

## 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

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	2		12	GHz
Small Signal Gain	30			dB
Gain Flatness		±1	±2	dB
Noise Figure		1.2	1.8	dB
Output P1dB	13	15		dBm
Output IP3		25		dBm
Input VSWR		1.8	2	:1
Output VSWR		1.5	2	:1
DC Voltage		+12		V DC
DC Supply Current		50		mA
Impedance		50		Ohms

### Mechanical Specifications:

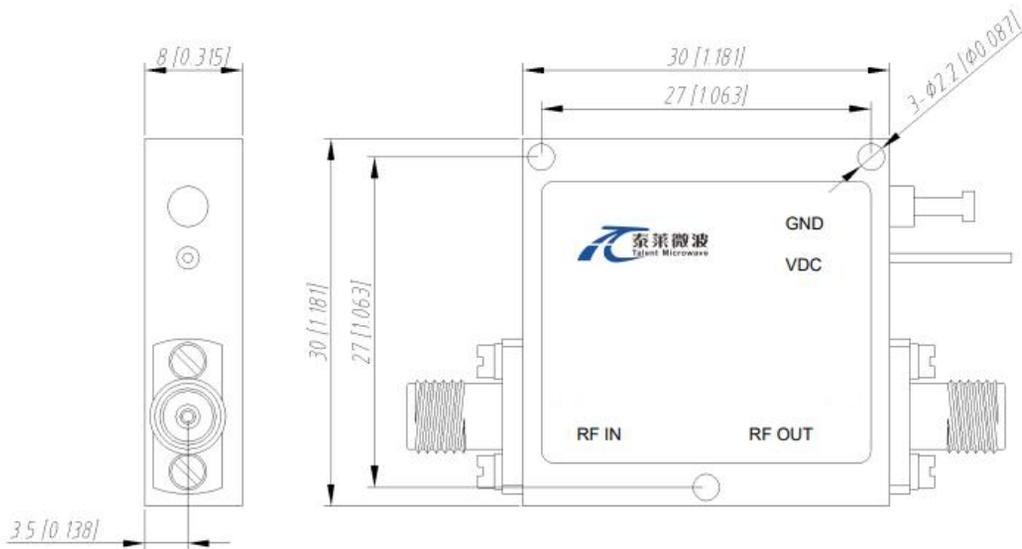
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	30*30*8	mm

### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+15 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

### Outline Drawing:

Unit:mm



**\*\*\*Heat Sink Required During Operation**



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

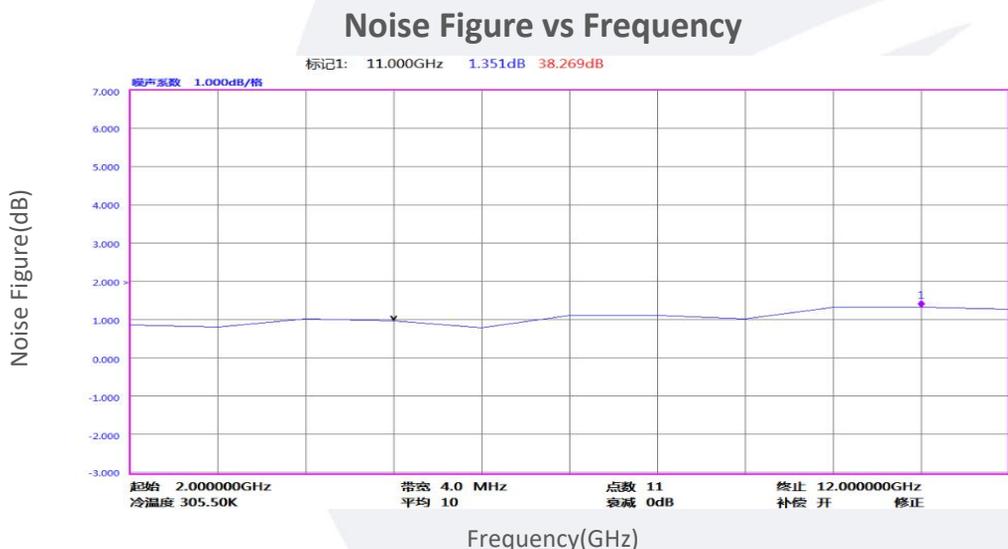
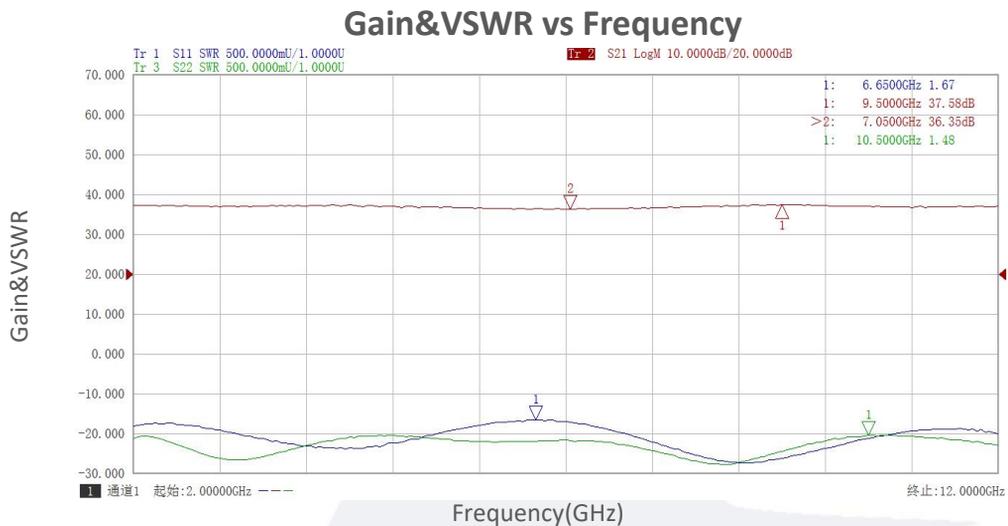
### Environmental Conditions:

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

### Ordering Information:

Base Number	Description	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

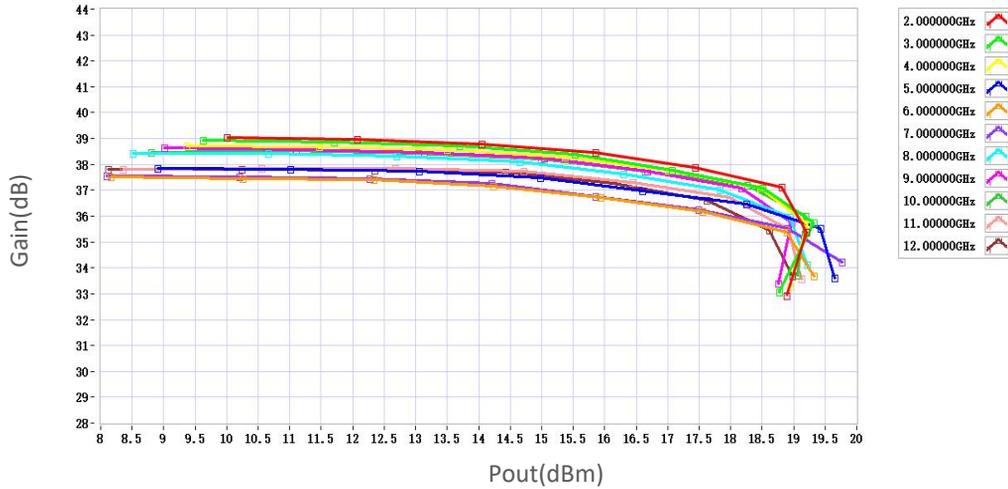
### Typical Performance Data:



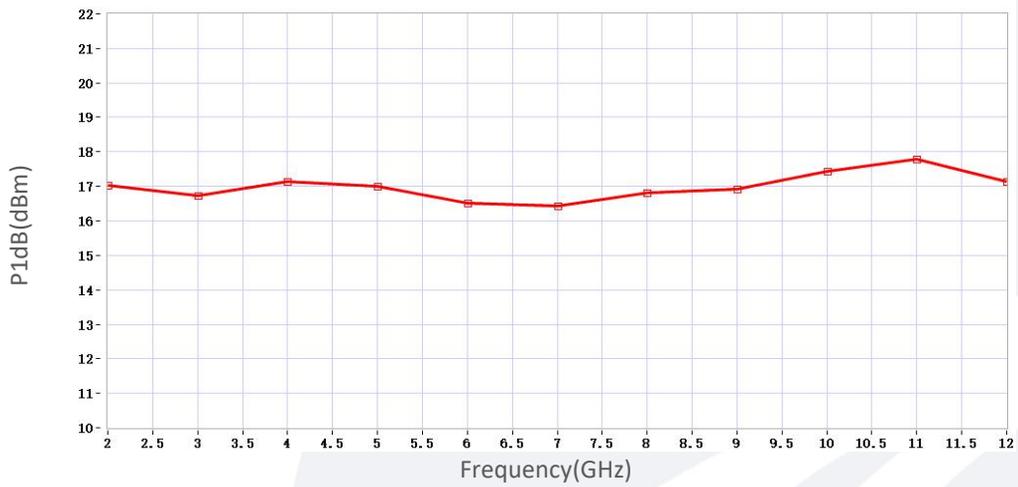
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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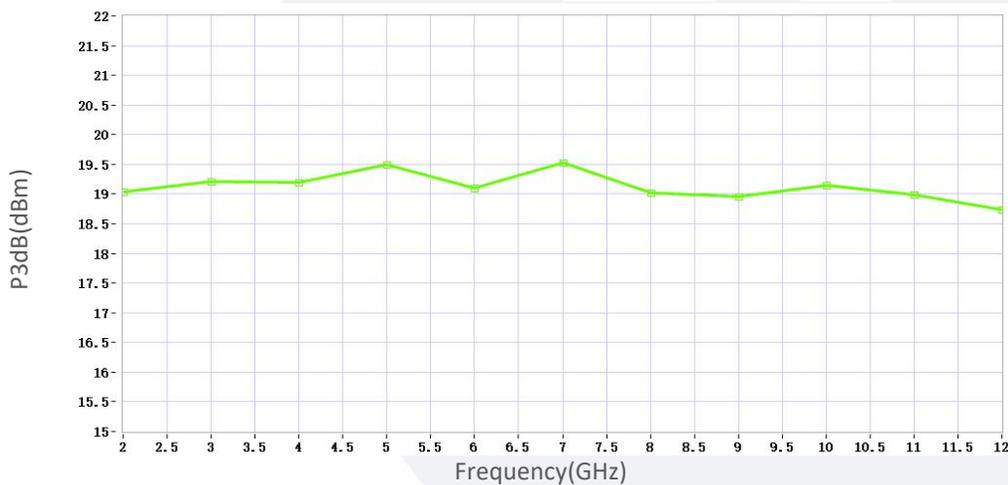
### Gain vs Output Power



### P1dB vs Frequency



### P3dB vs Frequency



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