

## Power Amplifier

0.01-18GHz/31dB Gain/25dBm Psat

Model: TLPA0.01G18G-31-25

TLPA0.01G18G-31-25 is a power amplifier with a typical power gain of 31 dB and a minimum Psat of 25 dBm across the frequency range of 0.01 to 18 GHz. The DC power requirement for the amplifier is +12 VDC/240 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 0.01-18GHz
- Gain: 31dB Typ
- Output Power Psat: 25dBm Min
- 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	0.01		18	GHz
Power Gain	27	31		dB
Gain Flatness		±2.5		dB
Output P1dB		25		dBm
Output Psat	25	27		dBm
Noise Figure		2.5		dB
Input VSWR		2.0	2.5	:1
Output VSWR		1.8	2.4	:1
DC Voltage		+12		V DC
DC Supply Current		240		mA
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	44*52*13	mm

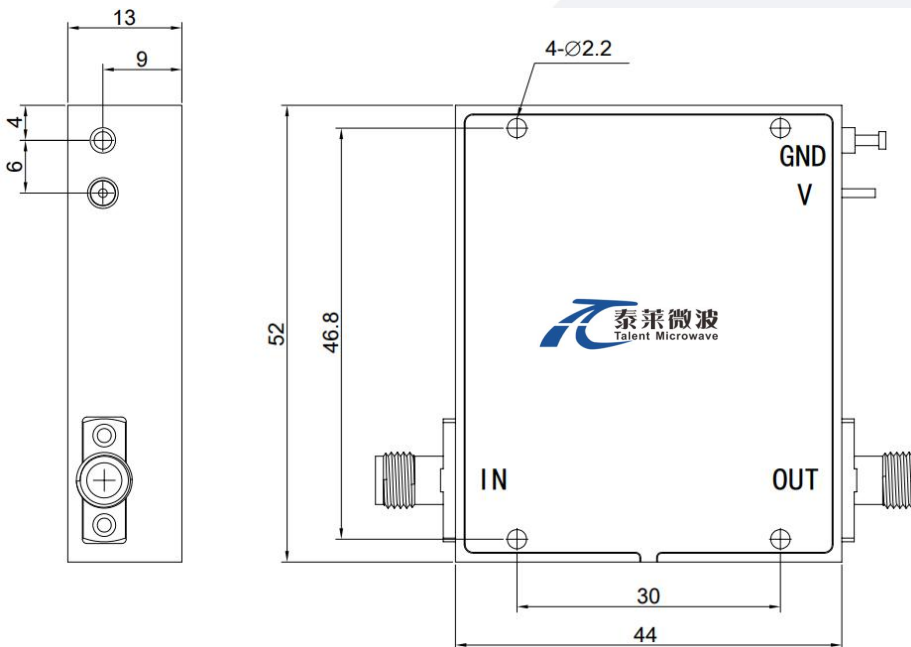
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+12 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*	-40		+60	°C
Non-operating Temperature*	-50		+70	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

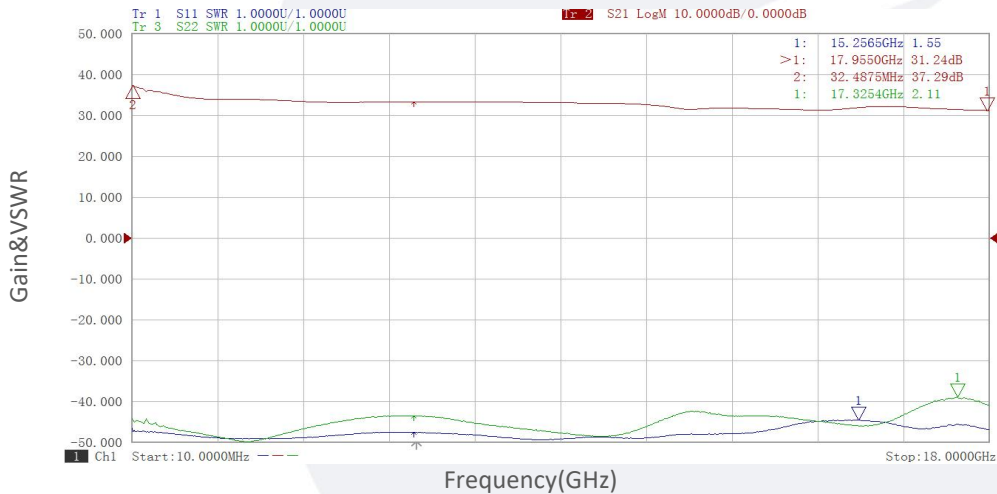
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA0.01G18G-31-25	Power amplifier 0.01-18GHz, Gain:31dB,Psat:25dBm,+12V DC,Without Heatsink	Rev.1.2
TLPA0.01G18G-31-25-HS	Power amplifier 0.01-18GHz, Gain:31dB,Psat:25dBm,+12V DC,With Heatsink	Rev.1.2

### Typical Performance Data:

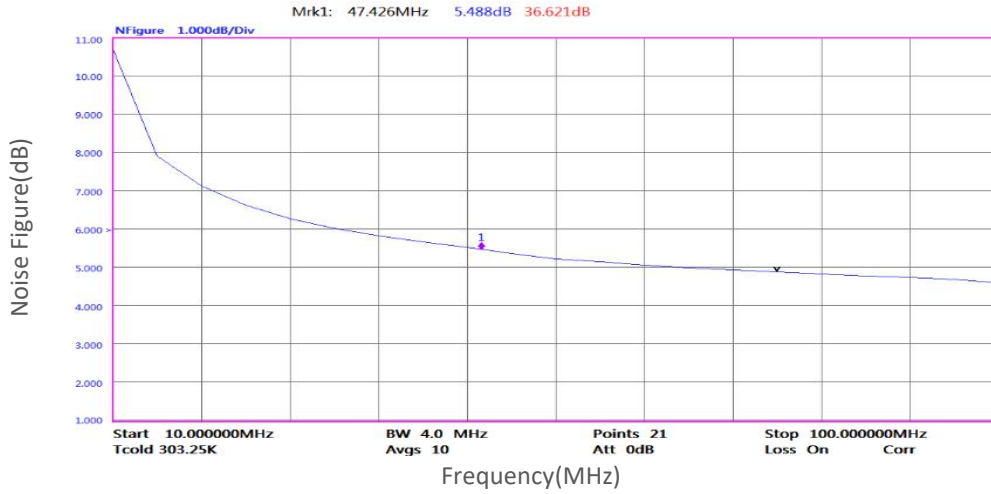
#### Gain&VSWR vs Frequency



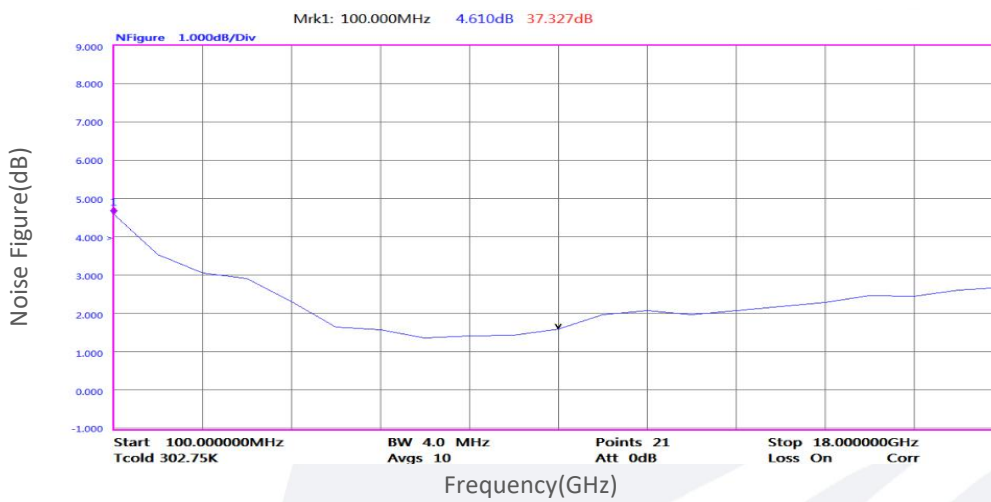
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

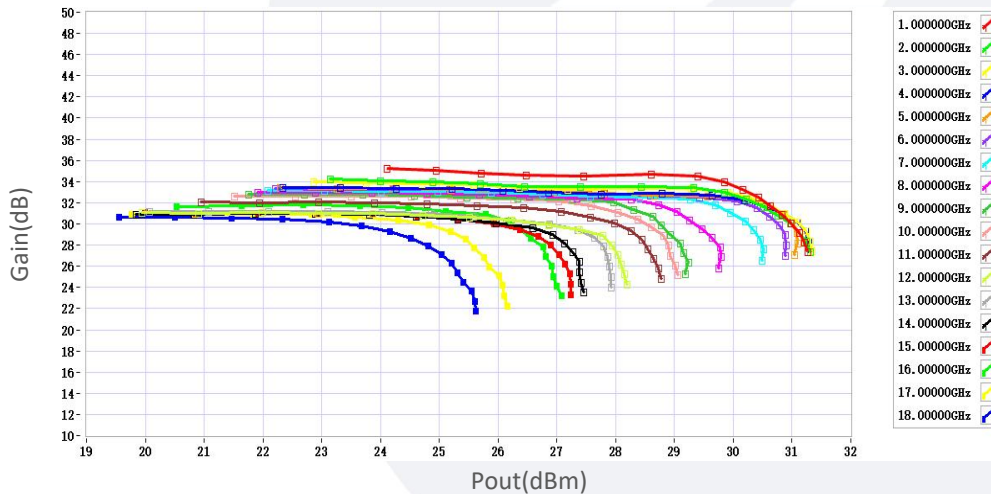
**Noise Figure vs Frequency**



**Noise Figure vs Frequency**



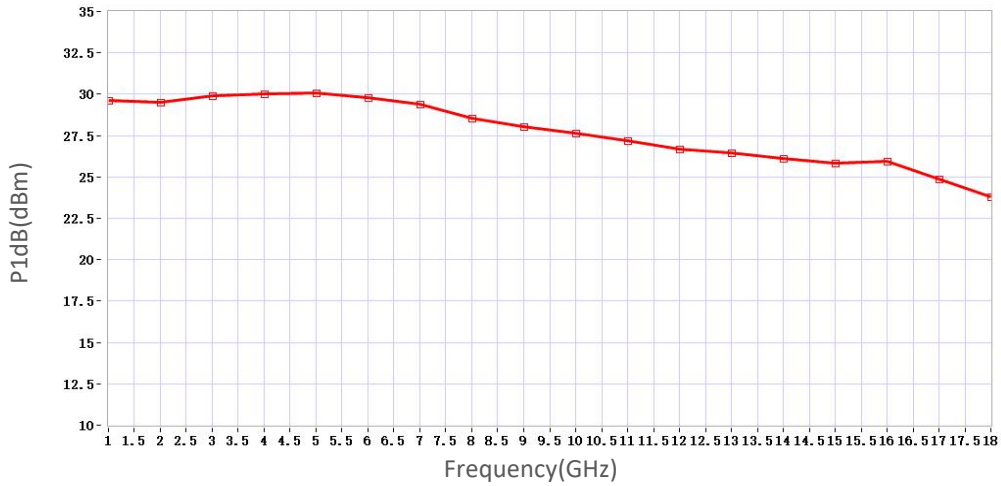
**Gain vs Output Power**



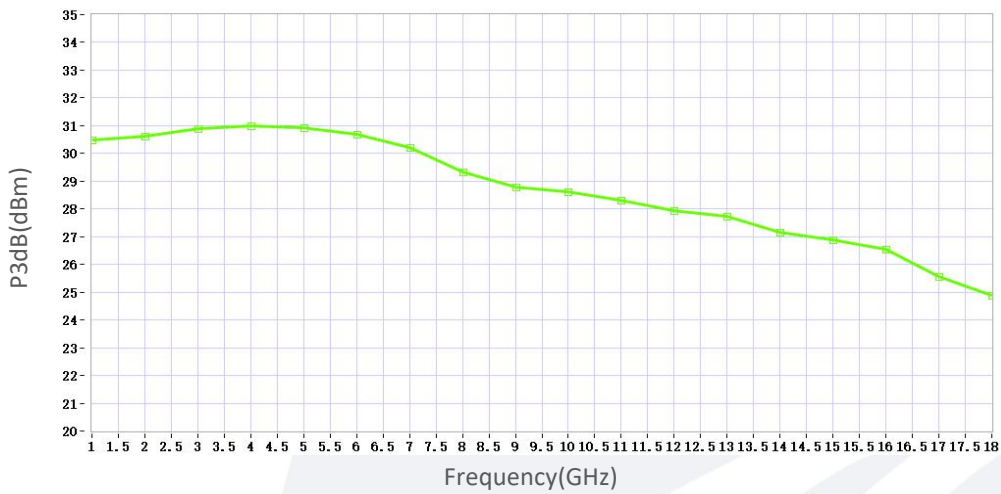
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## Typical Performance Data:

### P1dB vs Frequency



### P3dB vs Frequency



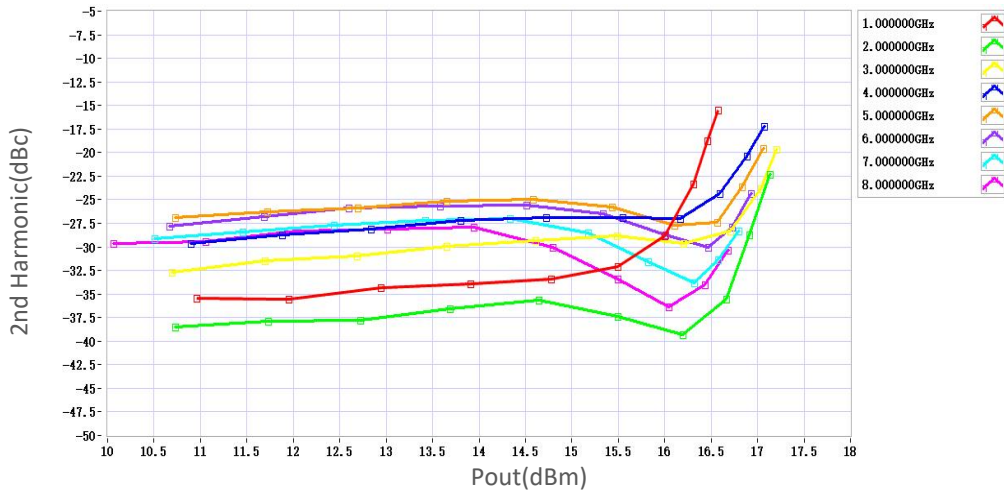
### Psat vs Frequency



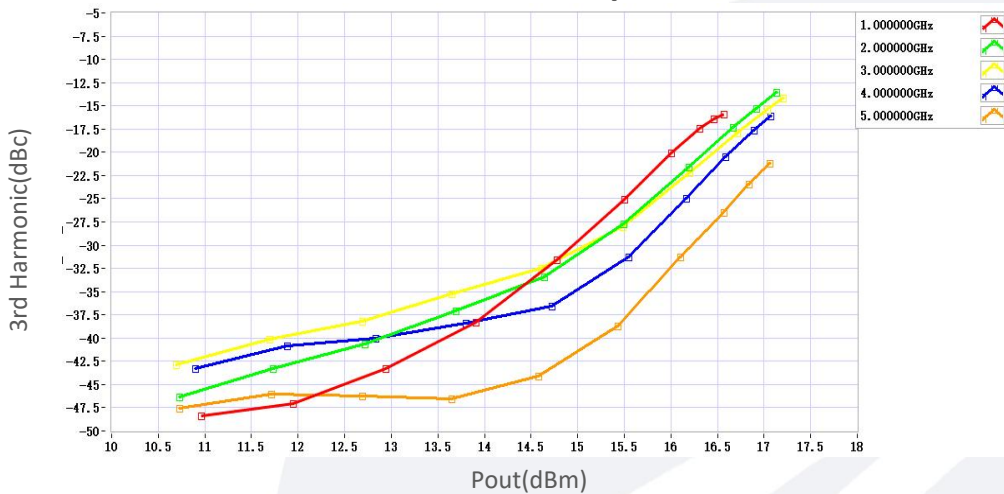
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

### 2nd Harmonic vs Output Power



### 3rd Harmonic vs Output Power



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