

Power Amplifier

20-30GHz/50dB Gain/40dBm Psat

Model: TLPA20G30G-40-40

TLPA20G30G-40-40 is a power amplifier with a minimum small signal gain of 40 dB and a minimum Psat of 40 dBm across the frequency range of 20 to 30 GHz. The DC power requirement for the amplifier is +18 VDC/2.5 A. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range:20-30GHz
- Gain: 50dB Min
- Output Power Psat: 40dBm 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	20		30	GHz
Small Signal Gain	50			dB
Gain Flatness		±2		dB
Output Psat	40			dBm
Spurious		-60		dBc
Harmonics			-20	dBc
Input VSWR		2		:1
DC Voltage		+18		V DC
DC Supply Current		2.5		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Supply Connector	Solder Pin	
Size	60*60*11(Without heatsink) 188.4*90*101(With heatsink)	mm
Weight	≤200	g

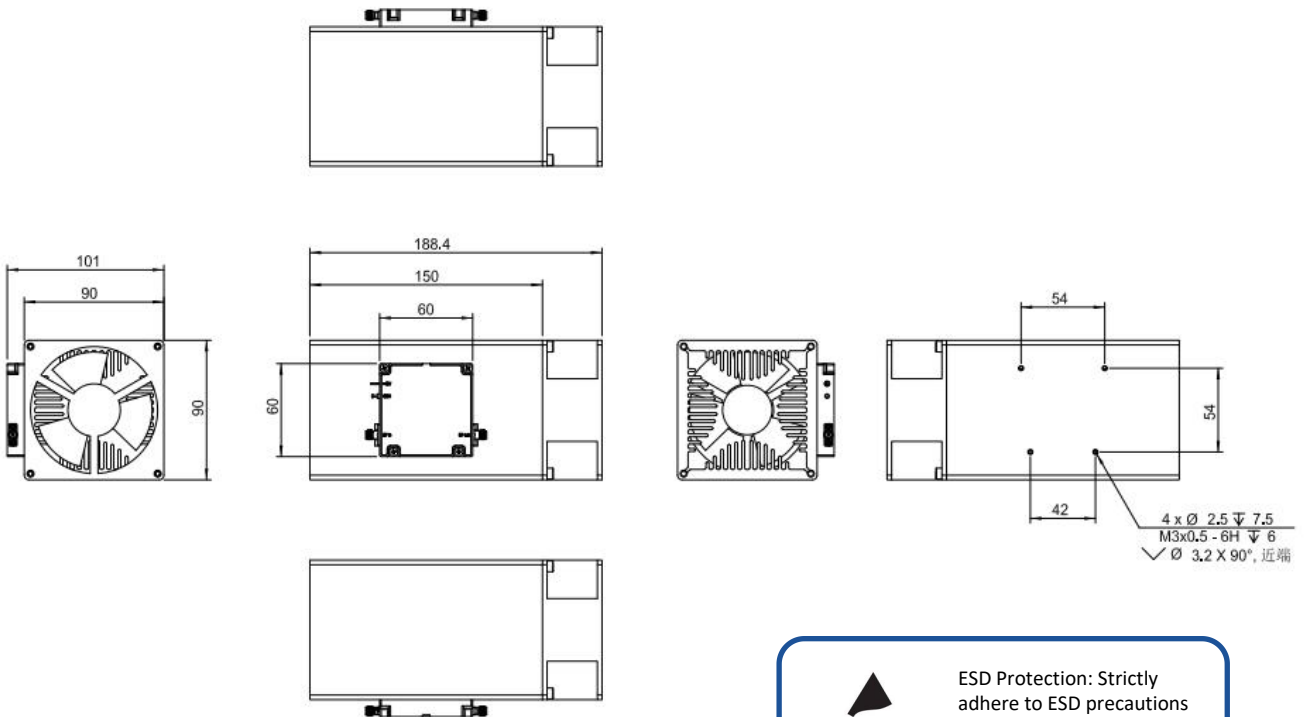
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+19 V
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

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			

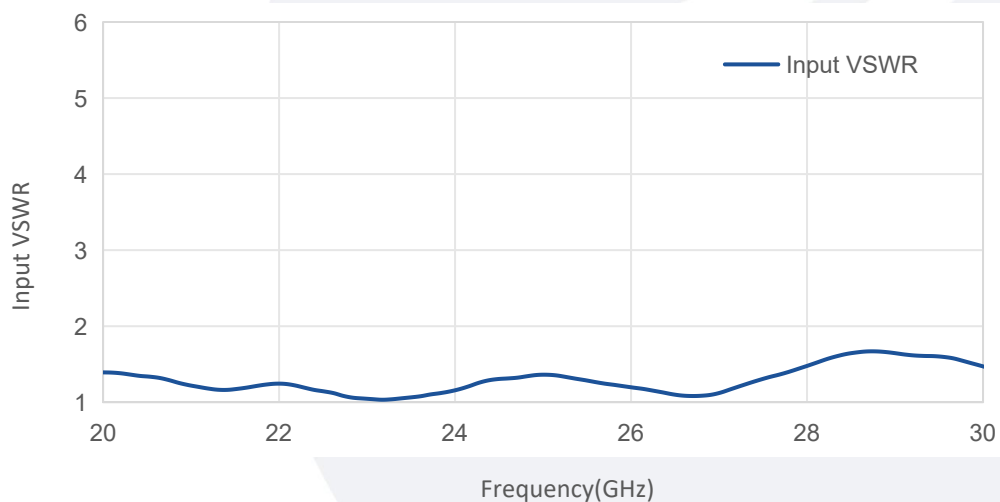
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA20G30G-40-40	Power amplifier 20-30GHz, Gain:50dB,Psat:40dBm,+18V DC,With Heatsink	Rev.1.0

Typical Performance Data:

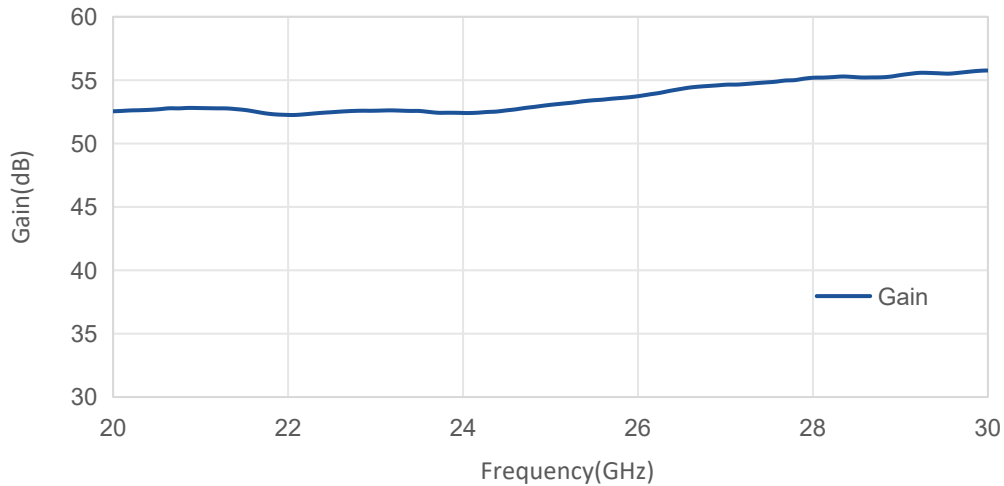
Input VSWR vs Frequency



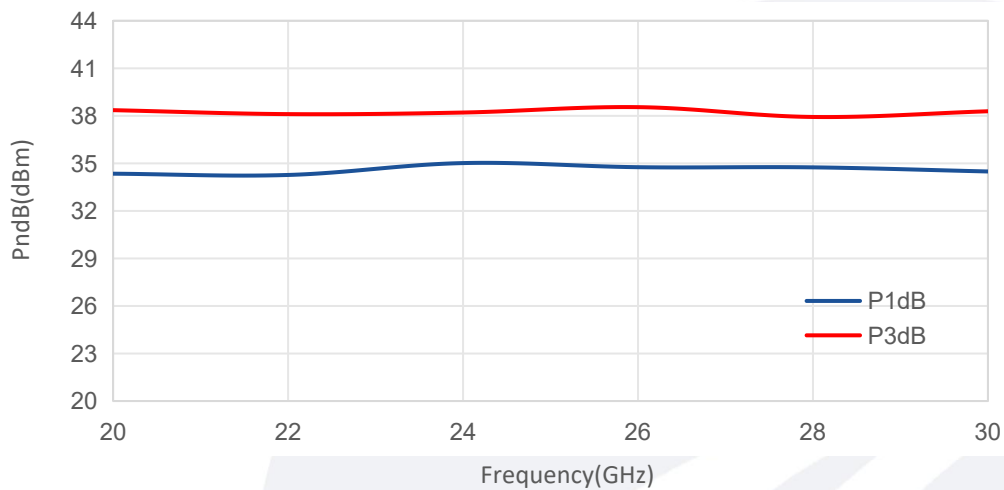
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

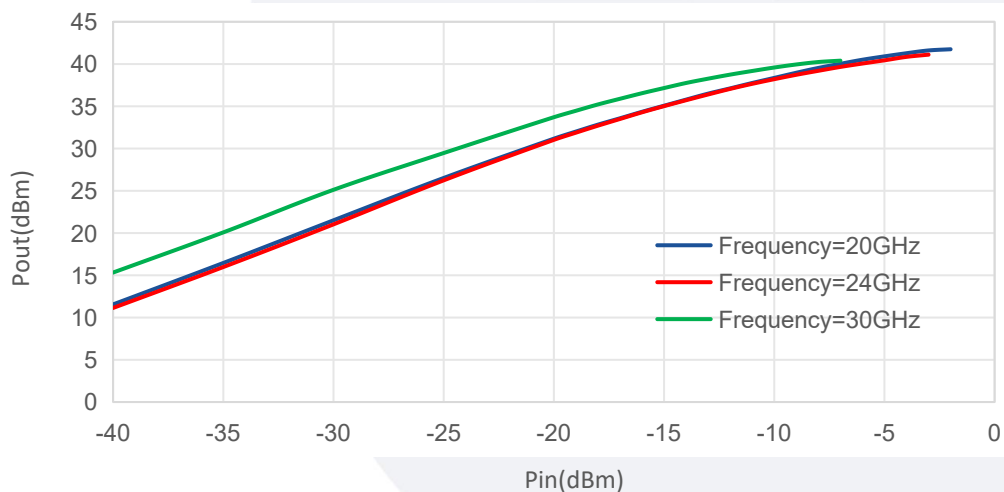
Small Signal Gain vs Frequency



PndB vs Frequency



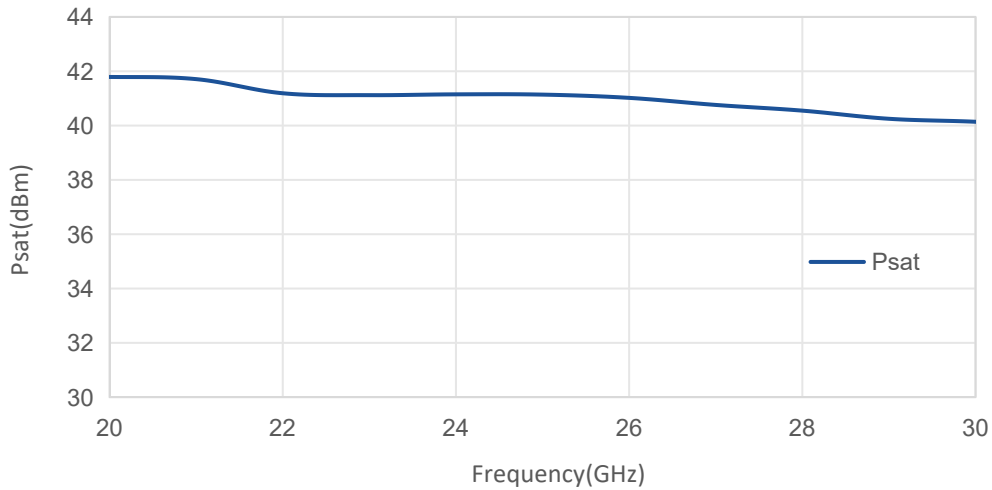
Pout@Pin



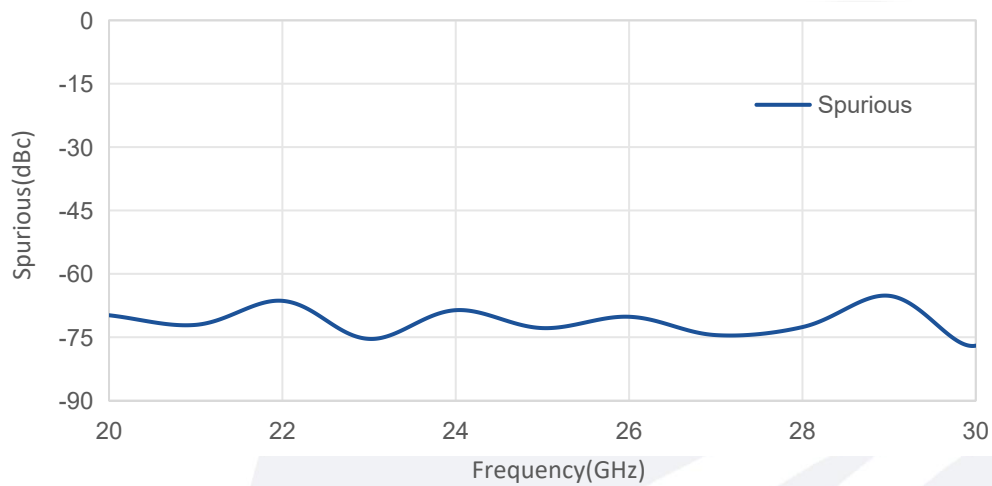
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

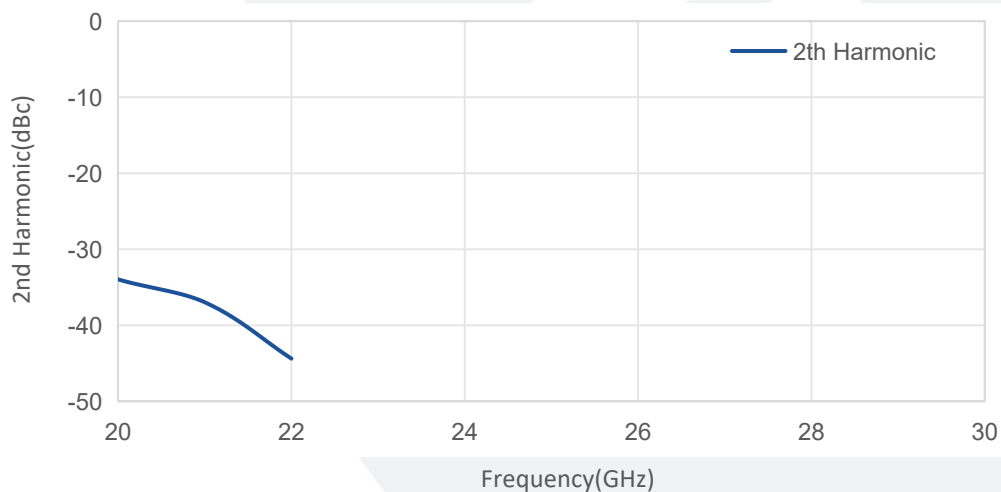
Psat vs Frequency



Spurious vs Frequency



2nd Harmonic vs Frequency



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.