

Low Noise Amplifier

1-18GHz/2.0dB NF/13dB Gain/14dBm P1dB

Model: TLLA1G18G-13-20

TLLA1G18G-13-20 is a low noise amplifier with a minimum small signal gain of 13 dB and a nominal noise figure of 2.0 dB across the frequency range of 1 to 18 GHz. The DC power requirement for the amplifier is +12V DC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 1-18GHz
- Gain: 13dB Min
- Noise Figure: 2.0dB 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	13	14		dB
Gain Flatness		±1		dB
Noise Figure		2.0	2.5	dB
Output P1dB	13	14		dBm
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage	+8	+12	+15	V DC
DC Supply Current		50		mA
Impedance		50		Ohms

Mechanical Specifications:

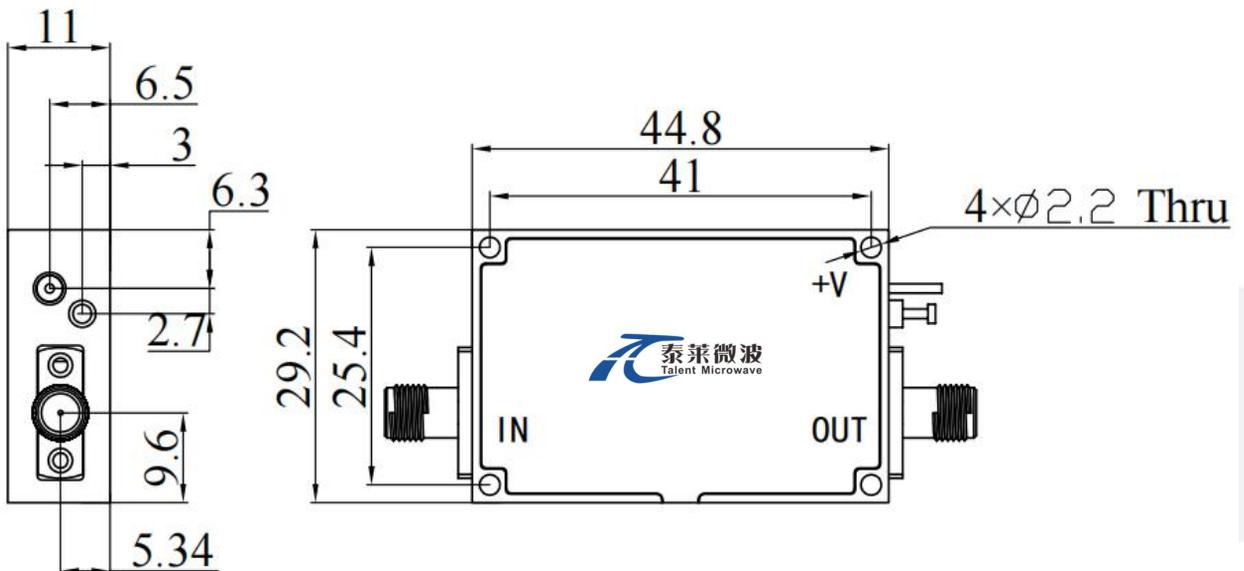
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm
Weight	55	g

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+20 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Environmental Conditions:

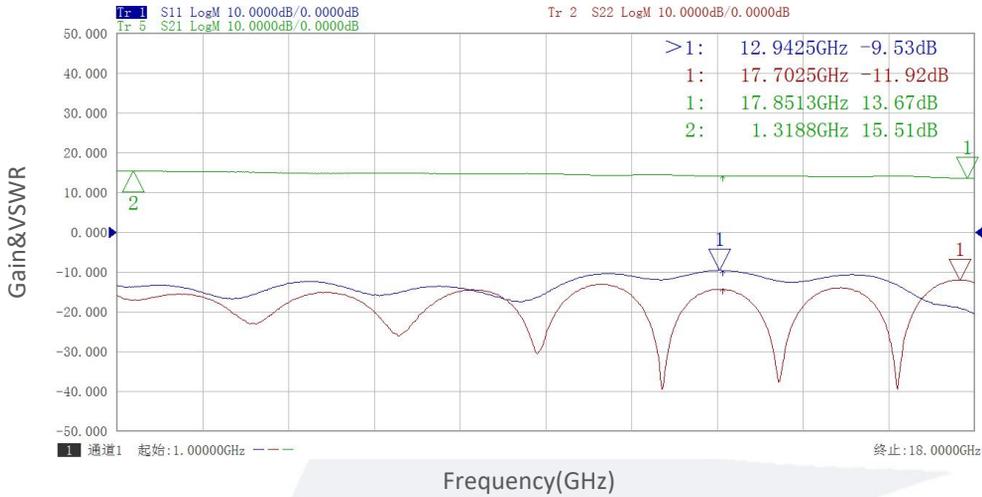
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

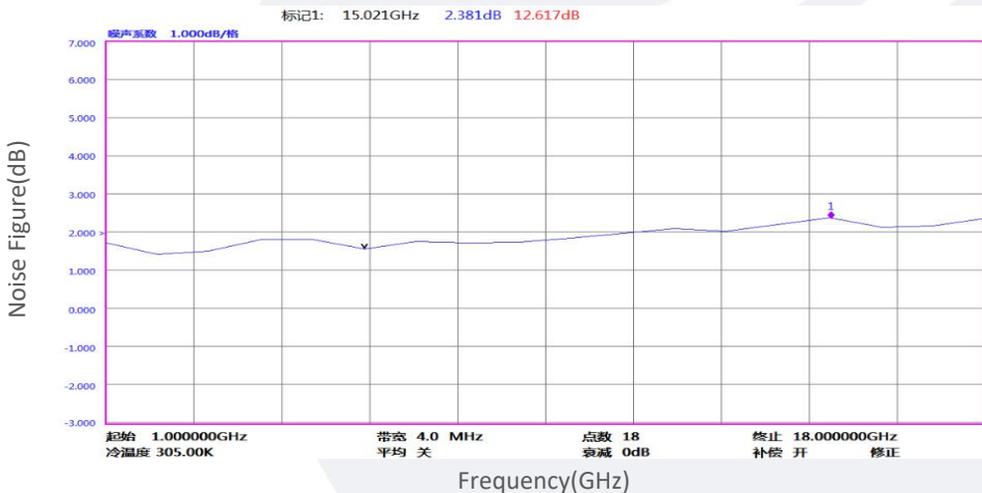
Base Number	Description	Revision
TLLA1G18G-13-20	Low Noise Amplifier, 1-18GHz, Noise Figure: 2.0dB, Gain: 13dB, P1dB: 14dBm, +12V DC, Without Heatsink	Rev.1.1
TLLA1G18G-13-20-HS	Low Noise Amplifier, 1-18GHz, Noise Figure: 2.0dB, Gain: 13 dB, P1dB: 14dBm, +12V DC, With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



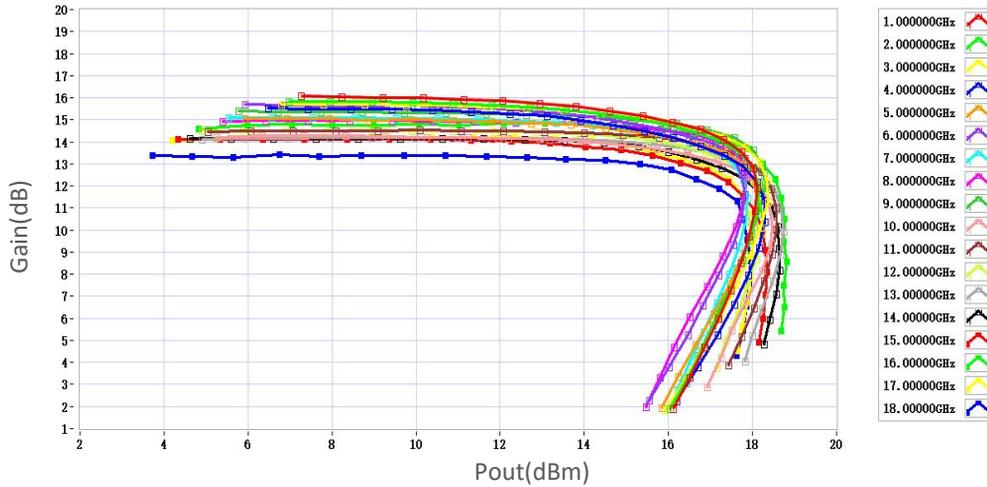
Noise Figure vs Frequency



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.

Typical Performance Data:

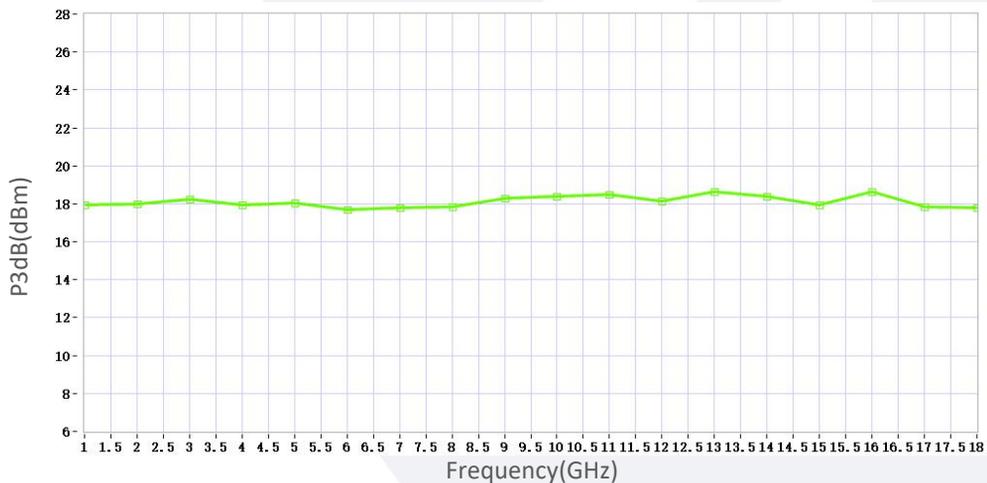
Gain vs Output Power



P1dB vs Frequency



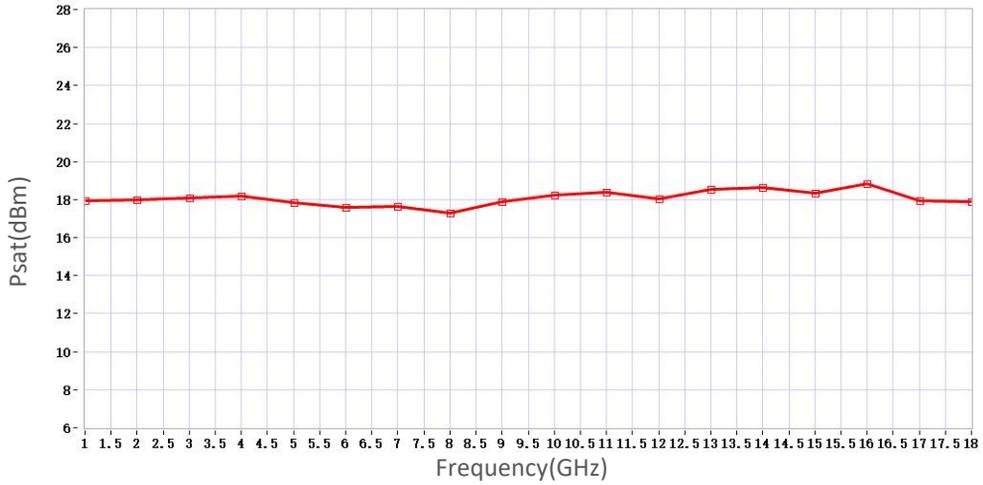
P3dB vs Frequency



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.

Typical Performance Data:

Psat 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.