

Low Noise Amplifier

1-18GHz/2.5dB NF/50dB Gain/15dBm P1dB

Model: TLLA1G18G-50-30

TLLA1G18G-50-30 is a low noise amplifier with a typical small signal gain of 50 dB and a nominal noise figure of 2.5 dB across the frequency range of 1 to 18 GHz. The DC power requirement for the amplifier is +12V DC/90 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 1-18GHz
- Gain: 50dB Typ
- Noise Figure: 2.5dB Typ
- 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		50		dB
Gain Flatness		±2.0		dB
Noise Figure		2.5	3.0	dB
Output P1dB		15		dBm
Input VSWR		1.7	2.5	:1
Output VSWR		1.7	2.5	:1
DC Voltage	+8	+12	+15	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	50	g

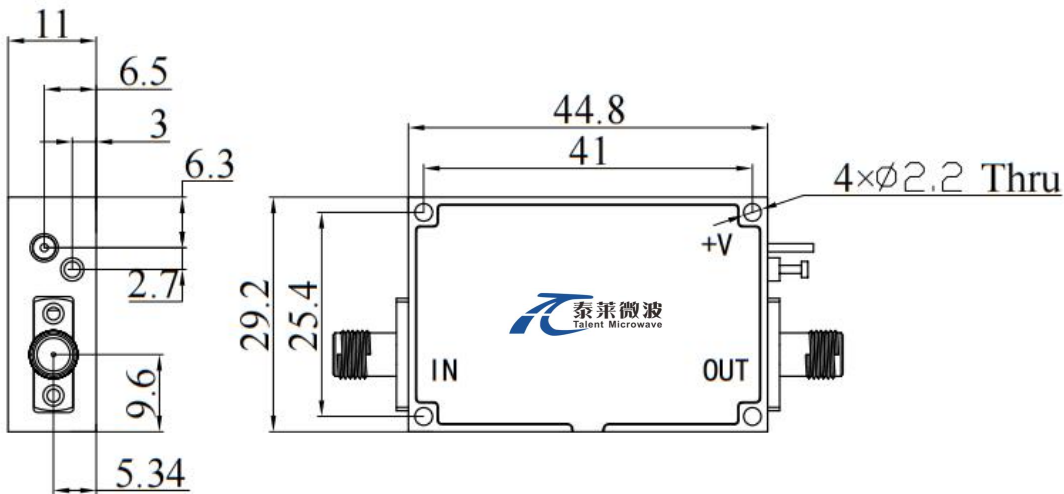
Absolute Maximum Ratings:

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**



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Environmental Conditions:

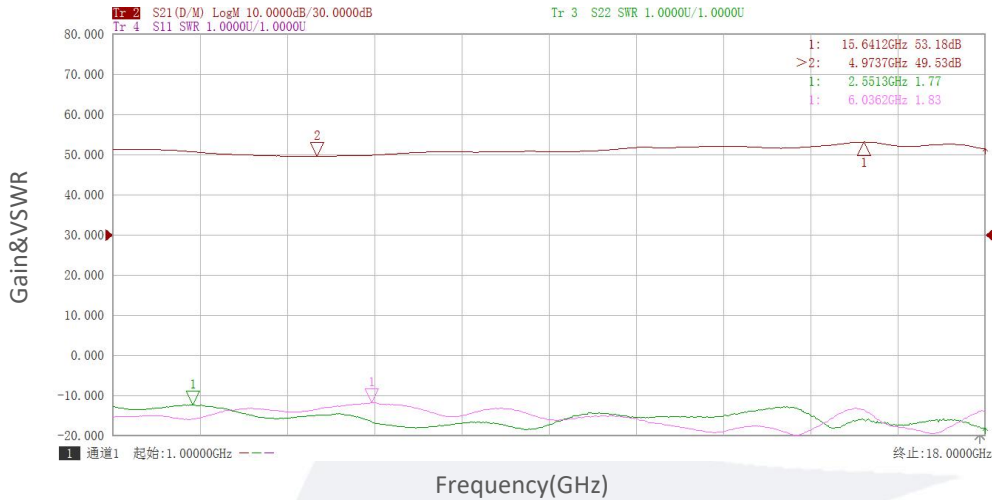
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

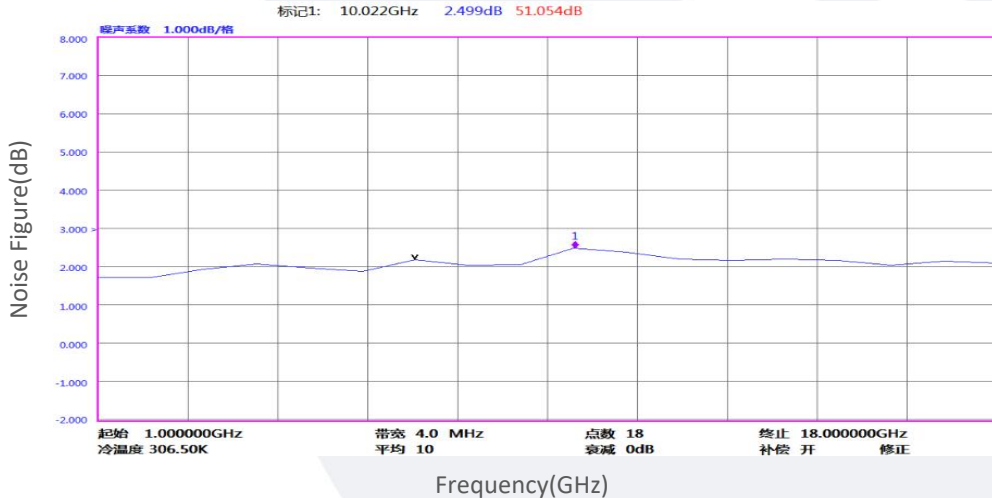
Base Number	Description	Revision
TLLA1G18G-50-30	Low Noise Amplifier, 1-18GHz, Noise Figure:2.5dB, Gain:50 dB,P1dB:15dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA1G18G-50-30-HS	Low Noise Amplifier, 1-18GHz, Noise Figure:2.5dB, Gain:50 dB,P1dB:15dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency

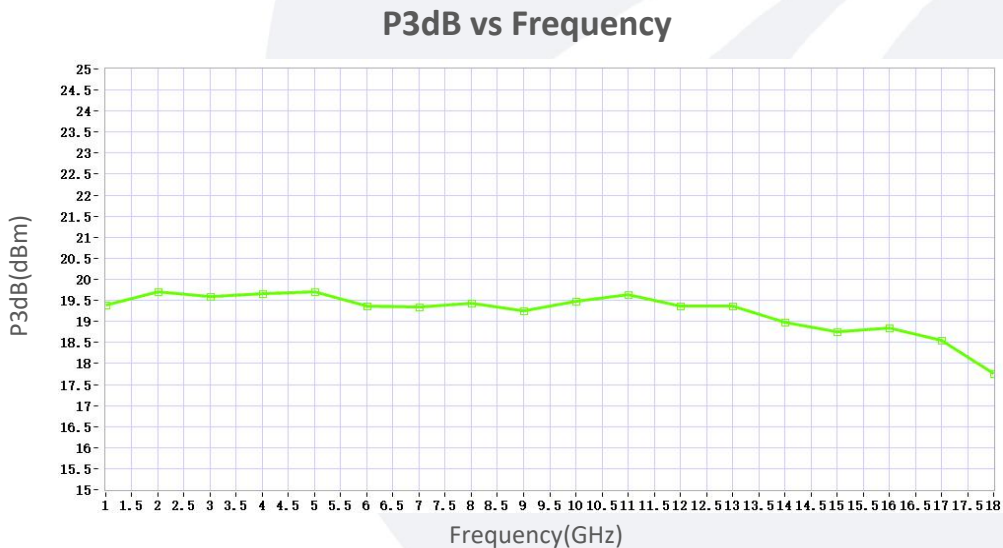
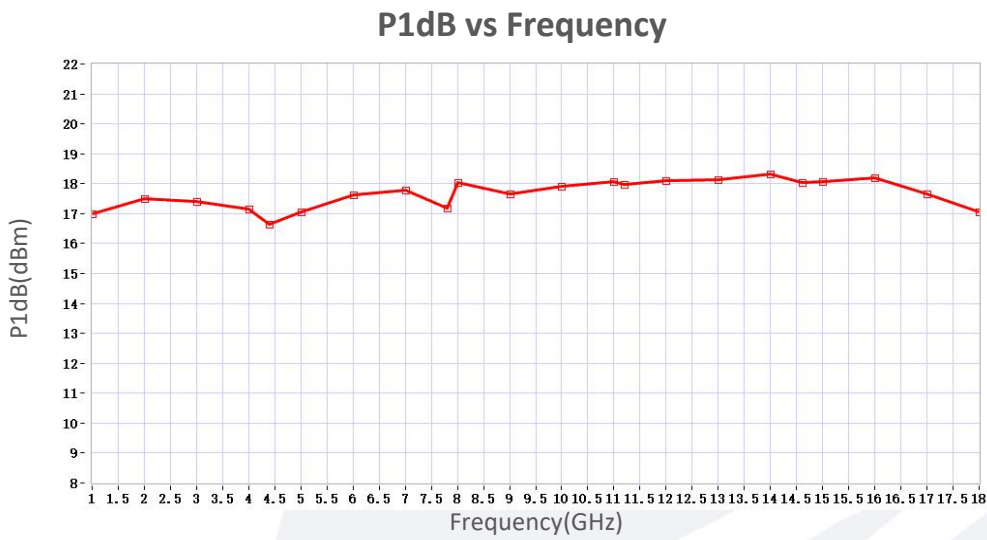
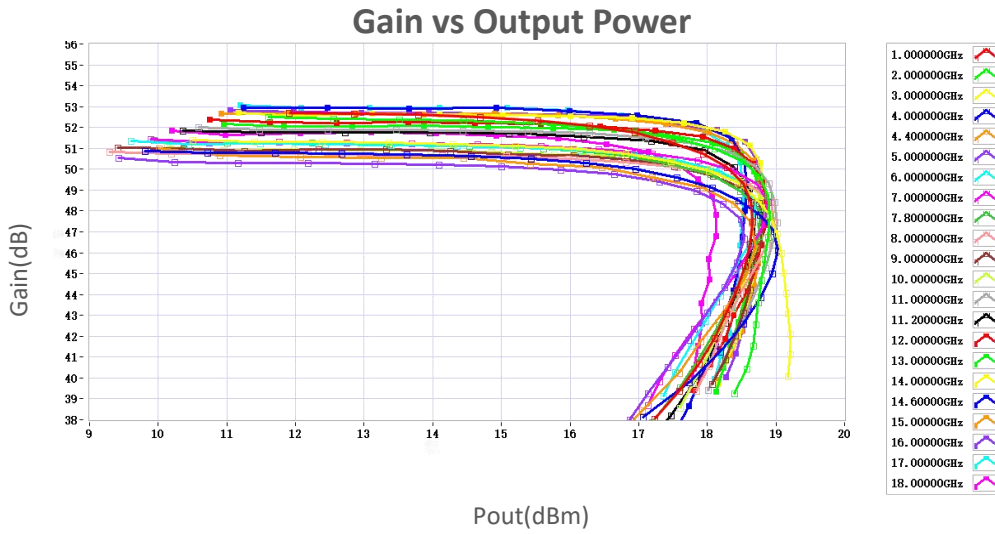


Noise Figure vs Frequency



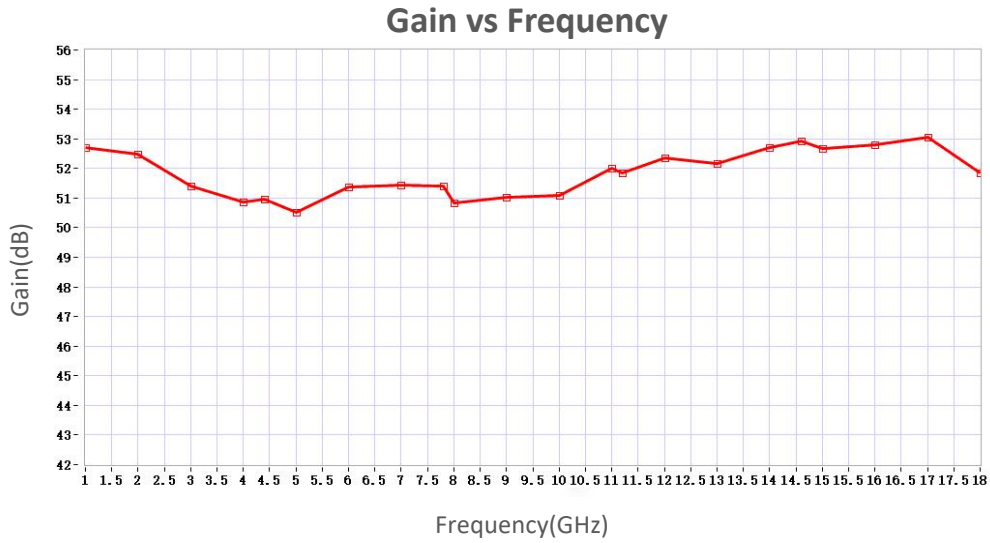
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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