

Low Phase Noise Amplifier

0.1-22GHz /12dB Gain/+16dBm P1dB

Model: TLPNA0.1G22G-12-18

TLPNA0.1G22G-12-18 is a low phase noise driver amplifier across the frequency range of 0.1 to 22 GHz, with a typical small signal gain of 12dB , provide a +18 dBm P1dB. The DC power requirement for the amplifier is +12 V DC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range:0.1-22GHz
- Gain: 12dB Typ.
- Output P1dB: +16dB Typ.
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	0.1		22	GHz
Small Signal Gain		12		dB
Phase Noise @10KHz offset		-160		dBc/Hz
Noise Figure		5		dB
Output P1dB		16		dBm
Output IP3		24		dBm
Input VSWR		2.0		:1
Output VSWR		2.0		:1
DC Voltage	+8	+12	+15	V DC
DC Supply Current		50		mA
Impedance	50			Ohms

Mechanical Specifications:

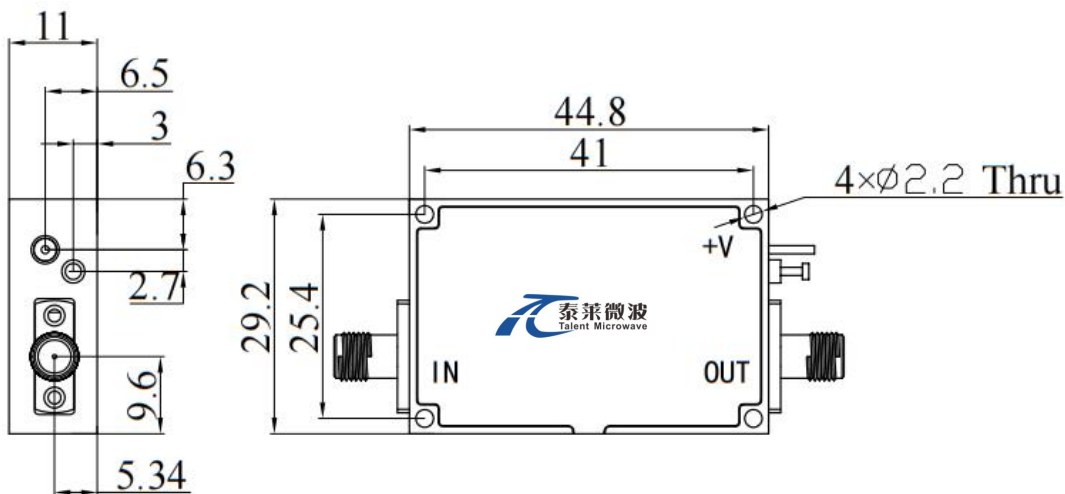
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm
Weight	55	g

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

Environmental Conditions:

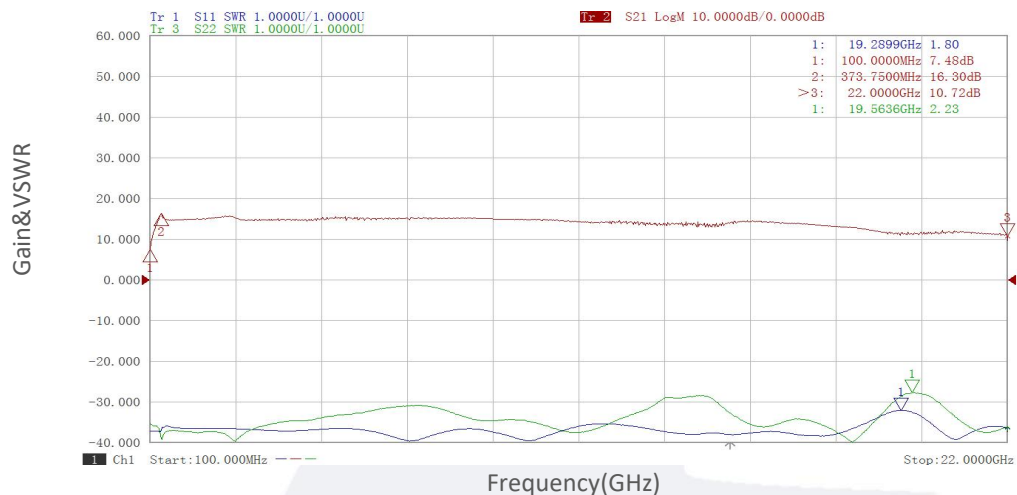
Parameter	Min	Typ	Max	Units
Operating Temperature	-40		+70	°C
Non-operating Temperature	-55		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

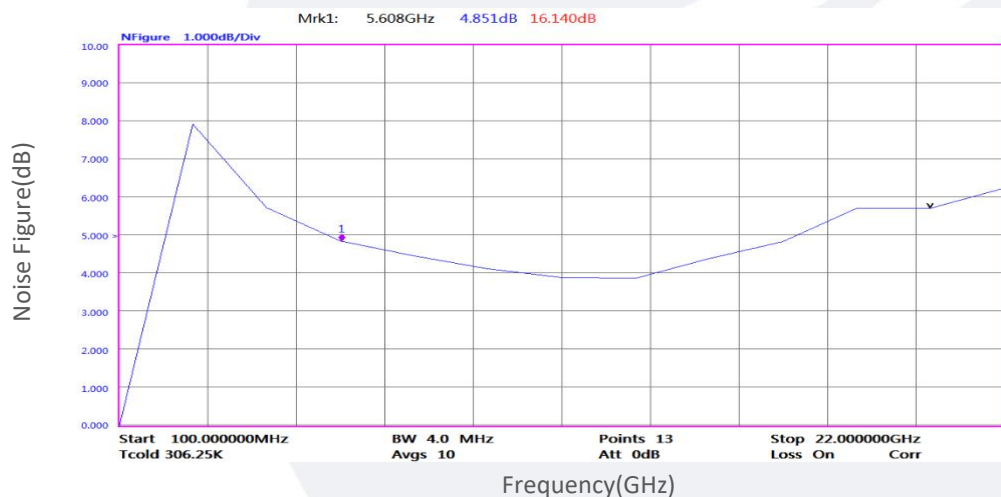
Base Number	Description	Revision
TLPNA0.1G22G-12-18	Low Phase Noise Amplifier, 0.1-22GHz, Gain:12 dB, Phase Noise:-160dBc/Hz, P1dB:+16dBm,+12V DC, Without Heatsink	Rev.1.1
TLPNA0.1G22G-12-18-HS	Low Phase Noise Amplifier, 0.1-22GHz, Gain:12 dB, Phase Noise:-160dBc/Hz, P1dB:+16dBm,+12V DC, With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency

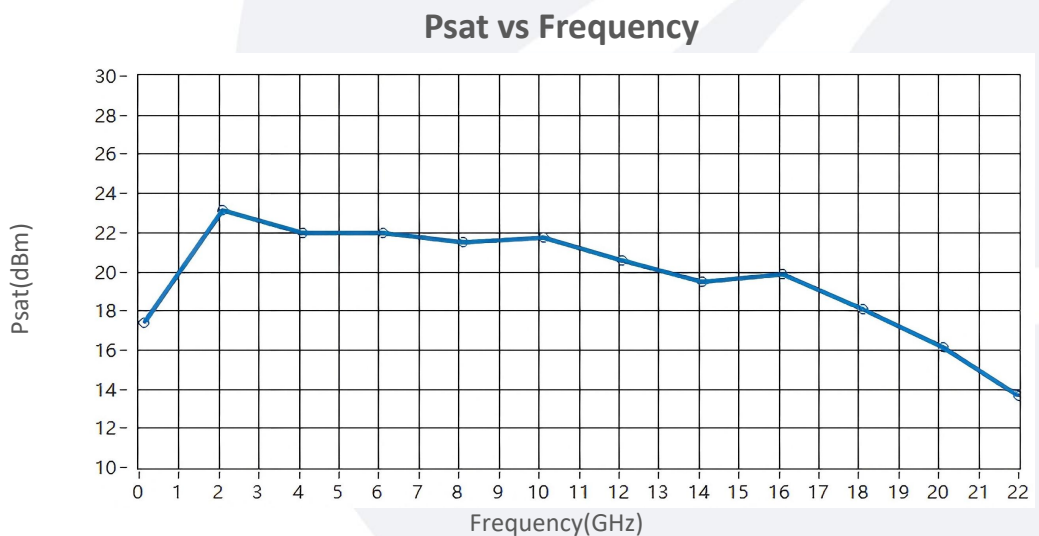
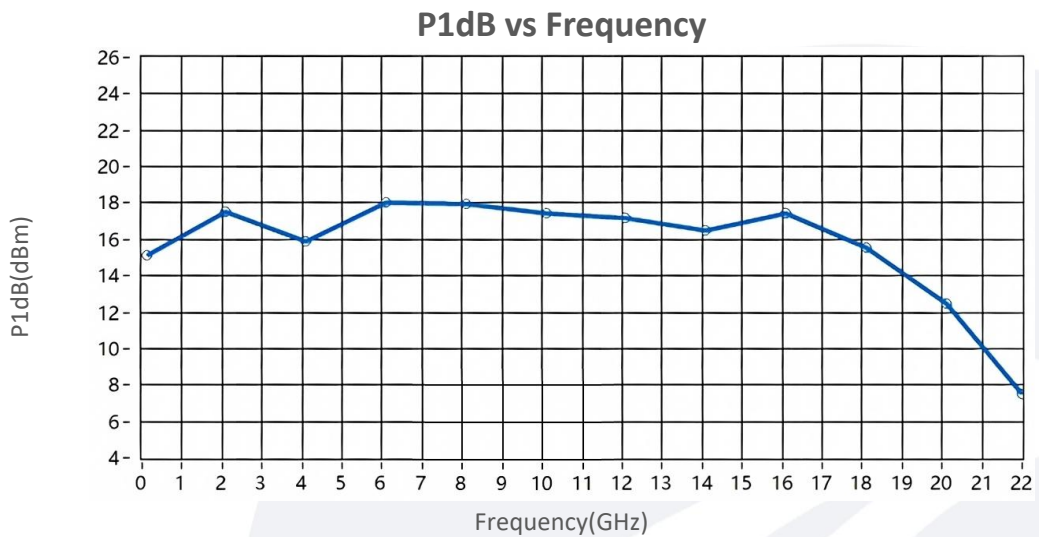
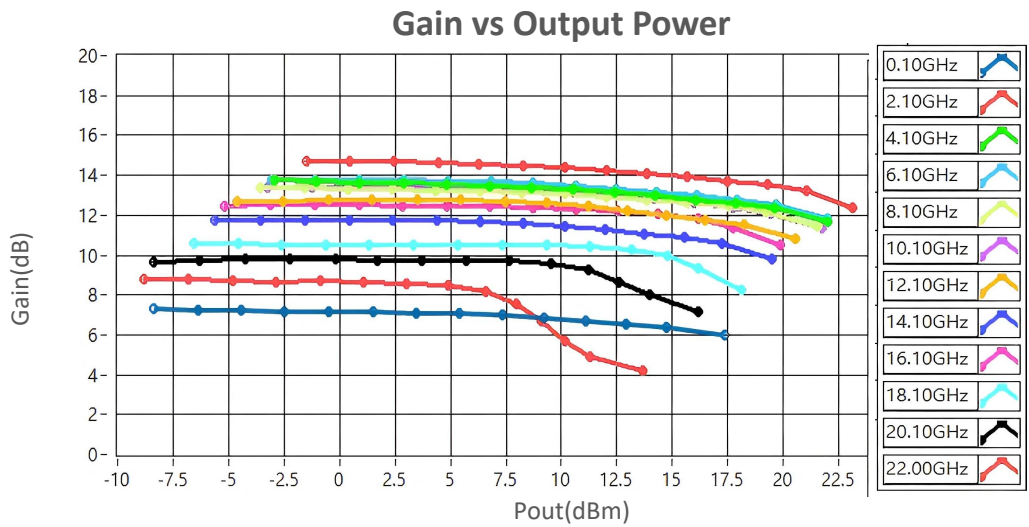


Noise Figure vs Frequency



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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