

Power Amplifier

0.1-20GHz /30dB Gain/30 dBm Psat

Model: TLPA0.1G20G-30-30

TLPA0.1G20G-30-30 is a power amplifier with a power gain of 30 dB and a nominal Psat of 30 dBm across the frequency range of 0.1 to 20 GHz. The DC power requirement for the amplifier is +24 VDC/0.55 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.1-20GHz
- Power Gain: 30dB Min
- Output Power Psat: 30dBm 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	0.1-20			GHz
Power Gain	30			dB
Small Signal Gain@2-8GHz		35		dB
Gain Flatness		±2		dB
Output P1dB		28		dBm
Output Psat		30		dBm
Noise Figure		4		dB
Spurious		-60		dBc
Harmonic		-10		dBc
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		24		V DC
DC Supply Current		550	800	mA
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
Size	60*65*11(Without Heatsink) 60*90*41(With Heatsink)	mm
Weight	≤500	g

Absolute Maximum Ratings:

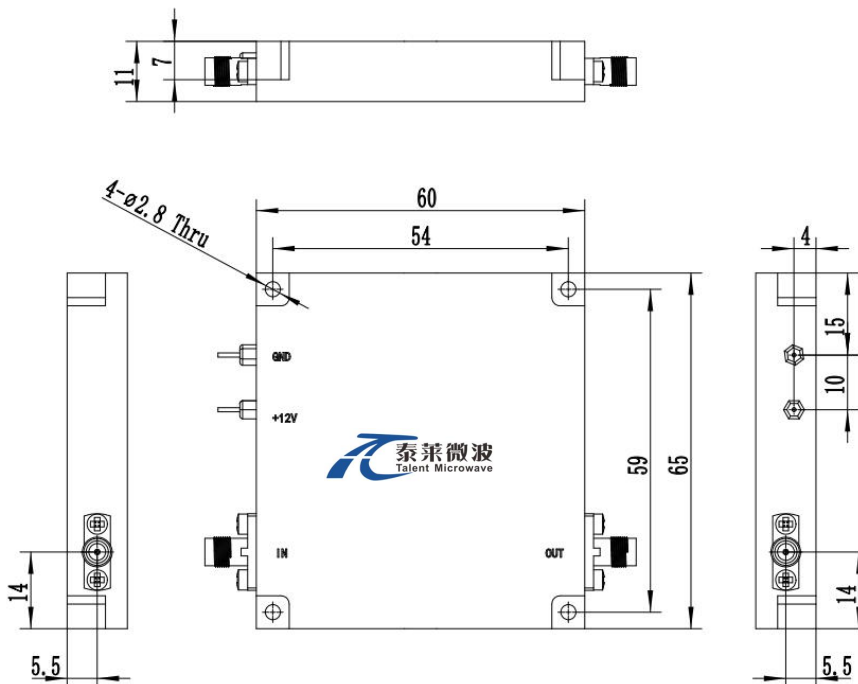
Parameter	Value
Supply Bias Voltage	PIN1: +24V PIN2: GND
RF Input Power	0 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Simple 220V System
Available SAC option

Outline Drawing:

Unit:mm



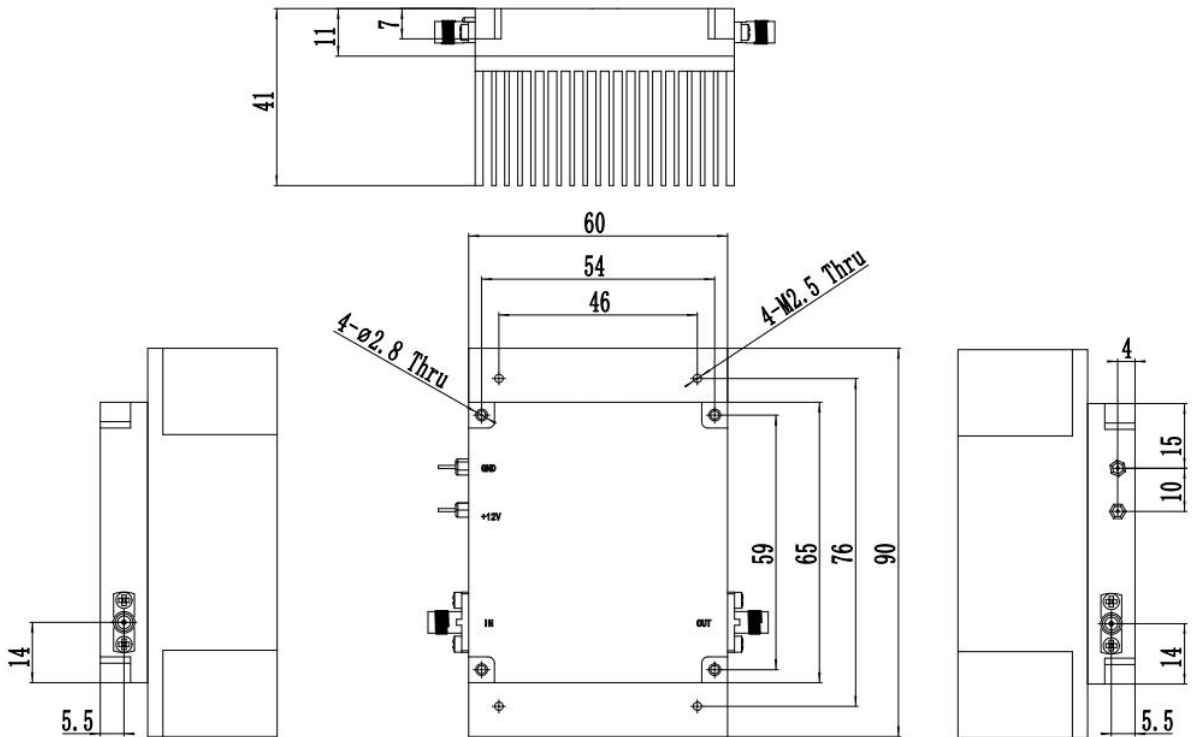
*****Heat Sink Required During Operation**



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

Outline Drawing:

Unit:mm



Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°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			

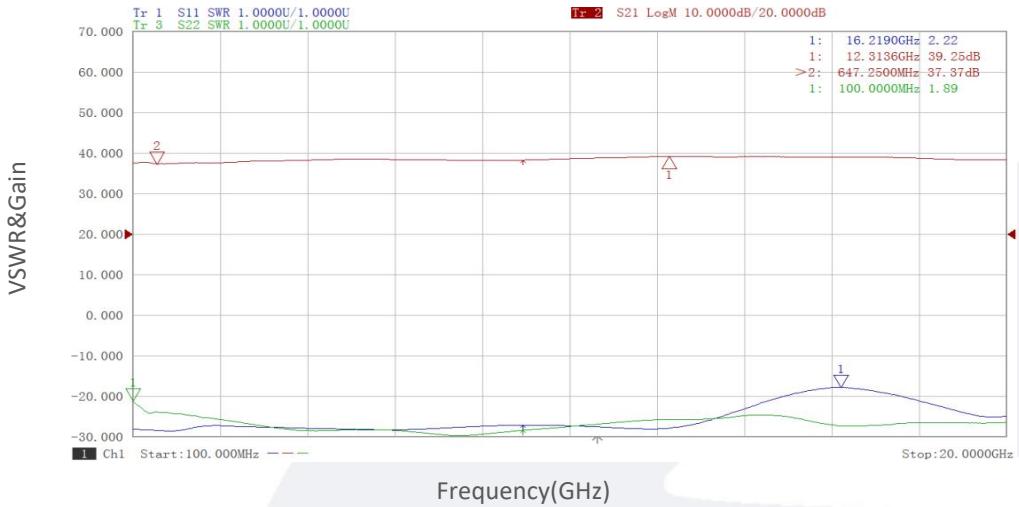
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

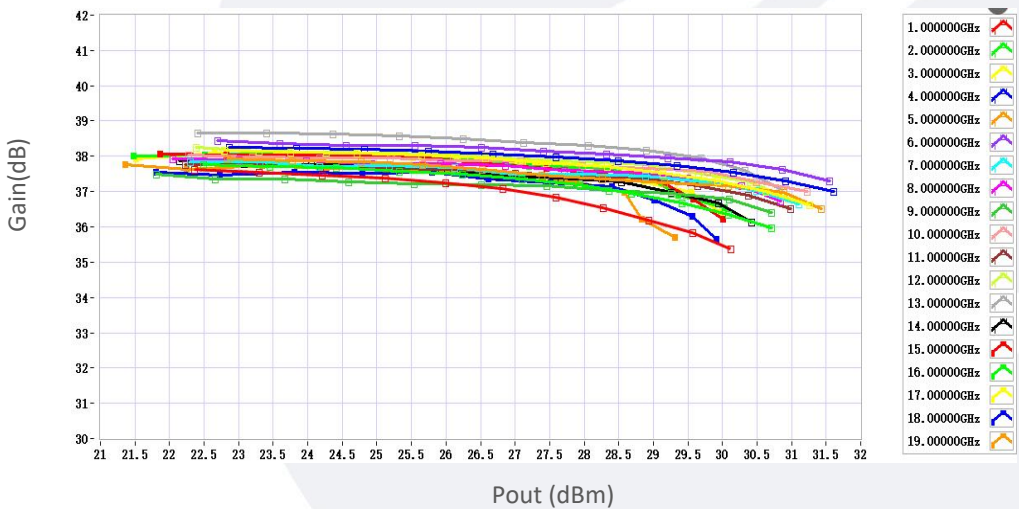
Base Number	Description	Revision
TLPA0.1G20G-30-30	Power amplifier 0.1-20GHz, Power Gain:30dB, Psat:30dBm, +24V DC, Without Heatsink	Rev.1.1
TLPA0.1G20G-30-30-HS	Power amplifier 0.1-20GHz, Power Gain:30dB, Psat:30dBm, +24V DC, With Heatsink	Rev.1.1

Typical Performance Data:

VSWR&Gain vs Frequency



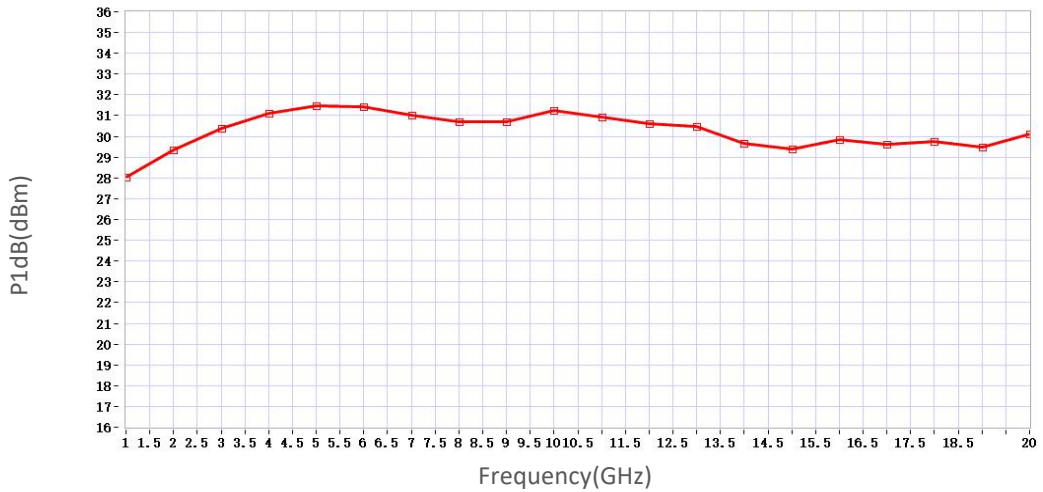
Gain vs Output Power



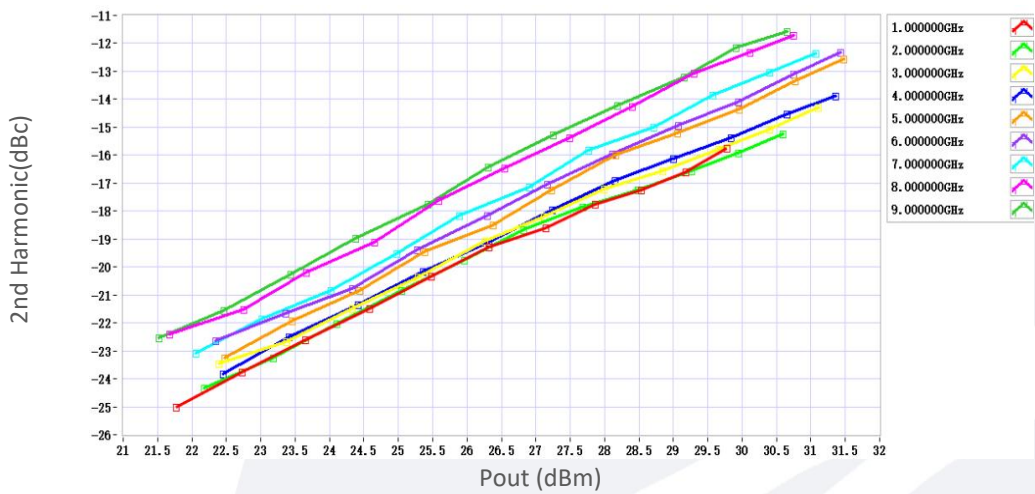
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

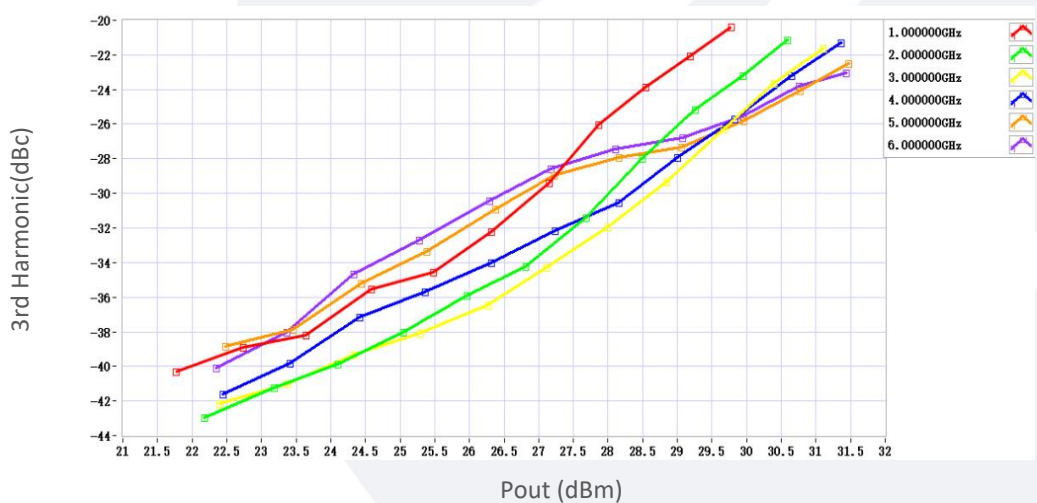
P1dB vs Frequency



2nd Harmonic vs Output Power



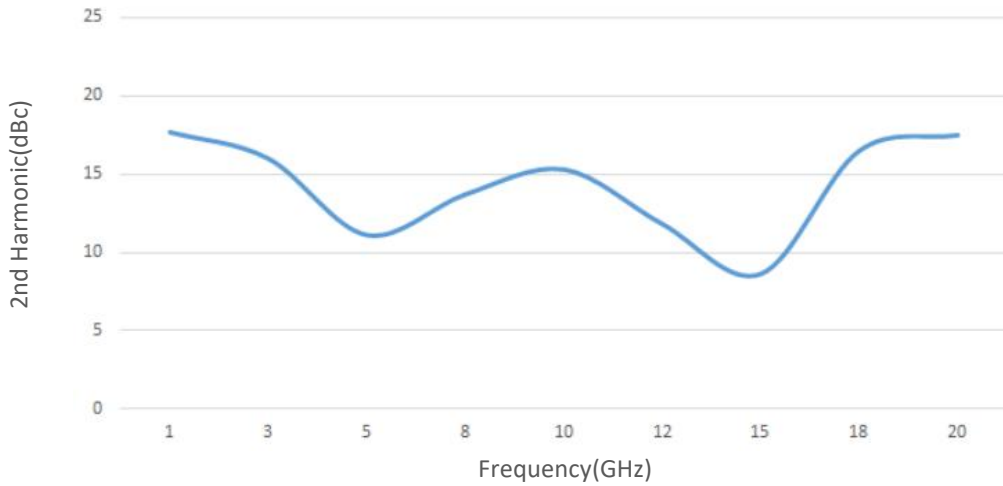
3rd Harmonic vs Output Power



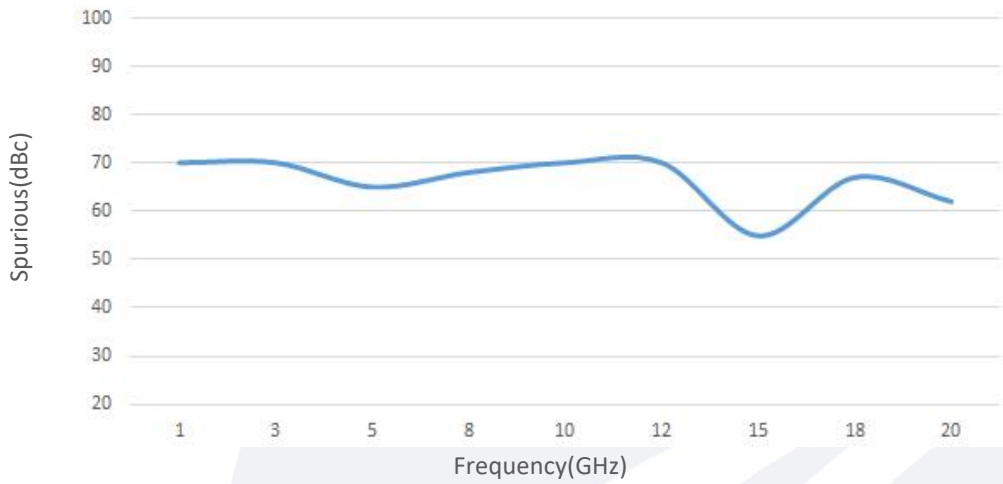
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

2nd Harmonic vs Frequency@Pout=30dBm



Spurious vs Frequency@Pout=30dBm



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.