

Low Noise Amplifier

4-8GHz/0.9dB NF/45dB Gain/16dBm P1dB

Model: TLLA4G8G-45-07

TLLA4G8G-45-07 is a low noise amplifier with a typical small signal gain of 45 dB and a nominal noise figure of 0.9 dB across the frequency range of 4 to 8 GHz. The DC power requirement for the amplifier is +12 V DC/70 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 4-8GHz
- Gain: 45dB Typ
- Noise Figure: 0.9dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	4		8	GHz
Small Signal Gain	43	45		dB
Gain Flatness		±1	±1.5	dB
Noise Figure		0.9	1.2	dB
Output P1dB	14	16		dBm
Input VSWR		2	2.5	:1
Output VSWR		2	2.5	:1
DC Voltage	+8	+12	+15	V DC
DC Supply Current		70		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

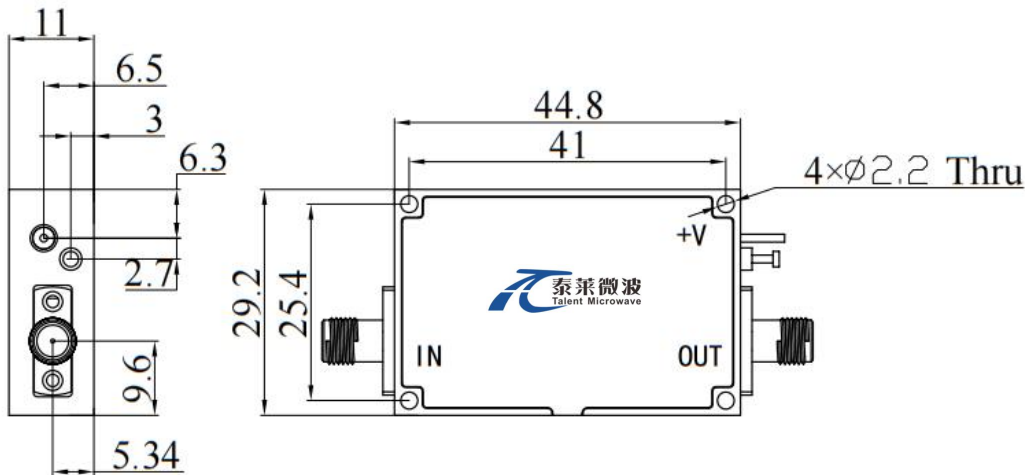
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+12 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm



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



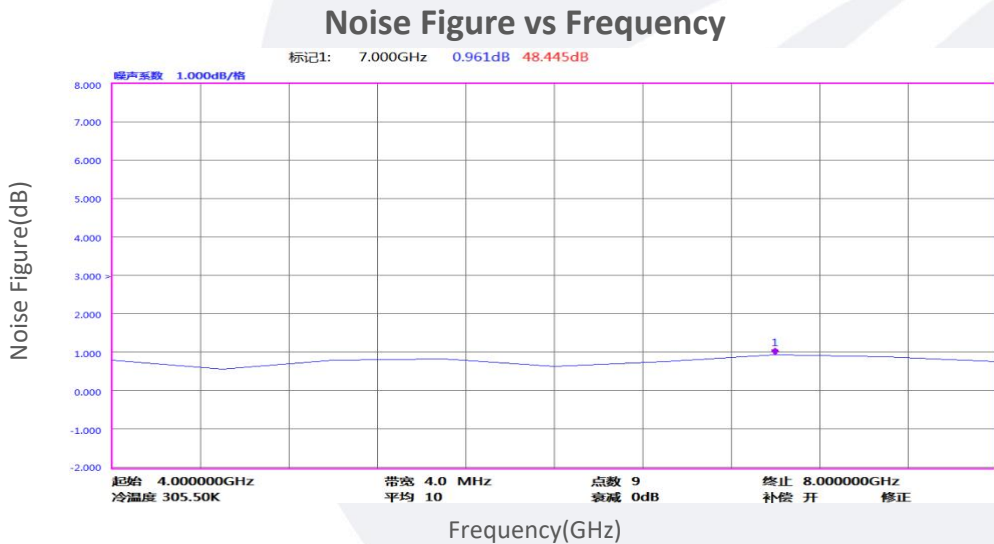
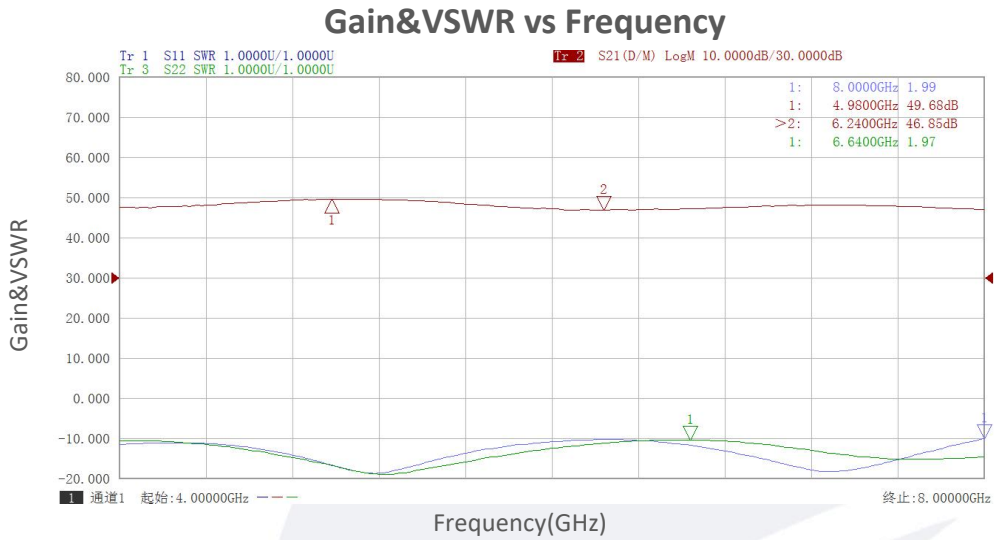
Environmental Conditions:

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
TLLA4G8G-45-07	Low Noise Amplifier, 4-8GHz, Noise Figure:0.9dB, Gain:45 dB,P1dB:16dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA4G8G-45-07-HS	Low Noise Amplifier, 4-8GHz, Noise Figure:0.9dB, Gain:45 dB,P1dB:16dBm,+12V DC,With Heatsink	Rev.1.1

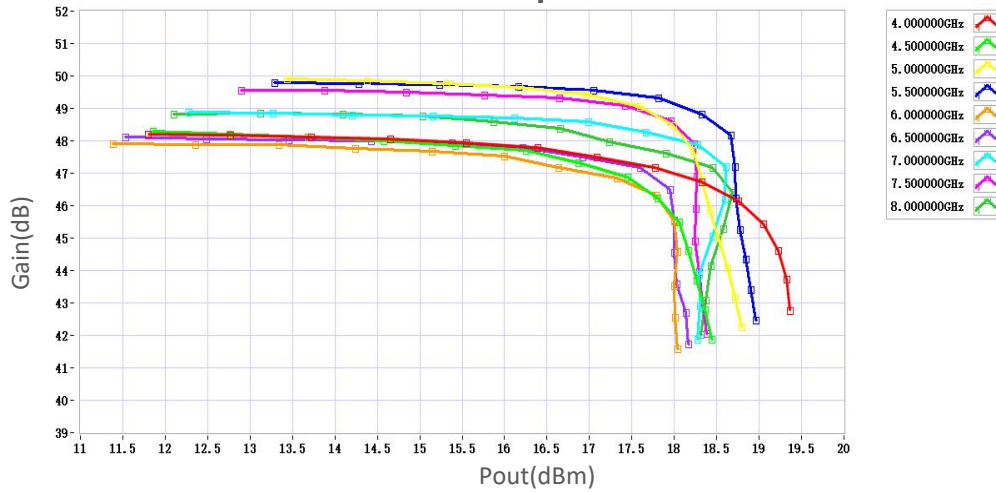
Typical Performance Data:



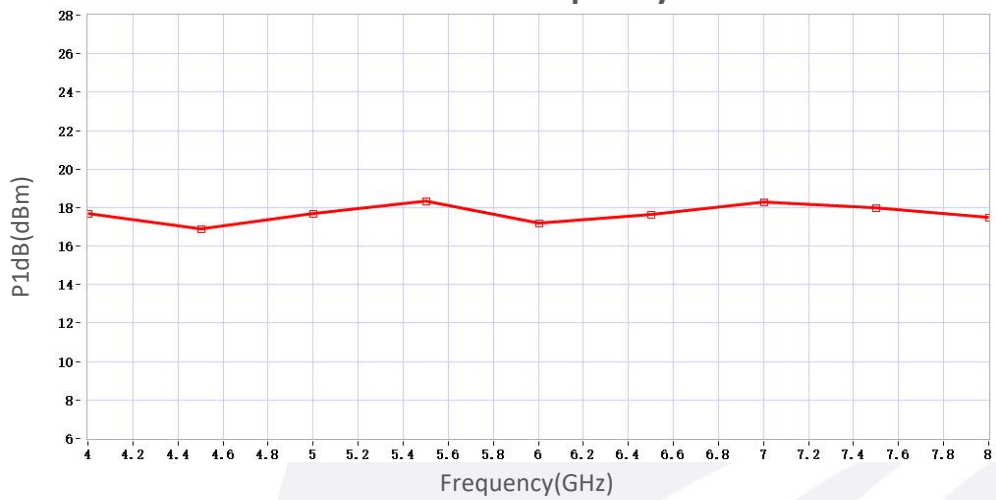
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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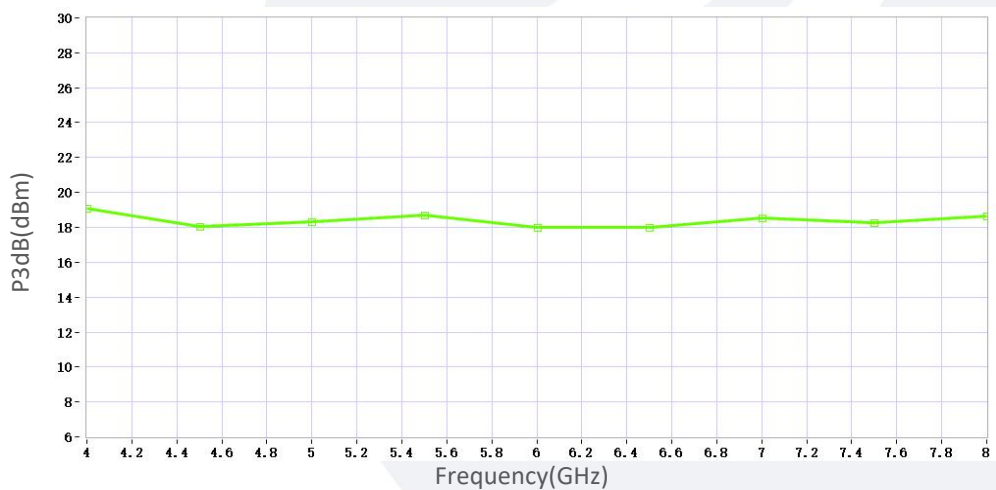
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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