

Power Amplifier

4-6GHz /40dB Gain/41 dBm Psat

Model: TLPA4G6G-40-41

TLPA4G6G-40-41 is a power amplifier with a minimum small signal gain of 40 dB and a minimum Psat of 41 dBm across the frequency range of 4 to 6 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: 4-6GHz
- Gain: 40dB Min
- Output Power : 41dBm 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	4-6			GHz
Small Signal Gain	40	42		dB
Gain Flatness		±2	±3	dB
Output P1dB	40	40.5		dBm
Output Psat	41	41.5		dBm
Harmonics			-15	dBc
Input VSWR		1.5	2.0	:1
DC Voltage		28	30	V DC
Static Current		0.5		A
Saturation current		1.8	2	A
Impedance	50			Ohms

Mechanical Specifications:

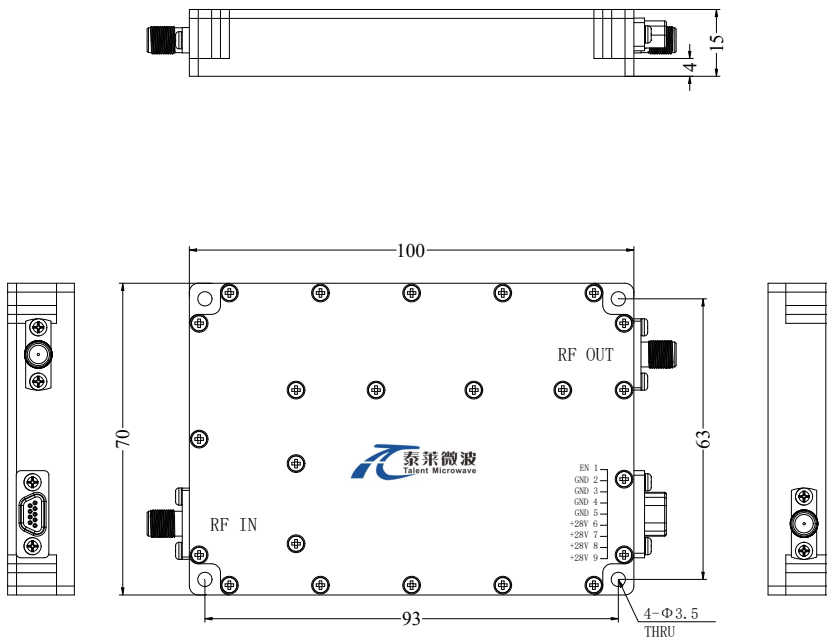
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	J30J-9Pin	
Size	100*70*15	mm
Weight	300	g

Absolute Maximum Ratings:

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

Outline Drawing:

Unit:mm



Regulatory Compliance:



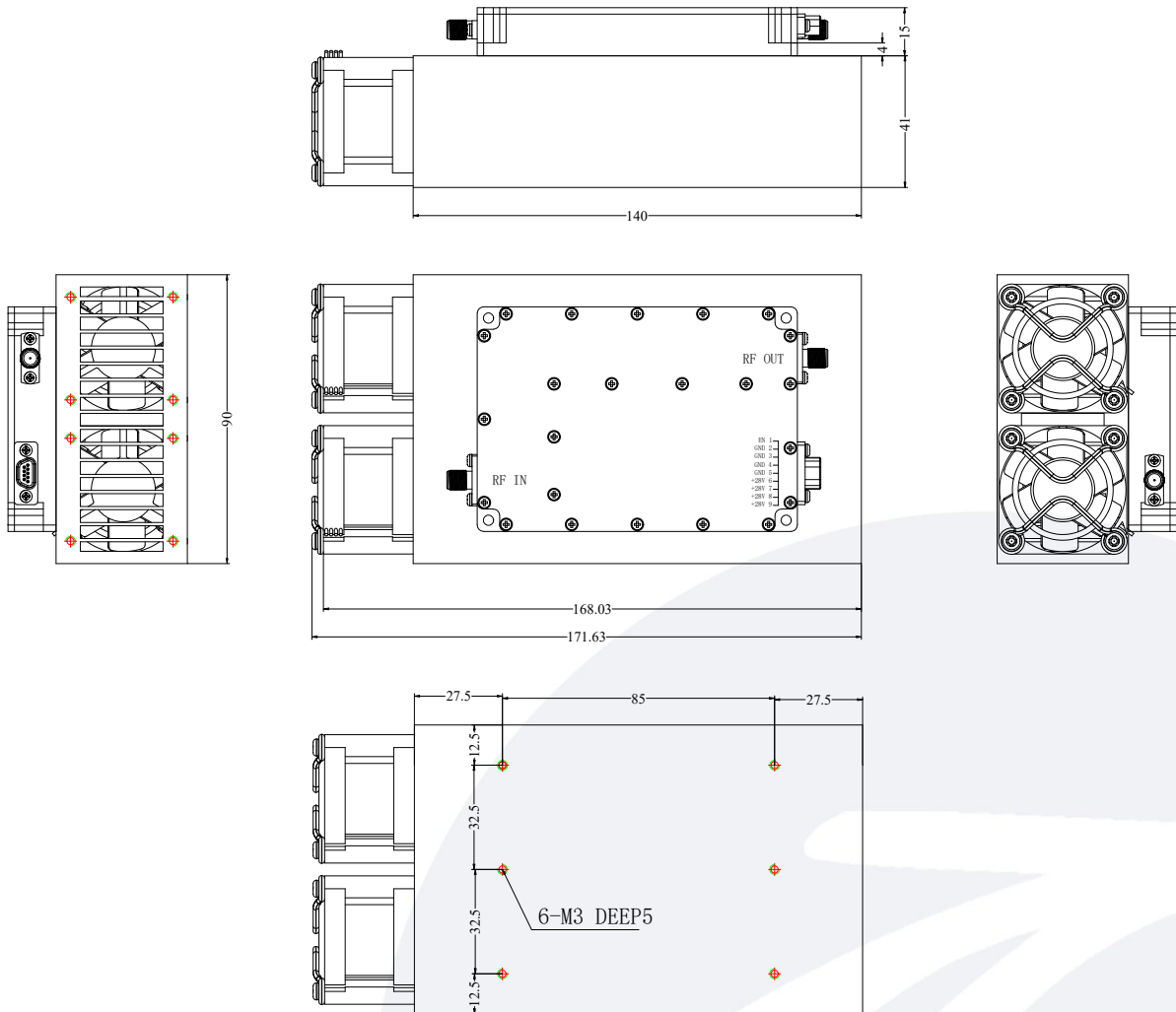
*****Heat Sink Required During Operation**



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Outline Drawing:

Unit:mm



Power supply for Fans:

Type	Function
Red line	DC Voltage: +24.0-28.0VDC DC Current: 0.3A
Black line	Ground

DC Supply Connector (J30J-9 Female):

Pin	Name	Function
1	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground
2~5	GND	Ground
6~9	VCC	Power supply positive, +26.0-30.0VDC

Attenuation Control Connector(SUB-17W2(Optional)):

Pin	Function
A1	+24V
A2	GND
1	TTL(high for open, low for close)
2	Current Monitor
3	Temperature Monitor
4	0.5dB Attenuation
5	1dB Attenuation
6	2dB Attenuation
7	4dB Attenuation
8	8dB Attenuation
9	16dB Attenuation
10~15	GND

Operation Procedure:

Power on	
1	Connect ground and RF input connector
2	Connect the RF output port to the load (The VSWR of the load should be less than 3:1)
3	Connect the 24V power supply to the fan
4	Connect the 28V power supply to the amplifier
5	Turn on the RF signal and ensure that the input signal does not exceed 5dBm

Power off	
1	Turn off RF signal
2	Disconnect the 28V power supply to the amplifier
3	Disconnect the 24V power supply to the fan
4	Disconnect the RF connectors

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			

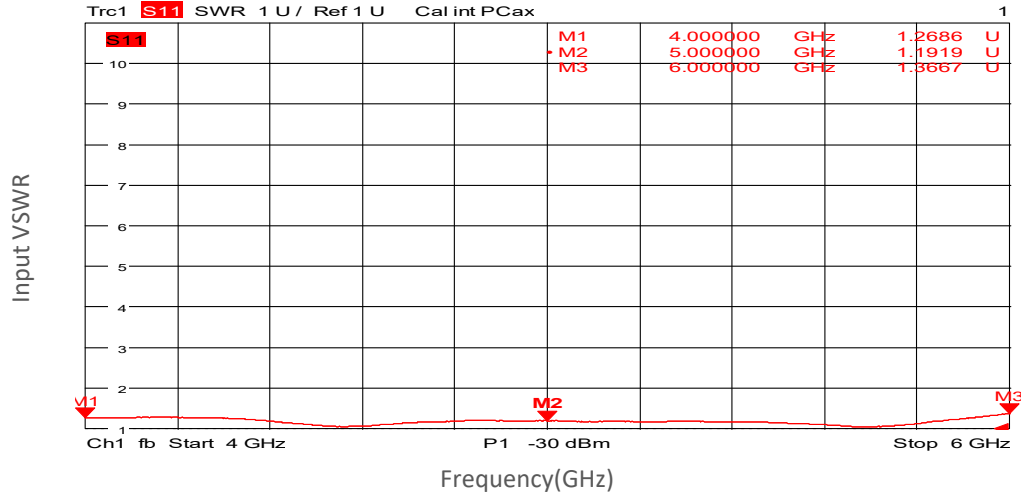
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

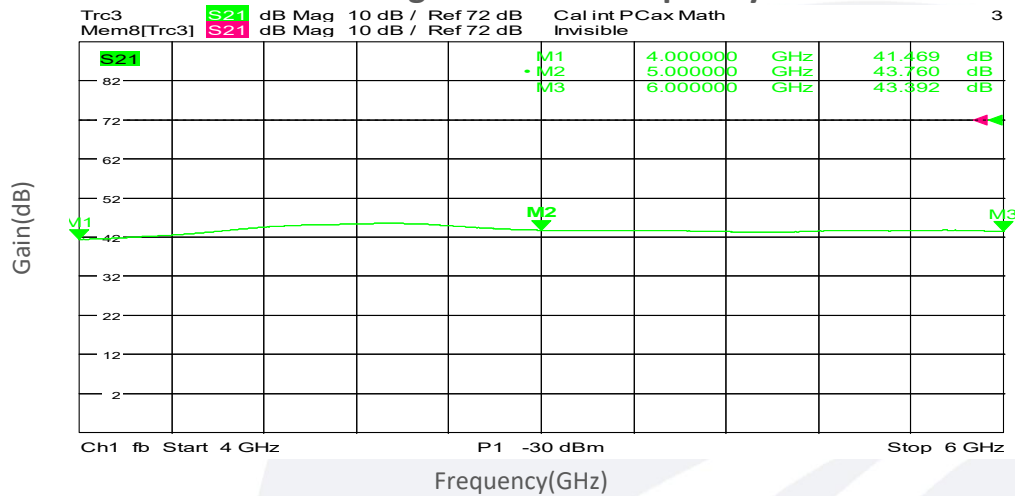
Base Number	Description	Revision
TLPA4G6G-40-41	Power amplifier 4-6GHz,Gain:40dB,Psat:41dBm, +28V DC,Without Heatsink	Rev.2.0
TLPA4G6G-40-41-HS	Power amplifier 4-6GHz,Gain:40dB,Psat:41dBm, +28V DC,With Heatsink	Rev.2.0

Typical Performance Data:

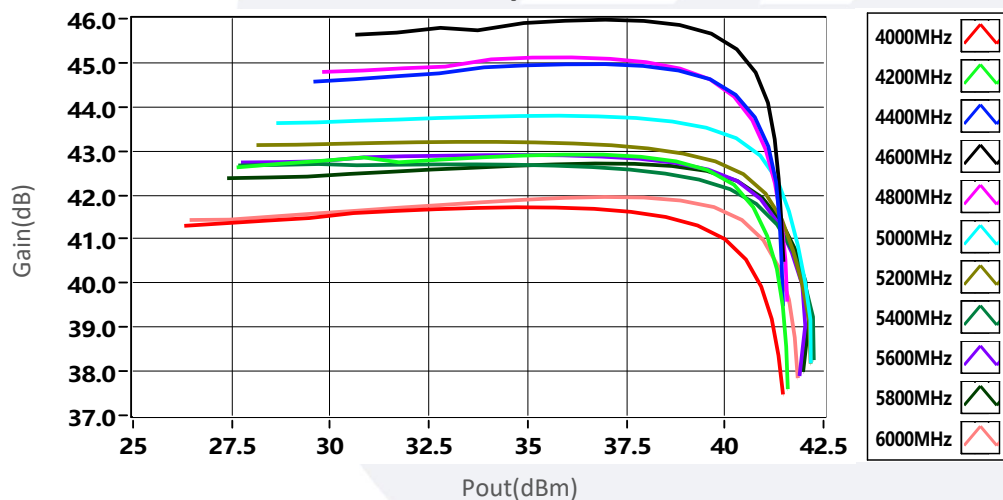
Input VSWR vs Frequency



Small Signal Gain vs Frequency



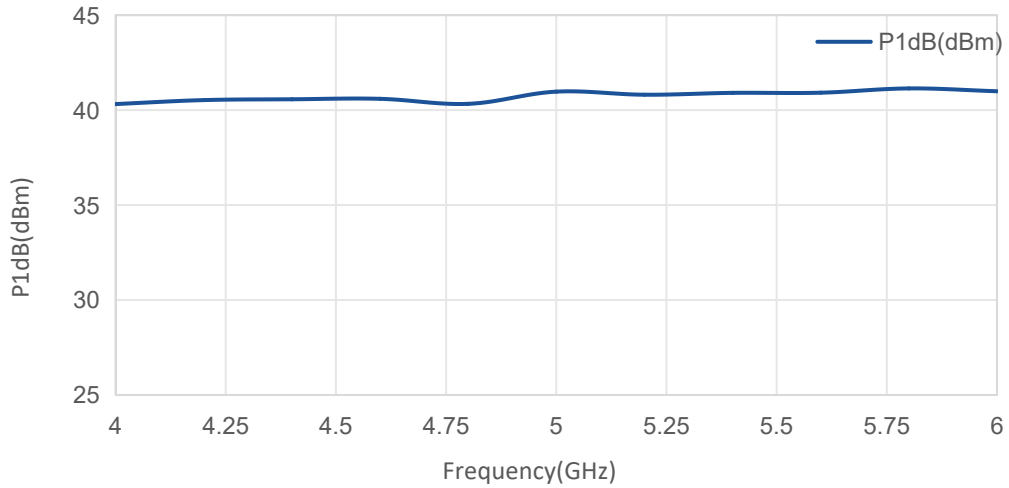
Gain vs Output Power



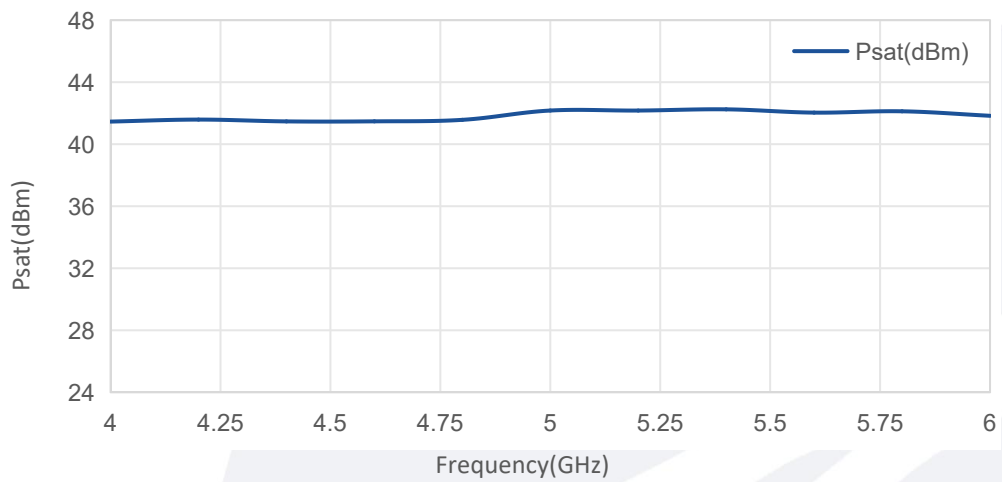
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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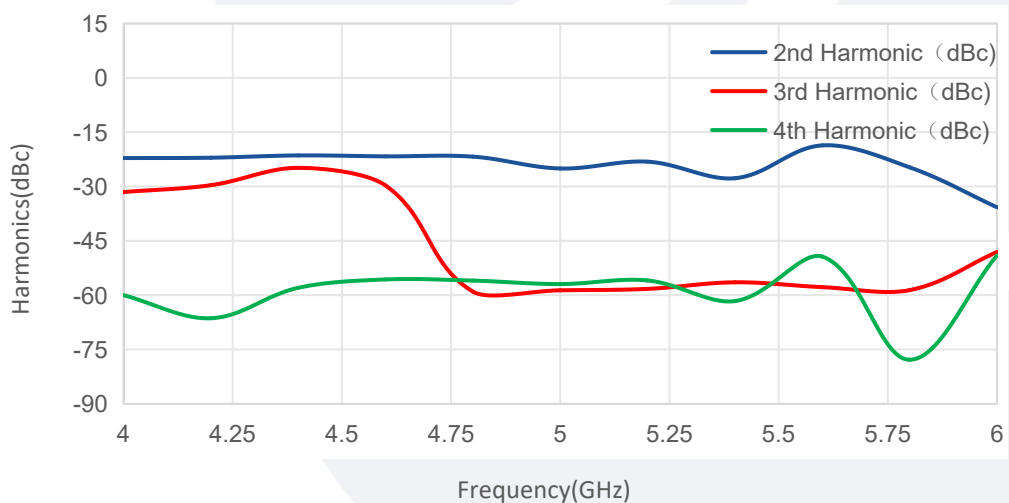
P1dB vs Frequency



Psat vs Frequency



Harmonics vs Frequency



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