Suzhou Talent Microwave,Inc
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Power Amplifier

1-2GHz/50dB Gain/50dBm Psat

Model: TLPA1G2G-50-50

TLPA1G2G-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 1 to 2 GHz. The DC power requirement for the amplifier is +28 VDC/12 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: 1-2GHz
- 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	1		2	GHz
Small Signal Gain	50	53		dB
Gain Flatness		±1	±2	dB
Output P1dB	45	46		dBm
Output Psat	49.5	50		dBm
Input VSWR		1.5	2.0	:1
DC Voltage		28	30	V DC
Static Current		3		A
Saturation Current		12	13	A
Impedance		50		Ohms

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Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/N Female	
DC Supply Connector	D-SUB15	
Size	200*130*24(Without heatsink)	mm
Weight	1200	g

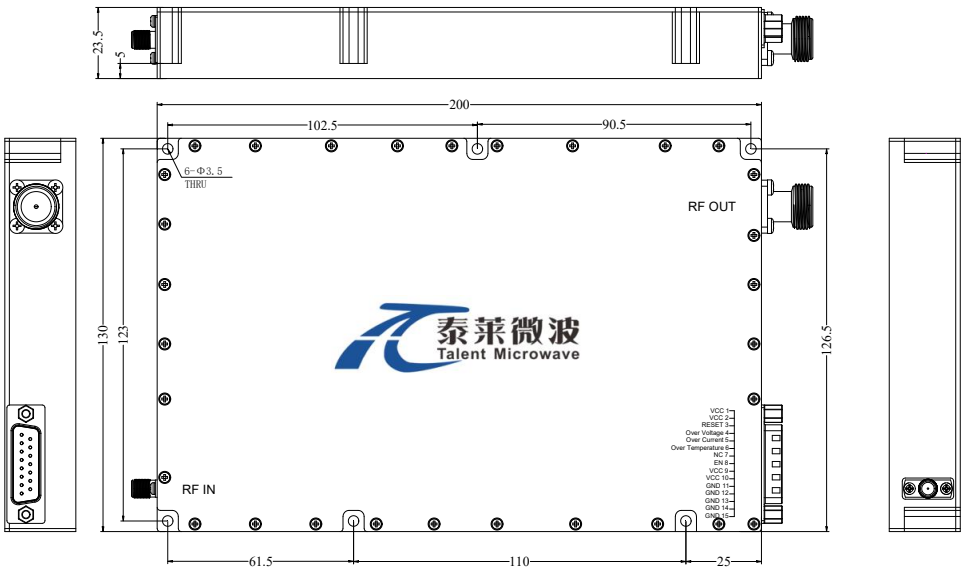
Absolute Maximum Ratings:

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

Simple 220V System
Available SAC option

Outline Drawing:

Unit:mm



***Heat Sink Required During Operation

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

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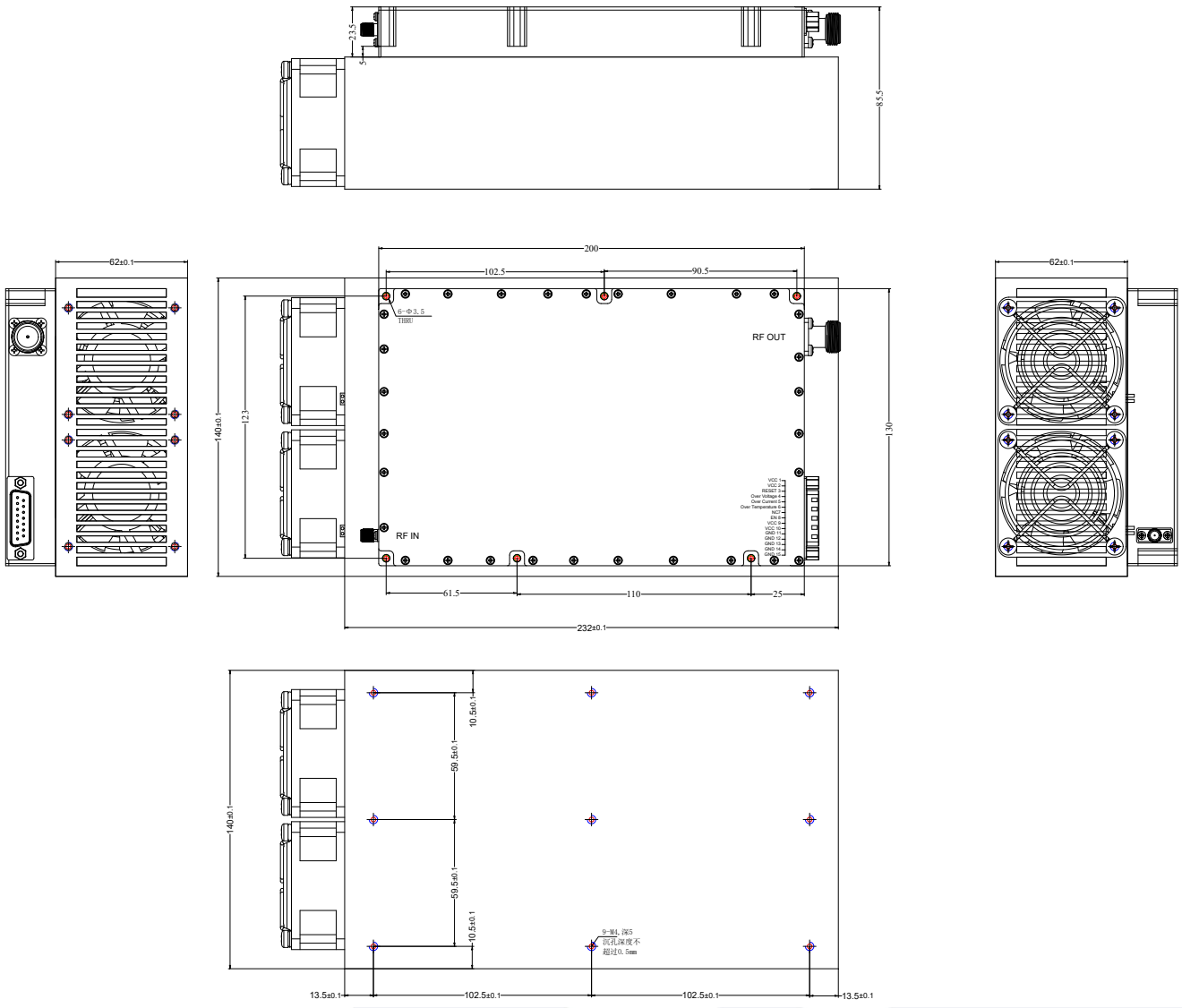
Outline Drawing:

Unit:mm



DC Supply Connector（DSUB-15 Female):

Pin	Name	Function
1	VCC	Power supply positive,+26.0-30.0VDC
2	VCC	Power supply positive,+26.0-30.0VDC
3	RESET	Resets PA when logic LOW is applied and released (Internally Pulled-High)
4	Over Voltage	Voltage FAULT:(TTL High= Fault, TTL Low =Normal)

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DC Supply Connector（DSUB-15 Female):

Pin	Name	Function
5	Over Current	Current FAULT:(TTL High= Fault, TTL Low =Normal)
6	Over Temperature	When the temperature of the case exceeds 75 ℃, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 ℃, the power amplifier will return to normal operation, and this pin will be pulled low.
7	NC	Not connected
8	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High)
9	VCC	Power supply positive,+26.0-30.0VDC
10	VCC	Power supply positive,+26.0-30.0VDC
11~15	GND	Ground

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	℃
Non-operating Temperature*	-30		+60	℃
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
TLPA1G2G-50-50	Power amplifier 1-2GHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.2.0
TLPA1G2G-50-50-HS	Power amplifier 1-2GHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink	Rev.2.0

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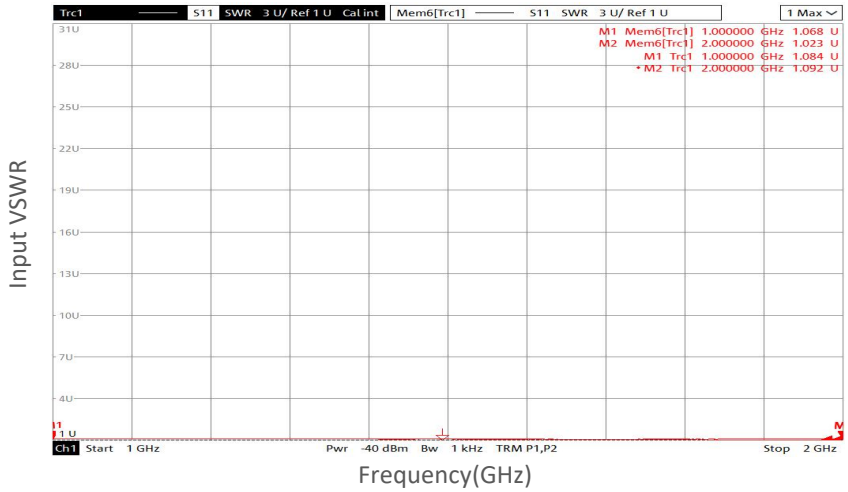
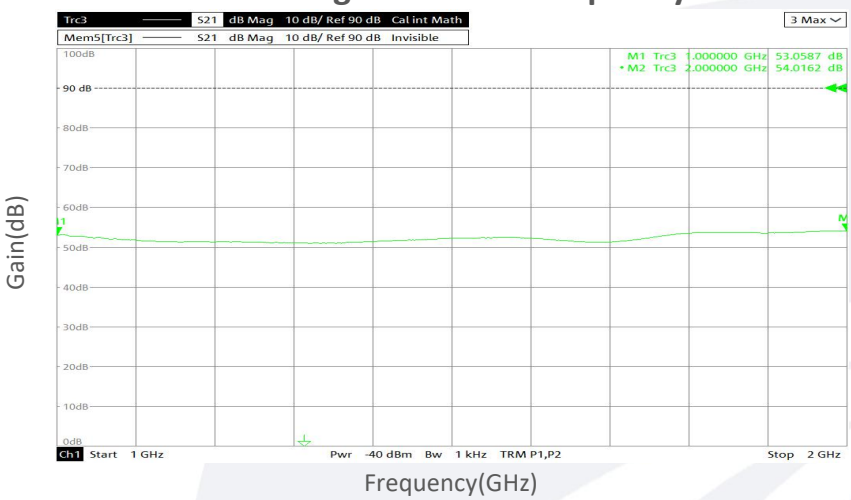
Typical Performance Data:

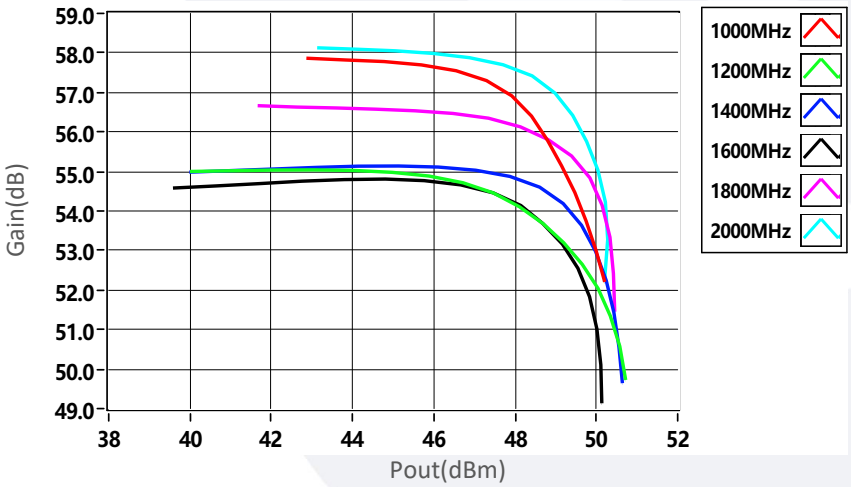
Input VSWR vs Frequency



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.

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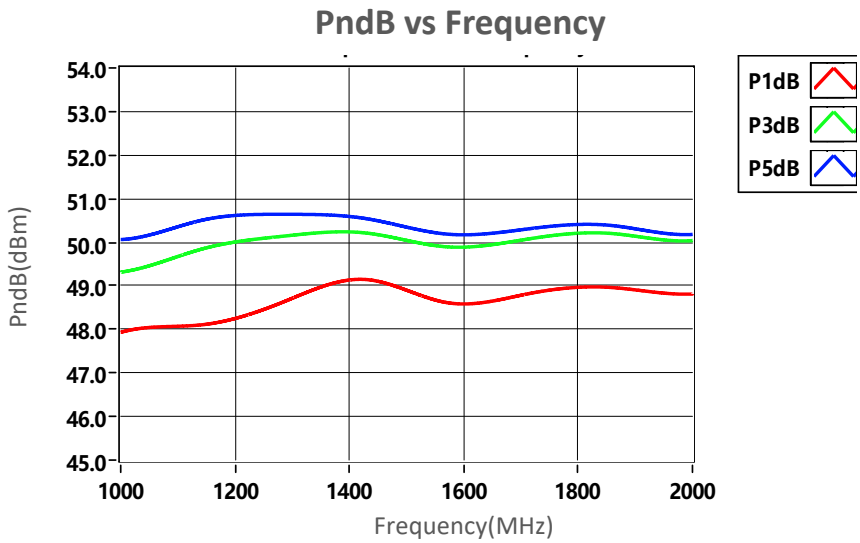

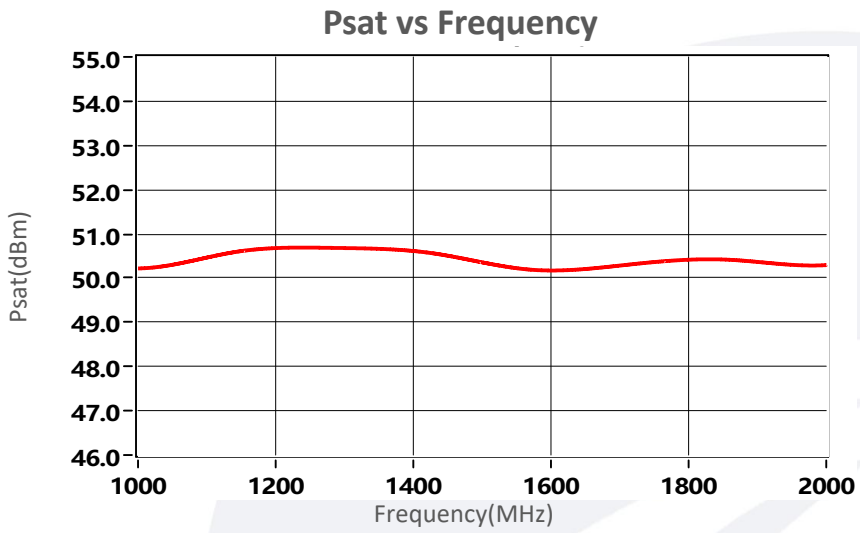

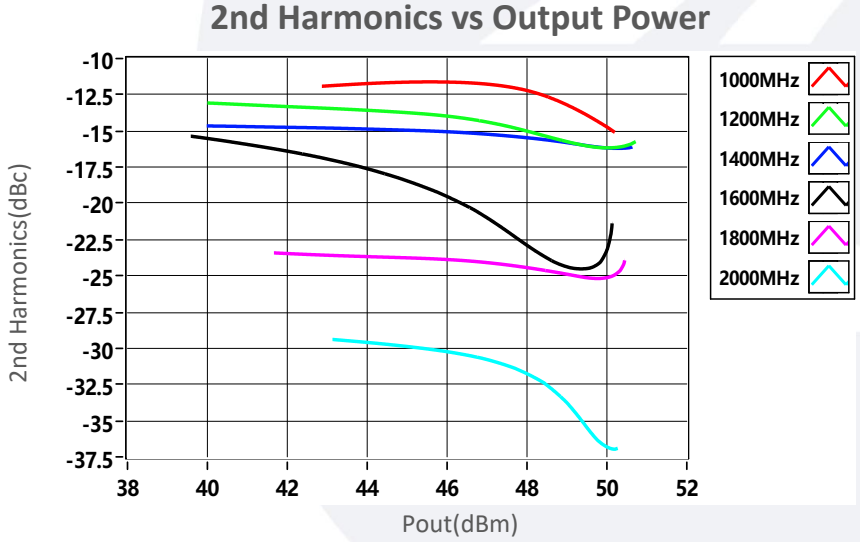

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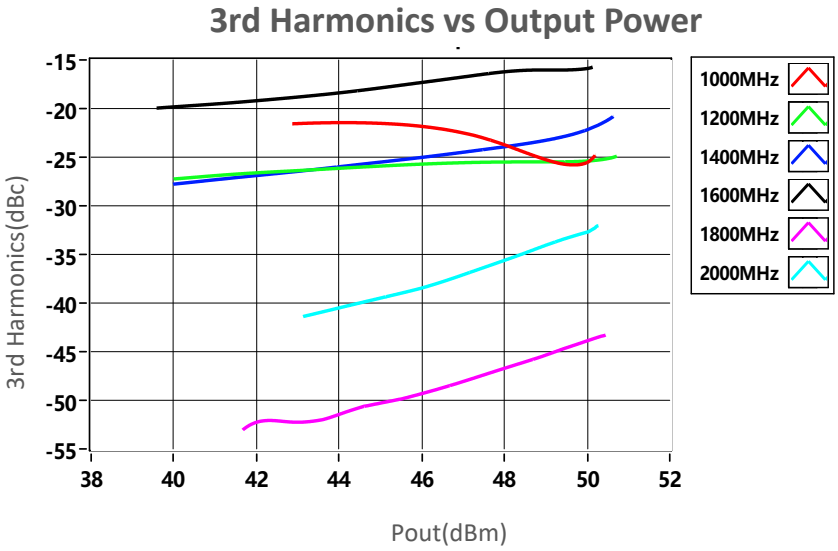

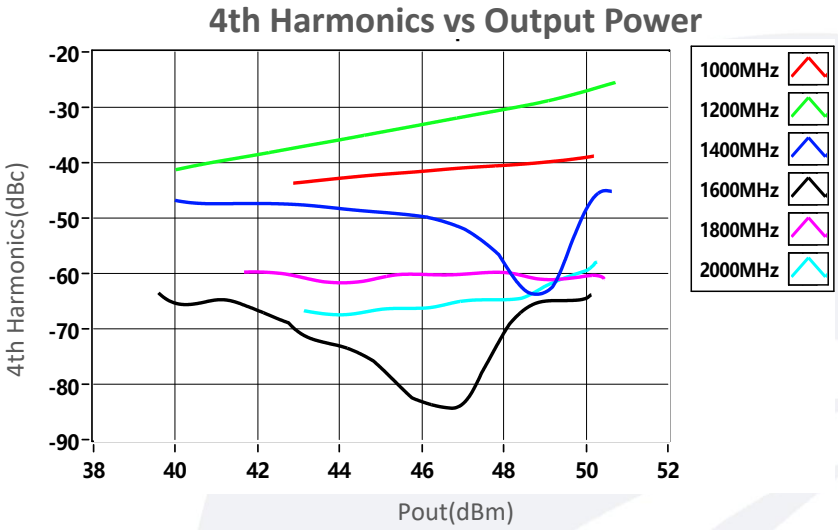

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