

## Power Amplifier

2.4-2.5GHz/50dB Gain/50dBm Psat

Model: TLPA2.4G2.5G-50-50

TLPA2.4G2.5G-50-50 is a power amplifier with a minimum small signal gain of 50 dB and a nominal Psat of 50 dBm across the frequency range of 2.4 to 2.5GHz. The DC power requirement for the amplifier is +28 VDC/9 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N female.

### Features:

- Frequency range: 2.4-2.5GHz
- Gain: 50dB Min
- Output Power Psat: 50dBm 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	2.4		2.5	GHz
Small Signal Gain	50	53		dB
Gain Flatness		±1	±2	dB
Output P1dB		46		dBm
Output Psat	49.5	50		dBm
Input VSWR		1.5	2.0	:1
DC Voltage	+26	+28	+30	V DC
Static Current		2		A
Saturation Current		9	12	A
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/N Female	
DC Power Supply Connector	D-SUB-9	
Size	168*75*23.5	mm
Weight	500	g

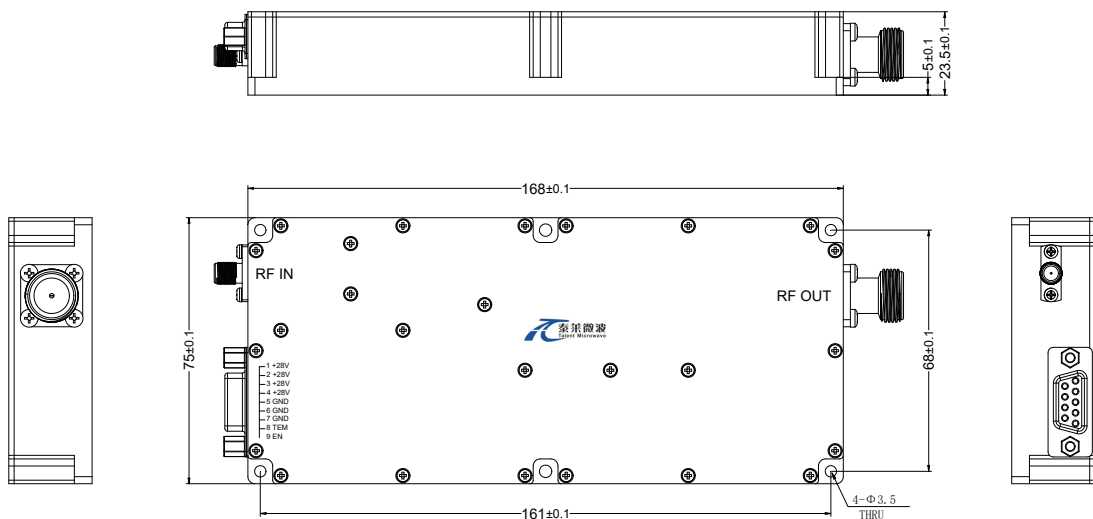
### Absolute Maximum Ratings:

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



### Outline Drawing:

Unit:mm



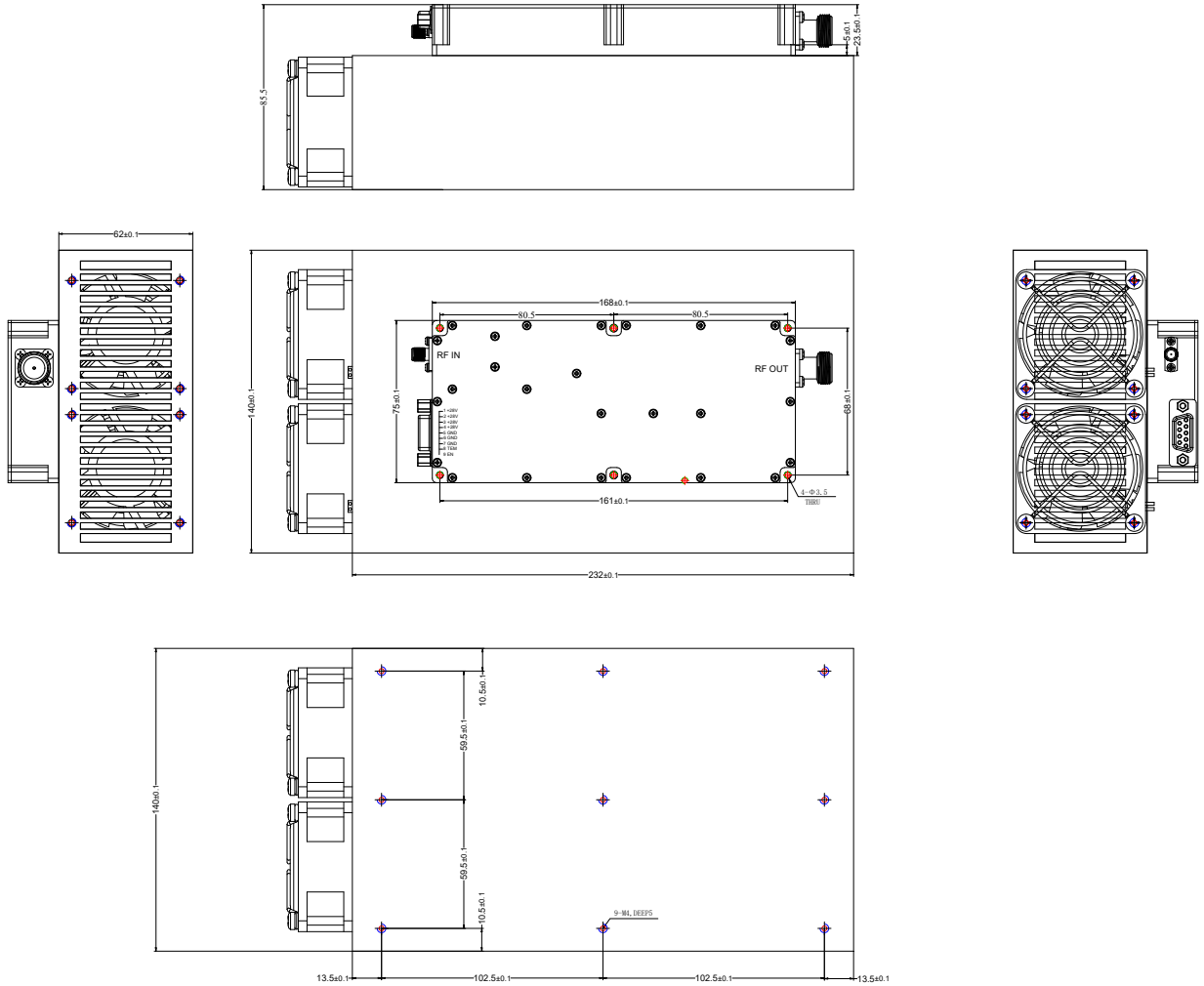
**\*\*\*Heat Sink Required During Operation**



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	Vcc	Power supply positive,+26.0-30.0VDC
2	Vcc	Power supply positive,+26.0-30.0VDC
3	Vcc	Power supply positive,+26.0-30.0VDC
4	Vcc	Power supply positive,+26.0-30.0VDC

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

Pin	Name	Function
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	Over TEM	When the temperature of the case exceeds 85 °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			

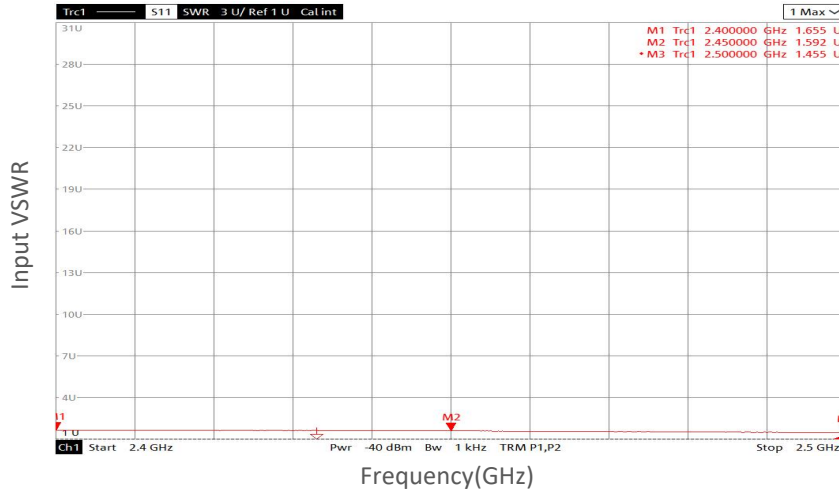
\*Note: For a wider temperature range, please consult the manufacturer.

## Ordering Information:

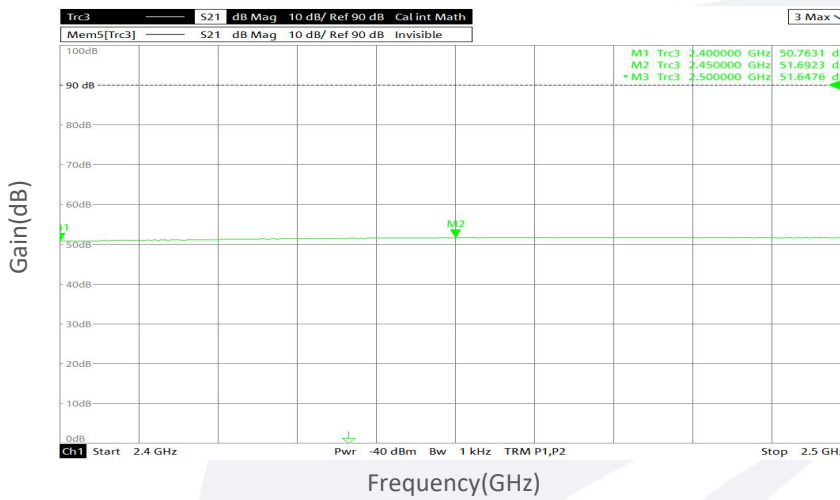
Base Number	Description	Revision
TLPA2.4G2.5G-50-50	Power amplifier 2.4-2.5GHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.2.0
TLPA2.4G2.5G-50-50-HS	Power amplifier 2.4-2.5GHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink	Rev.2.0

## Typical Performance Data:

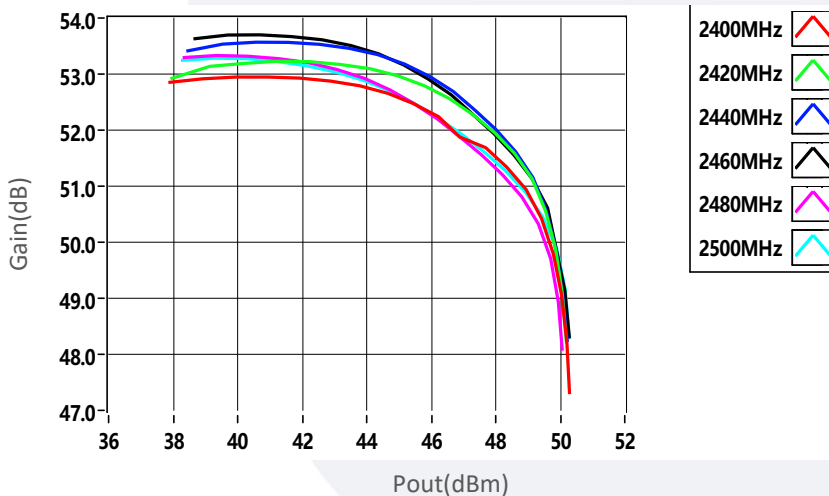
### Input VSWR vs Frequency



### Small Signal Gain vs Frequency

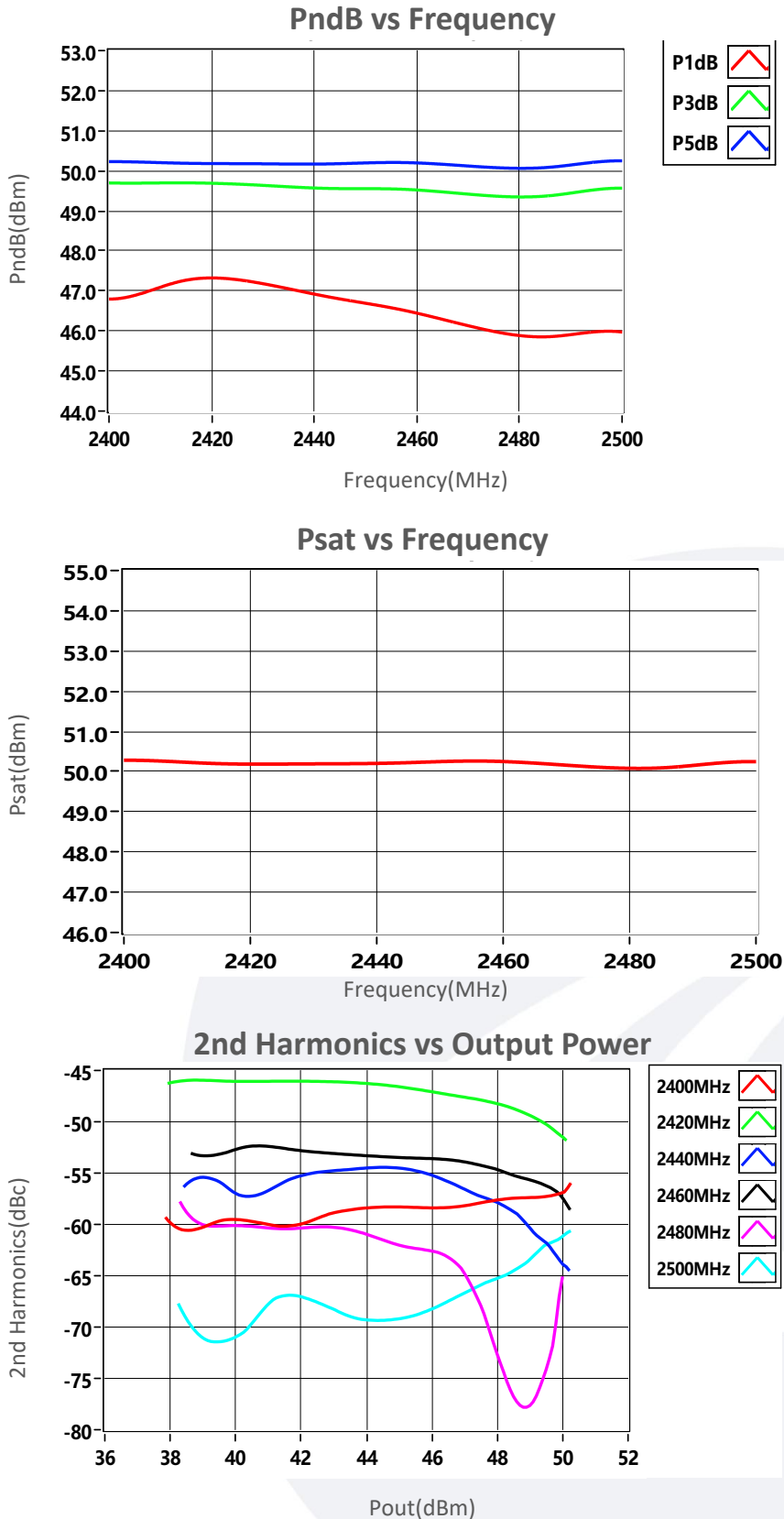


### Gain vs Output Power



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.

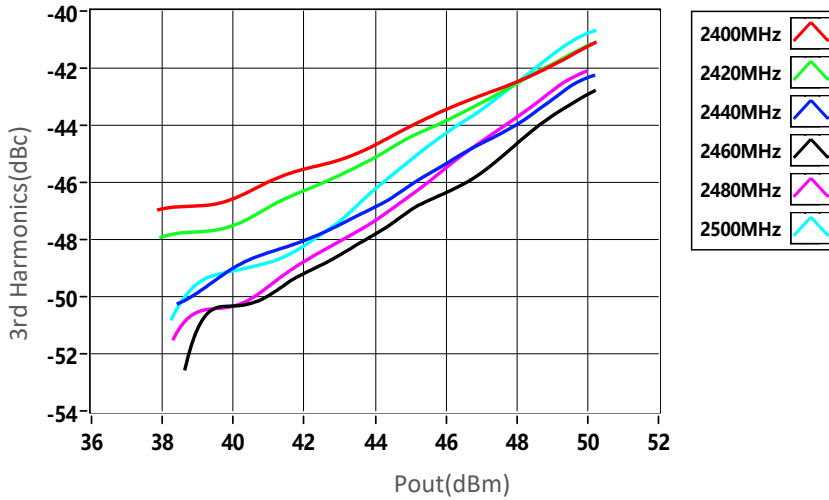
## Typical Performance Data:



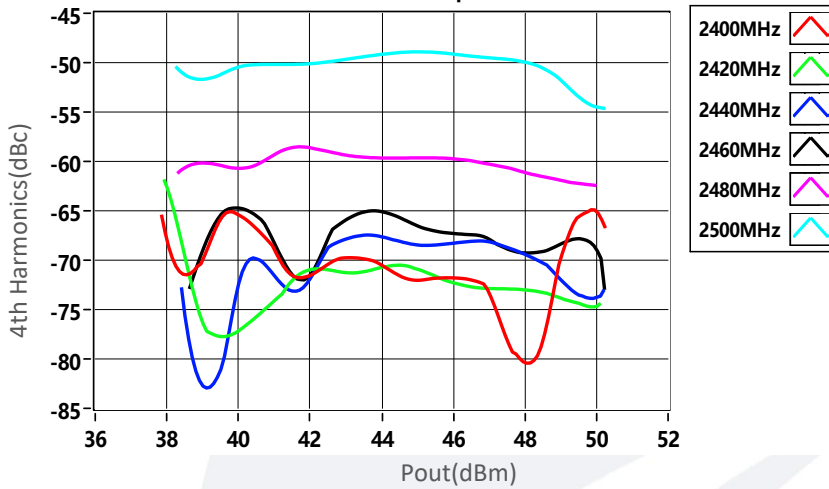
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## Typical Performance Data:

### 3rd Harmonics vs Output Power



### 4th Harmonics vs Output Power



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