

Low Phase Noise Amplifier

2-30GHz /10dB Gain/+18dBm P1dB

Model: TLPNA2G30G-10-20

TLPNA2G30G-10-20 is a low phase noise driver amplifier across the frequency range of 2 to 30 GHz, with a typical small signal gain of 10dB , provide a +18 dBm P1dB@2-20GHz. The DC power requirement for the amplifier is +12 V DC/20 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range:2-30GHz
- Gain: 10dB Typ.
- Output P1dB: +18dB Typ.
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Frequency range		2		30	GHz
Small Signal Gain	@2-20GHz		10		dB
	@20-29GHz		8		
Phase Noise @10KHz offset			-165		dBc/Hz
Noise Figure			6		dB
Output P1dB	@2-20GHz		18		dBm
	@20-29GHz		15		
Output IP3			21		dBm
Input VSWR			2.5		:1
Output VSWR			2.5		:1
DC Voltage		+8	+12	+15	V DC
DC Supply Current			20		mA
Impedance			50		Ohms

Mechanical Specifications:

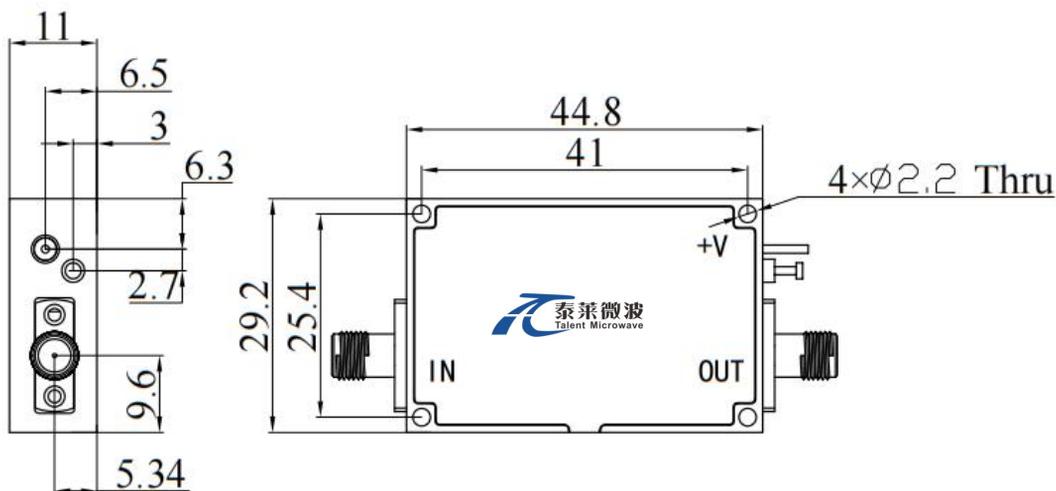
Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm
Weight	55	g

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+10 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:

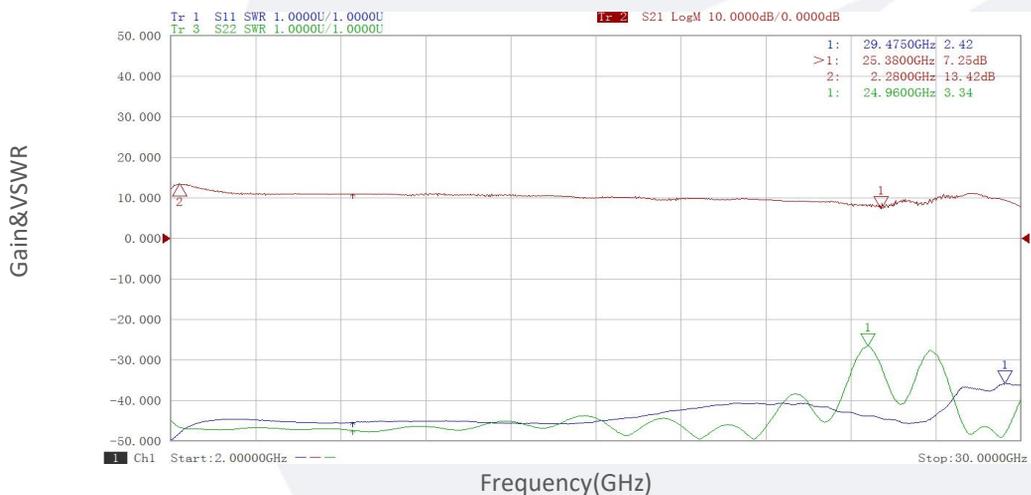
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TLPNA2G30G-10-20	Low Phase Noise Amplifier, 2-30GHz, Gain:10 dB, Phase Noise:-165dBc/Hz, P1dB:+18dBm,+12V DC, Without Heatsink	Rev.1.1
TLPNA2G30G-10-20-HS	Low Phase Noise Amplifier, 2-30GHz, Gain:10 dB, Phase Noise:-165dBc/Hz, P1dB:+18dBm,+12V DC, With Heatsink	Rev.1.1

Typical Performance Data:

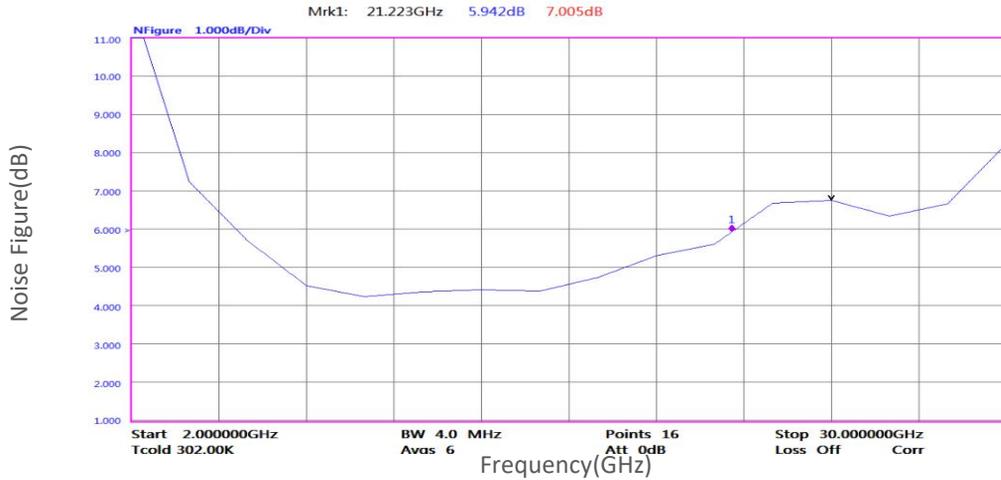
Gain&VSWR vs Frequency



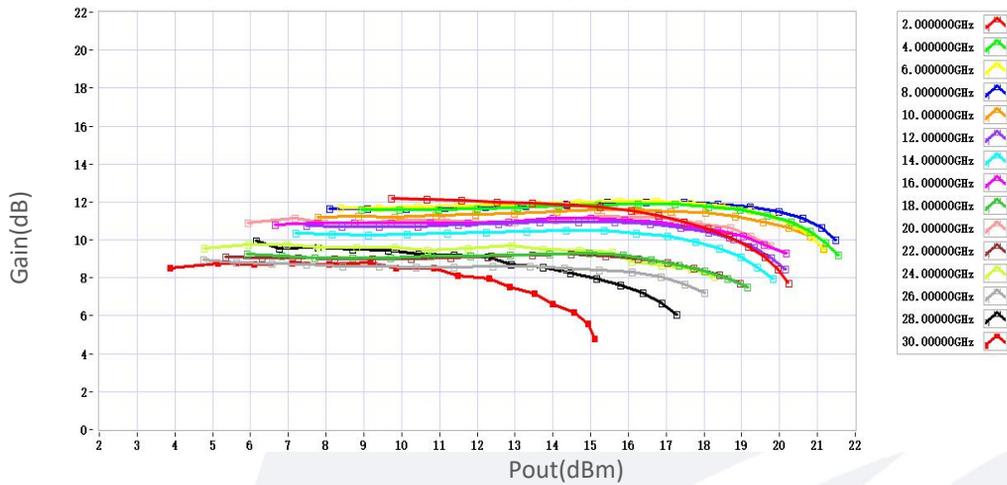
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

Noise Figure vs Output Power



Gain vs Output Power



P1dB vs Frequency



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