泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Power Amplifier

1-18GHz/42dB Gain/36dBm Psat

Model: TLPA1G18G-40-34-A

TLPA1G18G-40-34-A is a power amplifier with a typical small signal gain of 42 dB and a nominal Psat of 36 dBm across the frequency range of 1 to 18 GHz. The DC power requirement for the amplifier is +28VDC/0.6 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 1-18GHz
- Gain: 42dB Typ
- Output Power Psat: 36dBm Typ
- 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	1		18	GHz
小信号增益 Small Signal Gain	40	42		dB
增益平坦度 Gain Flatness		±1.5		dB
增益随温度变化量 Gain Variation Over Temperature (-40ºC~+60℃)		±3.0		dB
线性输出功率 Output P1dB	28	30		dBm
饱和输出功率 Output Psat	34.5	36		dBm
三阶交调系数 IM3@P1dB		20		dBc
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		28		V DC
直流电流 DC Supply Current		0.6	1.2	A
功率附加效率 Power Added Efficiency		15		%
阻抗 Impedance		50		Ohms

Note: Talent reserves the right to make changes to the product(s) or information contained herein without notice.

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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	
尺寸 Size	38*58.5*12(Without heatsink) 55*100*30(With heatsink)	mm
重量 Weight	≤0.12(Without heatsink)	lbs

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 125V



Simple 220V System
Available SAC option

*Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier. Please reference gain and power curves.

使用说明 Instruction Manual:

开机 Power on	
1	连接地.
2	输入端、输出端接 50Ω 信号源/负载(输入、输出驻波比 VSWR<2:1).
3	接入电源.

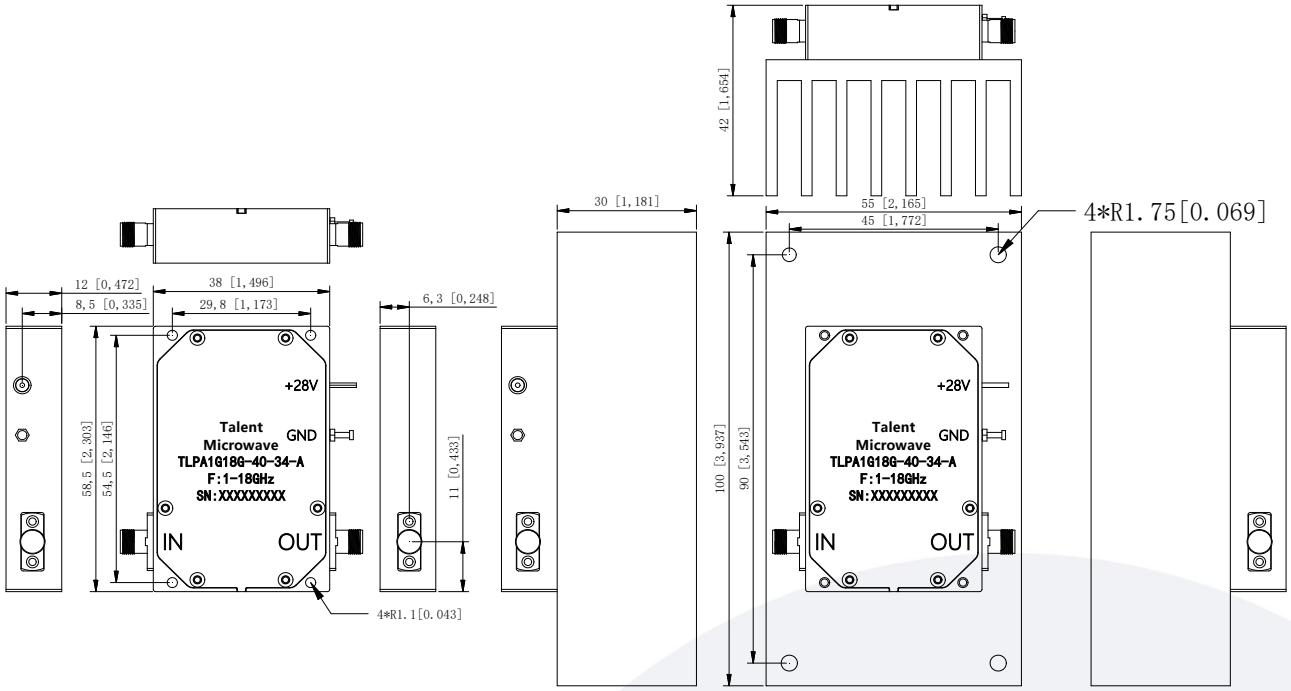
关机 Power off	
1	关闭电源，断开正电源接线。
2	拆除射频连接线。
3	拆除接地线。

注意事项 Usage Precautions	
1	上电前，务必将放大器输入、输出端口可靠接至合格的 50Ω 负载。严禁放大器空载运行。
2	电源需能够为放大器提供充足电流，供电能力应不小于最大工作电流的 1.5 倍。
3	本系列放大器多数情况下可承受严重失配而不损坏，但不建议在恶劣负载条件下工作。若需要长时间在不良负载或未知负载下使用，应加装隔离器或环行器等外部器件对放大器进行保护。
4	插拔放大器输入、输出射频连线时，必须断电操作。
5	建议采取规范的静电放电（ESD）防护措施，防止器件性能劣化或功能失效。

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外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



Notes:

1. Package Material: Aluminum.
2. Plating: Nickel.
3. All dimensions are in millimeters [inches].
4. Heat sink required during operation. If customer would like to use their own cooling method, please make sure the amplifier will operate under the specs that listed in page 2 of this datasheet.
5. Standard torque wrench must be used to secure RF connectors.

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

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+70	℃
存储温度 Non-operating Temperature*	-50		+10	℃
相对湿度 Relative humidity	100% RH at 35℃, 95%RH at 40℃			%
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.

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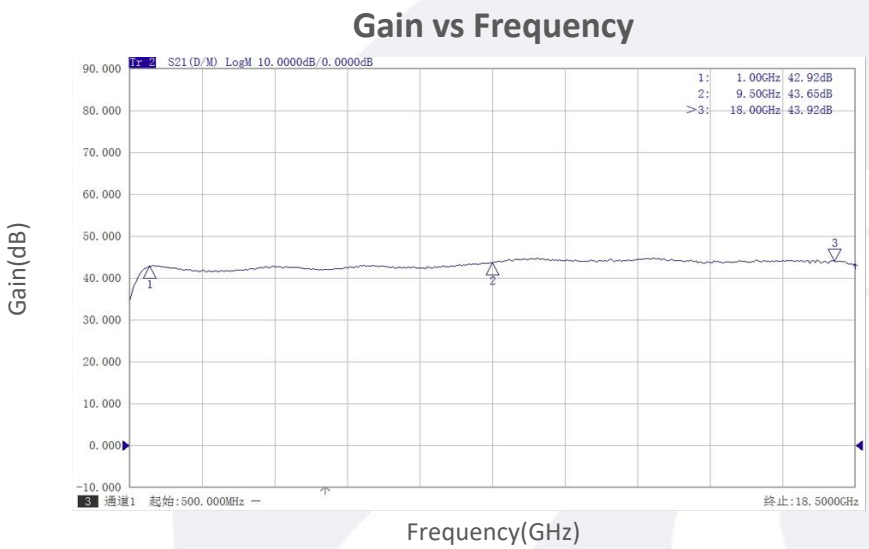
订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA1G18G-40-34-A	Power amplifier 1-18GHz, Gain:40dB,Psat:34dBm,+28V DC,Without Heatsink	Rev.1.0
TLPA1G18G-40-34-A-HS	Power amplifier 1-18GHz, Gain:40dB,Psat:34dBm,+28V DC,With Heatsink	Rev.1.0

随货配件 Components Included:

描述 Description	数量 Quantity
Power supply cable	1 PCS

典型曲线 Typical Performance Data(TEM=298K):

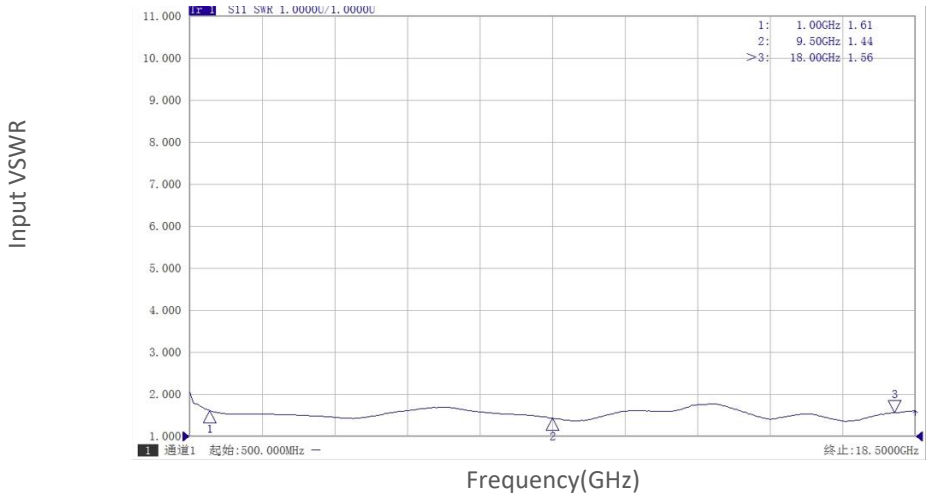


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

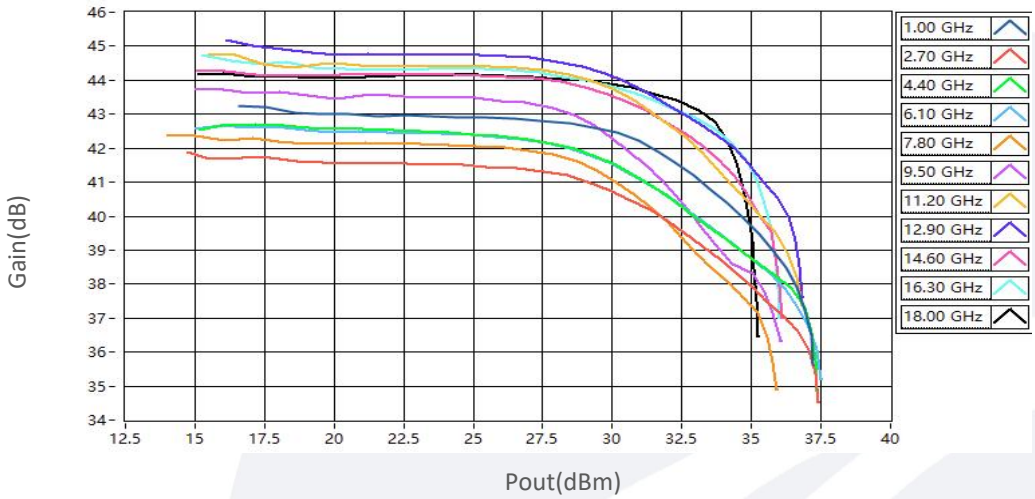
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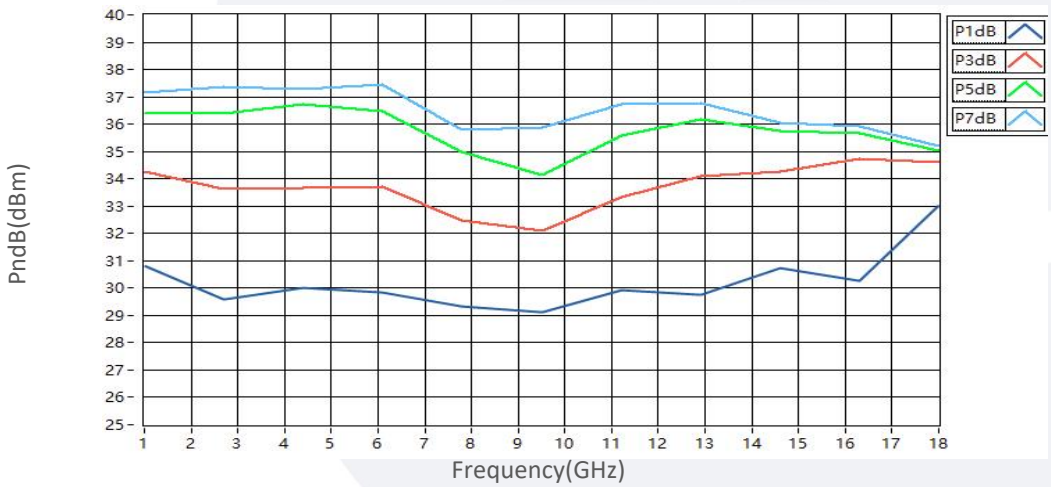
Input VSWR vs Frequency



Gain vs Output Power



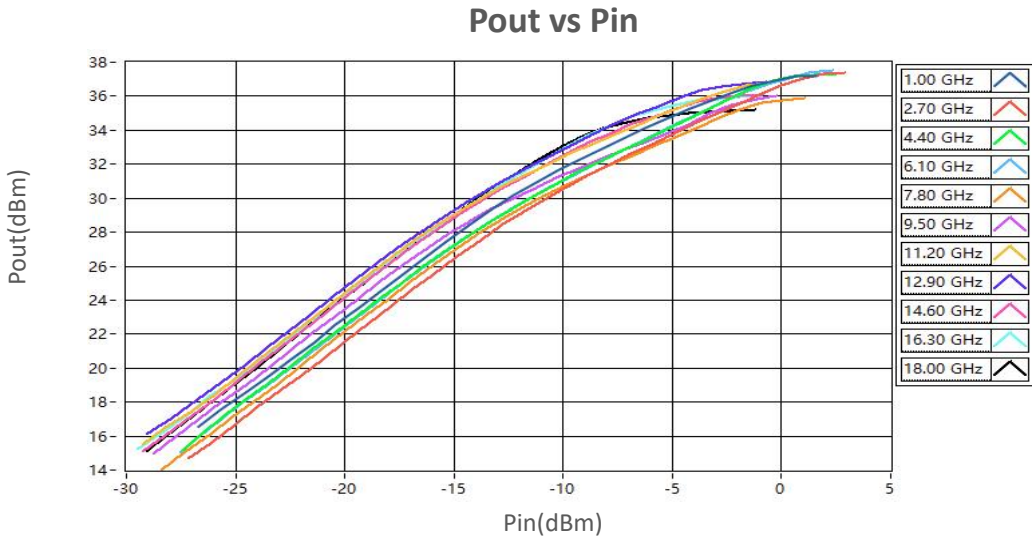
PndB vs Frequency

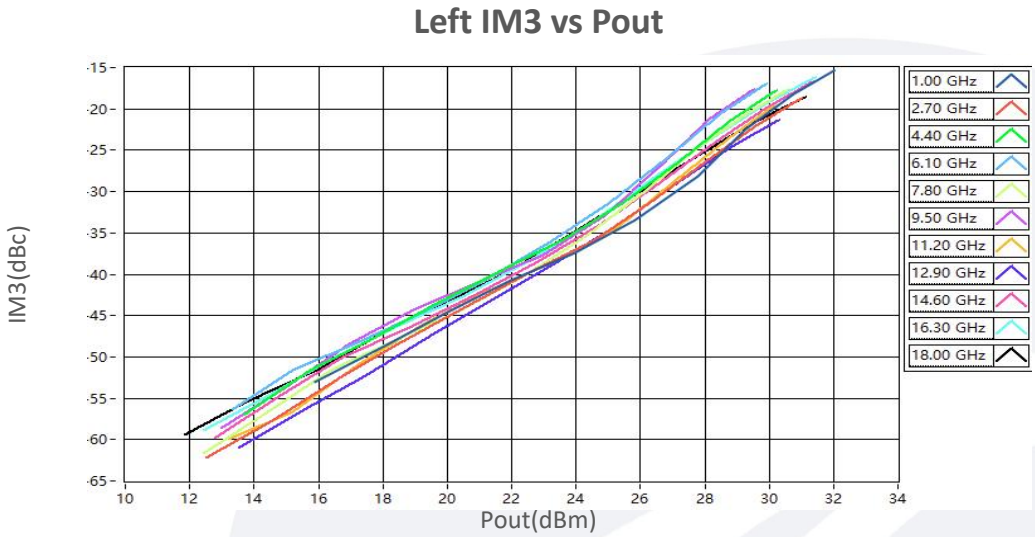


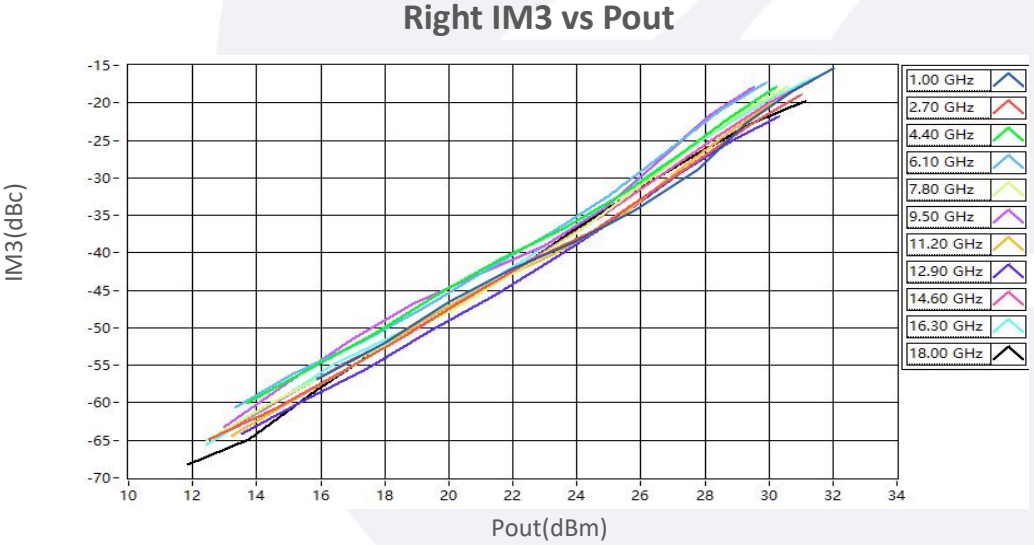
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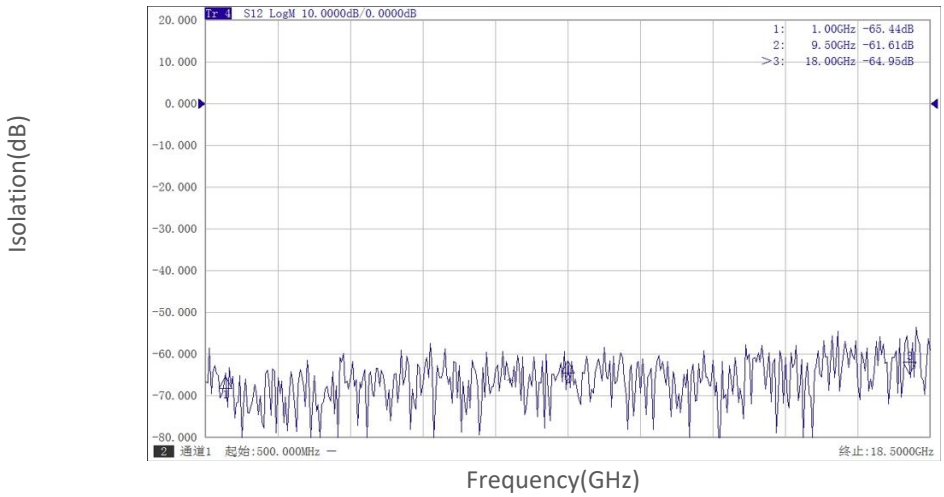


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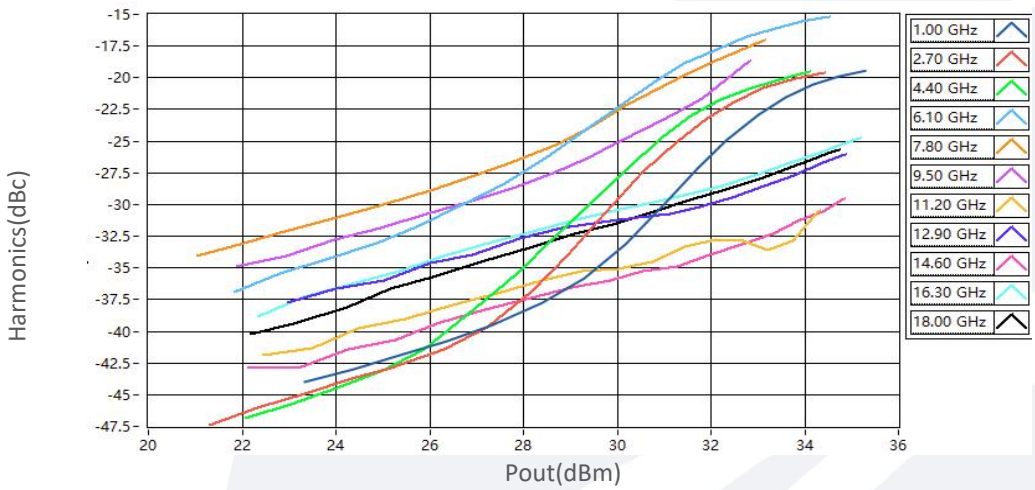
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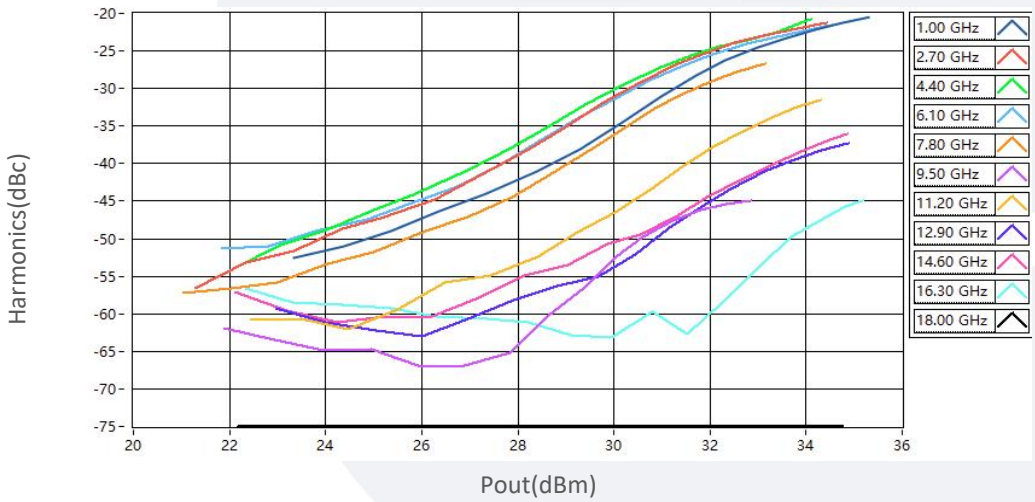
Isolation vs Frequency



2nd Harmonics vs Pout



3nd Harmonics vs Pout

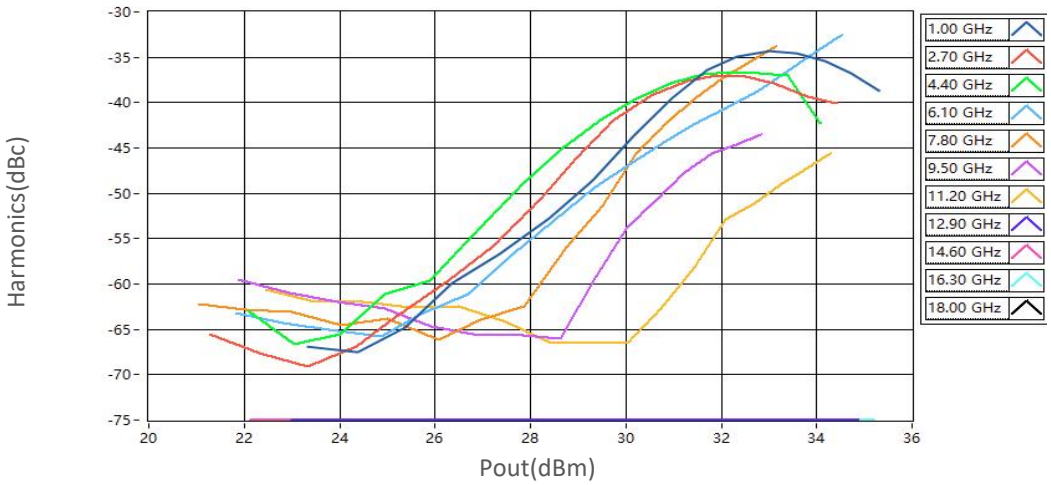


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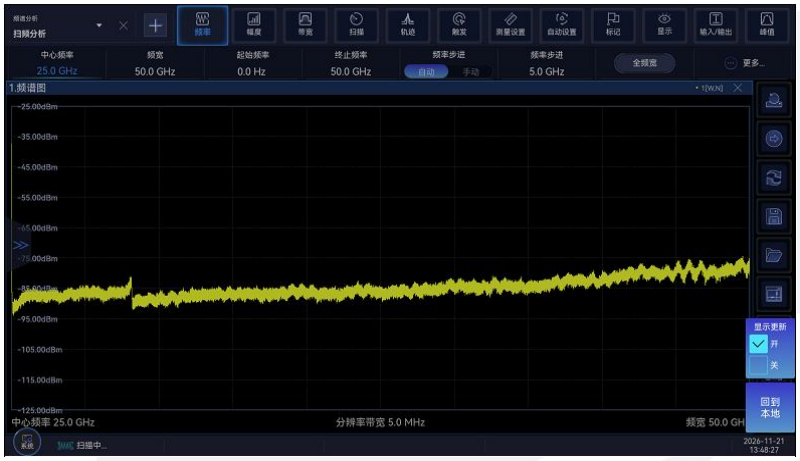
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典型曲线 Typical Performance Data(TEM=298K):

4nd Harmonics vs Pout



Output Noise Floor



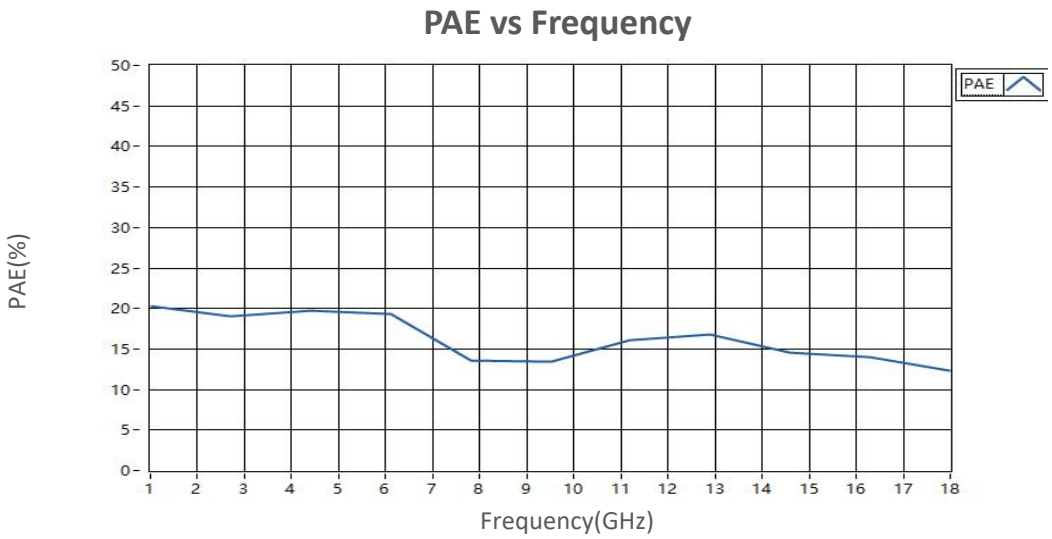
Power Supply Spurs

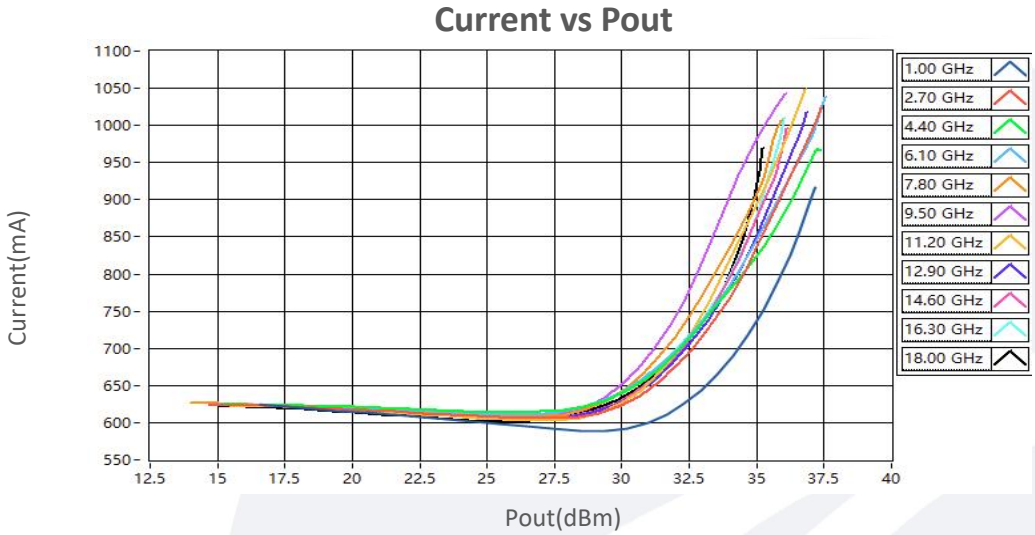


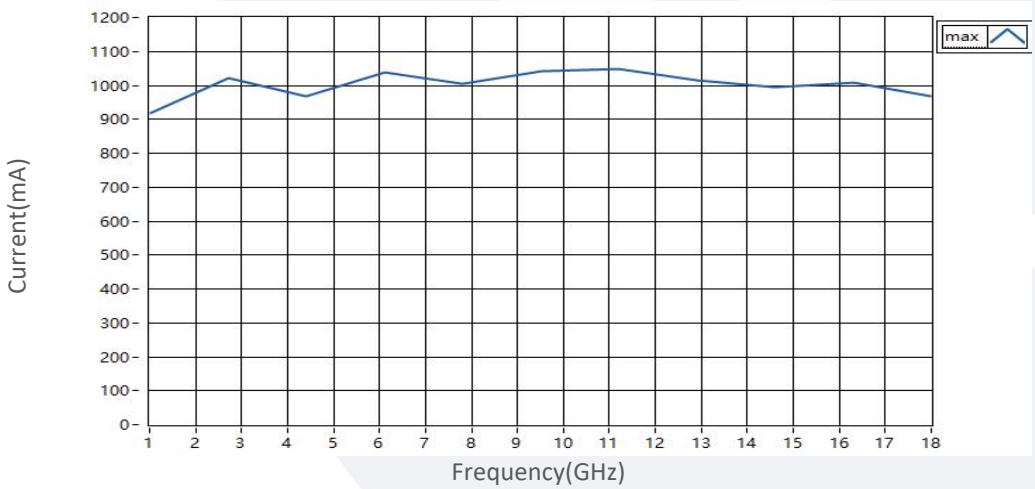
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