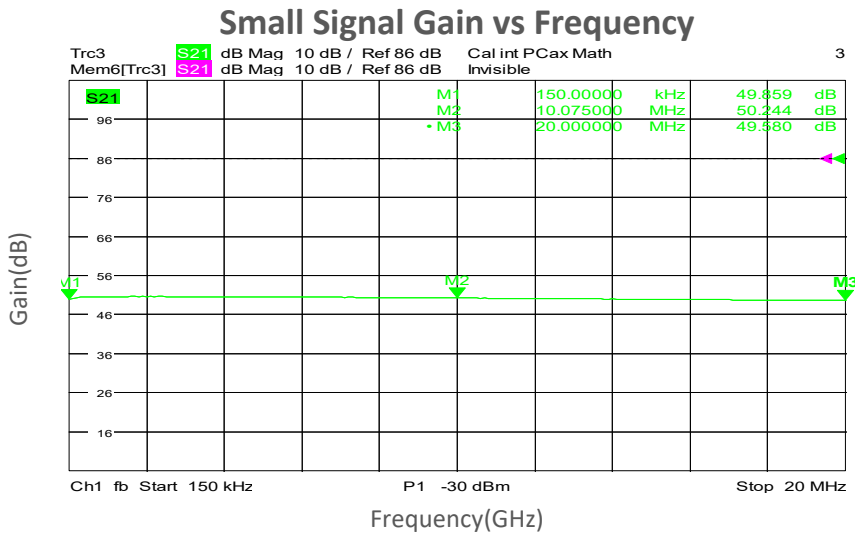
## 典型曲线 Typical Performance Data:

### 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.

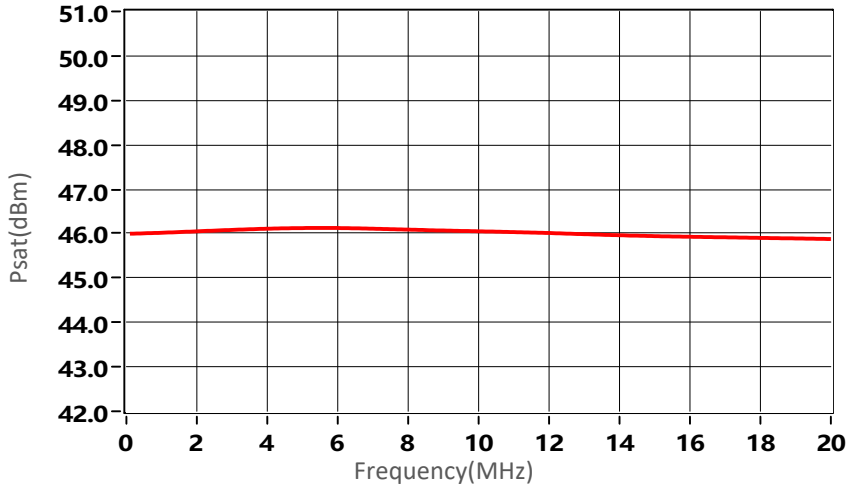
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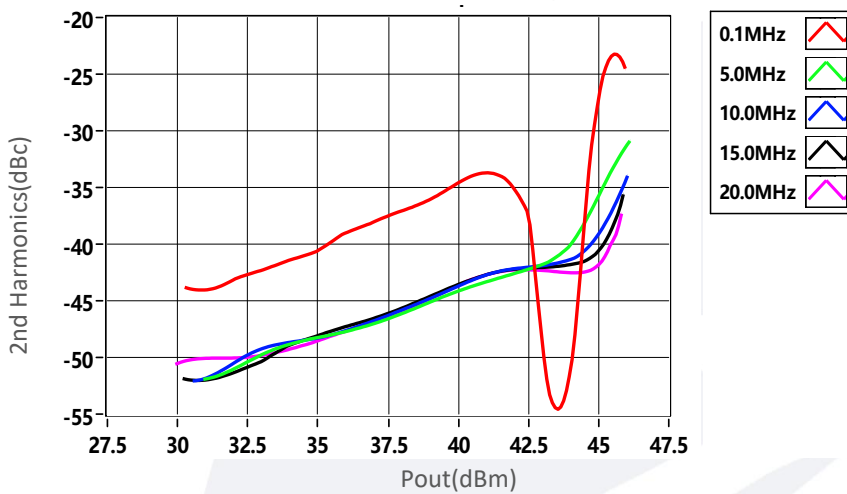
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**典型曲线 Typical Performance Data:**

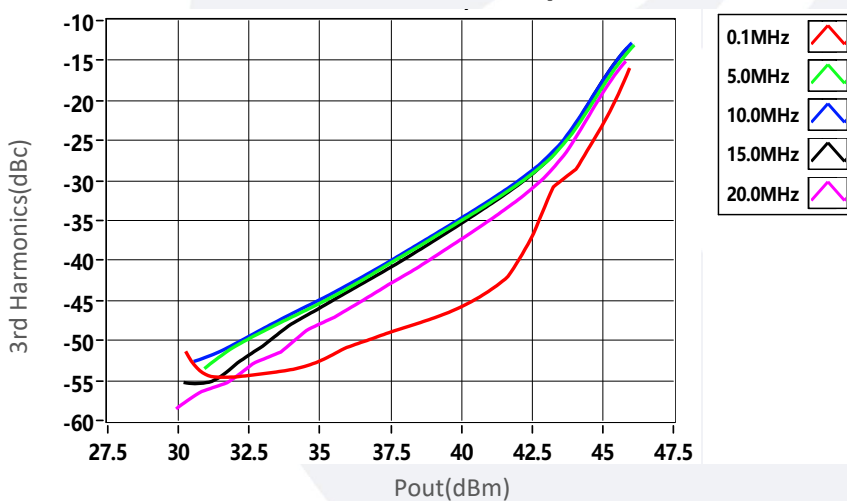
**Psat vs Frequency**



**2nd Harmonics vs Output Power**

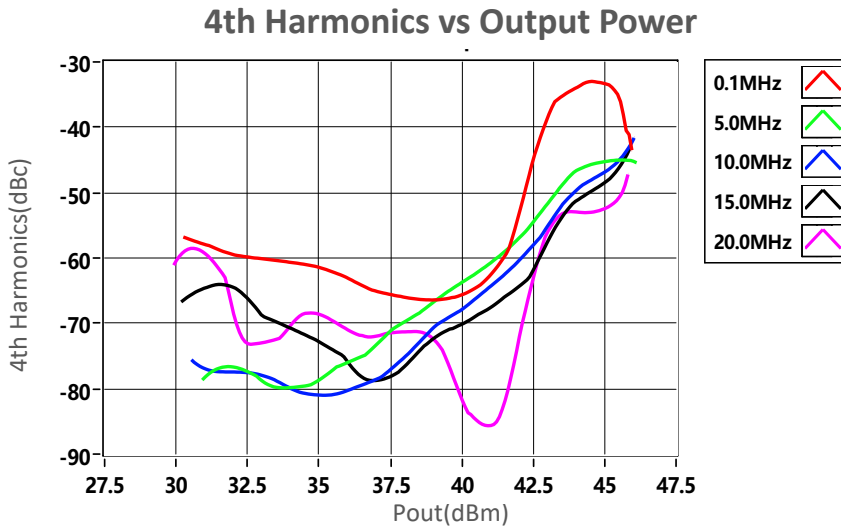


**3rd Harmonics vs Output Power**



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