

## Low Noise Amplifier

2-12GHz/1.2dB NF/30dB Gain/15dBm P1dB

Model: TLLA2G12G-30-12

TLLA2G12G-30-12 is a low noise amplifier with a minimum small signal gain of 30 dB and a nominal noise figure of 1.2 dB across the frequency range of 2 to 12 GHz. The DC power requirement for the amplifier is +12 V DC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 2-12 GHz
- Gain: 30dB Min
- Noise Figure: 1.2dB 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	2		12	GHz
小信号增益 Small Signal Gain	30			dB
增益平坦度 Gain Flatness		±1	±2	dB
噪声系数 Noise Figure		1.2	1.8	dB
线性输出功率 Output P1dB	13	15		dBm
输出三阶交调 Output IP3		25		dBm
输入驻波 Input VSWR		1.8	2	:1
输出驻波 Output VSWR		1.5	2	:1
直流电压 DC Voltage		+12		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	30*30*8	mm

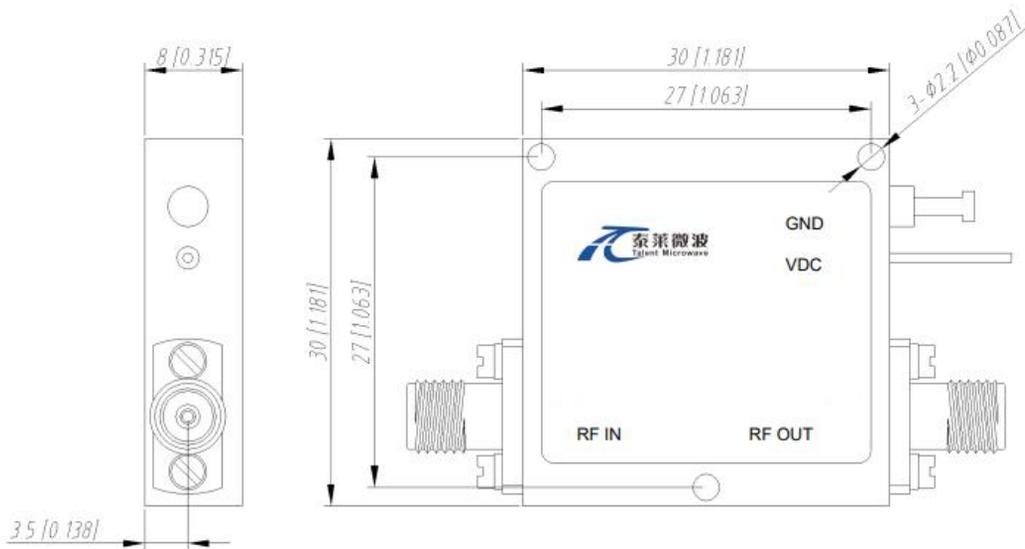
### 绝对最大值 Absolute Maximum Ratings:

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

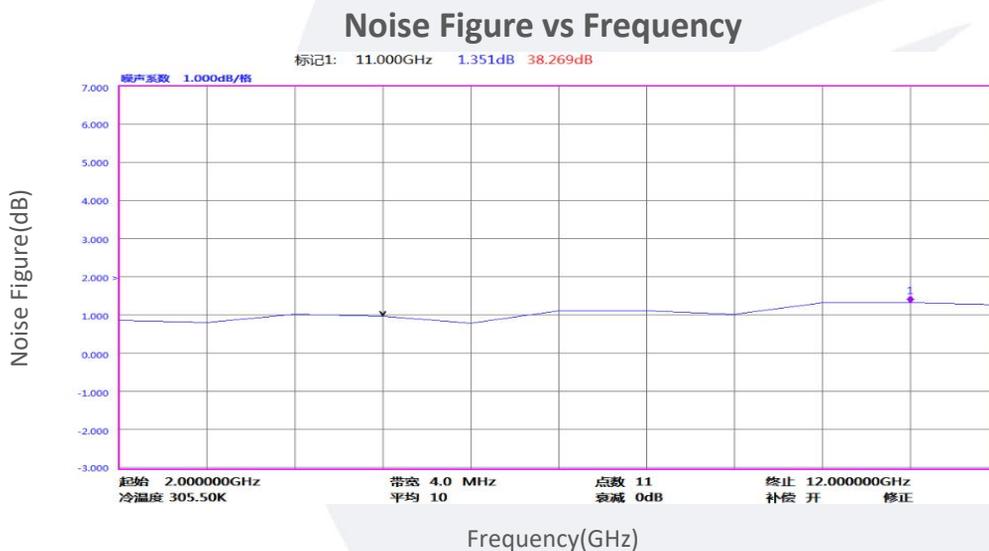
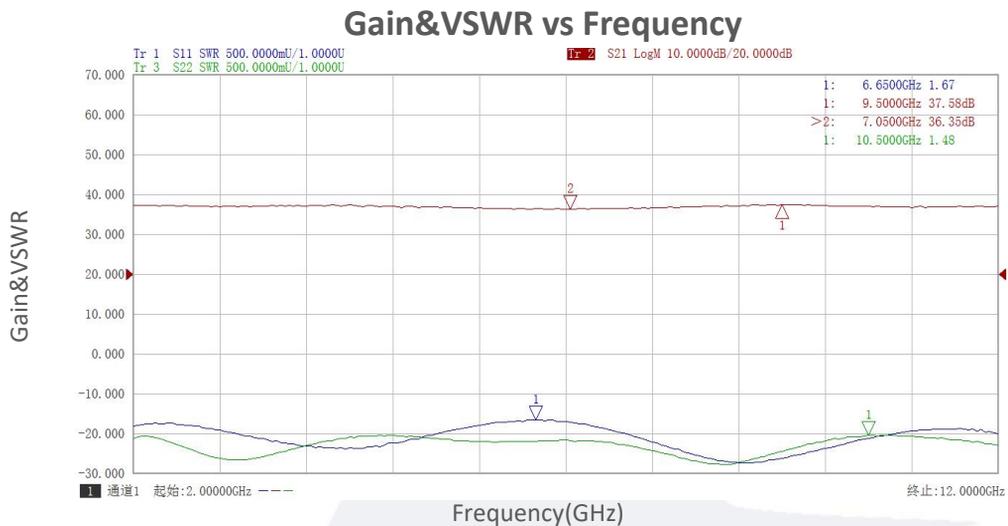
### 温度环境 Environmental Conditions:

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
TLLA2G12G-30-12	Low Noise Amplifier, 2-12GHz, Noise Figure:1.2dB, Gain:30 dB,P1dB:15dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA2G12G-30-12-HS	Low Noise Amplifier, 2-12GHz, Noise Figure:1.2dB, Gain:30 dB,P1dB:15dBm,+12V DC,With Heatsink	Rev.1.1

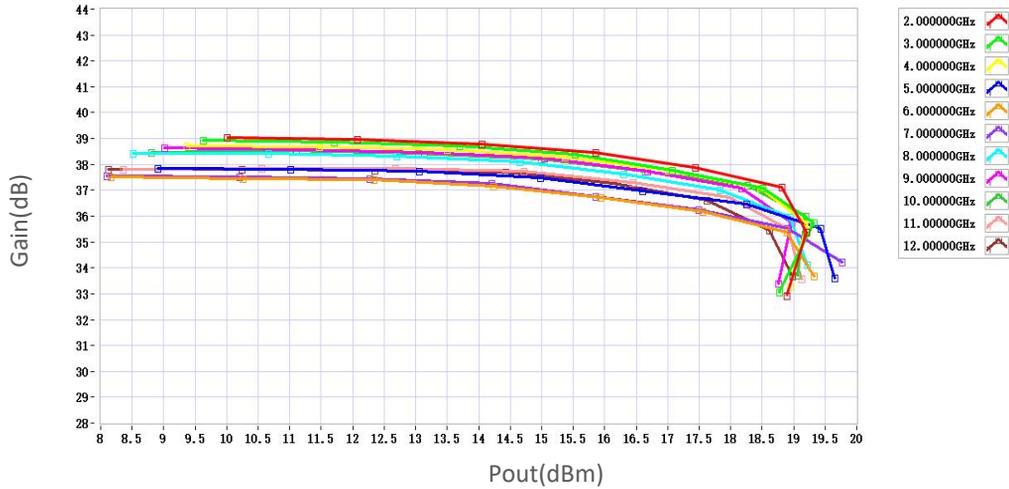
## 典型曲线 Typical Performance Data:



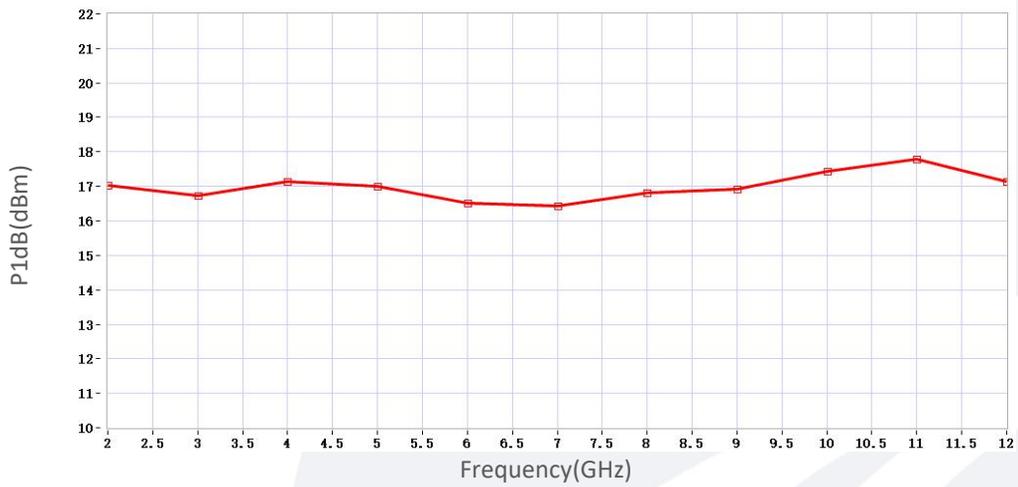
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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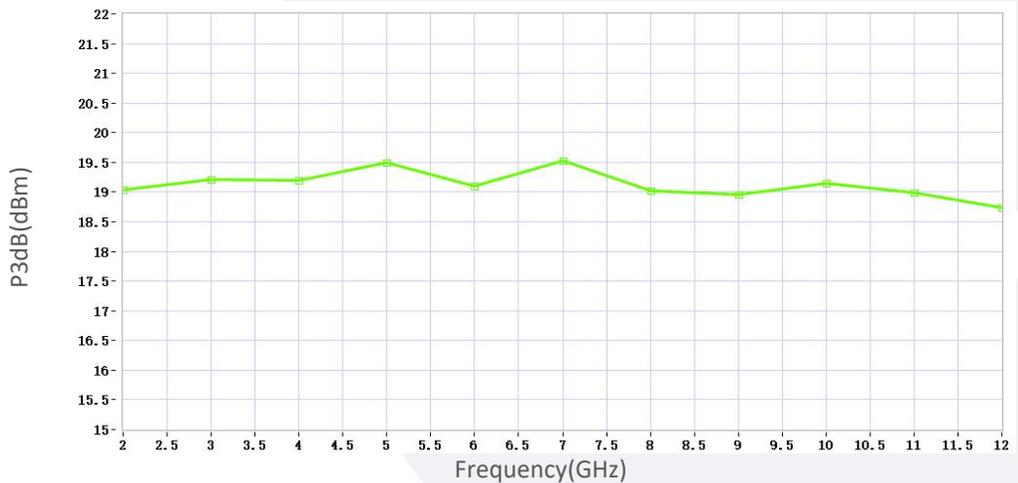
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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