

## Power Amplifier

8-12GHz /30dB Gain/33 dBm Psat

Model: TLPA8G12G-30-33

TLPA8G12G-30-33 is a power amplifier with a power gain of 30 dB and a nominal Psat of 33 dBm across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +12 VDC/500 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 8-12 GHz
- Gain: 30dB Min
- Output Power Psat: 33dBm 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	8		12	GHz
Power Gain	30			dB
Gain Flatness			±2	dB
Output P1dB	30			dBm
Output Psat		33		dBm
Spurious		-60		dBc
Input VSWR		2	2.2	:1
Output VSWR			2.5	:1
DC Voltage		12		V DC
DC Supply Current		500		mA
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	58.5*38*12.5	mm

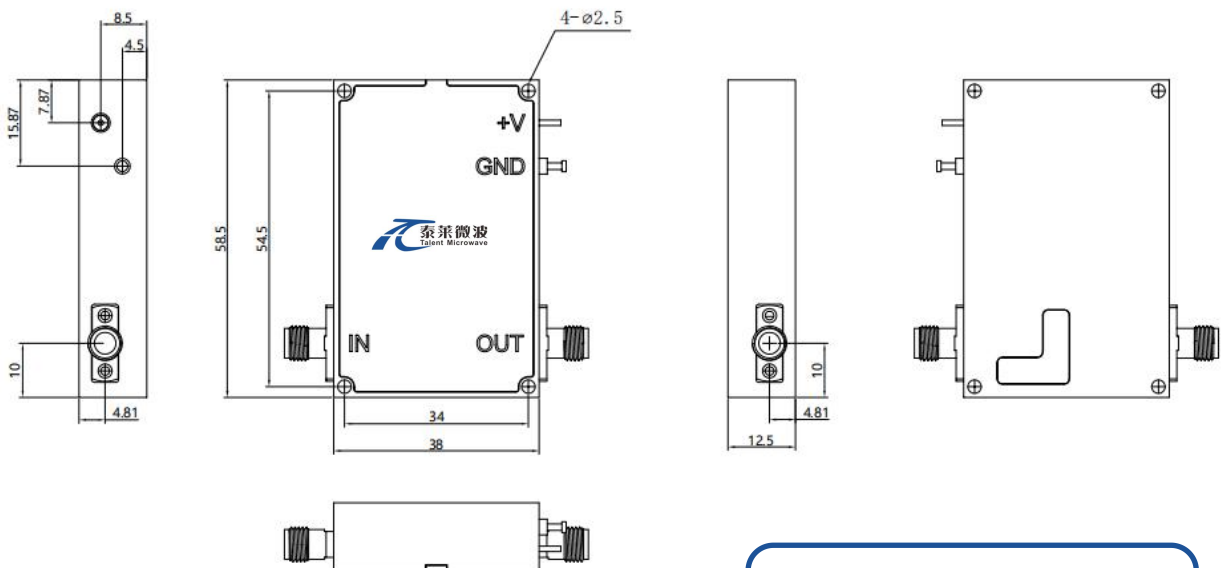
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+20 V
RF Input Power	+15 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.

### 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			

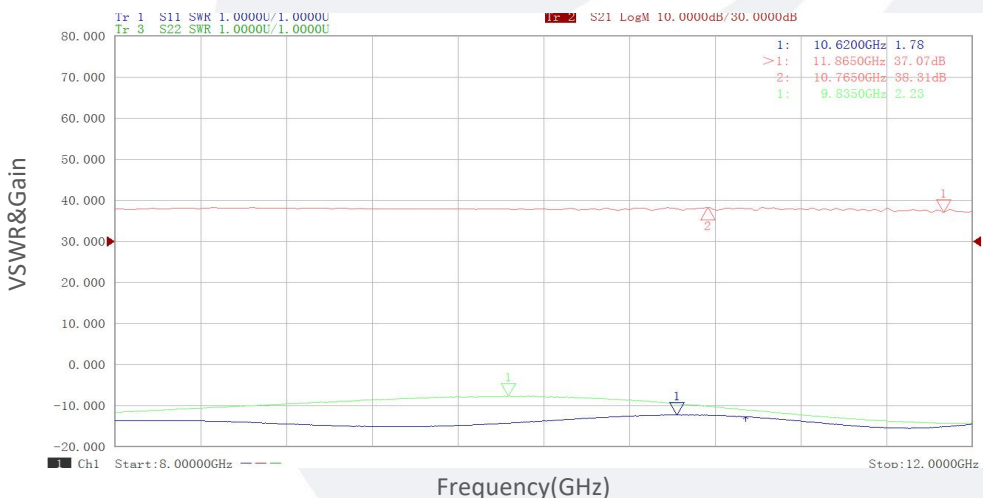
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA8G12G-30-33	Power amplifier 8-12GHz, Gain:30dB,Psat:33dBm,+12V DC,Without Heatsink	Rev.1.1
TLPA8G12G-30-33-HS	Power amplifier 8-12GHz, Gain:30dB,Psat:33dBm,+12V DC,With Heatsink	Rev.1.1

### Typical Performance Data:

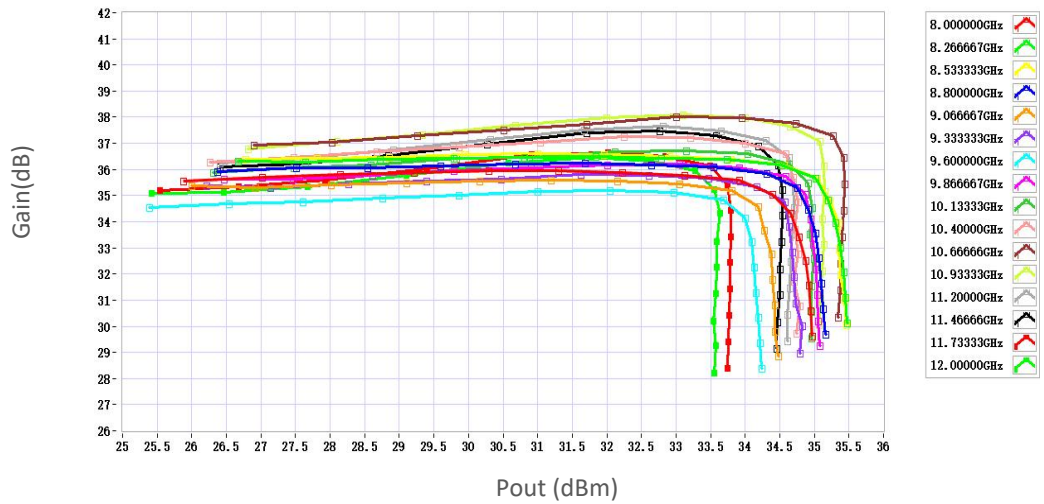
#### VSWR&Gain vs Frequency



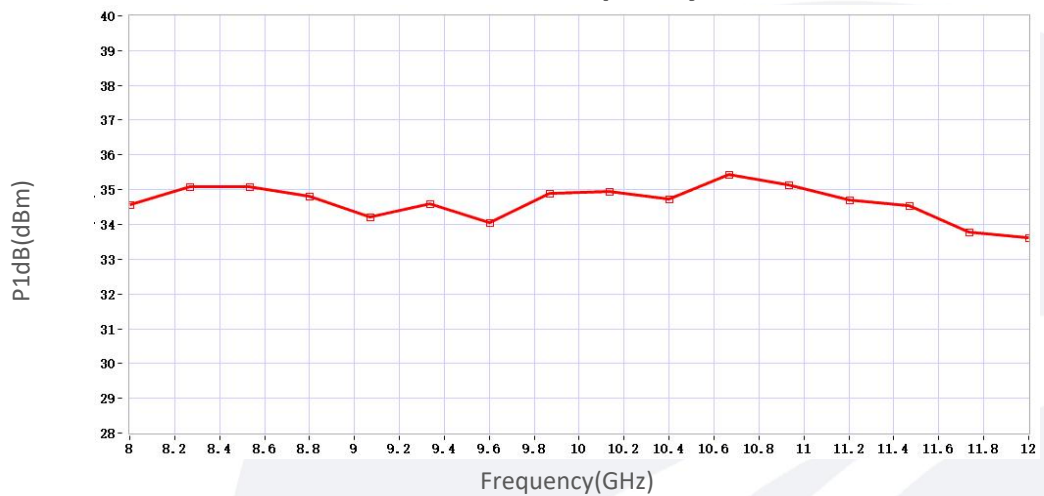
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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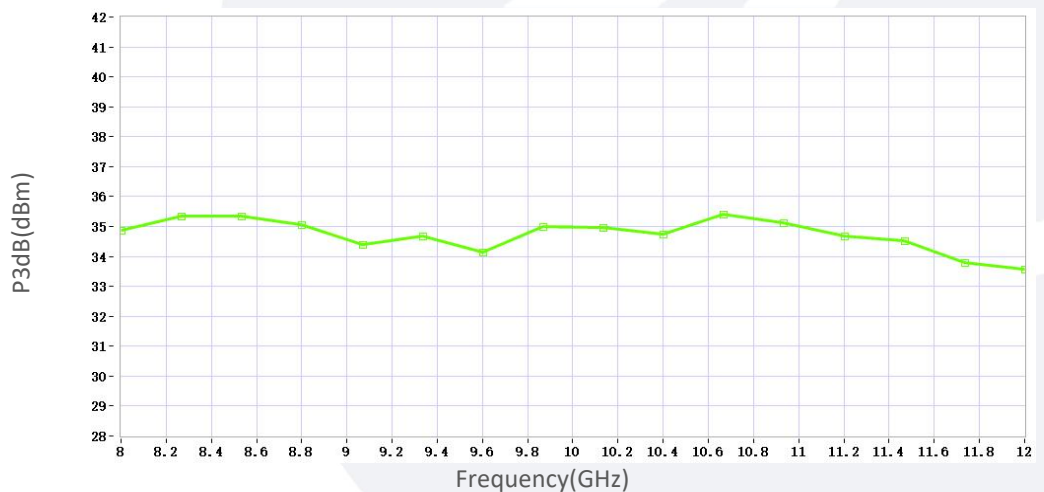
### Gain vs Output Power



### P1dB vs Frequency



### P3dB vs Frequency



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