

Power Amplifier

100MHz-2GHz/20dB Gain/27dBm P1dB

Model: TLPA100M2G-20-30

TLPA100M2G-20-30 is a power amplifier with a minimum small signal gain of 20 dB and a minimum P1dB of 27 dBm across the frequency range of 100MHz to 2 GHz. The DC power requirement for the amplifier is +12 VDC/700 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range:100MHz-2GHz
- Gain: 20dB Min
- Output Power P1dB: 27dBm 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	20	22		dB
Gain Flatness		±0.5	±0.75	dB
Output P1dB	27	28		dBm
Harmonics		-20		dBc
Input VSWR		1.5	2.0	:1
DC Voltage		+12	+13	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

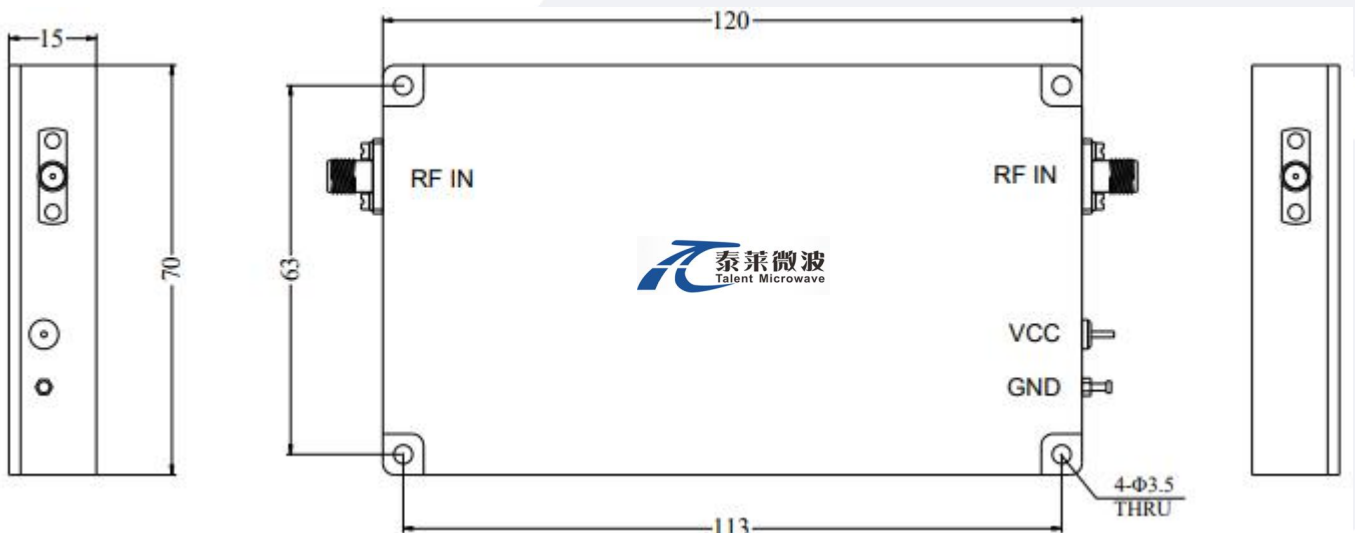
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+13 V
RF Input Power	+16 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			

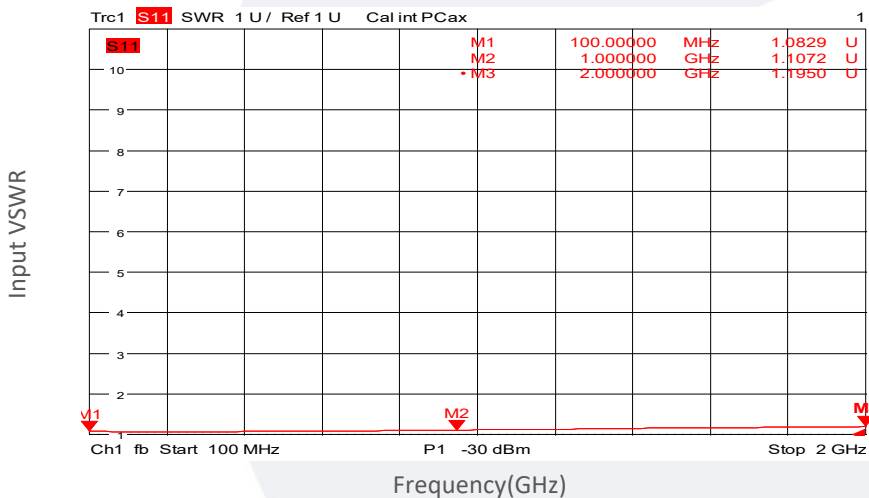
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA100M2G-20-30	Power amplifier 100MHz-2GHz, Gain:20dB,P1dB:27dBm,+12V DC,Without Heatsink.	Rev.1.1
TLPA100M2G-20-30-HS	Power amplifier 100MHz-2GHz, Gain:20dB,P1dB:27dBm,+12V DC,With Heatsink.	Rev.1.1

Typical Performance Data:

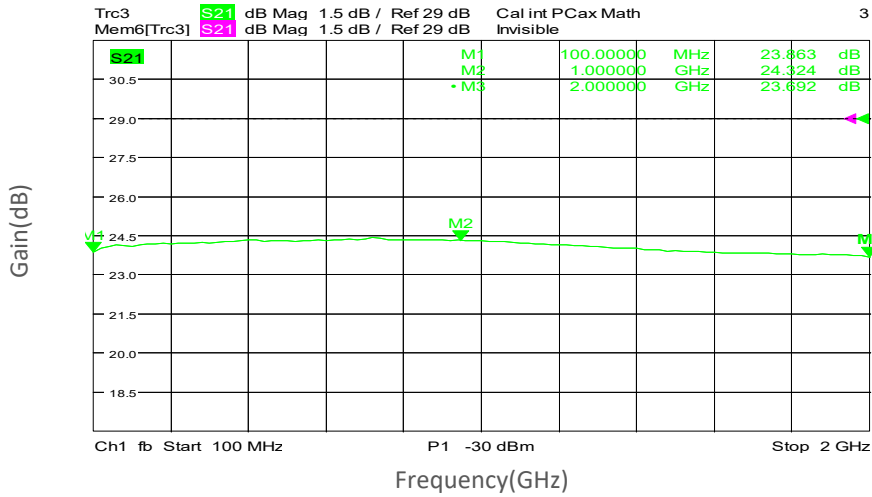
Input VSWR vs Frequency



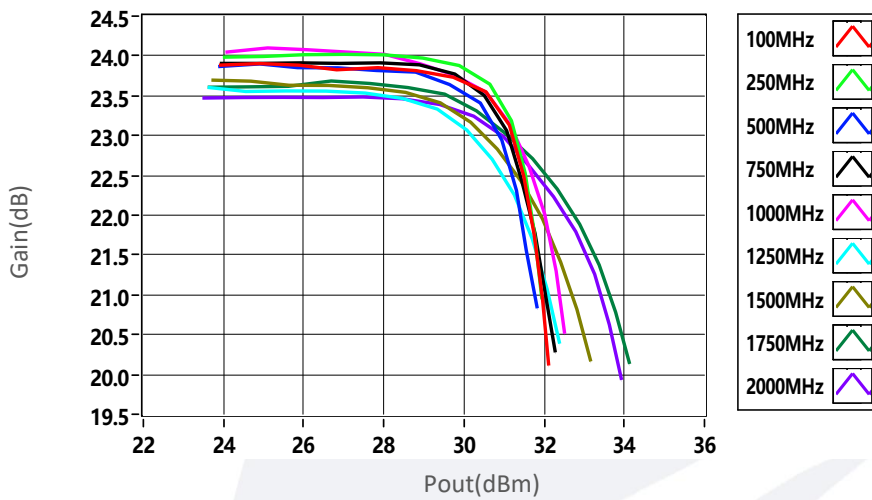
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

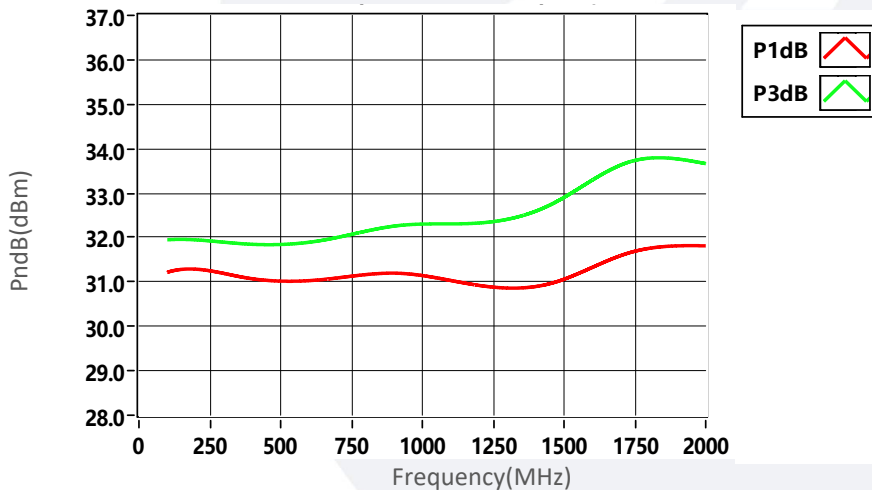
Gain vs Frequency



Gain vs Output Power



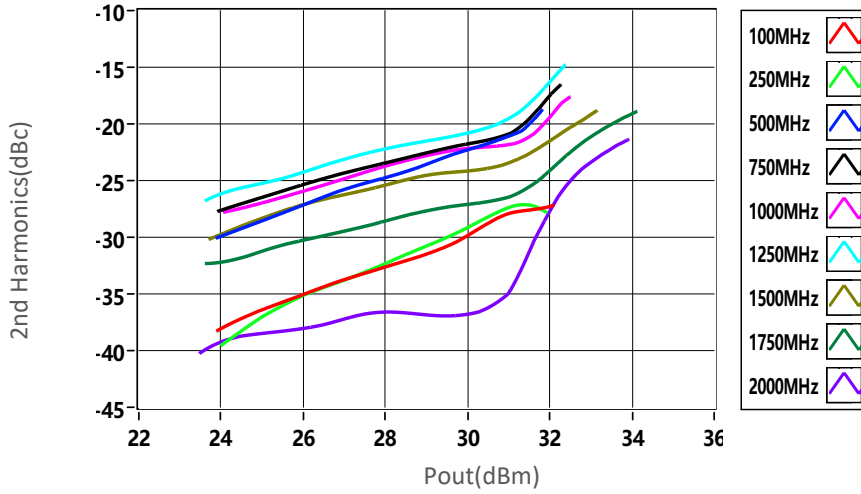
PndB vs Frequency



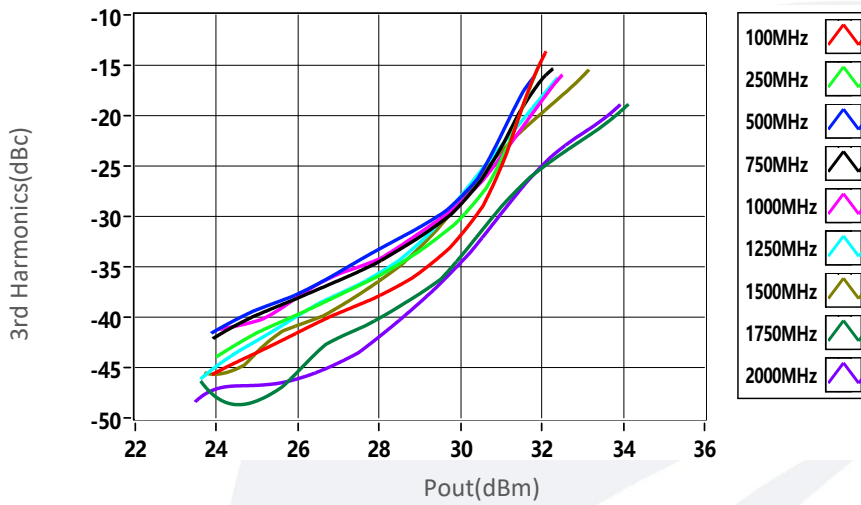
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Typical Performance Data:

2nd Harmonics VS Output Power



3rd Harmonics VS Output Power



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