



# Power Amplifier

## Model: PA-1G-18G-1

1-18GHz 1W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 1-18GHz
- High output power at saturation, 1W Typ.
- High gain, 40 dB Typ.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-1G-18G-1 is a power amplifier with a typical small signal gain of 40 dB and a nominal  $P_{sat}$  of 1W across the frequency range of 1 to 18GHz. The DC power requirement for the amplifier is +18 VDC/800 mA. The input and output port configuration offers coax adapter structure with SMA female.



## Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	1		18	GHz
Small Signal Gain	38	40		dB
Small Signal Gain Flatness		±2.5		dB
Output P1dB	27			dBm
Output Psat		30		dBm
Noise Figure		4		dB
Input VSWR			2.2	:1
Output VSWR			2.2	:1
DC Voltage		+18	+20	V DC
DC Supply Current		800		mA
Impedance		50		Ohms

## Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-40°C to +60°C	
Non-operating Temperature*	-50°C to +70°C	
Relative humidity	95%	
RF Input/Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
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	
Dimensions W x H x D	40.3*35.3*12	mm
Weight	50	g

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

## Absolute Maximum Ratings:

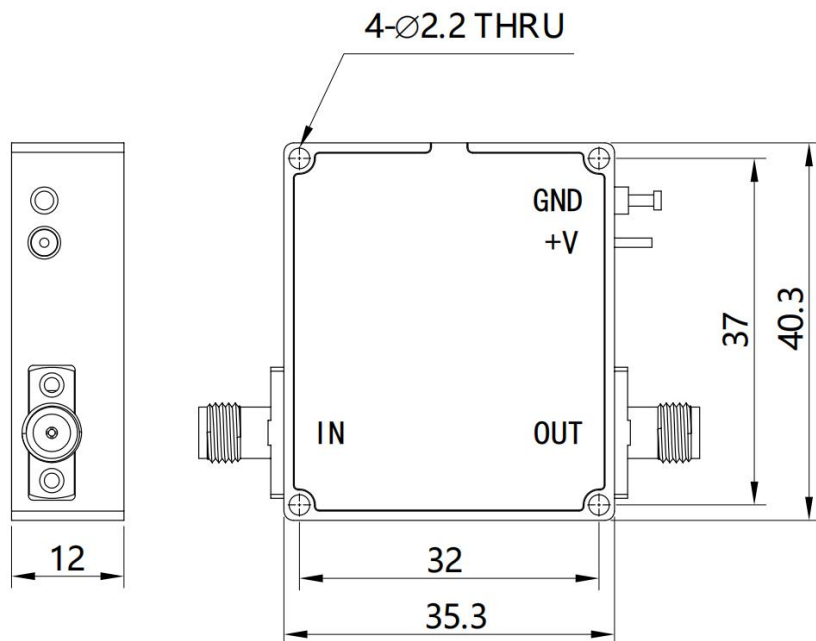
Parameter	Value
Supply Bias Voltage	+20 V
RF Input Power	0 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm

PA-1G-18G-1



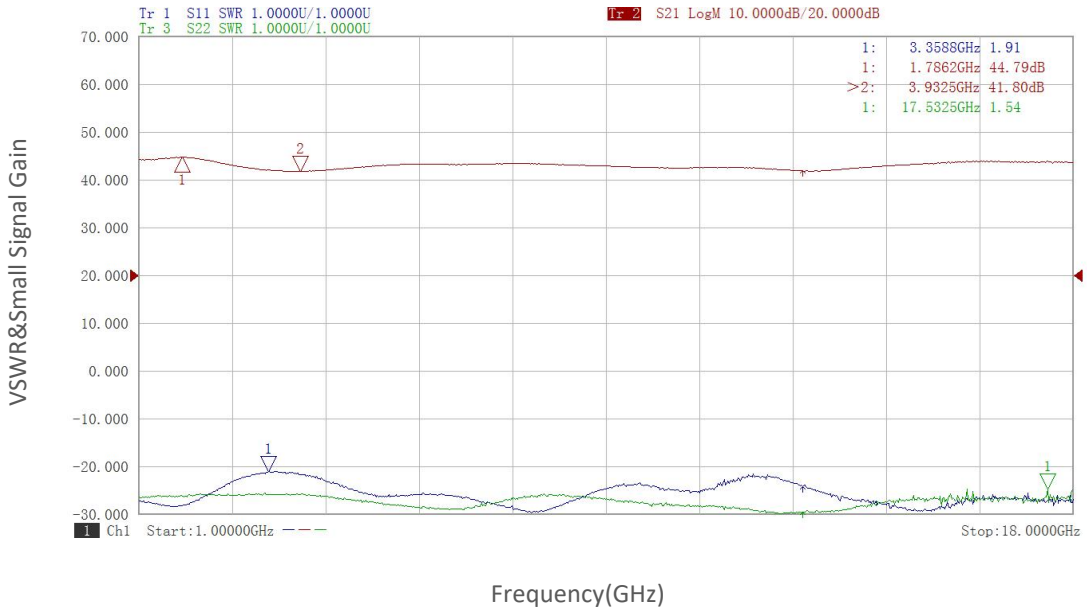
## Ordering Information:

Base Number	Description	Optional
PA-1G-18G-1	Power Amplifier, 1-18GHz, Gain:40dB,Psat:1W,+18V DC	Without Heatsink
PA-1G-18G-1-HS	Power Amplifier, 1-18GHz, Gain:40dB,Psat:1W,+18V DC	With Heatsink

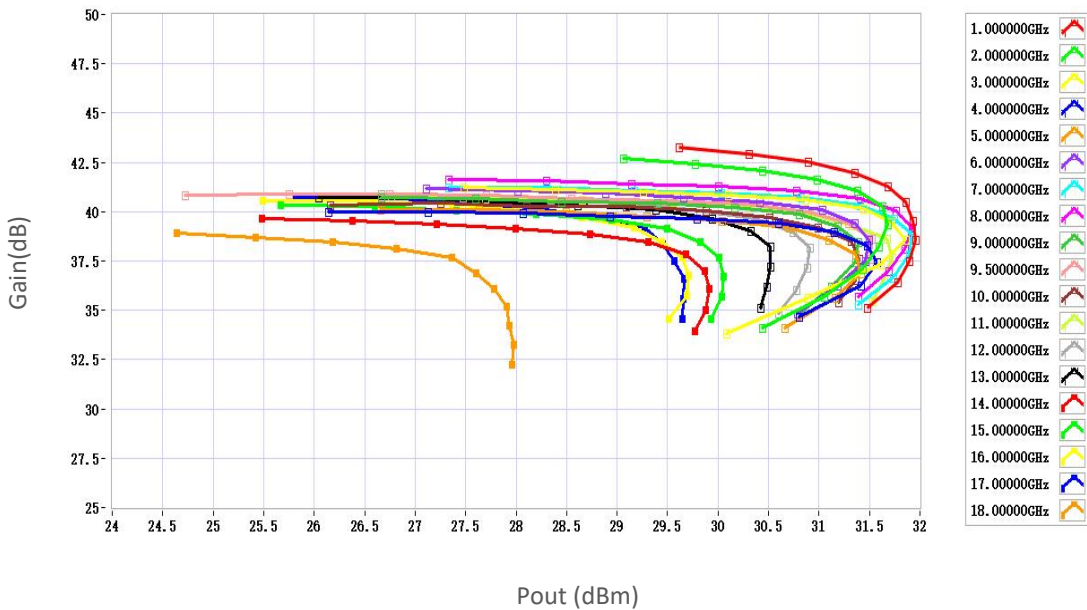


## Typical Performance Data:

### VSWR&Small Signal Gain vs Frequency



### Gain vs Output Power

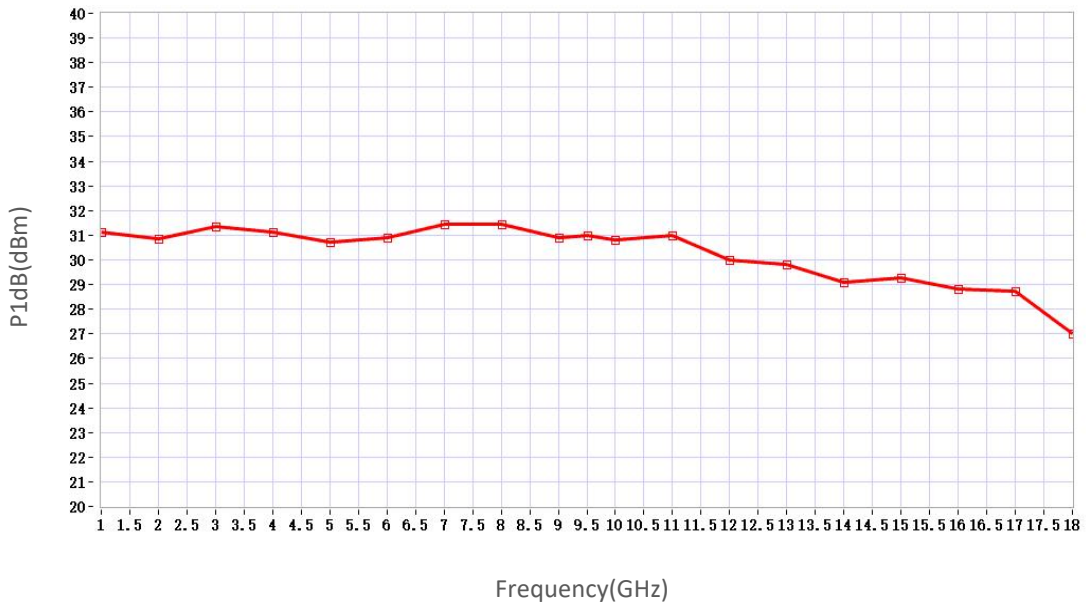


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



## Typical Performance Data:

### P1dB vs Frequency



### P3dB vs Frequency

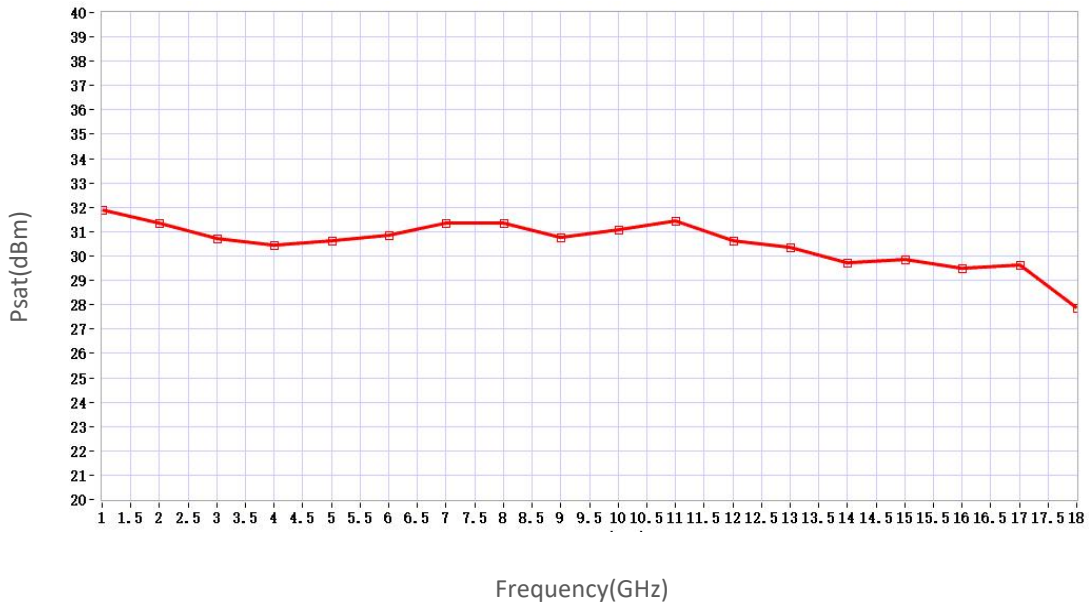


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

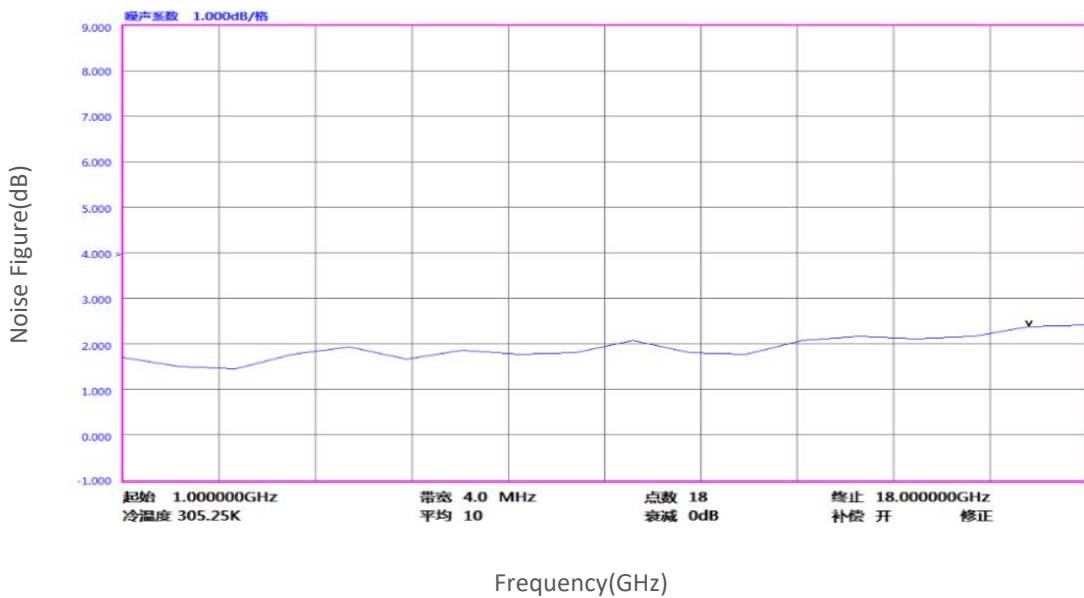


## Typical Performance Data:

### Psat vs Frequency



### 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.