

Power Amplifier

80MHz-1GHz/48dB Gain/48dBm Psat

Model: TLPA80M1000M-48-48

TLPA80M1000M-48-48 is a power amplifier with a minimum small signal gain of 48 dB and a minimum Psat of 48 dBm across the frequency range of 80MHz to 1GHz. The DC power requirement for the amplifier is +28 VDC/10 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 80MHz-1GHz
- Gain: 48dB Min
- Output Power Psat: 48dBm 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	80MHz		1GHz	
Small Signal Gain	48	52		dB
Gain Flatness		±2	±3	dB
Output P1dB		46		dBm
Output Psat	48	48.5		dBm
Input VSWR		1.5	2.0	:1
DC Voltage		+28		V DC
DC Supply Current		1.5	1.0	A
Impedance	50			Ohms

Mechanical Specifications:

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

Absolute Maximum Ratings:

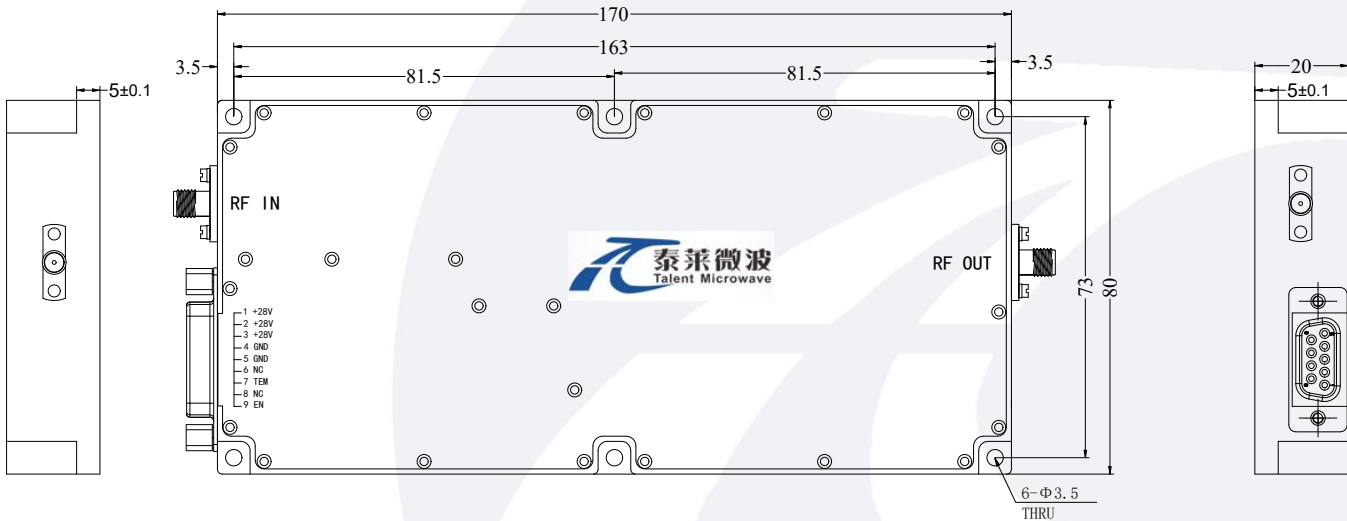
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Simple 220V System
Available SAC option

Outline Drawing:

Unit:mm



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



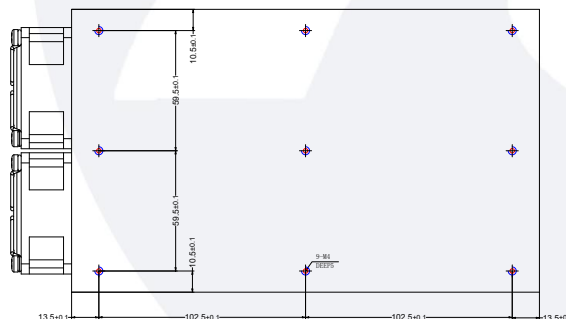
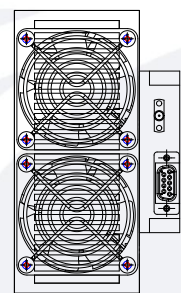
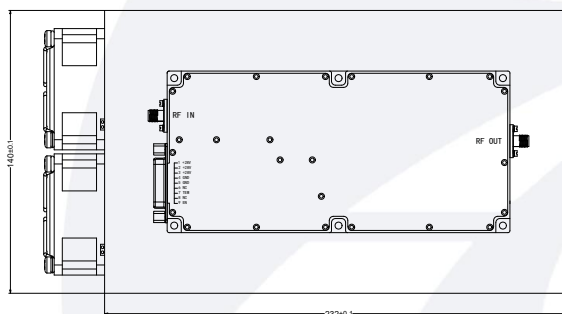
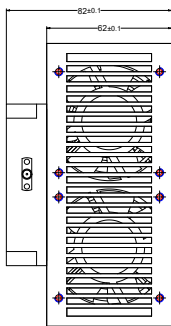
ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

DC Interface Connector D-sub,9-Pin,Female:

Pin #	Name	Function
1	+28V	+26.0-30.0VDC
2	+28V	+26.0-30.0VDC
3	+28V	+26.0-30.0VDC
4	GND	Ground
5	GND	Ground
6	NC	Not connected
7	TEM	When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
8	NC	Not connected
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

Outline Drawing:

Unit:mm



Power Supply for fans:

Red line	DC Voltage: +24.0-28.0VDC DC Current: 0.3A
Black line	Ground

Power On:

1	Connect ground and RF input connector
2	Connect the RF output port to the load (The VSWR of the load should be less than 3:1)
3	Connect the 24V power supply to the fan
4	Connect the 28V power supply to the amplifier
5	Turn on the RF signal and ensure that the input signal does not exceed 5dBm

Power Off:

1	Turn off RF signal
2	Disconnect the 28V power supply to the amplifier
3	Disconnect the 24V power supply to the fan
4	Disconnect the RF connectors

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)	20g,11ms,saw-tooth			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

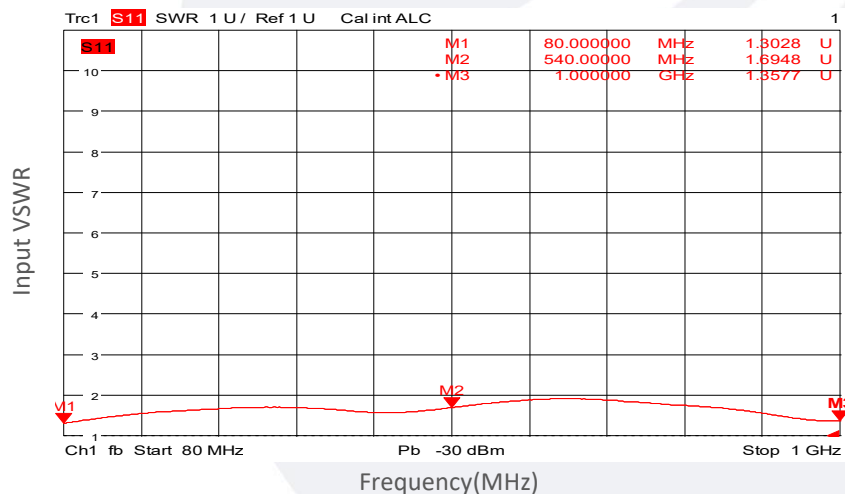
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA80M1000M-48-48	Power amplifier 80MHz-1GHz, Gain:48dB,Psat:48dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA80M1000M-48-48-HS	Power amplifier 80MHz-1GHz, Gain:48dB,Psat:48dBm,+28V DC, With Heatsink	Rev.1.1

Typical Performance Data:

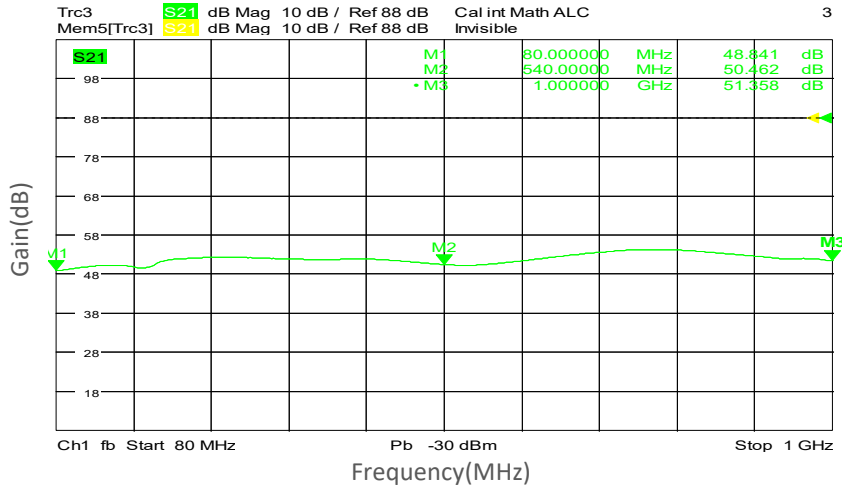
Input VSWR vs Frequency



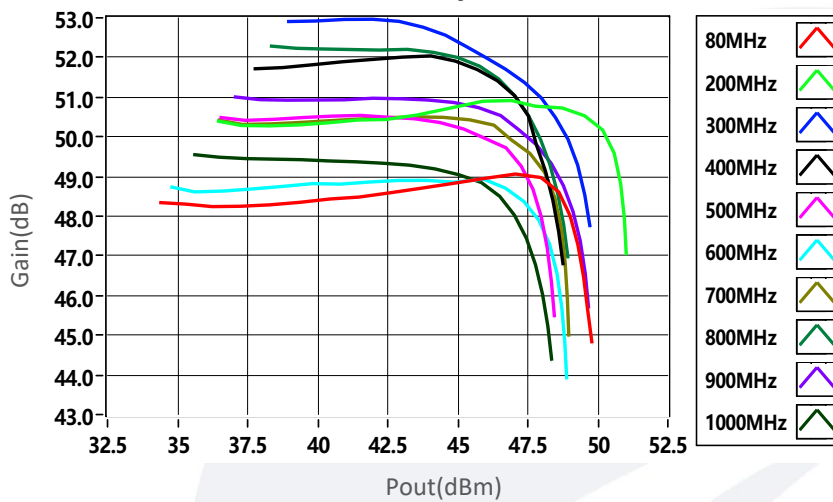
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

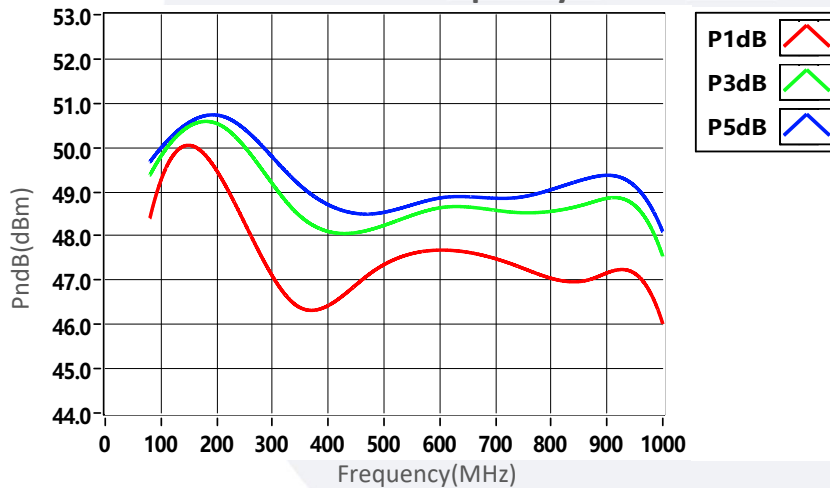
Small Signal Gain vs Frequency



Gain vs Output Power



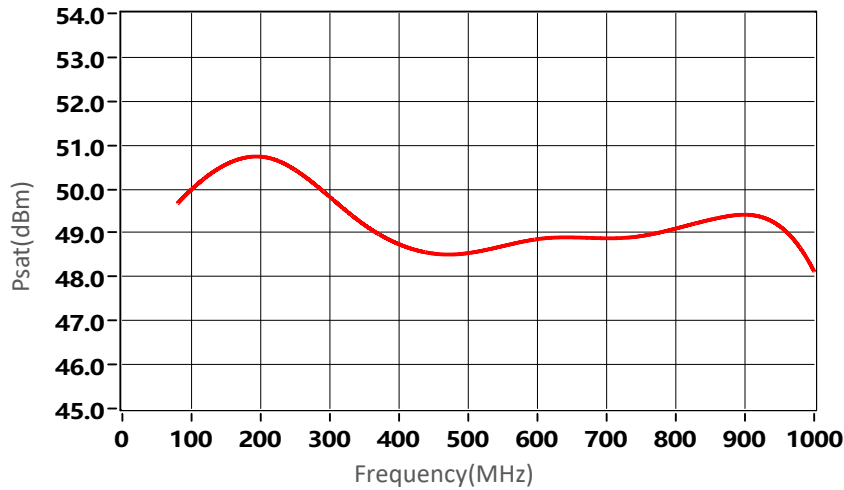
PndB vs Frequency



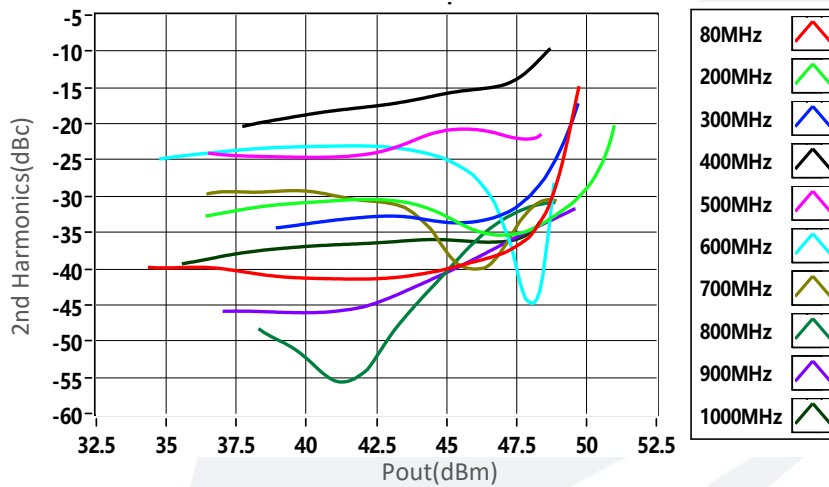
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

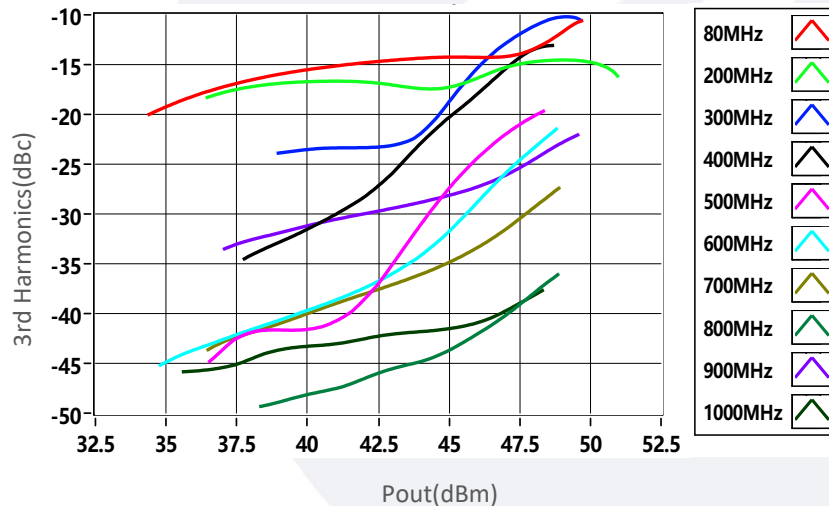
Psat vs Frequency



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.