

## Power Amplifier

50KHz-20GHz/28dB Gain/20dBm Psat

Model: TLPA50K20G-28-20

TLPA50K20G-28-20 is a power amplifier with a typical small signal gain of 28 dB and a nominal Psat of 20 dBm across the frequency range of 50KHz to 20GHz. The DC power requirement for the amplifier is +8 VDC/250 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 50KHz-20GHz
- Gain: 28dB Typ
- Output Power Psat: 20dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	50KHz		20GHz	
Small Signal Gain		28		dB
Gain Flatness			±1.5	dB
Output Psat	18.5	20		dBm
Noise Figure		3		dB
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		+8		V DC
DC Supply Current		250		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

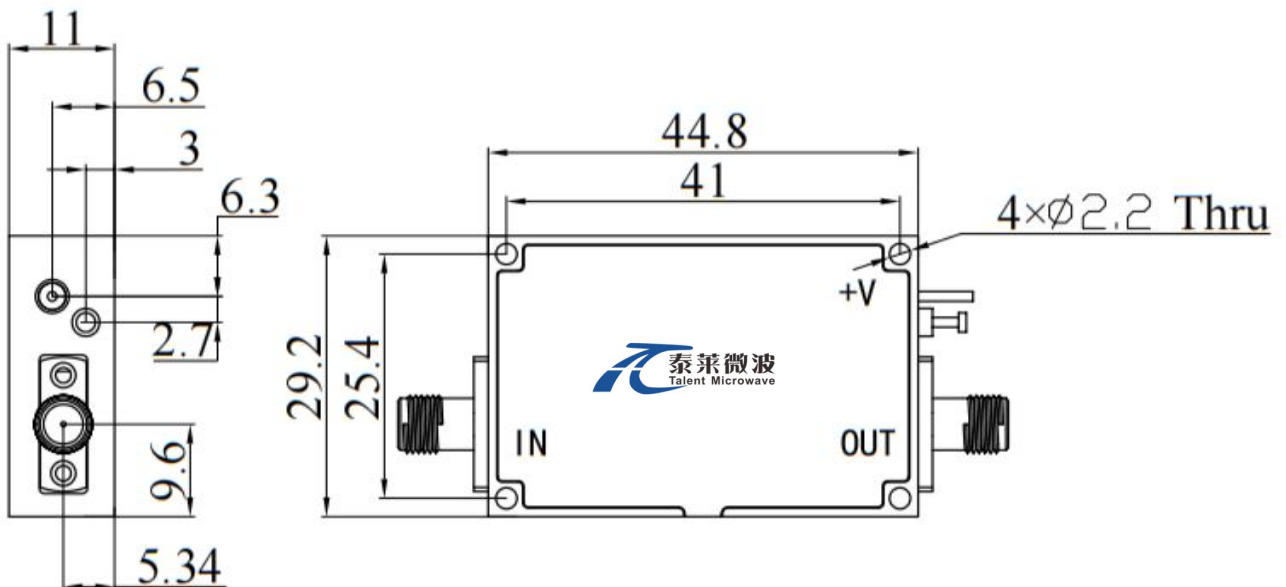
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+10 V
RF Input Power	+12 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:

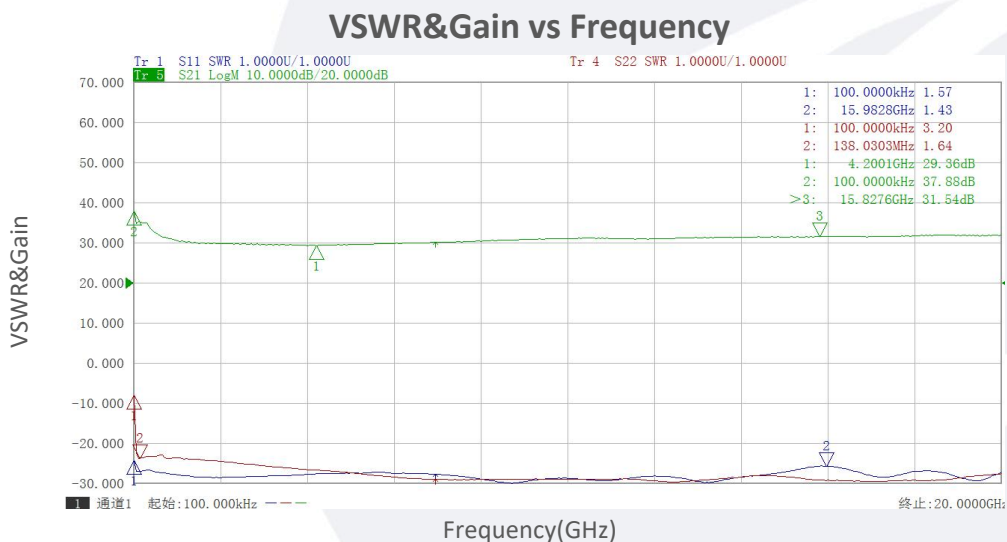
Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA50K20G-28-20	Power amplifier 50KHz-20GHz, Gain:28dB,Psat:20dBm,+8V DC,Without Heatsink	Rev.1.1
TLPA50K20G-28-20-HS	Power amplifier 50KHz-20GHz, Gain:28dB,Psat:20dBm,+8V DC,With Heatsink	Rev.1.1

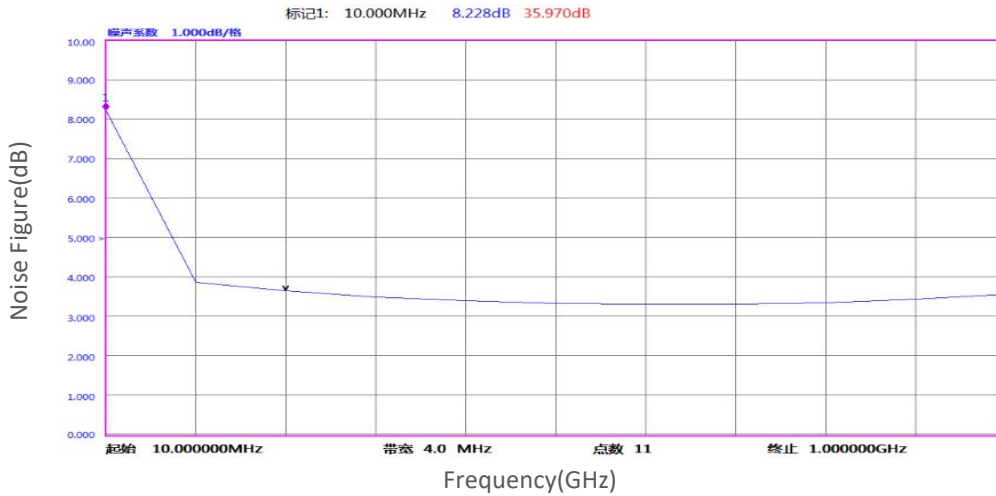
### Typical Performance Data:



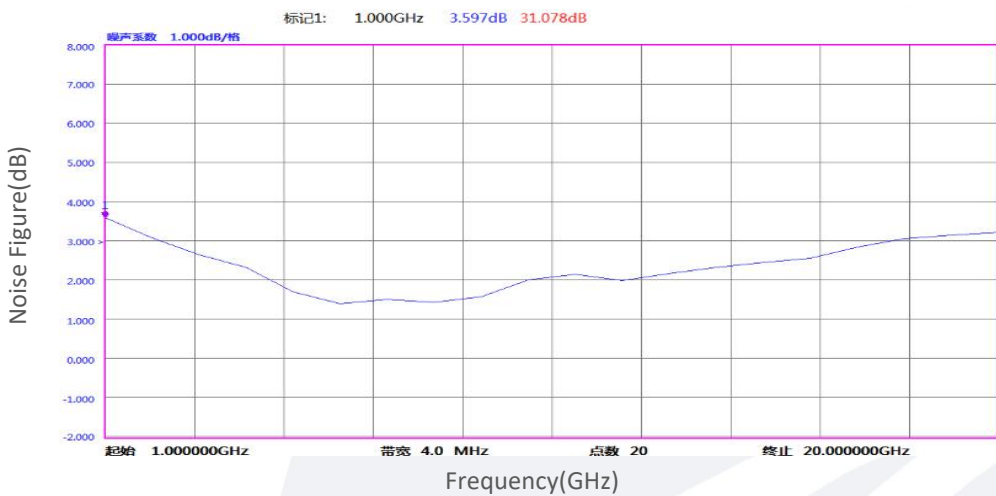
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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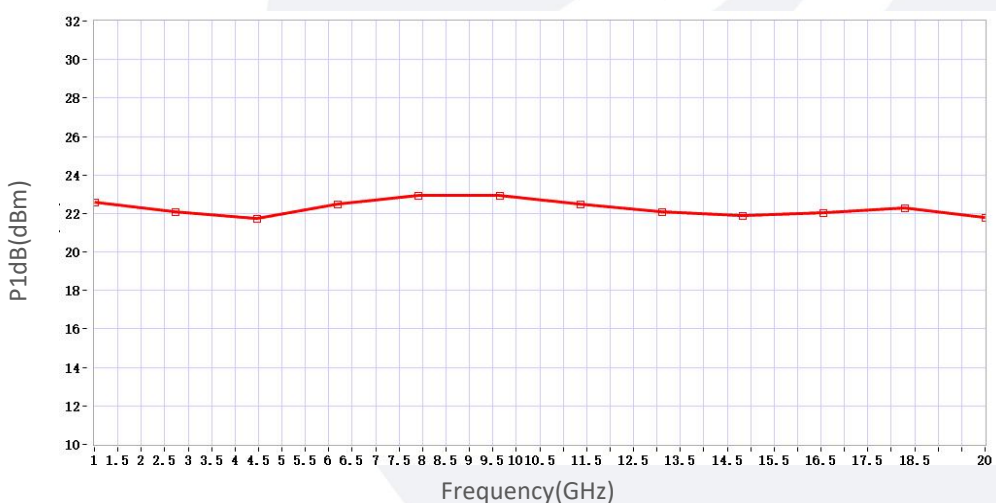
### Noise Figure vs Frequency



### Noise Figure vs Frequency



### P1dB vs Frequency



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