

Low Noise Amplifier

4-8GHz/2.0dB NF/42dB Gain/26.5dBm P1dB

Model: TLLA4G8G-35-20

TLLA4G8G-35-20 is a low noise amplifier with a typical small signal gain of 42 dB and a maximum noise figure of 2.5 dB across the frequency range of 4 to 8 GHz. The DC power requirement for the amplifier is +15 V DC/320 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 4-8GHz
- Gain: 42dB Typ
- Noise Figure: 2.5dB Max
- 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	4		8	GHz
小信号增益 Small Signal Gain	41	42		dB
噪声系数 Noise Figure			2.5	dB
线性输出功率 Output P1dB	25.5	26.5		dBm
饱和输出功率 Output Psat	26.5	28		dBm
输入驻波 Input VSWR		1.8		:1
输出驻波 Output VSWR		2.3		:1
监测功率阈值 Monitor Power Threshold(Control NC)		20		dBm
监测输出 TTL Monitor Output TTL		0/+3.3		V
直流电压 DC Voltage	+12	+15	+16	V DC
直流电流 DC Supply Current		320		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	35*45*9.5	mm

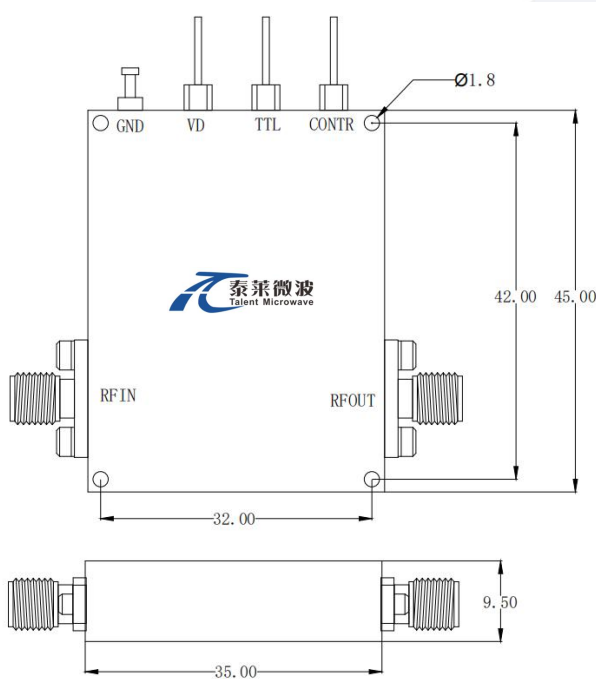
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+16 V
输入功率 RF Input Power	+10 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.

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
TLLA4G8G-35-20	Low Noise Amplifier, 4-8GHz, Noise Figure:2.5dB, Gain:42dB,P1dB:26.5dBm,+15V DC,Without Heatsink	Rev.1.1
TLLA4G8G-35-20-HS	Low Noise Amplifier, 4-8GHz, Noise Figure:2.5dB, Gain:42dB,P1dB:26.5dBm,+15V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

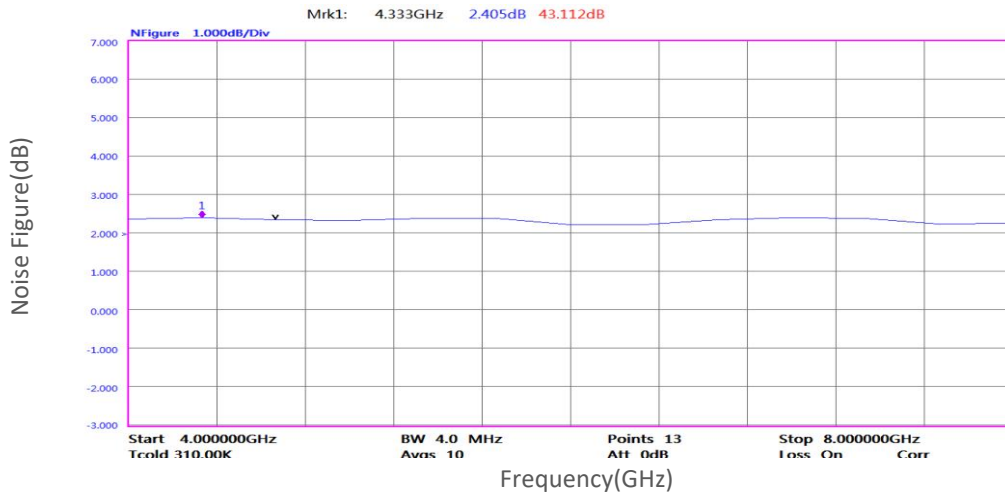
Gain&VSWR vs Frequency



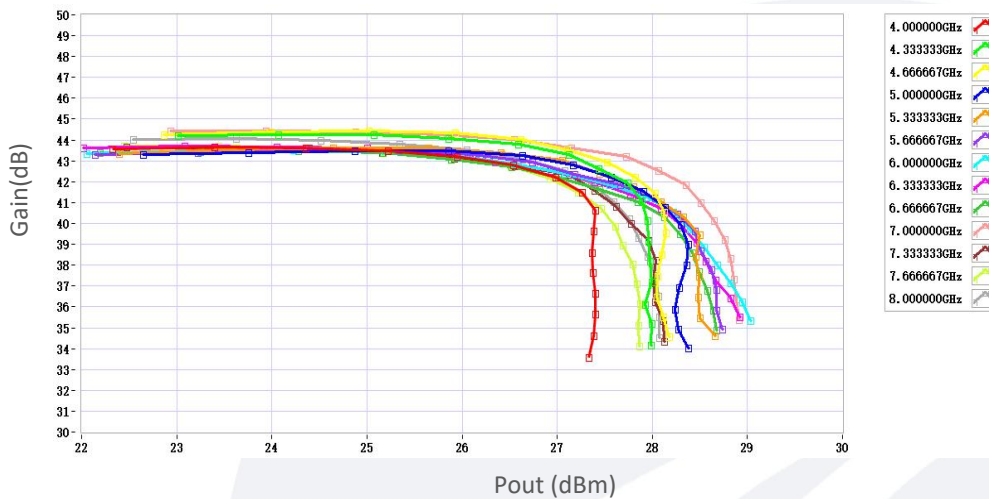
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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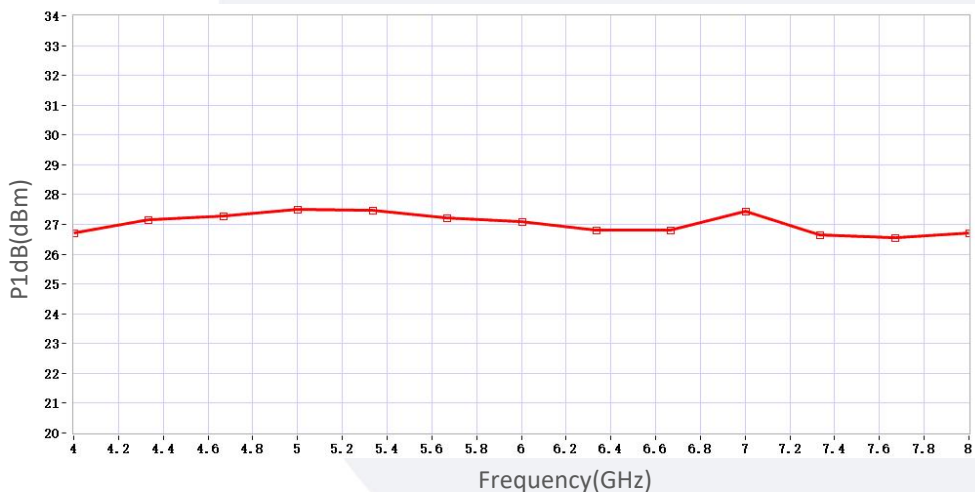
Noise Figure vs Frequency



Gain vs Output Power



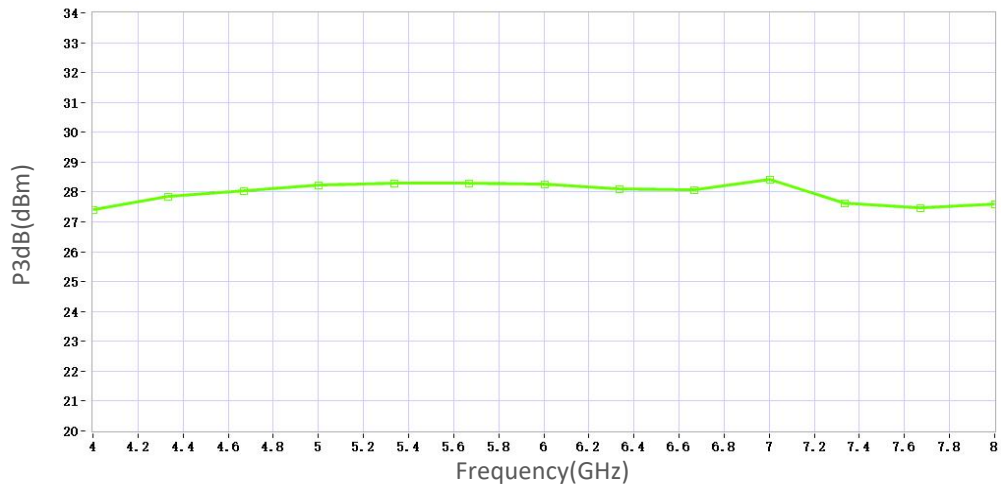
P1dB vs Frequency



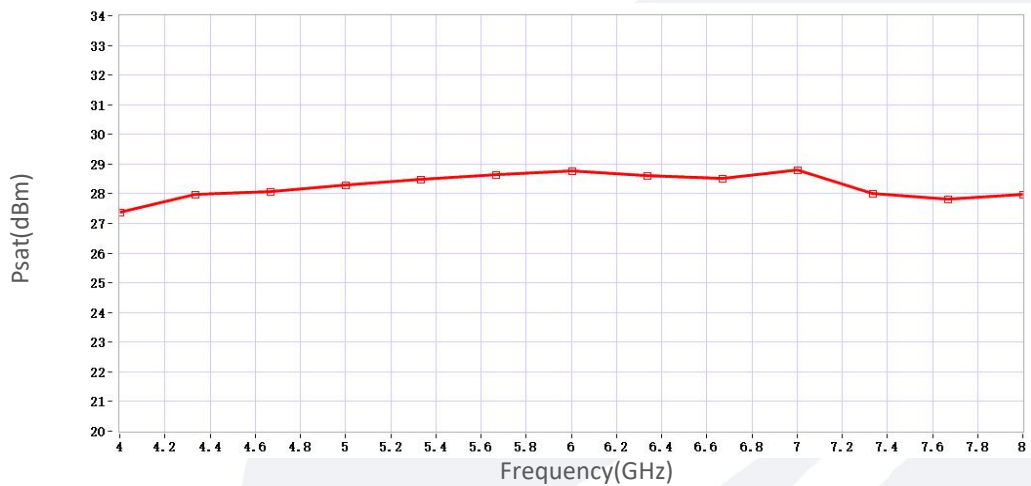
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典型曲线 Typical Performance Data:

P3dB vs Frequency



Psat vs Frequency



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