

Power Amplifier

4-8GHz/50dB Gain/44dBm Psat

Model: TLPA4G8G-50-44

TLPA4G8G-50-44 is a power amplifier with a minimum small signal gain of 50 dB and a nominal Psat of 44 dBm across the frequency range of 4 to 8 GHz. The DC power requirement for the amplifier is +28 VDC/2 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 4-8GHz
- Gain: 50dB Min
- Output Power Psat: 44dBm Typ
- Good Power and Gain Flatness
- 44 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	50	52		dB
Gain Flatness		±3	±4	dB
Output P1dB	43	43.5		dBm
Output Psat	43.5	44		dBm
Input VSWR		1.5	2.0	:1
DC Voltage		28		V DC
DC Supply Current		2	10	A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	140*80*15	mm
Weight	200	g

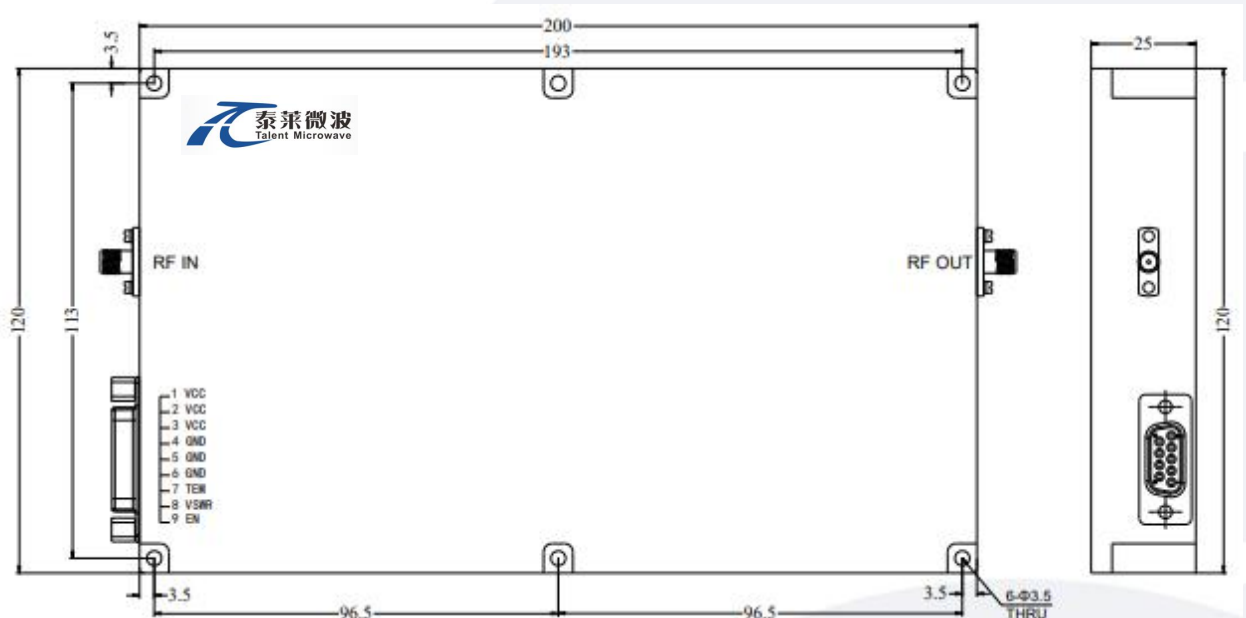
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+3 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.

DC Supply Connector (J30J-9ZKW-J):

Pin	Name	Function
1	EN	The amplifier turns on at high level (or floating state) and turns off when shorted to ground.
2	GND	Power supply negative
3	GND	Power supply negative
4	GND	Power supply negative
5	GND	Power supply negative
6	+28V	Power supply positive,+26.0-30.0VDC
7	+28V	Power supply positive,+26.0-30.0VDC
8	+28V	Power supply positive,+26.0-30.0VDC
9	+28V	Power supply positive,+26.0-30.0VDC

*Note: TTL is 5V.

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+50	°C
Non-operating Temperature*	-50		+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			

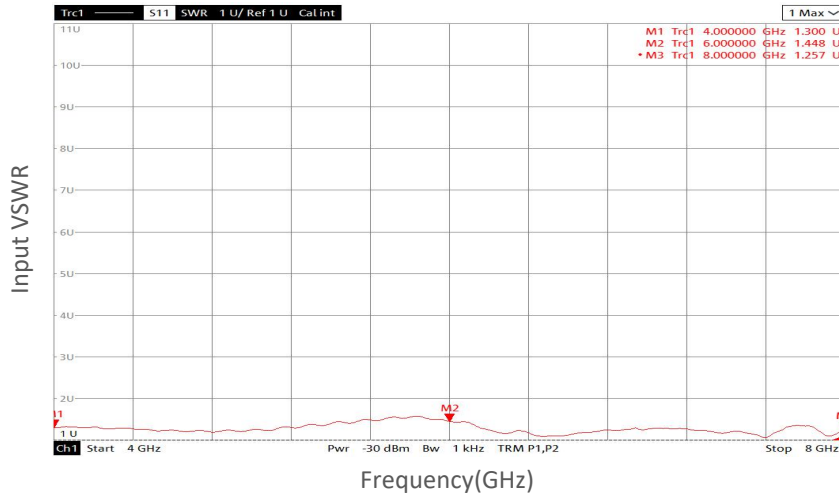
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

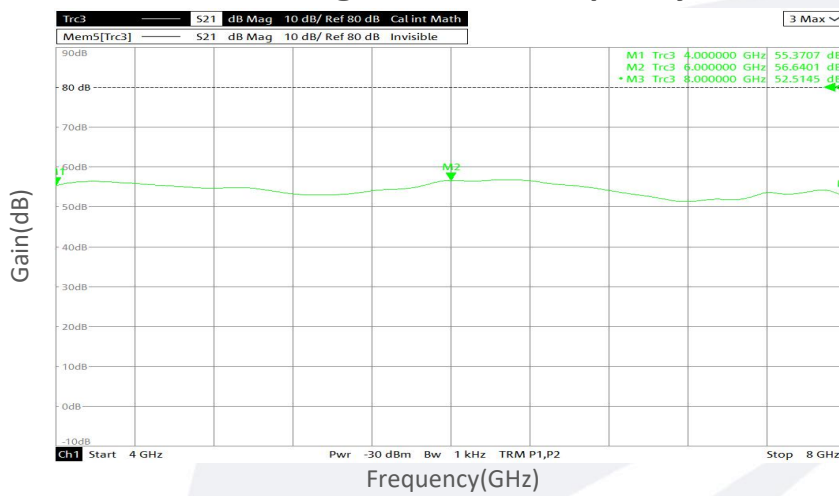
Base Number	Description	Revision
TLPA4G8G-50-44	Power amplifier 4-8GHz, Gain:50dB,Psat:44dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA4G8G-50-44-HS	Power amplifier 4-8GHz, Gain:50dB,Psat:44dBm,+28V DC,With Heatsink	Rev.1.1

Typical Performance Data:

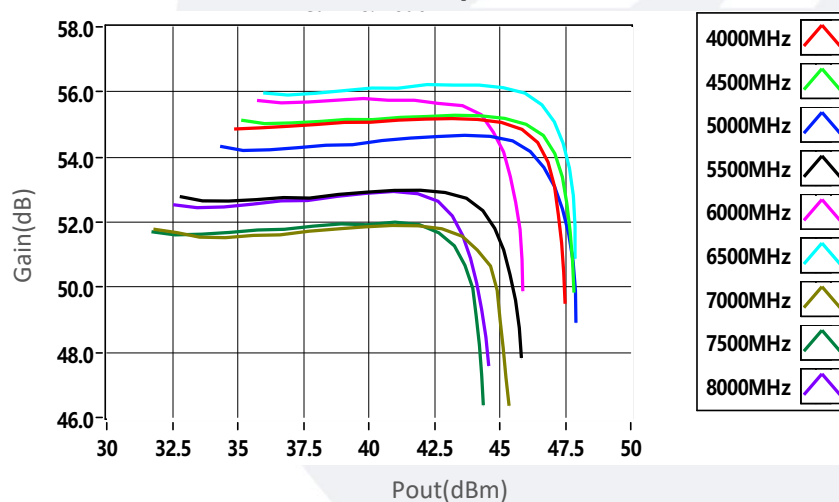
Input VSWR vs Frequency



Small Signal Gain vs Frequency



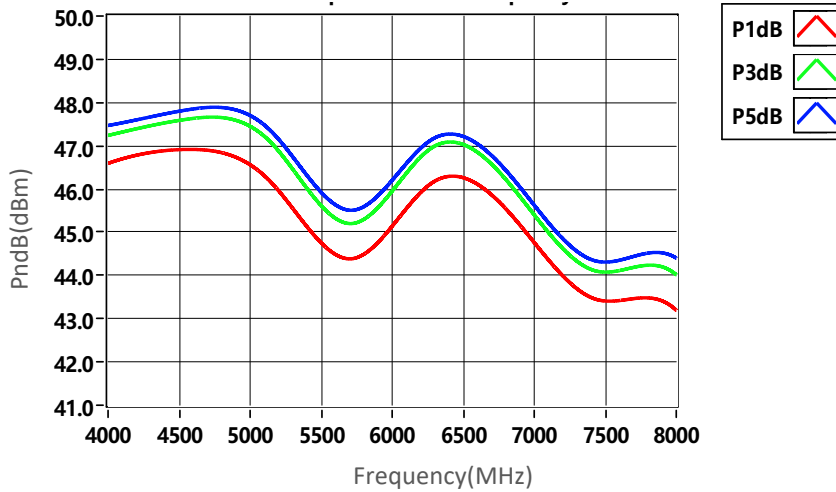
Gain vs Output Power



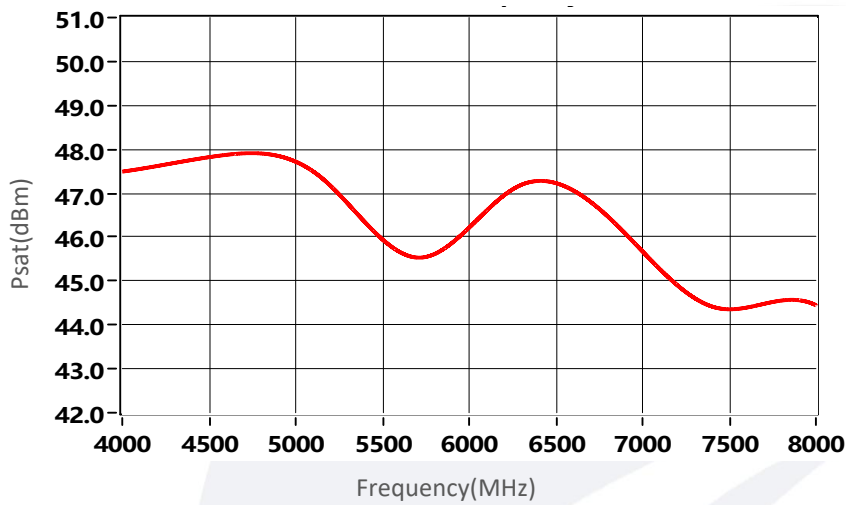
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

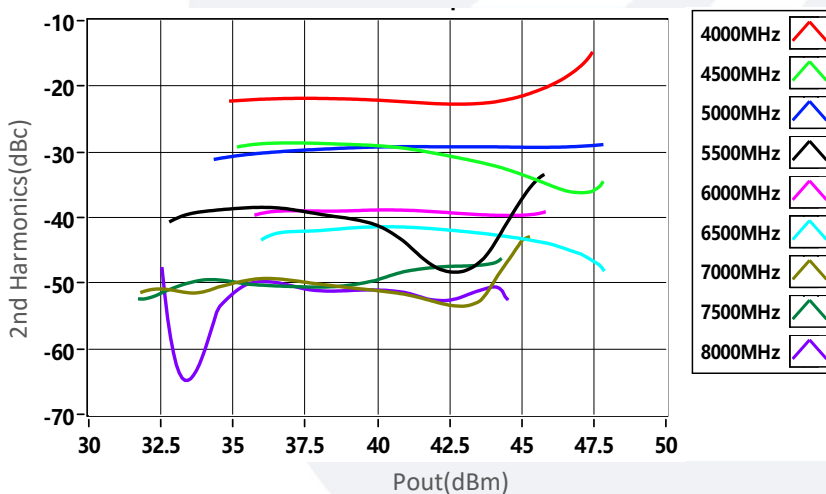
PndB vs Frequency



Psat vs Frequency



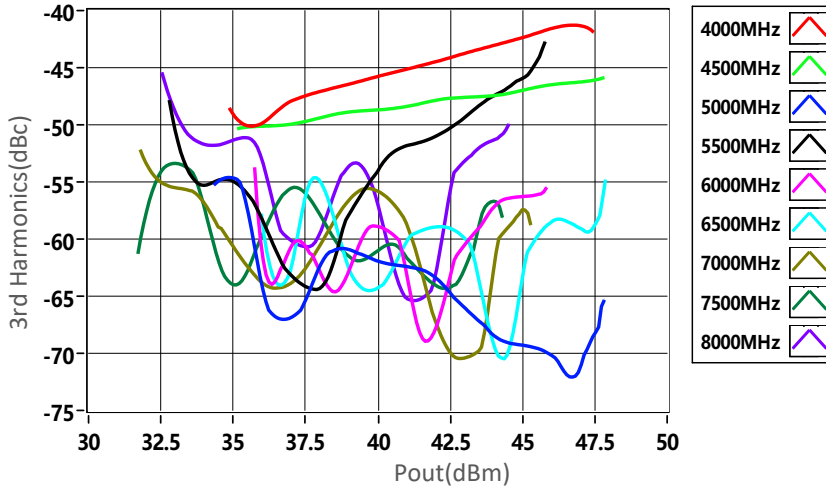
2nd Harmonics vs Output Power



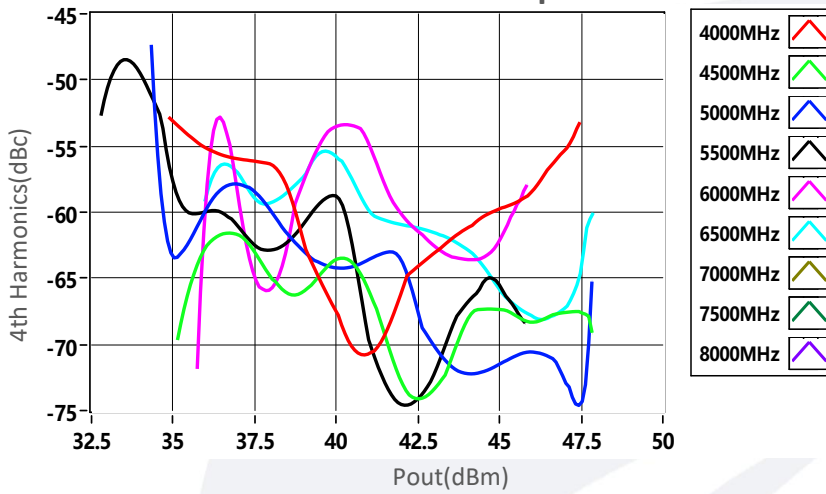
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

3rd Harmonics vs Output Power



4th Harmonics vs Output Power



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