Suzhou Talent Microwave,Inc
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Power Amplifier

2.9-3.1GHz/50dB Gain/50dBm Psat

Model: TLPA2.9G3.1G-50-50-HS

TLPA2.9G3.1G-50-50-HS is a power amplifier with a minimum small signal gain of 50 dB and a minimum Psat of 50 dBm across the frequency range of 2.9 to 3.1 GHz. The DC power requirement for the amplifier is +28 VDC/15 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: 2.9-3.1GHz
- Gain: 50dB Min
- Output Power Psat: 50dBm 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	2.9		3.1	GHz
Small Signal Gain	50	52		dB
Gain Flatness		±1	±1.5	dB
Output Psat	50	51		dBm
Supurious			-60	dBc
Harmonics		-25	-20	dBc
Input VSWR			2.0	:1
DC Voltage		+28		V DC
DC Supply Current		15		A
Impedance		50		Ohms

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Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/N Female	
DC Power Supply Connector	D-SUB 9PIN	
Size	200*130*20	mm

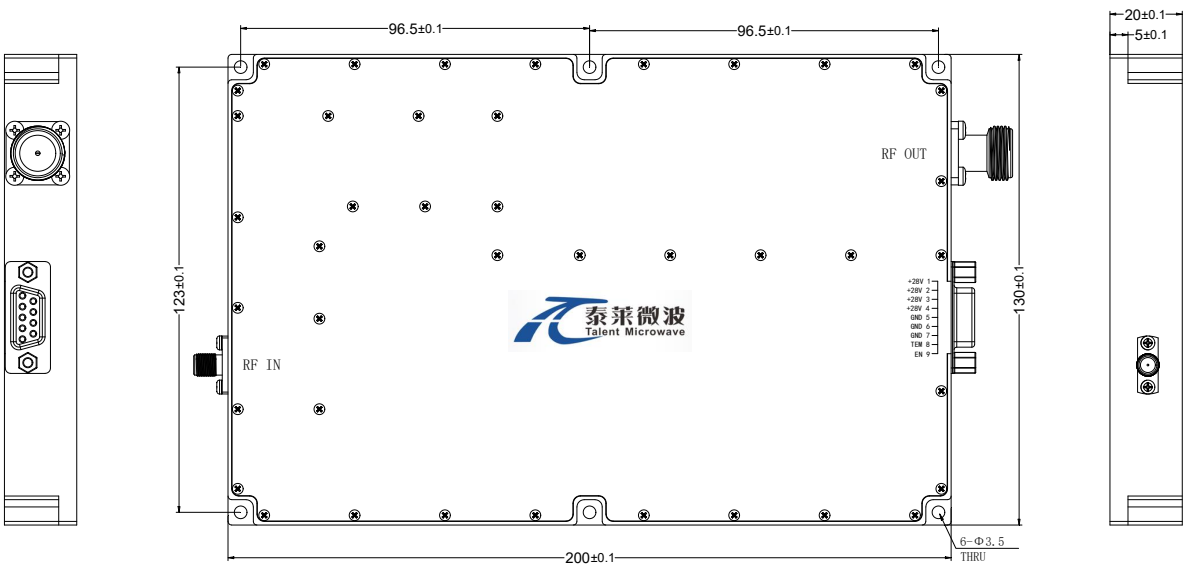
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
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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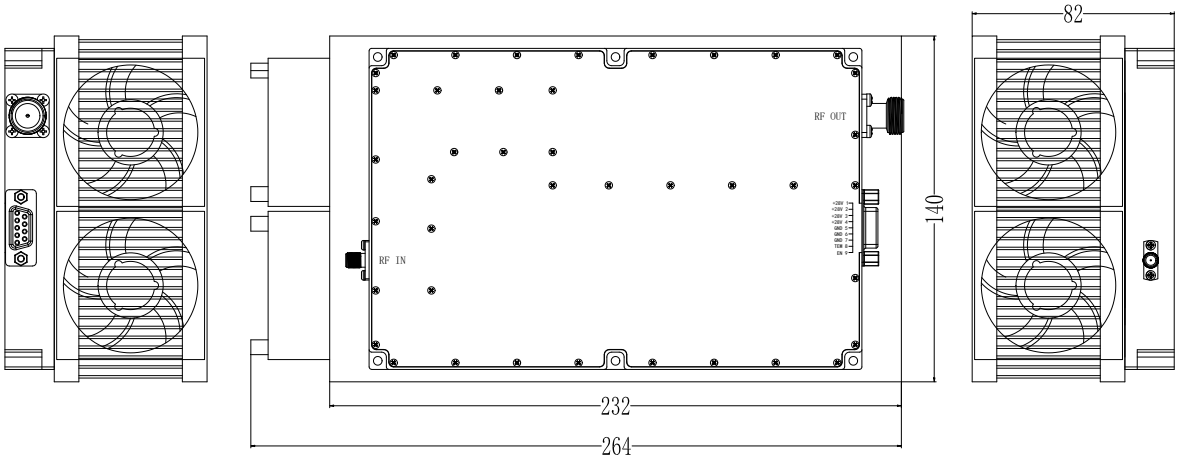
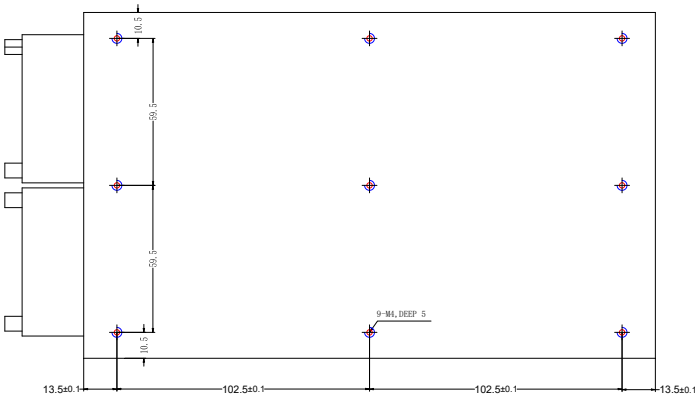
Outline Drawing:

Unit:mm





Fan power supply	
Red line	Power supply positive,+24VDC DC current: 0.4A
Black line	Ground

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DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1	+28V	+26.0-30.0VDC
2	+28V	+26.0-30.0VDC
3	+28V	+26.0-30.0VDC
4	+28V	+26.0-30.0VDC
5	GND	Ground
6	GND	Ground
7	GND	Ground
8	Over Temperature	When the temperature of the case exceeds 70 ℃, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 60 ℃, 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)

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)	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
TLPA2.9G3.1G-50-50	Power amplifier 2.9-3.1GHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA2.9G3.1G-50-50-HS	Power amplifier 2.9-3.1GHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink	Rev.1.1

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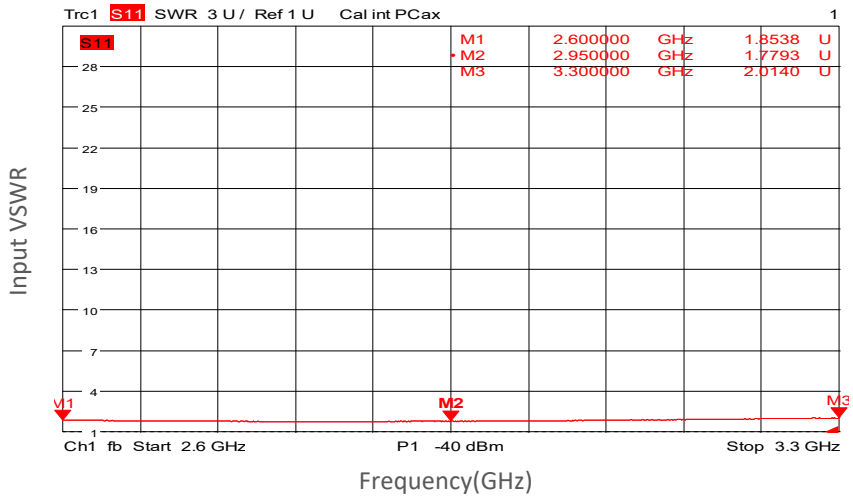
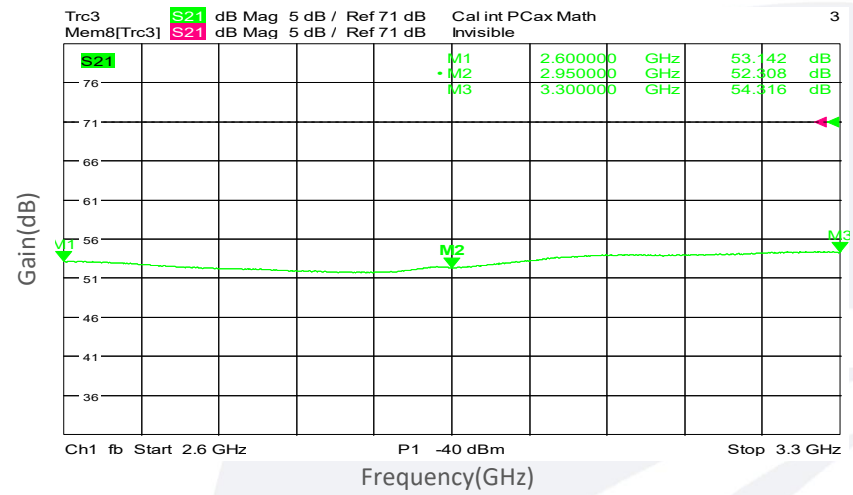
Typical Performance Data:

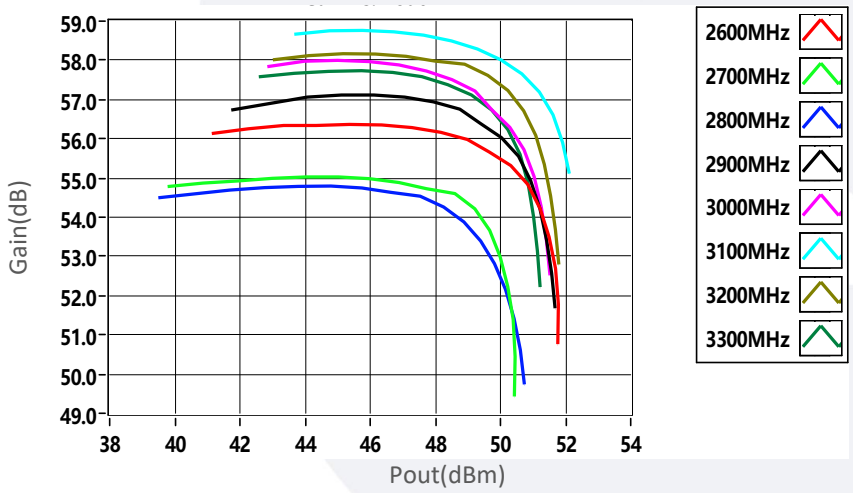
Input VSWR vs Frequency



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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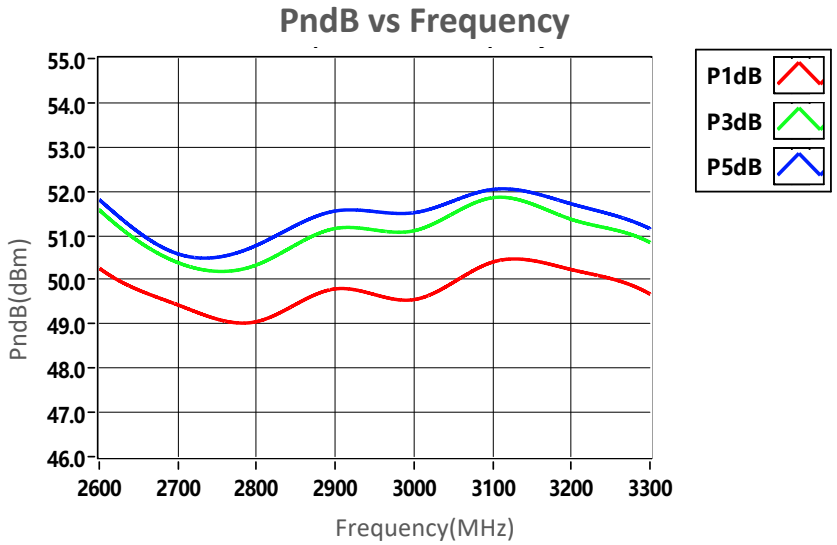
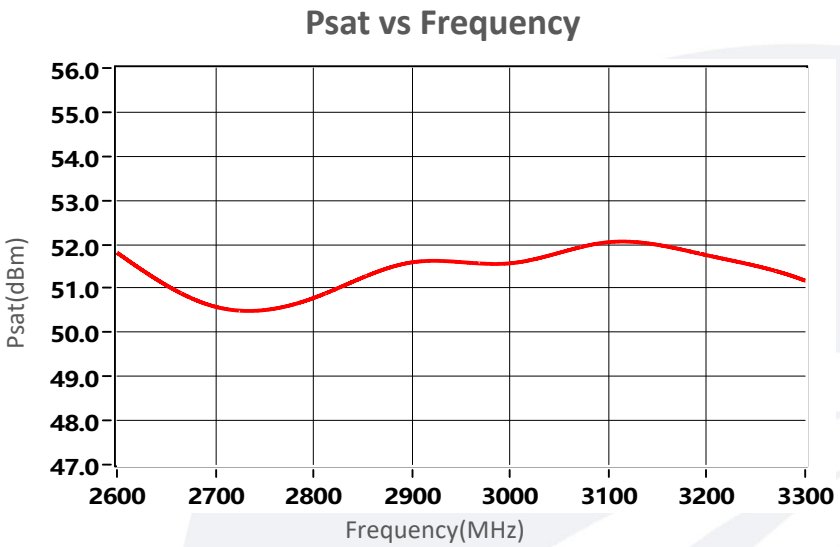
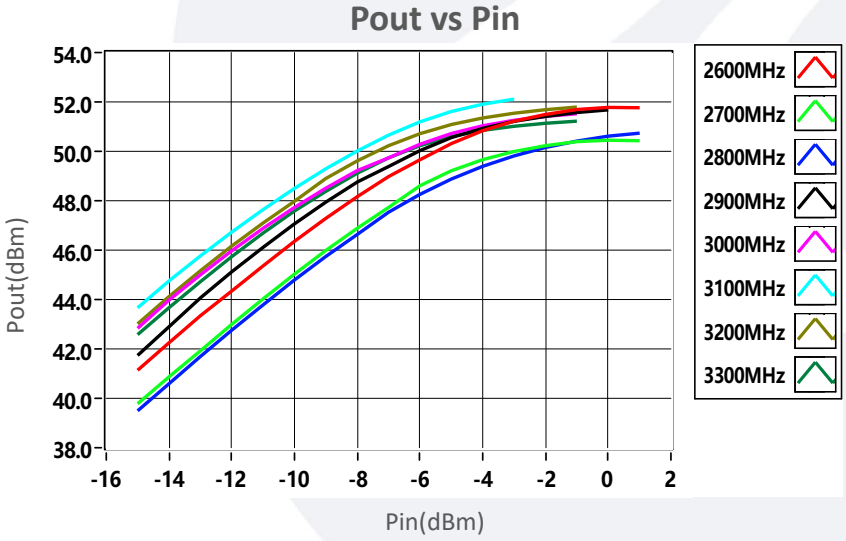
Typical Performance Data:







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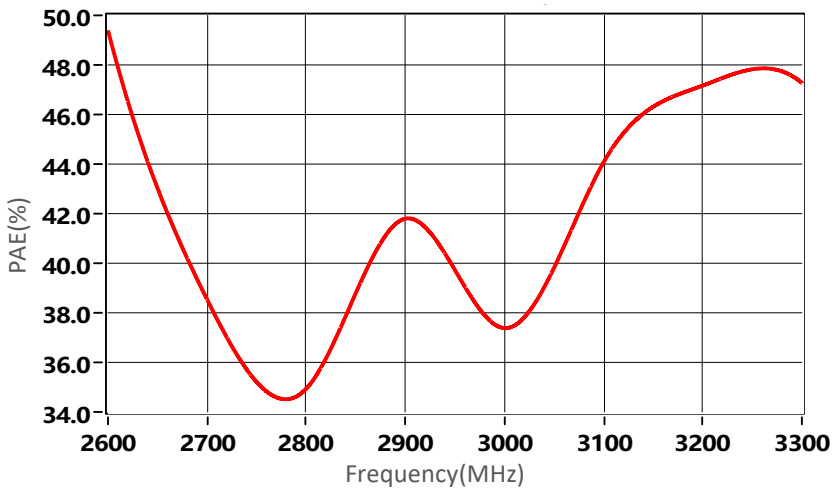
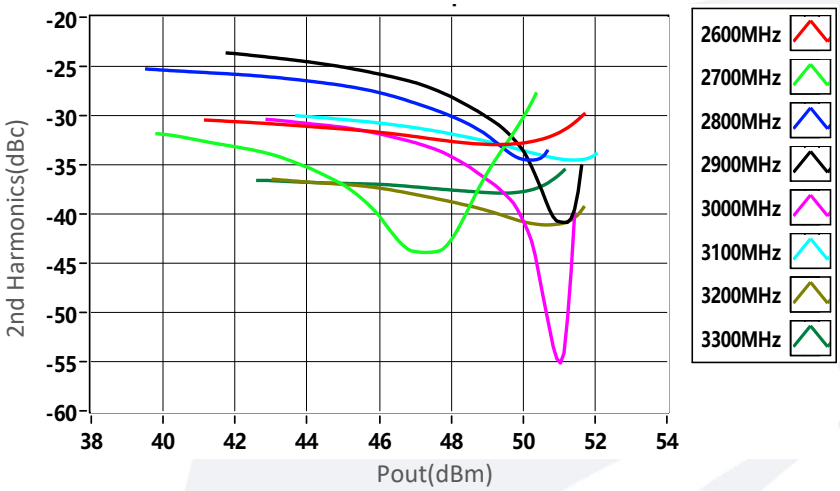
Typical Performance Data:

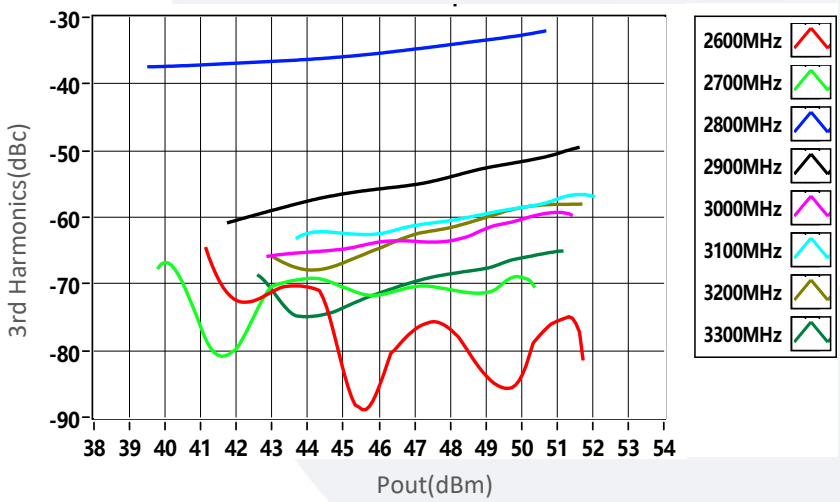
PAE vs Frequency



2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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