

Low Noise Amplifier

1-18GHz/3.0dB NF/55dB Gain/10dBm P1dB

Model: TLLA1G18G-55-30

TLLA1G18G-55-30 is a low noise amplifier with a minimum small signal gain of 55 dB and a maximum noise figure of 3.0 dB across the frequency range of 1 to 18 GHz. The DC power requirement for the amplifier is +12 V DC/90 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 1-18GHz
- Gain: 55dB Min
- Noise Figure: 3dB Max
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	1		18	GHz
Small Signal Gain	55			dB
Gain Flatness		±2.0		dB
Noise Figure		2.2	3	dB
Output P1dB	10			dBm
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		+12		V DC
DC Supply Current		90		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm
Weight	200	g

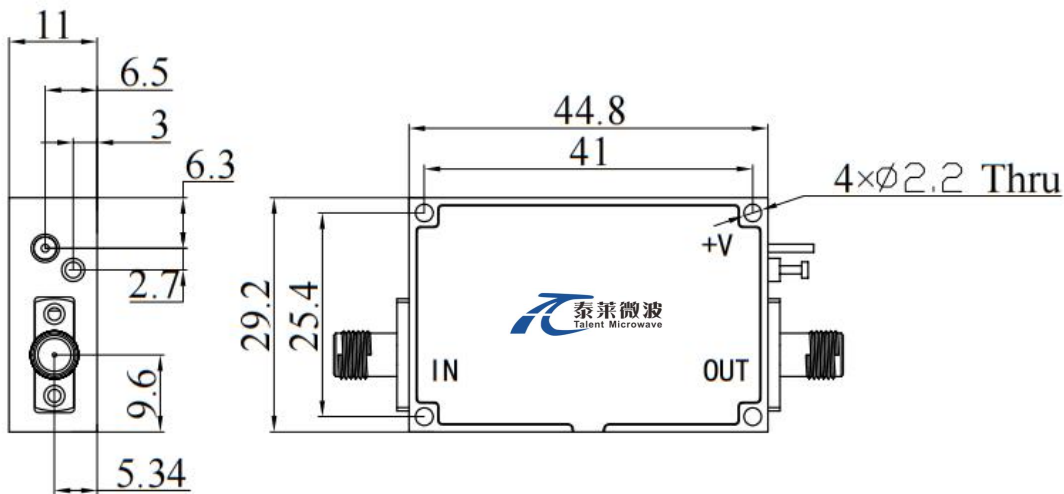
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	TBD
RF Input Power	0 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.

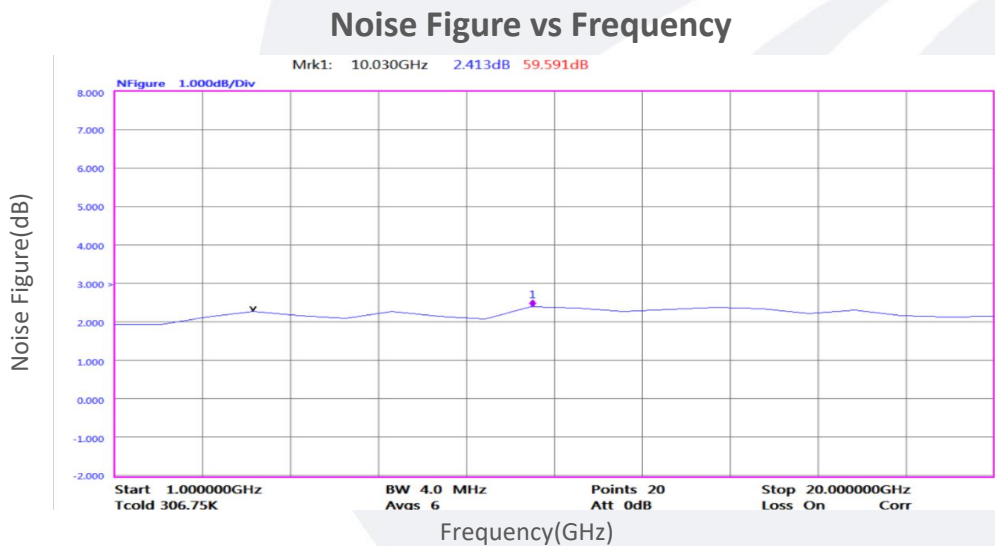
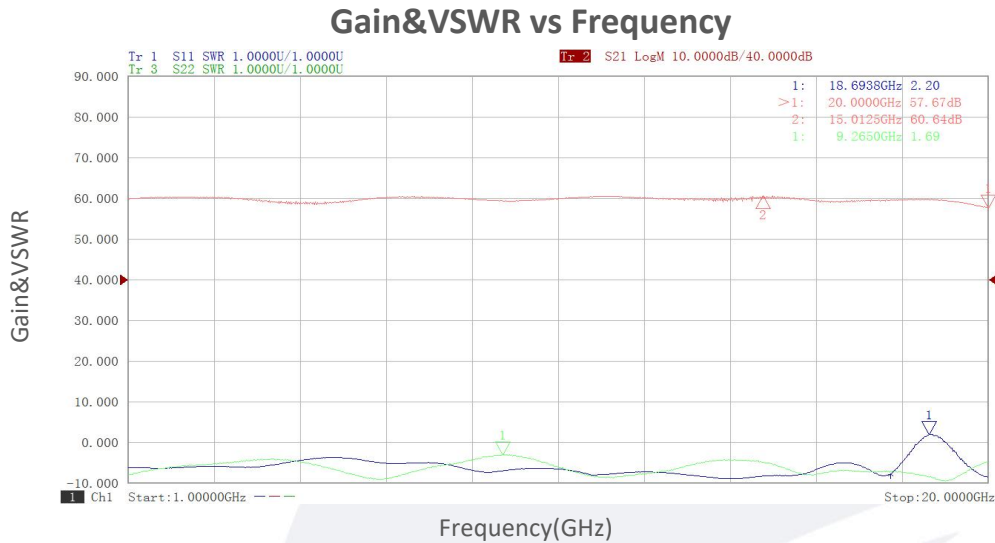
Environmental Conditions:

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
TLLA1G18G-55-30	Low Noise Amplifier, 1-18GHz, Noise Figure:2.2dB, Gain:55 dB,P1dB:10dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA1G18G-55-30-HS	Low Noise Amplifier, 1-18GHz, Noise Figure:2.2dB, Gain:55 dB,P1dB:10dBm,+12V DC,With Heatsink	Rev.1.1

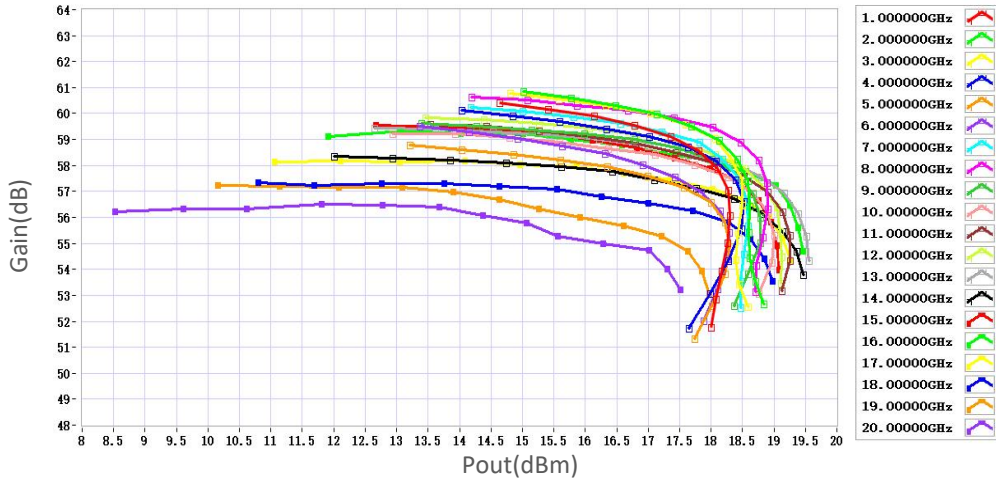
Typical Performance Data:



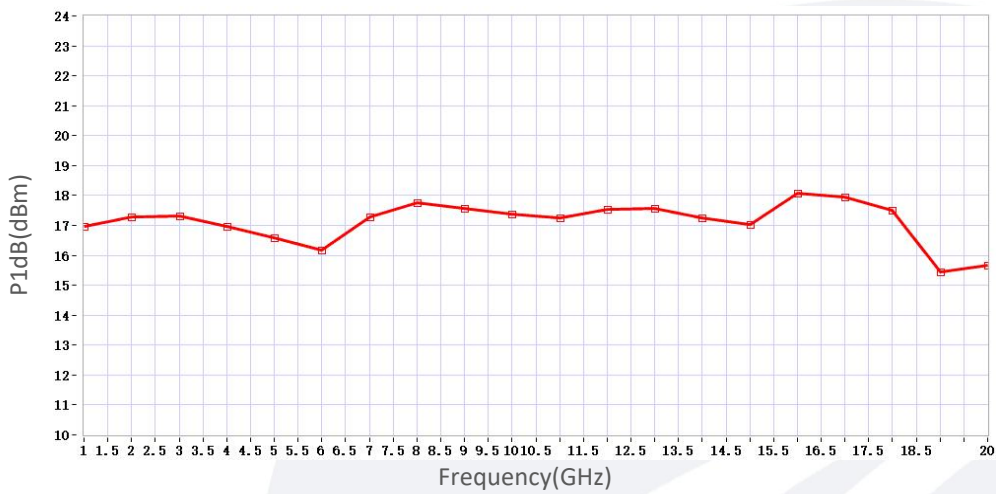
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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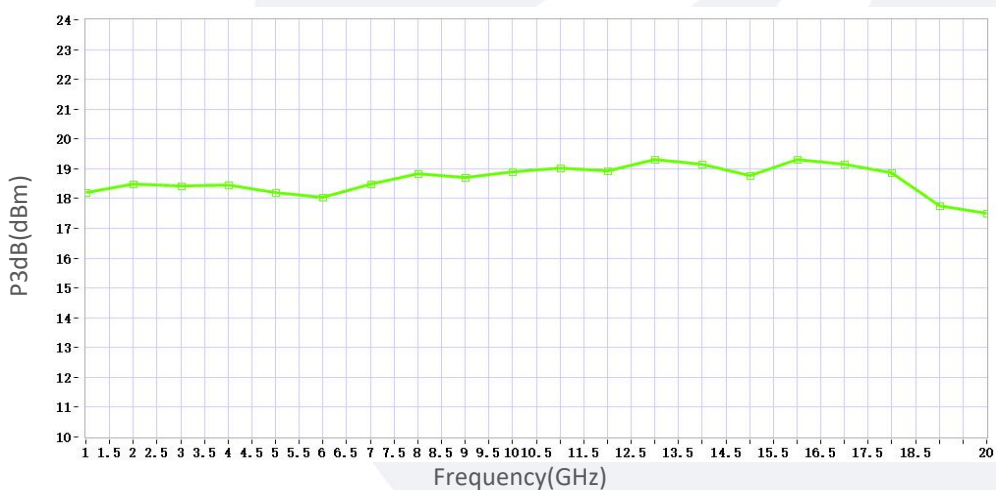
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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