

## Power Amplifier

0.1-20GHz/25dB Gain/30dBm Psat

Model: TLPA0.1G20G-25-31

TLPA0.1G20G-25-31 is a power amplifier with a minimum small signal gain of 25 dB and a minimum Psat of 30 dBm across the frequency range of 0.1 to 20 GHz. The DC power requirement for the amplifier is +8 VDC/1300 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 0.1-20GHz
- Gain: 25dB Min
- Output Power P1dB: 30dBm 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		Band A: 0.1-0.4; Band B: 0.4-0.6; Band C: 0.6-20			GHz
Small Signal Gain	@0.1-0.4GHz	24	25		dB
	@0.4-0.6GHz	24	25		
	@0.6-20GHz	25	27		
Gain Flatness	@0.1-0.4GHz		±1		dB
	@0.4-0.6GHz		±1		
	@0.6-20GHz		±1		
Output P1dB	@0.1-0.4GHz	26	28		dBm
	@0.4-0.6GHz	28	30		
	@0.6-20GHz	28	30.5		
Output Psat	@0.1-0.4GHz	29	30		dBm
	@0.4-0.6GHz	30	32		
	@0.6-20GHz	30	32		

### Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Input VSWR	@0.1-0.4GHz		2.2		:1
	@0.4-0.6GHz		2		
	@0.6-20GHz		2		
DC Voltage			+8		V DC
DC Supply Current			1300		mA
Impedance			50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	Feedthru capacitor	
Size	44*52*13	mm

### Absolute Maximum Ratings:

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



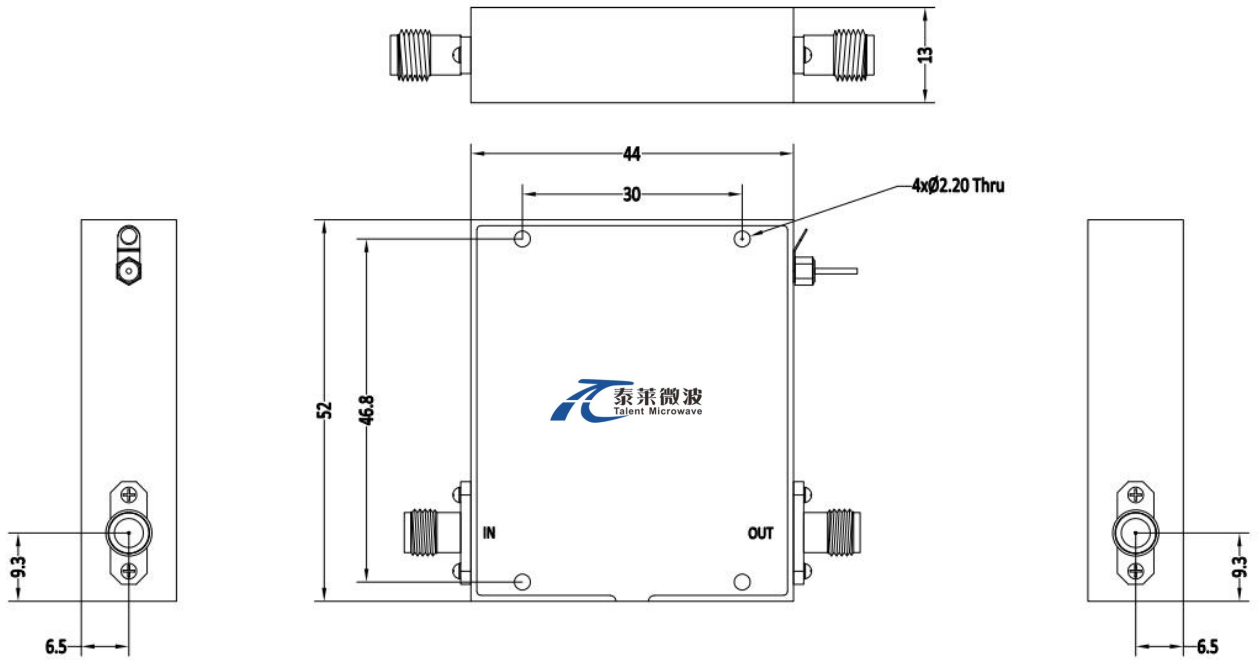
### Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°C
Relative humidity		95		%
Altitude		30,000		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.

**Outline Drawing:**

Unit:mm



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



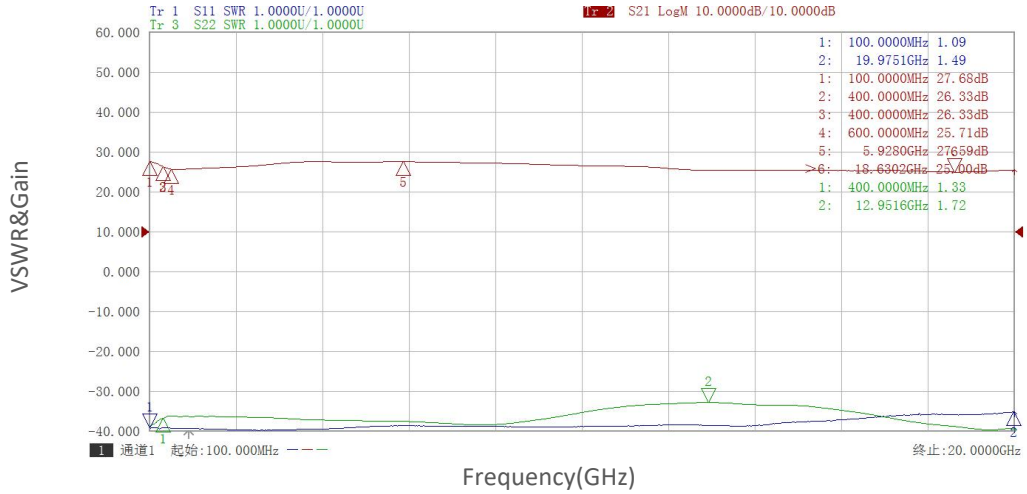
ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

**Ordering Information:**

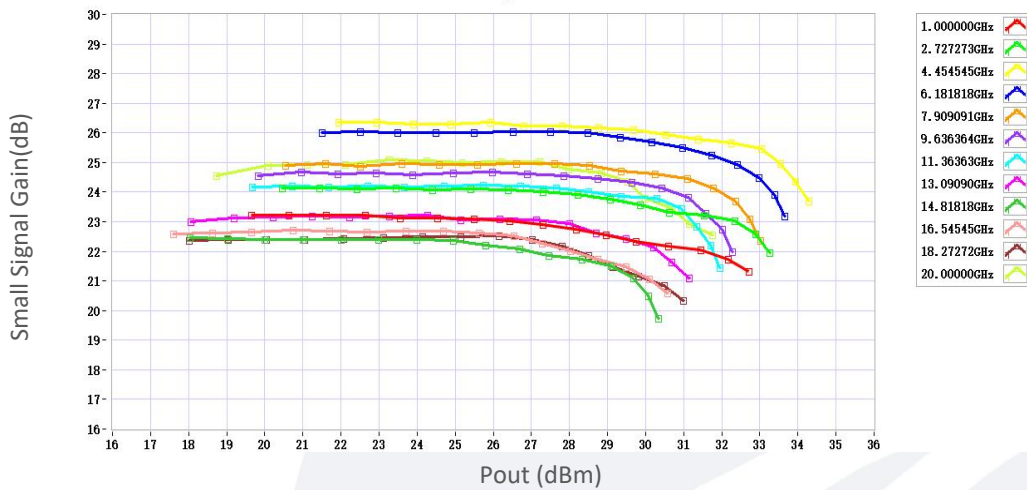
Base Number	Description	Revision
TLPA0.1G20G-25-31	Power amplifier 0.1-20GHz, Gain:25dB,Psat:30dBm,+8V DC,Without Heatsink.	Rev.1.1
TLPA0.1G20G-25-31-HS	Power amplifier 0.1-20GHz, Gain:25dB,Psat:30dBm,+8V DC,With Heatsink.	Rev.1.1

## Typical Performance Data:

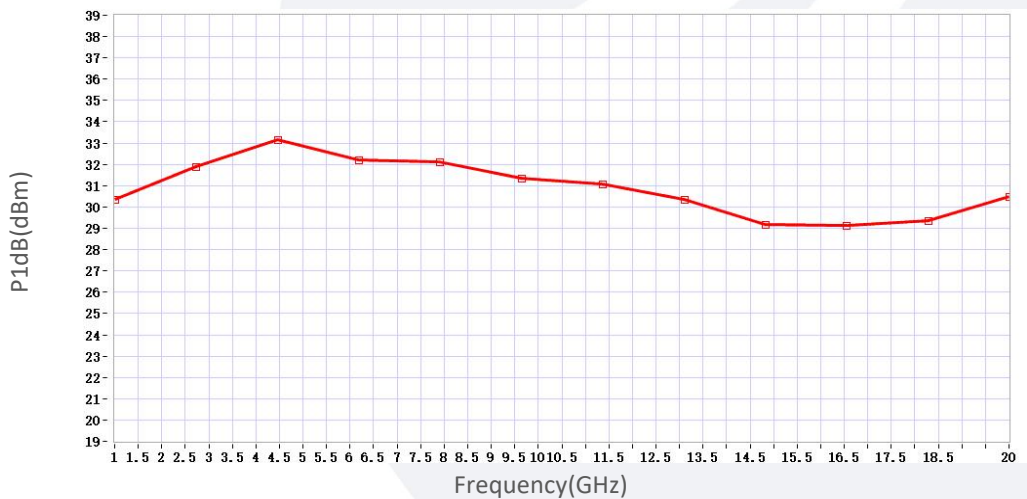
### VSWR&Gain vs Frequency



### Small Signal Gain vs Frequency



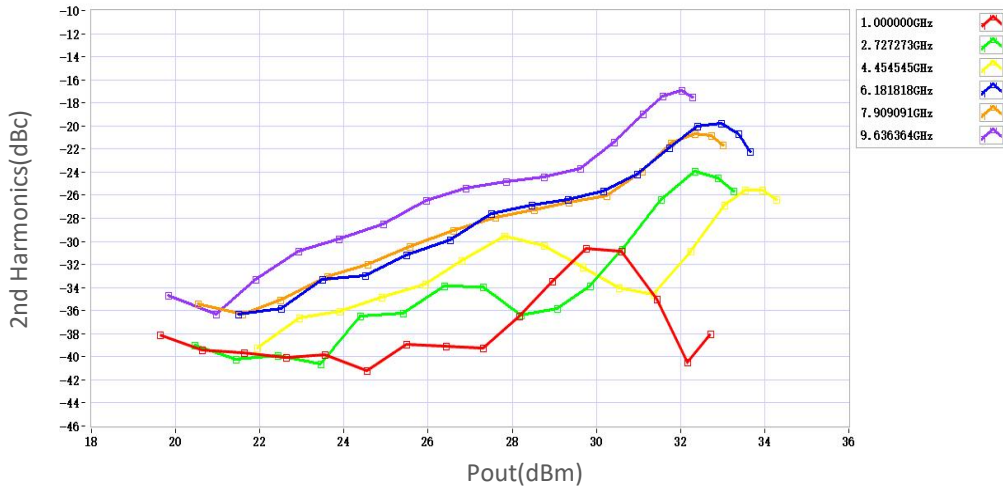
### P1dB vs Frequency



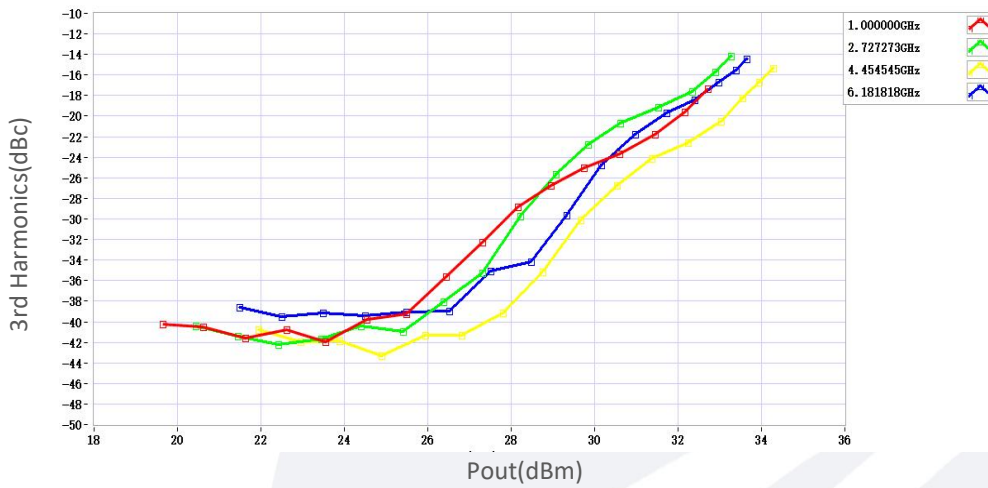
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

### 2nd Harmonics vs Output Power



### 3rd 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.