

## Power Amplifier

10MHz-1GHz /50dB Gain/47 dBm Psat

Model: TLPA10M1G-47-47

TLPA10M1G-47-47 is a power amplifier with a typical small signal gain of 50 dB and a nominal Psat of 47 dBm across the frequency range of 10MHz to 1GHz. The DC power requirement for the amplifier is +28 VDC/12 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 10MHz-1GHz
- Gain: 50dB Typ
- Output Power Psat: 47dBm 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	10MHz		1GHz	
Small Signal Gain	47	50		dB
Gain Flatness		±2	±3	dB
Output P1dB		45		dBm
Output Psat	46	47		dBm
Harmonic@Pout=47dBm		-10		dBc
Input VSWR		1.5	2	:1
DC Voltage		+28	+30	V DC
DC Supply Current		1	12	A
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Power Supply Connector	D-SUB-9	
Size	170*80*20	mm
Weight	200	g

### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+30 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.

### DC Supply Interface(D-sub,9Pin Female):

Pin	Name	Function
1	+28V	Power supply positive +26.0-30.0VDC
2	+28V	Power supply positive +26.0-30.0VDC
3	+28V	Power supply positive +26.0-30.0VDC
4	GND	Power supply negative
5	GND	Power supply negative
6	NC	NC
7	TEM	When the temperature of the power amplifier housing is greater than 70° C, the power amplifier is closed and this pin will output a high level. When the temperature of the power shell is reduced to 60°C, the power amplifier returns to normal operation, and this pin will output a low level.
8	NC	NC
9	EN	A high (or suspended) level turns on the power amplifier, and a low level turns it off

### Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-30		+60	°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			

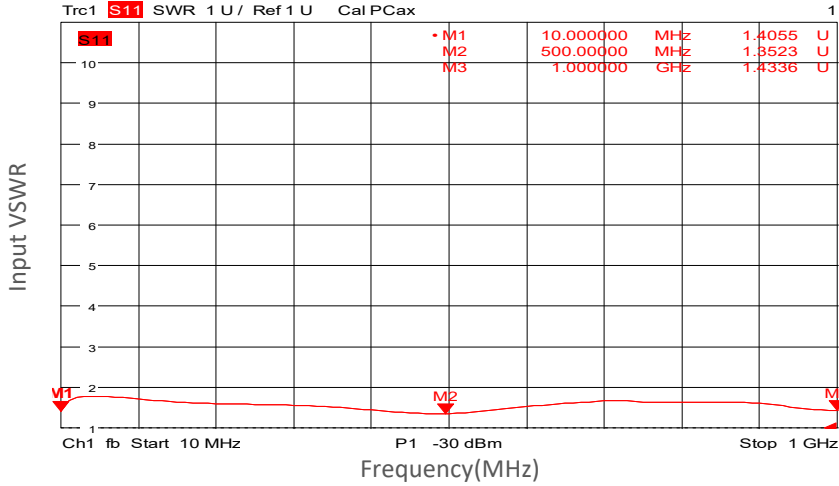
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

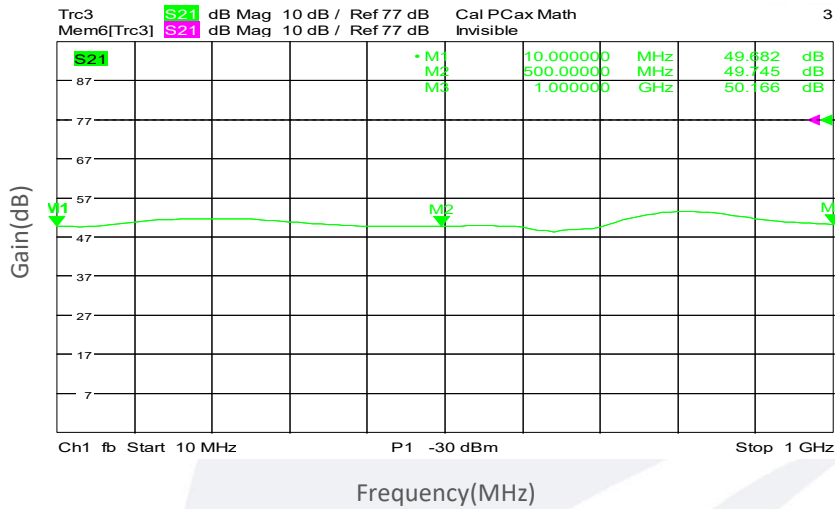
Base Number	Description	Revision
TLPA10M1G-47-47	Power amplifier 10MHz-1GHz, Gain:50dB,Psat:47dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA10M1G-47-47-HS	Power amplifier 10MHz-1GHz, Gain:50dB,Psat:47dBm,+28V DC,,With Heatsink	Rev.1.1

**Typical Performance Data:**

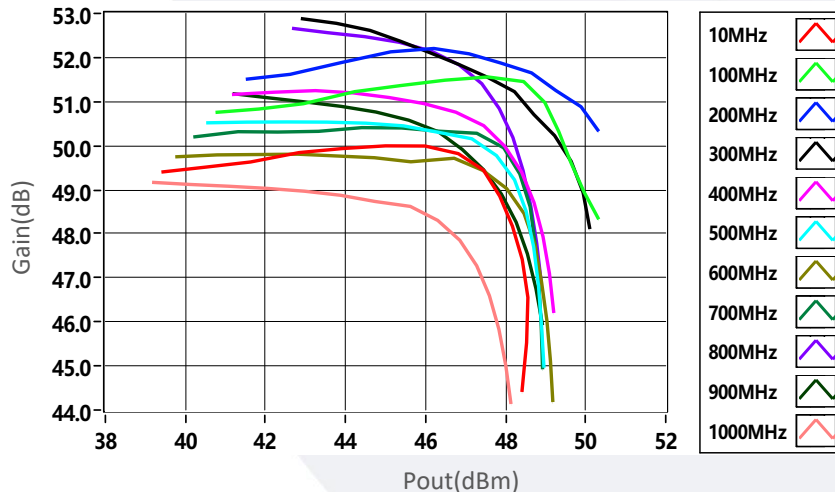
**Input VSWR vs Frequency**



**Small Signal Gain vs Frequency**



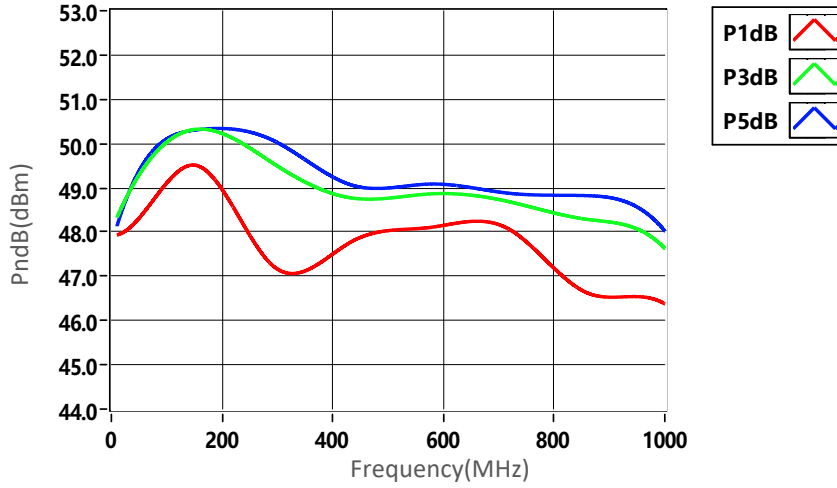
**Gain vs Output Power**



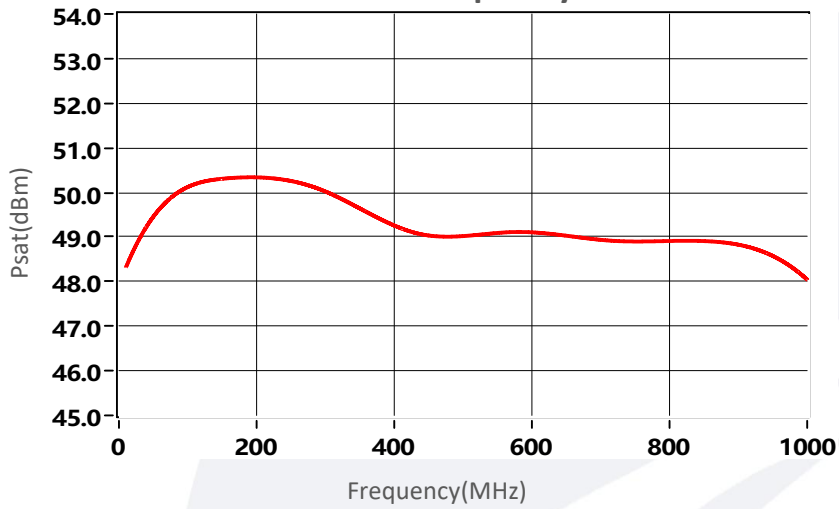
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

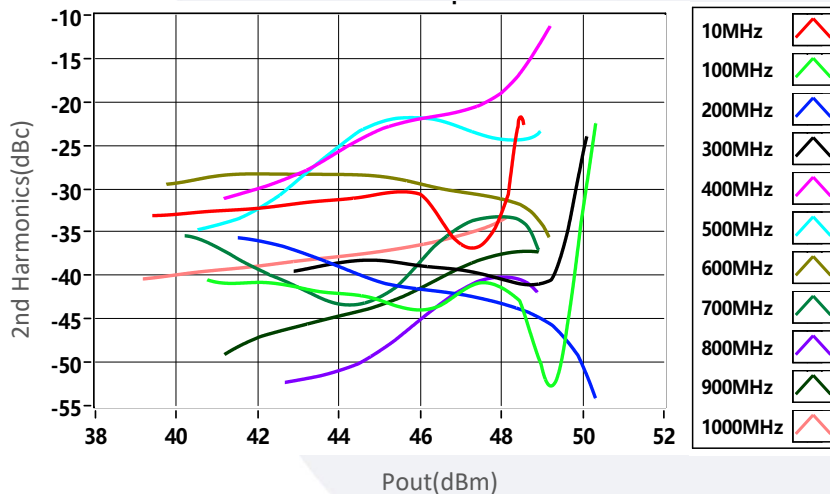
**PndB vs Frequency**



**Psat vs Frequency**



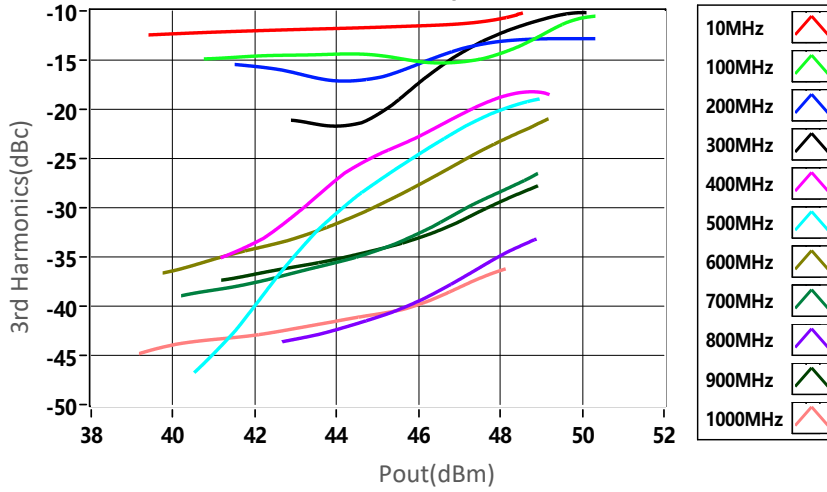
**2nd Harmonics vs Output Power**



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**Typical Performance Data:**

**3rd Harmonics vs Output Power**



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