

Low Noise Amplifier

1-18GHz/2.0dB NF/13dB Gain/14dBm P1dB

Model: TLLA1G18G-13-20

TLLA1G18G-13-20 is a low noise amplifier with a minimum small signal gain of 13 dB and a nominal noise figure of 2.0 dB across the frequency range of 1 to 18 GHz. The DC power requirement for the amplifier is +12V DC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 1-18GHz
- Gain: 13dB Min
- Noise Figure: 2.0dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

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	13	14		dB
增益平坦度 Gain Flatness		±1		dB
噪声系数 Noise Figure		2.0	2.5	dB
线性输出功率 Output P1dB	13	14		dBm
输入驻波 Input VSWR		2		:1
输出驻波 Output VSWR		2		:1
直流电压 DC Voltage	+8	+12	+15	V DC
直流电流 DC Supply Current		50		mA
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	Solder Pin	
尺寸 Size	44.8*29.2*11	mm
重量 Weight	55	g

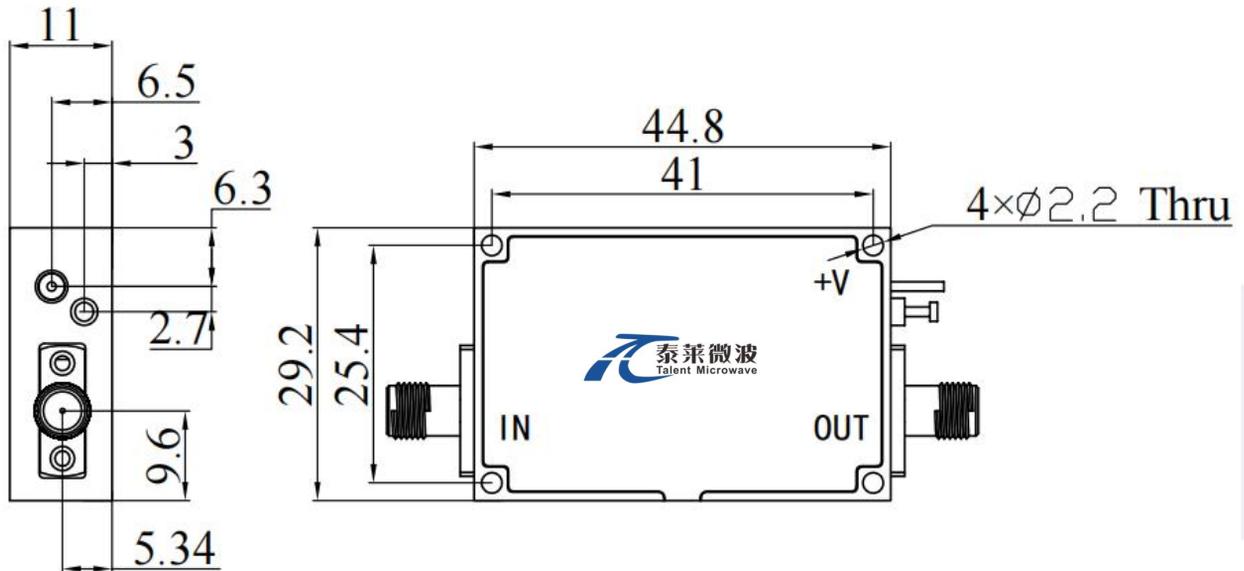
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+15 V
输入功率 RF Input Power	+20 dBm
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

温度环境 Environmental Conditions:

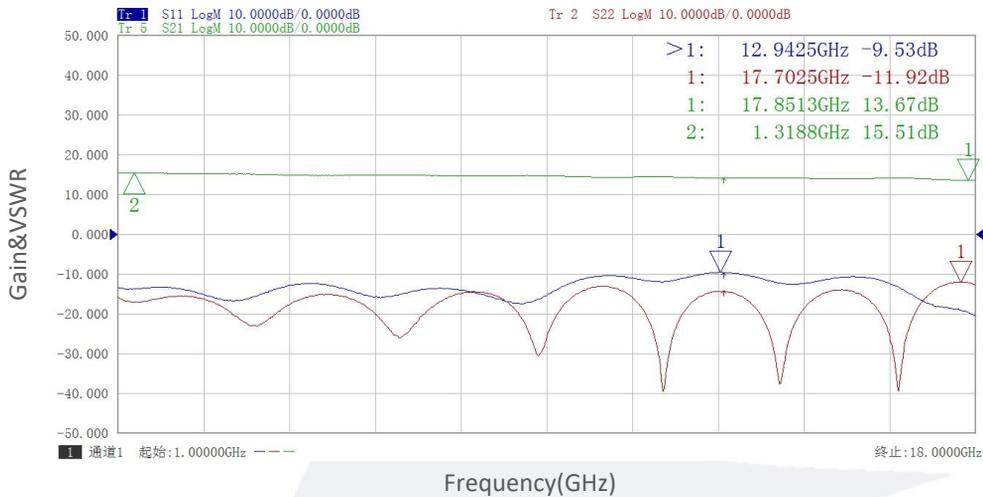
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-45		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

订货信息 Ordering Information:

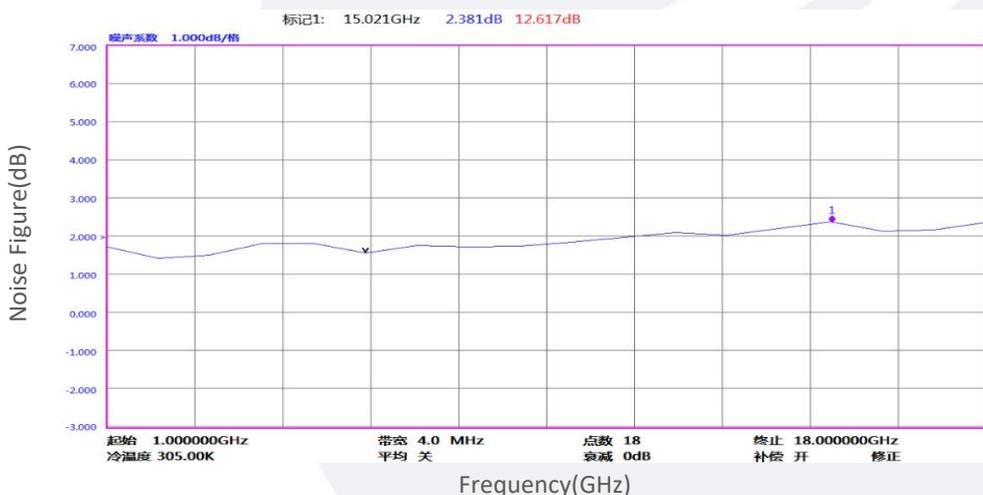
标准型号 Base Number	描述 Description	版本号 Revision
TLLA1G18G-13-20	Low Noise Amplifier, 1-18GHz, Noise Figure: 2.0dB, Gain: 13dB, P1dB: 14dBm, +12V DC, Without Heatsink	Rev.1.1
TLLA1G18G-13-20-HS	Low Noise Amplifier, 1-18GHz, Noise Figure: 2.0dB, Gain: 13 dB, P1dB: 14dBm, +12V DC, With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

Gain&VSWR vs Frequency



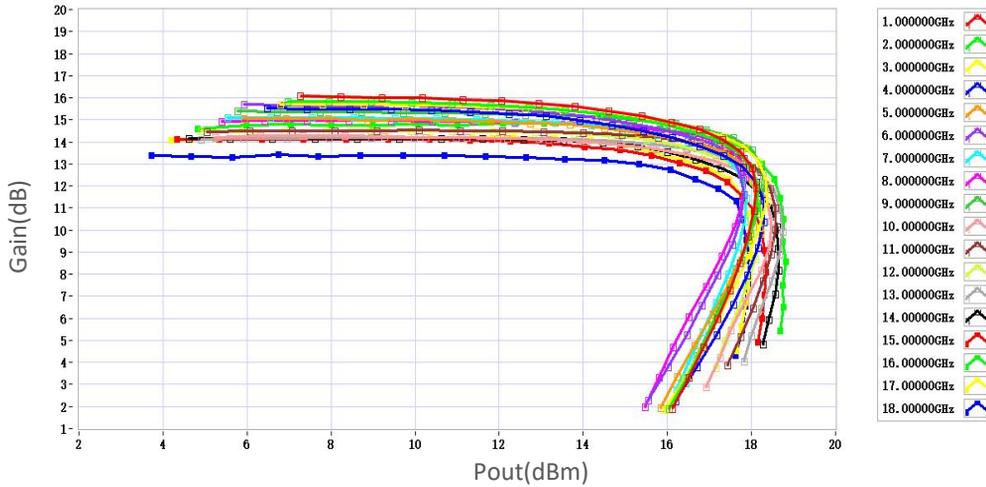
Noise Figure vs Frequency



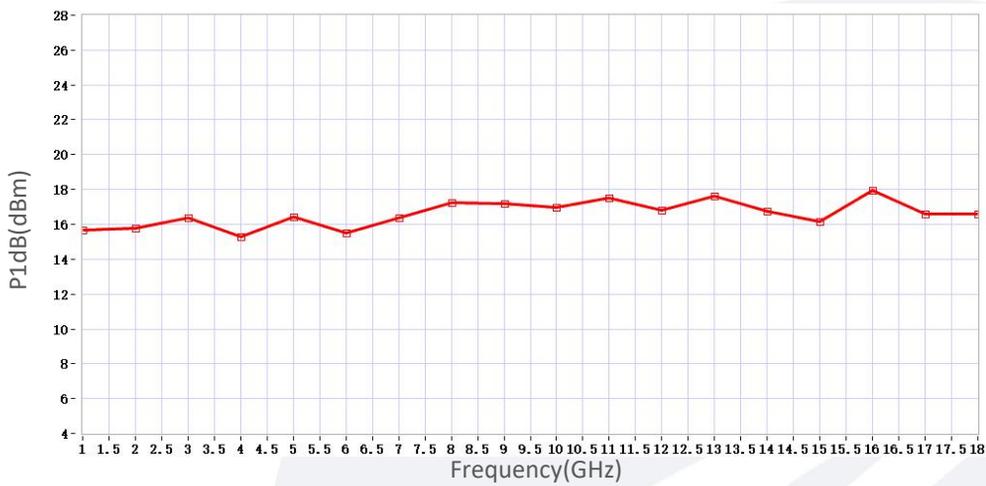
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

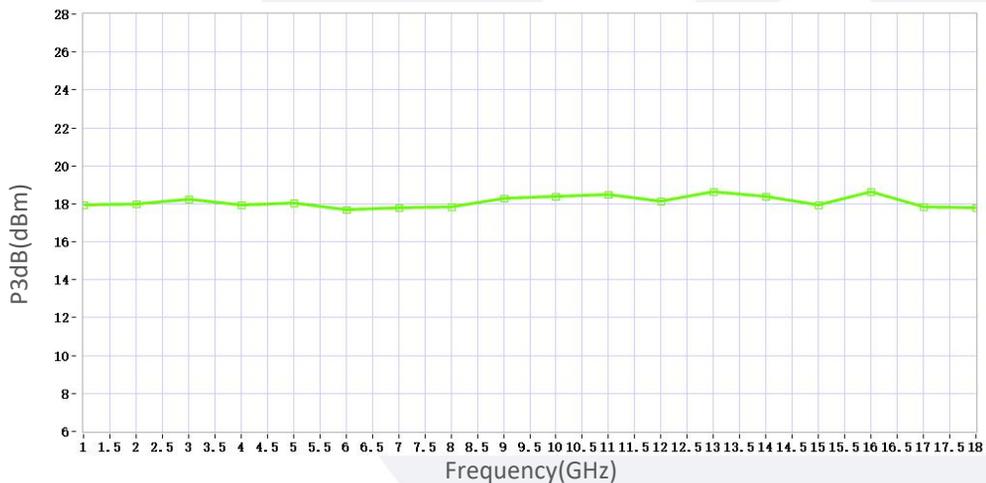
Gain vs Output Power



P1dB vs Frequency



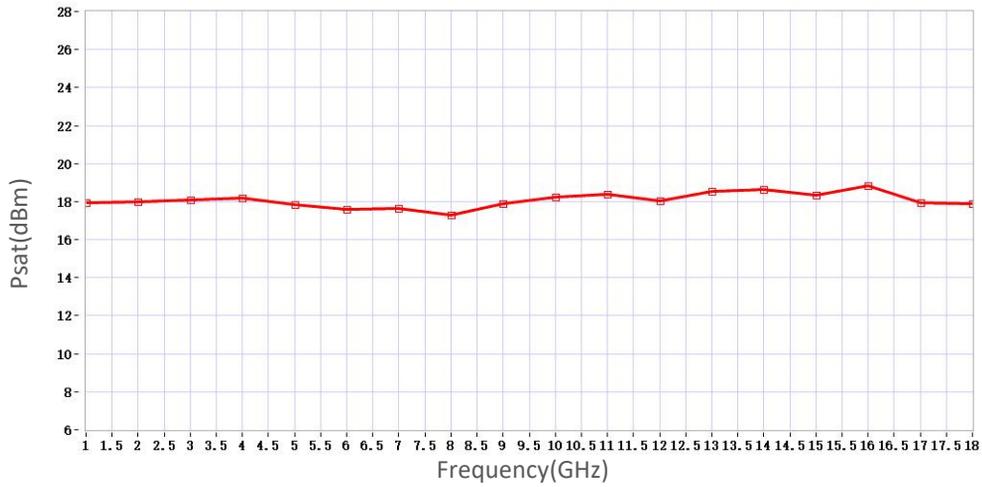
P3dB vs Frequency



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典型曲线 Typical Performance Data:

Psat vs Frequency



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