

## Power Amplifier

4-8GHz/50dB Gain/49dBm Psat

Model: TLPA4G8G-49-49

TLPA4G8G-49-49 is a power amplifier with a typical small signal gain of 50 dB and a normal Psat of 49 dBm across the frequency range of 4 to 8 GHz. The DC power requirement for the amplifier is +28 VDC/2 A. The input port configuration offers coax adapter structure with SMA female and N output port configuration offers coax adapter structure with female .

### Features:

- Frequency range: 4-8GHz
- Gain: 50dB Typ
- Output Power Psat: 49dBm 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	4		8	GHz
Small Signal Gain	47	50		dB
Gain Flatness		±2	±3	dB
Output P1dB	47	47.5		dBm
Output Psat	48	49		dBm
Input VSWR		1.5	2.0	:1
DC Voltage		28	30	V DC
Static Current		2		A
Saturation current		10	12	A
Impedance		50		Ohms

## Mechanical Specifications:

Parameter	Value	Units
Input/Output Connector	SMA Female/N Female	
DC Supply Connector	D-SUB-9Pin	
Size	148*85*27	mm
Weight	600	g

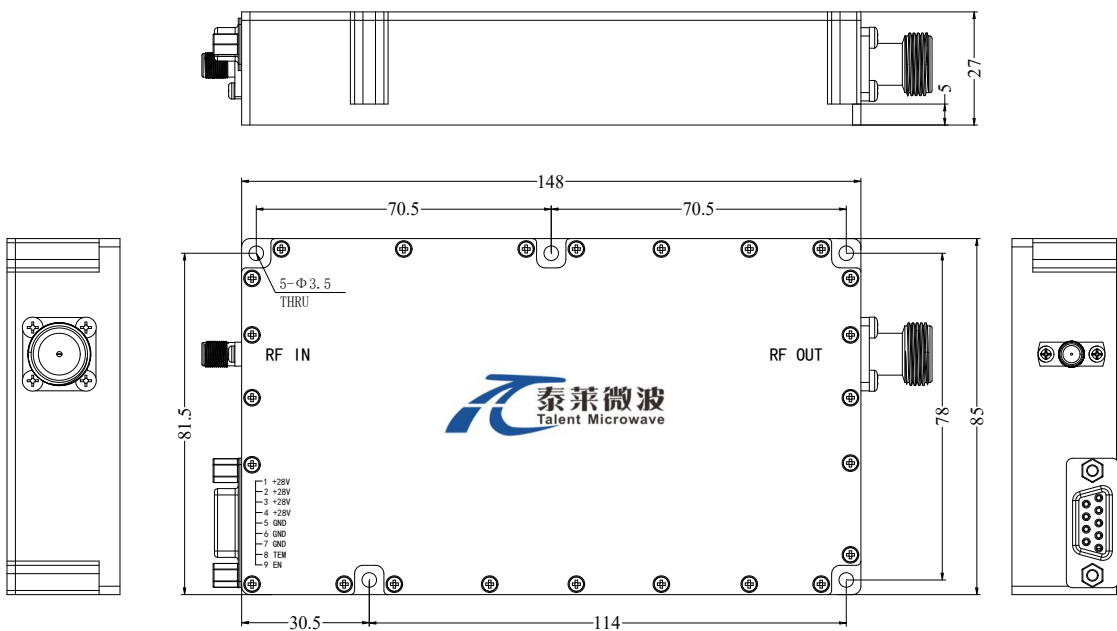
## Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm



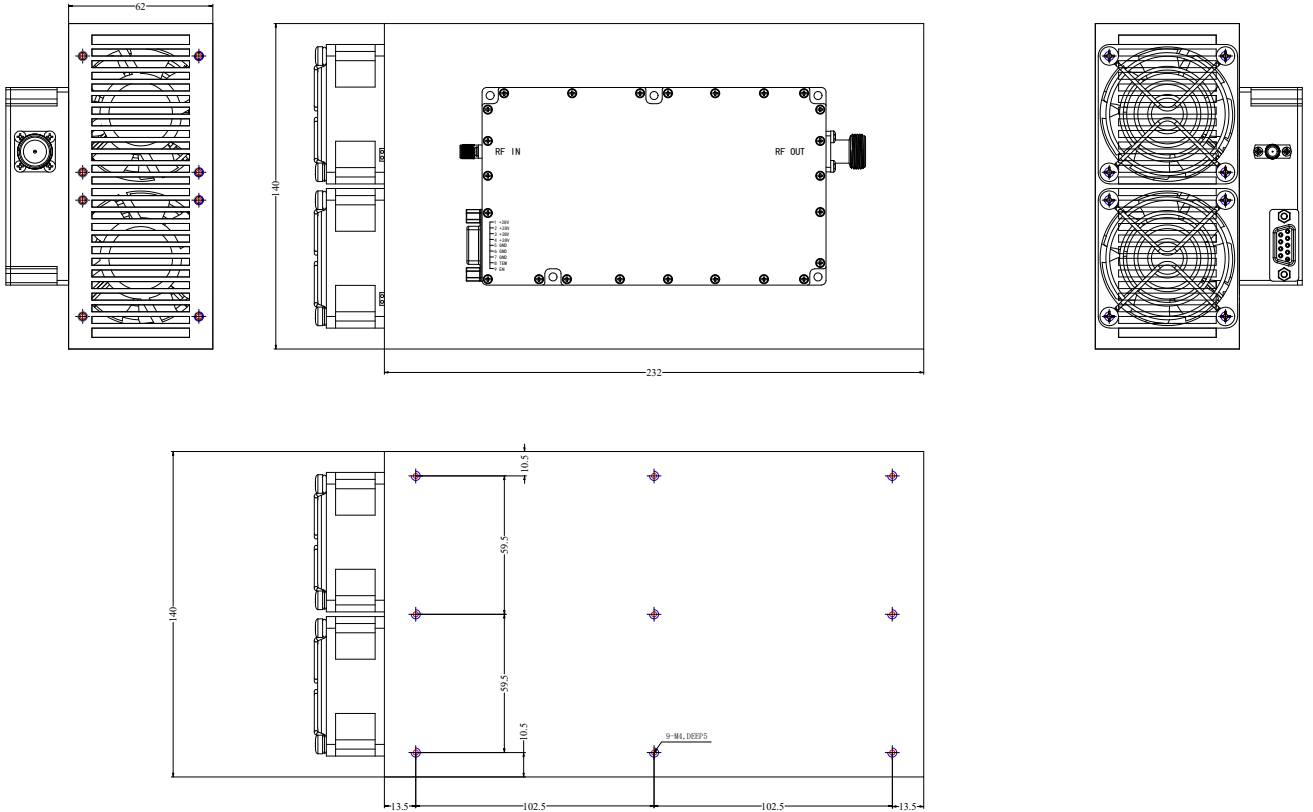
**\*\*\*Heat Sink Required During Operation**



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

**Outline Drawing:**

Unit:mm



**DC Supply Connector(DSUB-9 Female):**

Pin	Name	Function
1~4	VCC	Power supply positive,+26.0-30.0VDC
5~7	GND	Ground
8	Over TEM	When the temperature of the case exceeds 75 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

### Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-30		+60	°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			

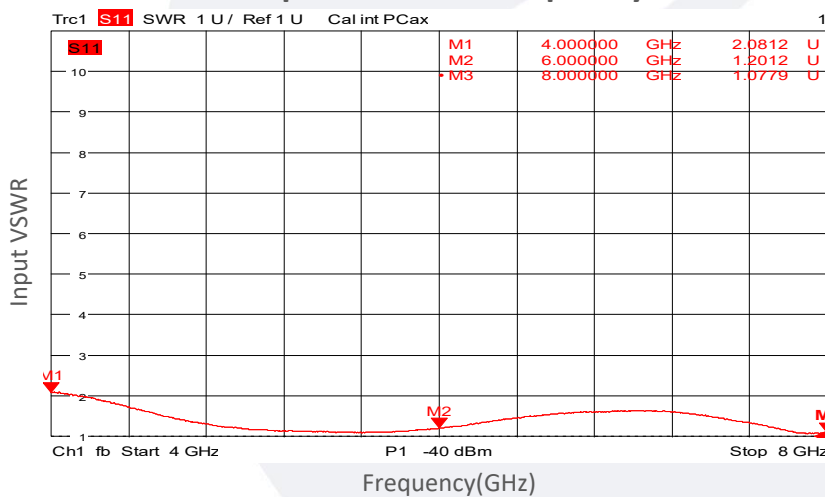
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA4G8G-49-49	Power amplifier 4-8GHz,Gain:50dB,Psat:49dBm, +28V DC,Without Heatsink	Rev.1.0
TLPA4G8G-49-49-HS	Power amplifier 4-8GHz,Gain:50dB,Psat:49dBm, +28V DC,With Heatsink	Rev.1.0

### Typical Performance Data:

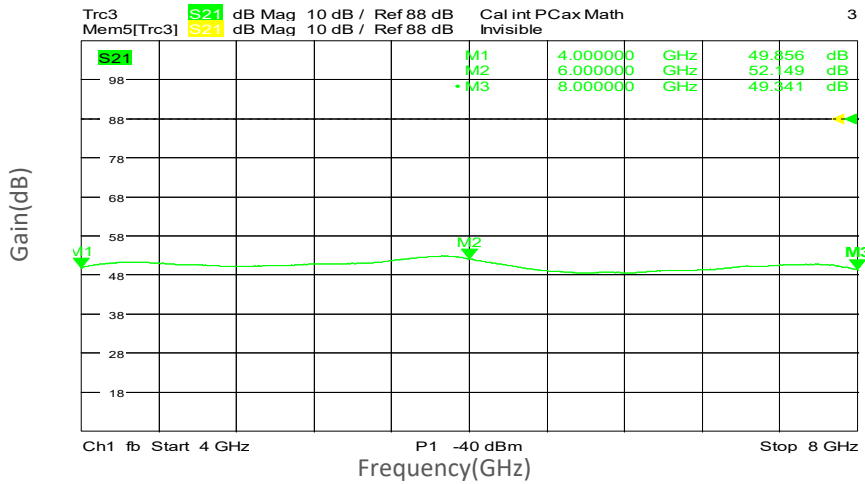
Input VSWR vs Frequency



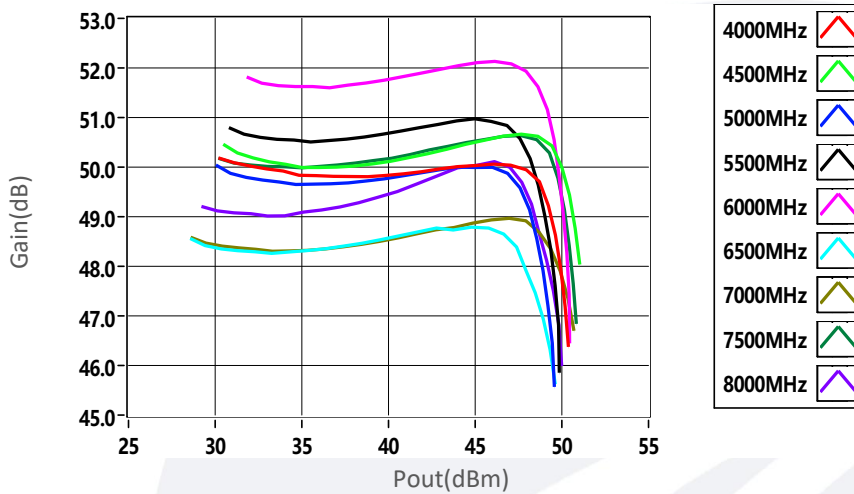
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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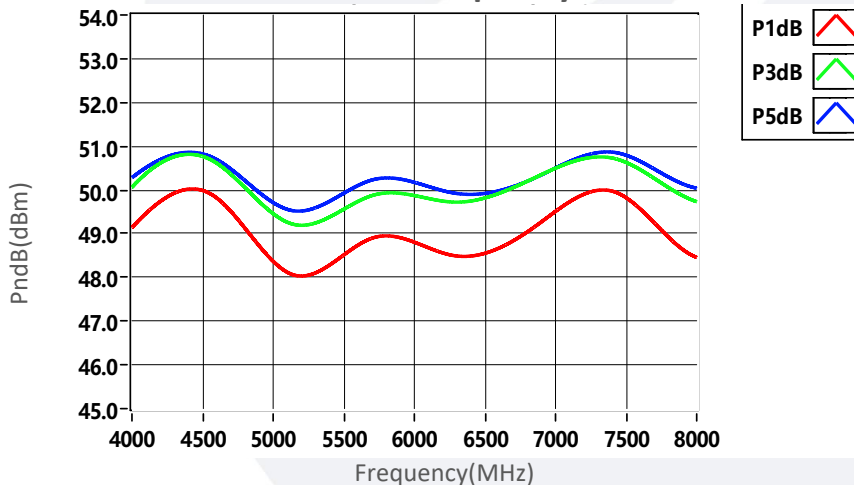
### Small Signal Gain vs Frequency



### Gain vs Output Power



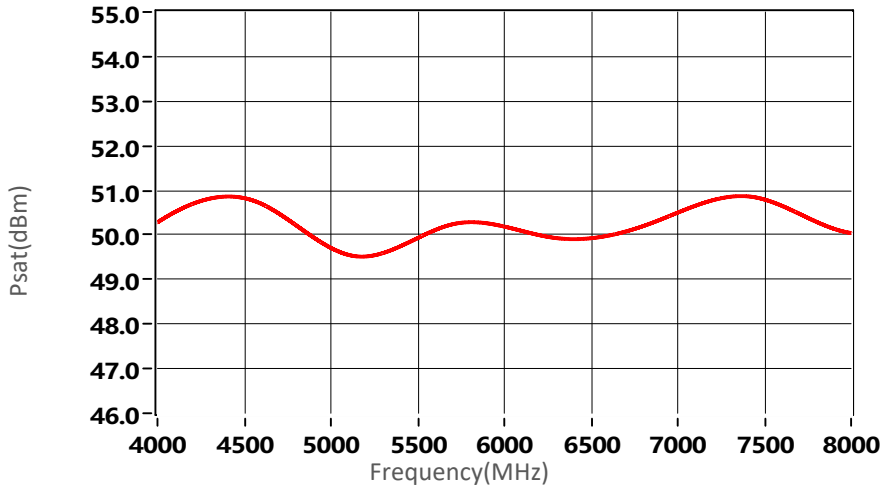
### PndB vs Frequency



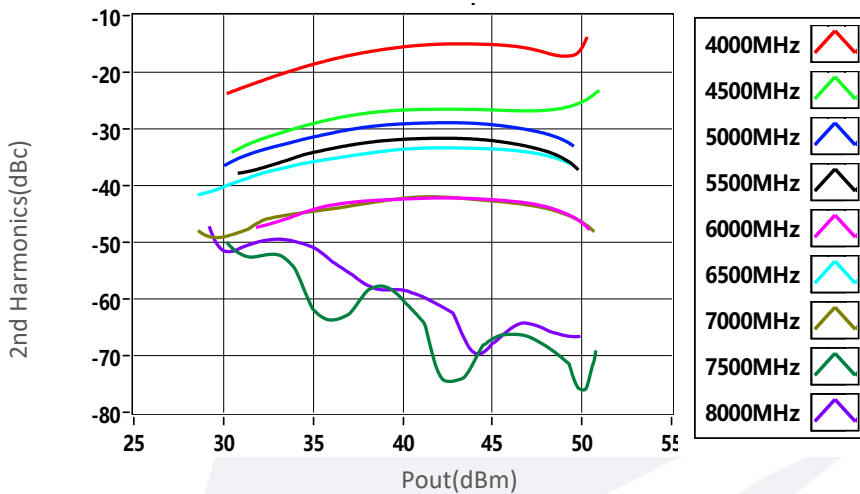
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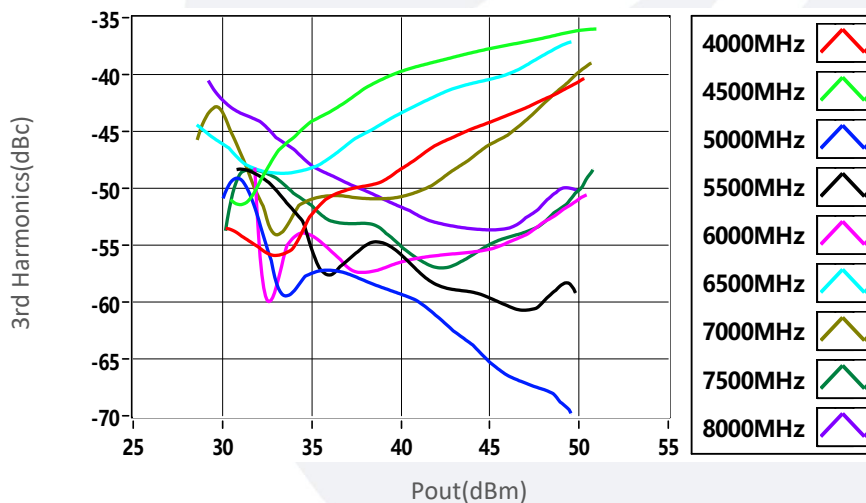
### Psat vs Frequency



### 2nd Harmonics vs Output Power



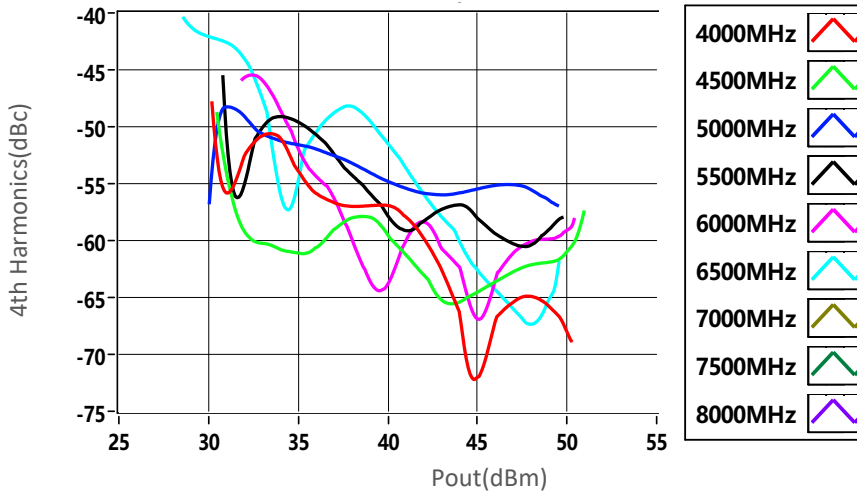
### 3rd Harmonics vs Output Power



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**Typical Performance Data:**

**4th Harmonics vs Output Power**



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