

Power Amplifier

20MHz-1GHz/50dB Gain/43dBm Psat

Model: TLPA20M1G-50-43

TLPA20M1G-50-43 is a power amplifier with a typical small signal gain of 50 dB and a nominal Psat of 43 dBm across the frequency range of 20MHz to 1GHz. The DC power requirement for the amplifier is +24 VDC/3 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 20MHz-1GHz
- Gain: 50dB Typ
- Output Power Psat: 43dBm 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	20MHz		1GHz	GHz
Small Signal Gain	46	50		dB
Gain Flatness		±1	±2	dB
Output P1dB	39	41		dBm
Output Psat	40	43		dBm
Noise Figure		3.5		dB
Input VSWR		1.5	2	:1
Switching Time		5		us
DC Voltage	22	24	28	V DC
DC Supply Current		3		A
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	120.6*50.8*28.5(Without Heatsink) 120.6*80*108.5(With Heatsink)	mm
Weight	150	g

Absolute Maximum Ratings:

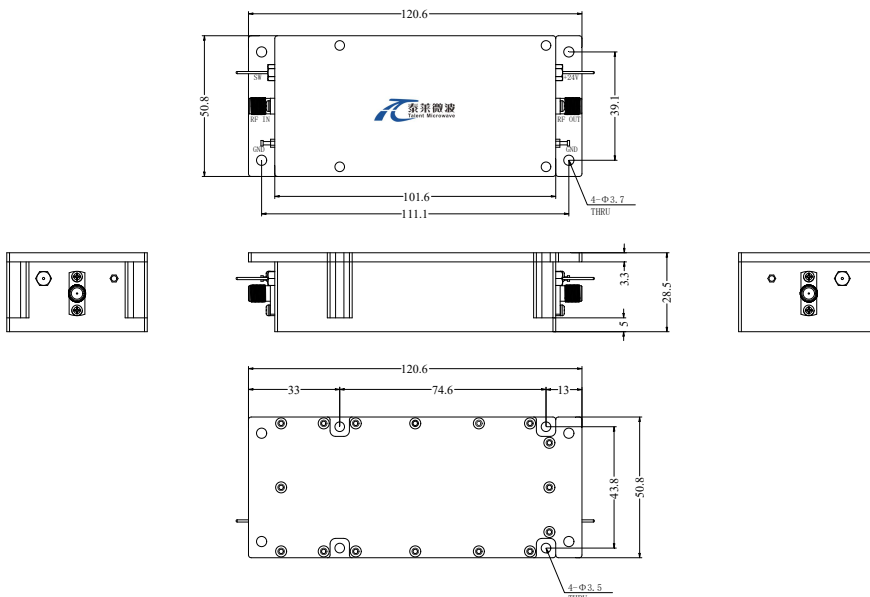
Parameter	Value
Supply Bias Voltage	+28 V
RF Input Power	-3 dBm
ESD sensitivity (HBM)	Class 0, passed 150V



Simple 220V System
Available SAC option

Outline Drawing:

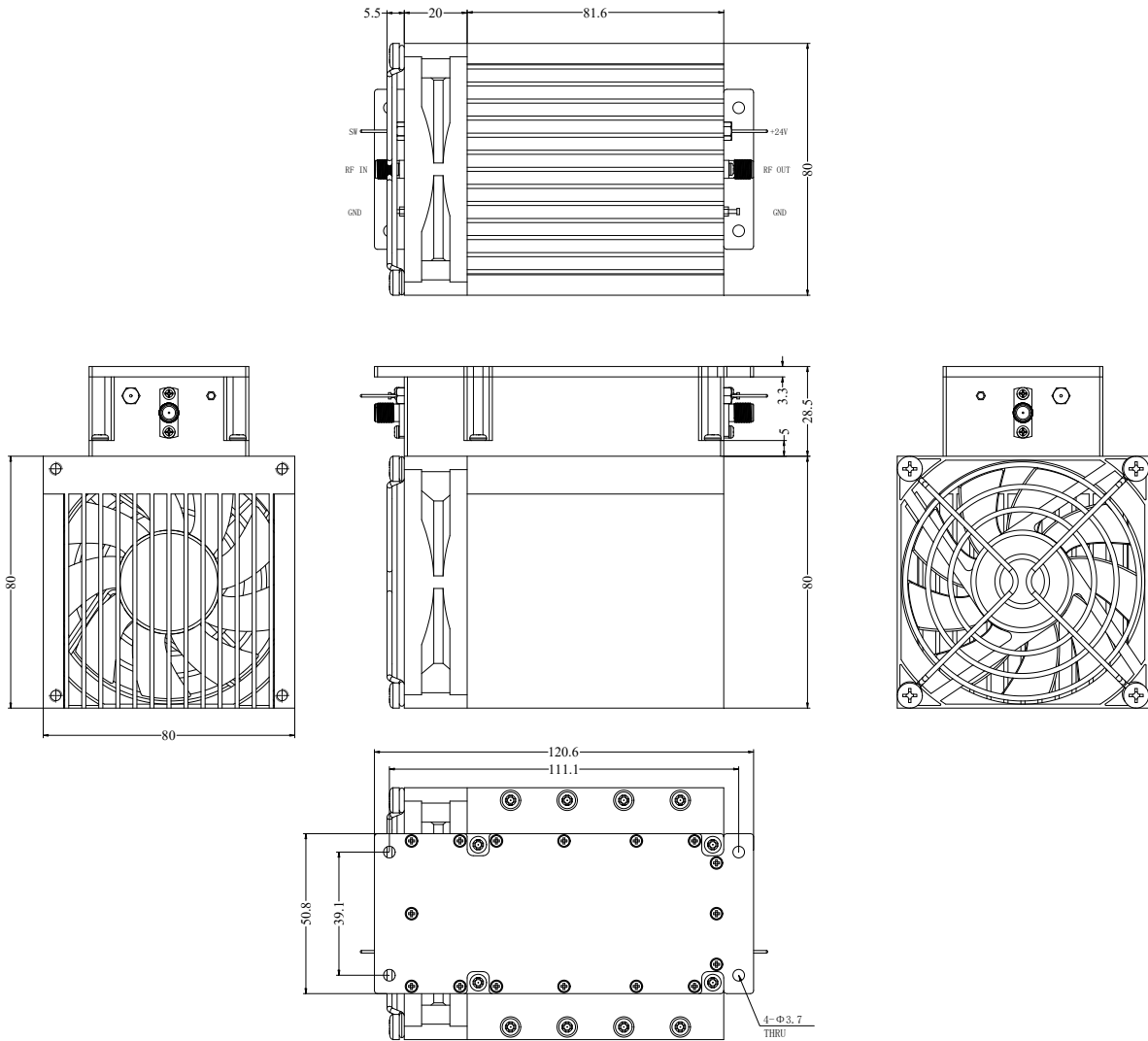
Unit:mm; Tolerance:±0.1mm



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

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



Name	Function
+24V	Power supply positive, +22.0-28.0VDC
SW	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to Ground.
GND	Ground
GND	Ground

Instruction Manual:

Power on	
1	Connect ground and RF input connector, the signal should be off at this time.
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 to solder pin.
4	Power up the power amplifier and fan. The power supply should not exceed 28V. The output should not be open or short circuit.
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 power supply to the amplifier and fan.
3	Disconnect the RF output load.
4	Disconnect the RF connectors

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+50	°C
Non-operating Temperature*	-50		+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
TLPA20M1G-50-43	Power amplifier 20MHz-1GHz,Gain:50dB,Psat:43dBm, +24V DC,Without Heatsink	Rev.1.1
TLPA20M1G-50-43-HS	Power amplifier 20MHz-1GHz,Gain:50dB,Psat:43dBm, +24V DC,With Heatsink	Rev.1.1