

## Power Amplifier

100MHz-2GHz/30dB Gain/30dBm P1dB

Model: TLPA100M2G-30-30

TLPA100M2G-30-30 is a power amplifier with a typical small signal gain of 30 dB and a minimum P1dB of 30 dBm across the frequency range of 100MHz to 2 GHz. The DC power requirement for the amplifier is +15 VDC/700 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 100MHz-2GHz
- Gain: 30dB Typ
- 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	100MHz		2GHz	
Small Signal Gain	27	30		dB
Gain Flatness		±0.5	±0.75	dB
Output P1dB	30	31		dBm
Harmonic		-25	-20	dBc
Input VSWR		1.5	2.0	:1
DC Voltage		+15	+16	V DC
DC Supply Current		700	1000	mA
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	120*70*15	mm
Weight	200	g

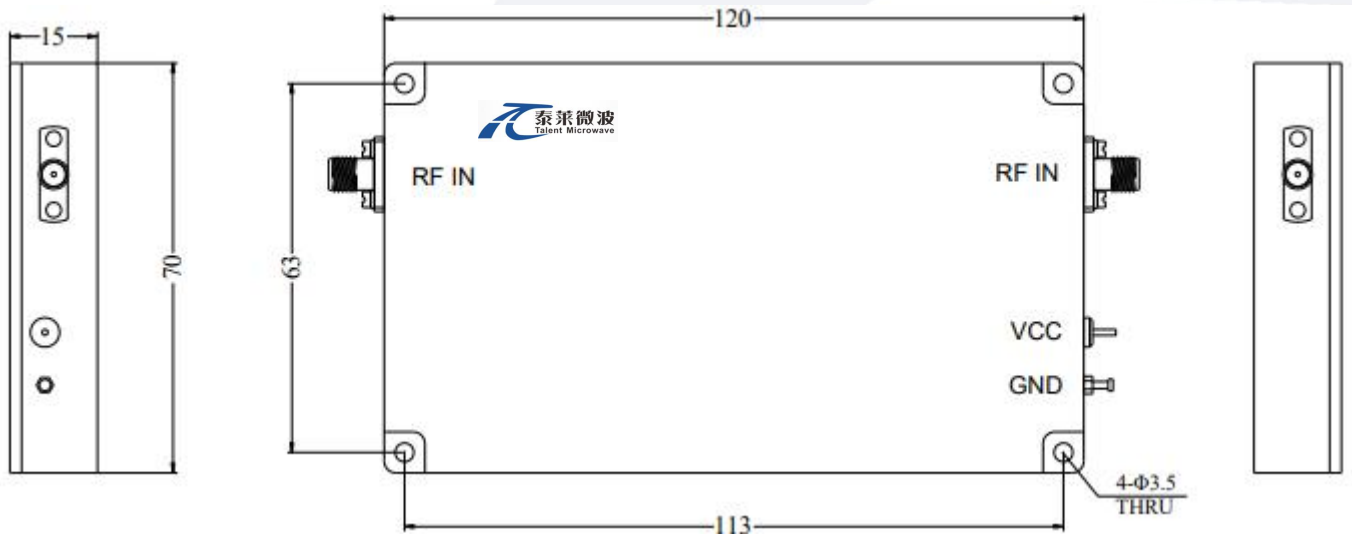
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+16 V
RF Input Power	+5 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			

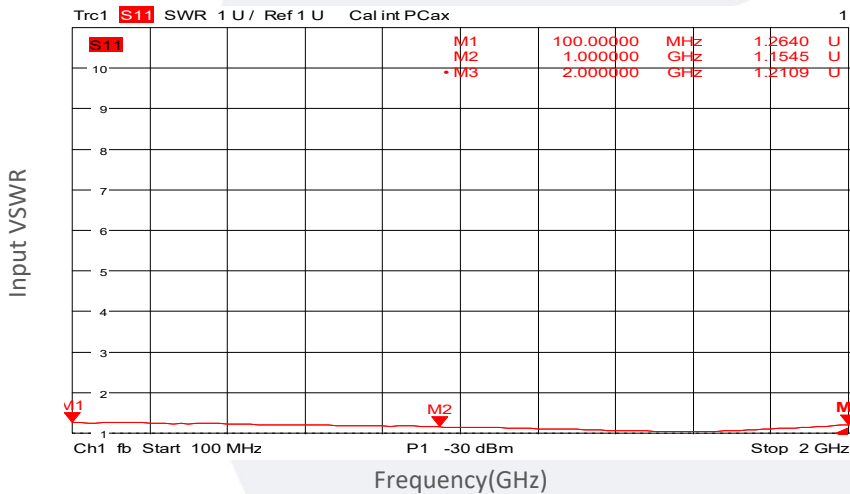
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

Base Number	Description	Revision
TLPA100M2G-30-30	Power amplifier 0.1-2GHz, Gain:30dB,P1dB:30dBm,+15V DC,Without Heatsink.	Rev.1.1
TLPA100M2G-30-30-HS	Power amplifier 0.1-2GHz, Gain:30dB,P1dB:30dBm,+15V DC,With Heatsink.	Rev.1.1

### Typical Performance Data:

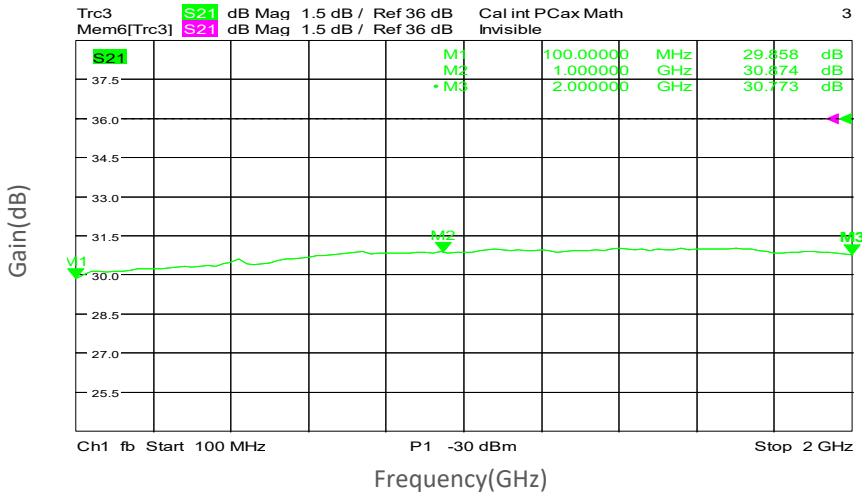
#### Input VSWR vs Frequency



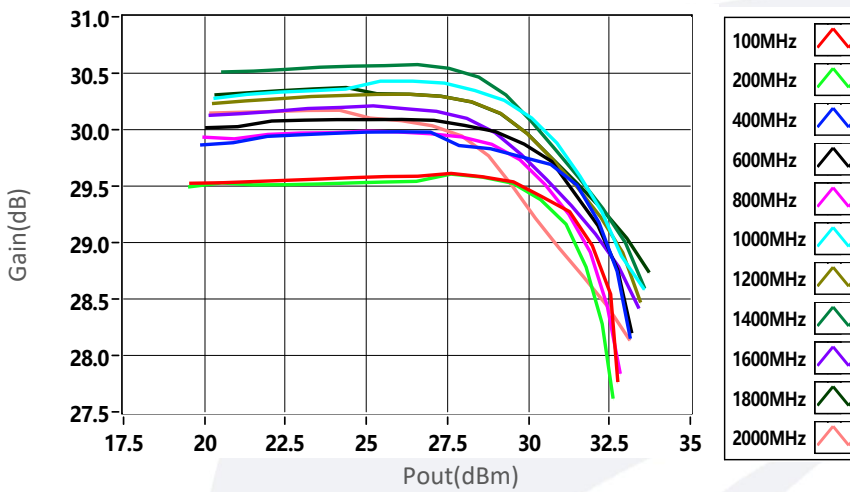
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

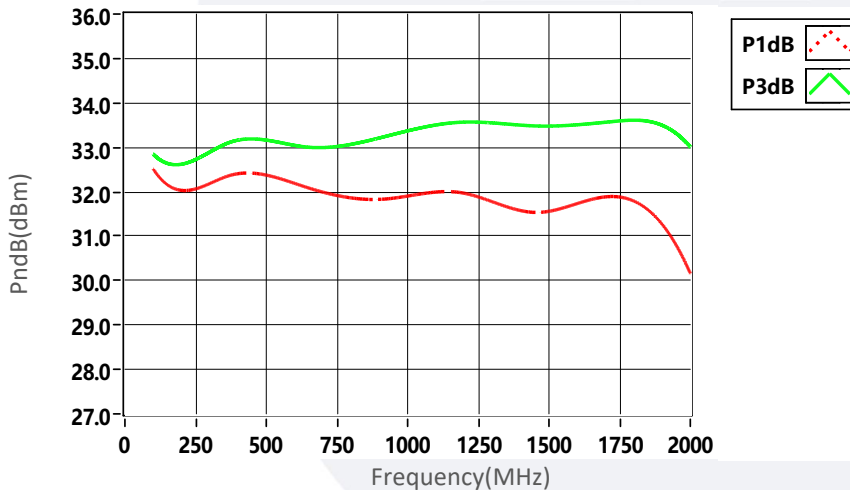
### Gain vs Frequency



### Gain vs Output Power



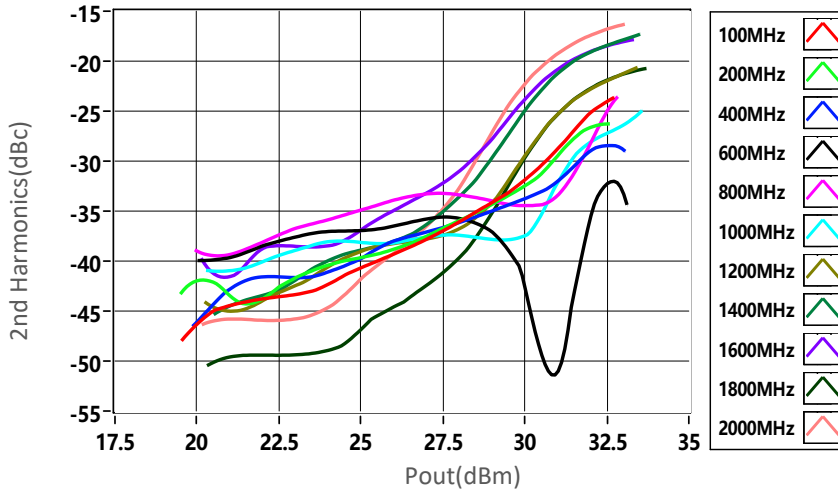
### PndB vs Frequency



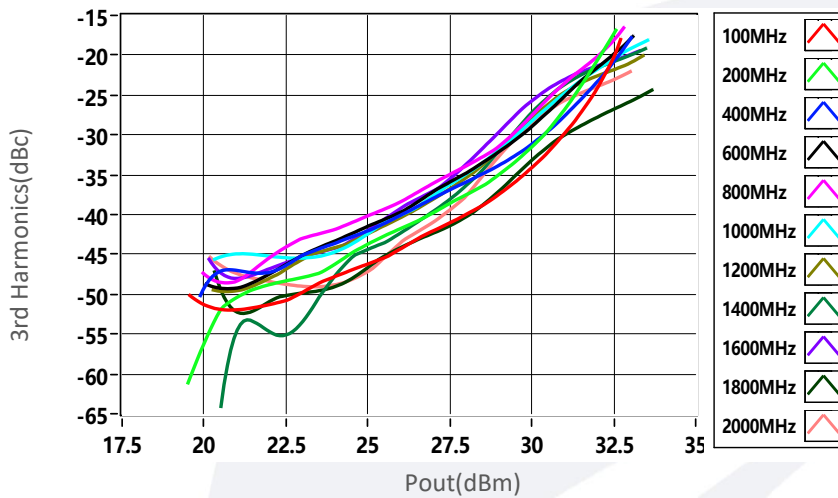
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**Typical Performance Data:**

**2nd Harmonics VS Output Power**



**3rd Harmonics VS Output Power**



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