泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
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Power Amplifier

20-520MHz/50dB Gain/50dBm Psat Model: TLPA20M520M-50-50-SSPA

TLPA20M520M-50-50-SSPA 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 20 to 520 MHz. The DC power requirement for the amplifier is +28 VDC/8 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N Female.

Features:

- Frequency range: 20-520MHz
- Gain: 50dB Min
- Output Power Psat: 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	20		520	MHz
小信号增益 Small Signal Gain	50	52		dB
增益平坦度 Gain Flatness		±1.0	±1.5	dB
噪声系数 Noise Figure			10	dB
线性输出功率 Output P1dB		48		dBm
三阶交调 OIP3 2-Tone @ 37dBm/Tone, 100KHz Spacing		56		dBm
饱和输出功率 Output Psat	50	51		dBm
谐波 Harmonics @Pout=100W		-15		dBc
杂散 Spurious			-60	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 Current Consumption @Pout=100W		8	12	A
开关速度 Switching Time @10kHz TTL		1		us
阻抗 Impedance		50		Ohms

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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/N Female	
直流偏置 DC Bias	D-SUB 9-PIN, Male	
尺寸 Size	180*115*25(Without heatsink) 264*140*87(With heatsink)	mm
重量 Weight	1100	g

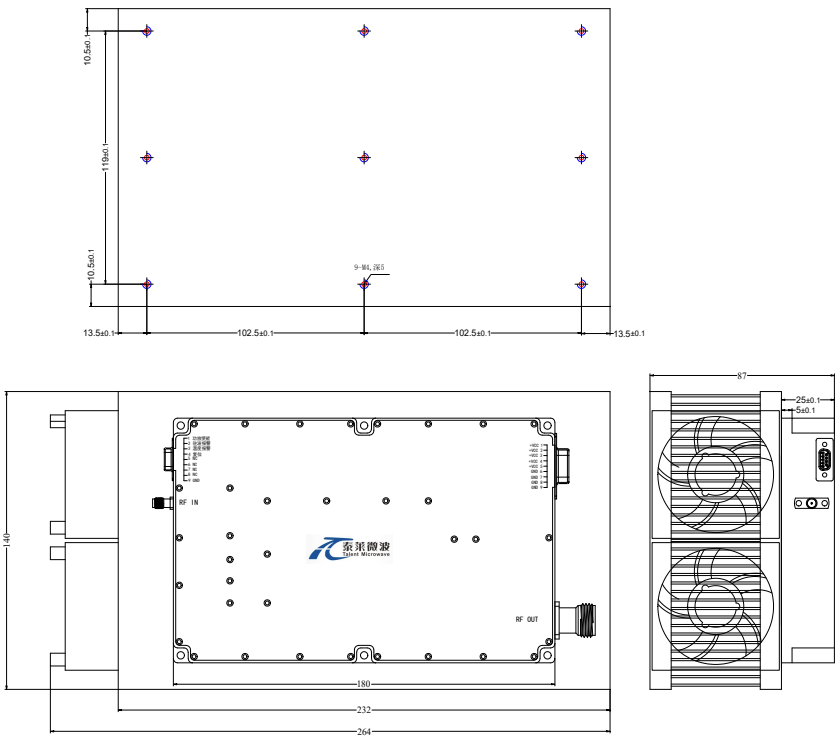
绝对最大值 Absolute Maximum Ratings:

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

Simple 220V System
Available SAC option

外形图 Outline Drawing:

Unit:mm



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

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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	+28V	Power supply positive +26.0-30.0VDC
5	+28V	Power supply positive +26.0-30.0VDC
6	GND	Power supply negative
7	GND	Power supply negative
8	GND	Power supply negative
9	GND	Power supply negative

控制接口 Monitor and Control Interface(J30J-9 Female):

引脚 Pin	名称 Name	功能 Function
1	EN	A high (or suspended) level turns on the power amplifier, and a low level turns it off
2	Over VSWR	When the external VSWR of the power amplifier output is greater than 5, the power amplifier is turned off, and this pin will output a high level. When the external VSWR is less than 5, this pin outputs a low level.
3	Over TEM	When the temperature of the case exceeds 70 ℃, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 60 ℃, the power amplifier will return to normal operation, and this pin will be pulled low.
4	Reset	When the power amplifier triggers standing wave protection, the power amplifier willshut down and enter a state lock. Giving this pin a low pulse of 10us will restart the power amplifier. Only standing wave protection can be reset.
5	Power control	The control voltage input terminal of the voltage-controlled attenuation ranges from 0 to 7V, with an attenuation range of 30dB to 0dB. From 2 to 7V, the attenuation is from 10 dB to 0 dB.
6	NC	No internal connection

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控制接口 Monitor and Control Interface(J30J-9 Female):

引脚 Pin	名称 Name	功能 Function
7	NC	No internal connection
8	NC	No internal connection
9	GND	Ground

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-20		+50	℃
存储温度 Non-operating Temperature*	-30		+60	℃
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
TLPA20M520M-50-50-SSPA	Power amplifier 20-520MHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA20M520M-50-50-SSPA-HS	Power amplifier 20-520MHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink	Rev.1.1

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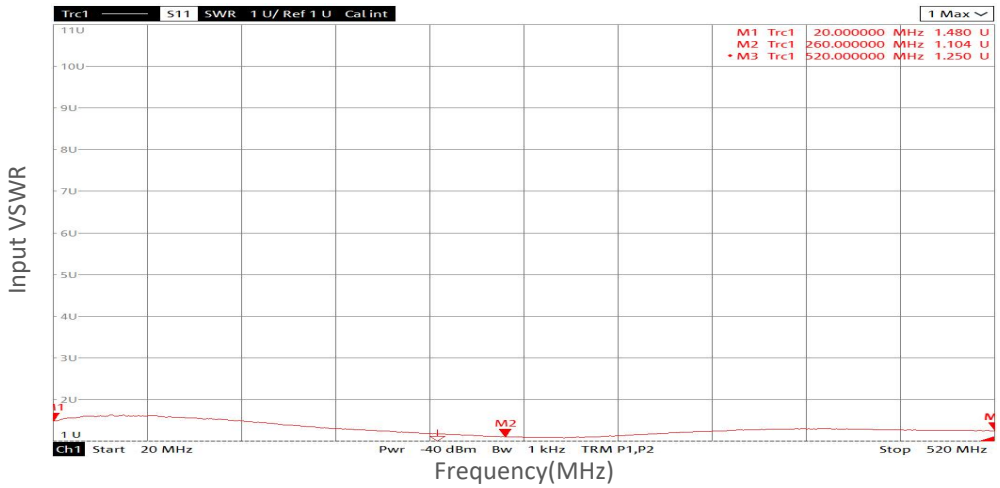
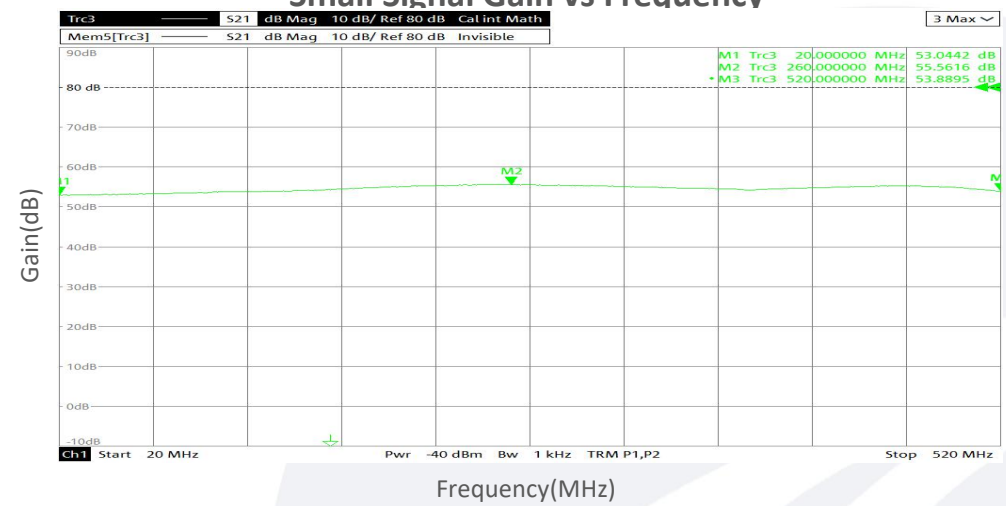
典型曲线 Typical Performance Data:

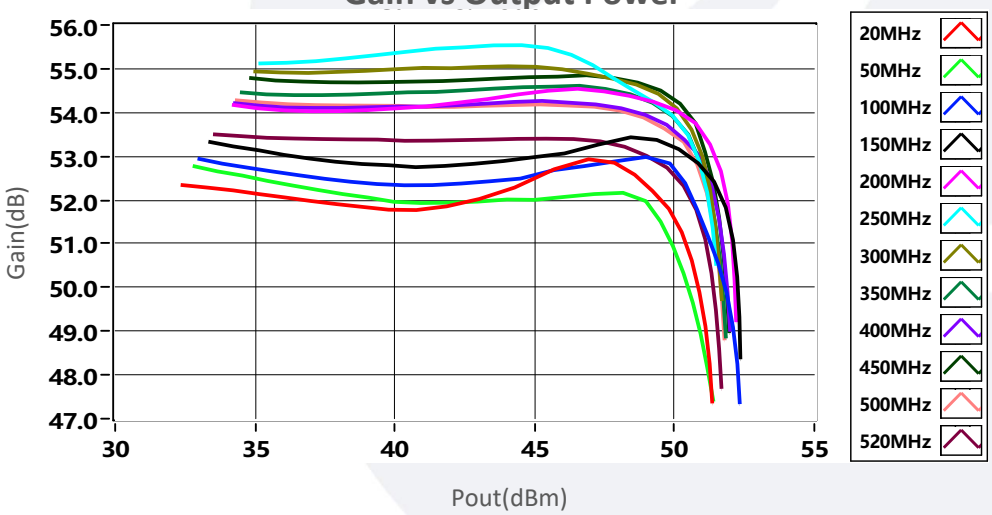
Input VSWR vs Frequency



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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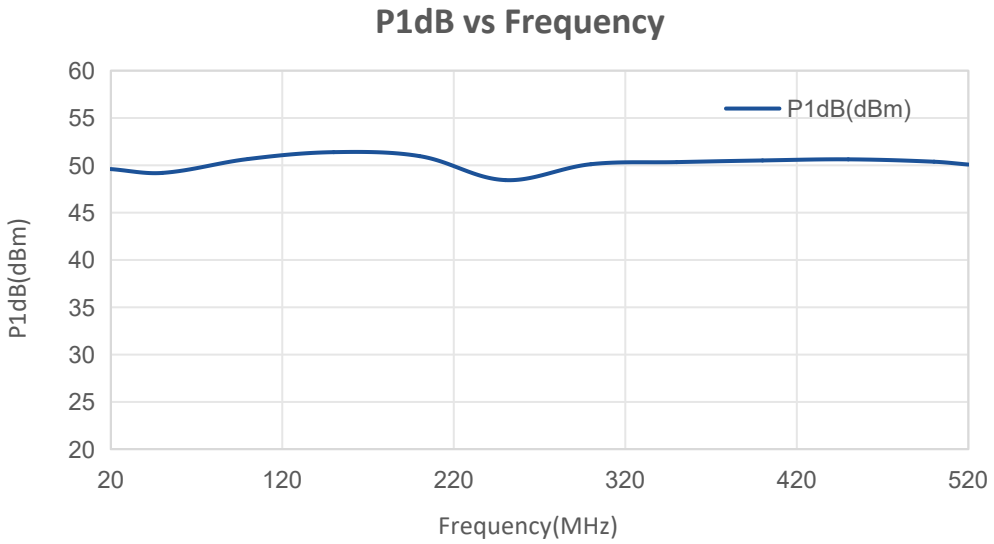

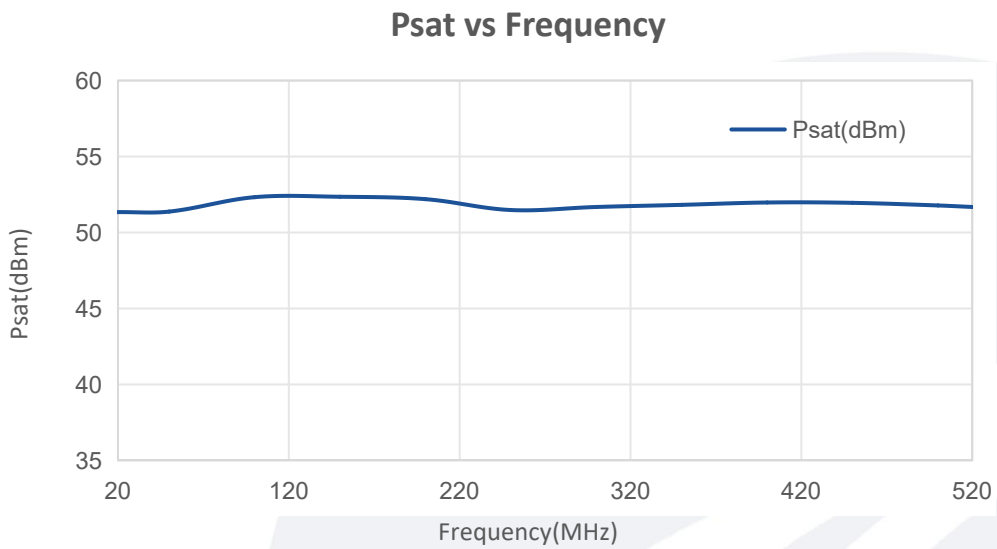

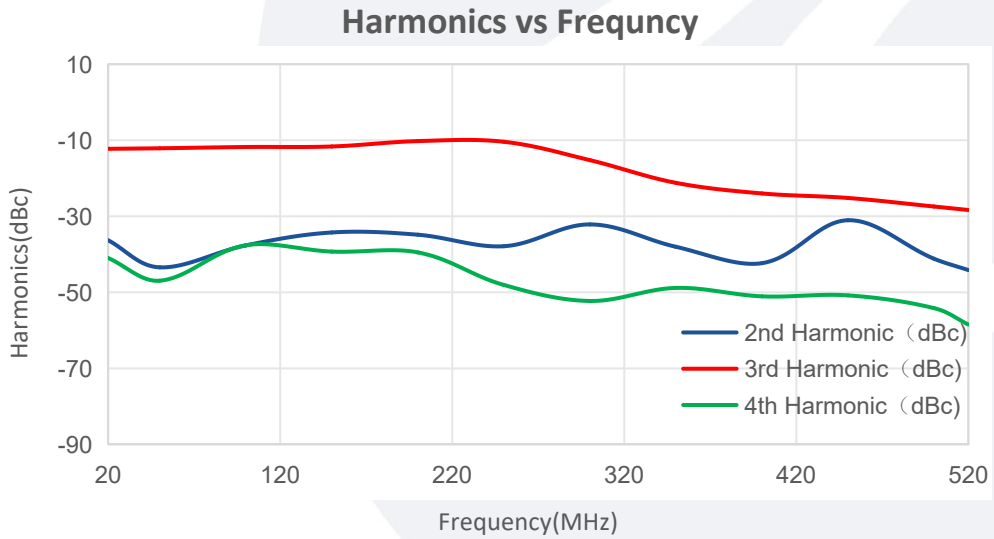

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