

Power Amplifier

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

Model: TLPA20M1G-43-43

TLPA20M1G-43-43 is a power amplifier with power gain of 43 dB and a nominal Psat of 43 dBm across the frequency range of 20MHz to 1 GHz. The DC power requirement for the amplifier is +28 VDC/1 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Ultra Wide Band: 20MHz-1GHz
- Gain: 43dB Min
- Output Power Psat: 43dBm 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	0.02-1			GHz
Power Gain	43	45		dB
Gain Flatness		±2	±3	dB
Output P1dB		41		dBm
Output Psat	43	44		dBm
Harmonic		-10		dBc
Input VSWR		1.5	2	:1
DC Voltage		28	30	V DC
DC Supply Current		1	5	A
Impedance	50			Ohms

Mechanical Specifications:

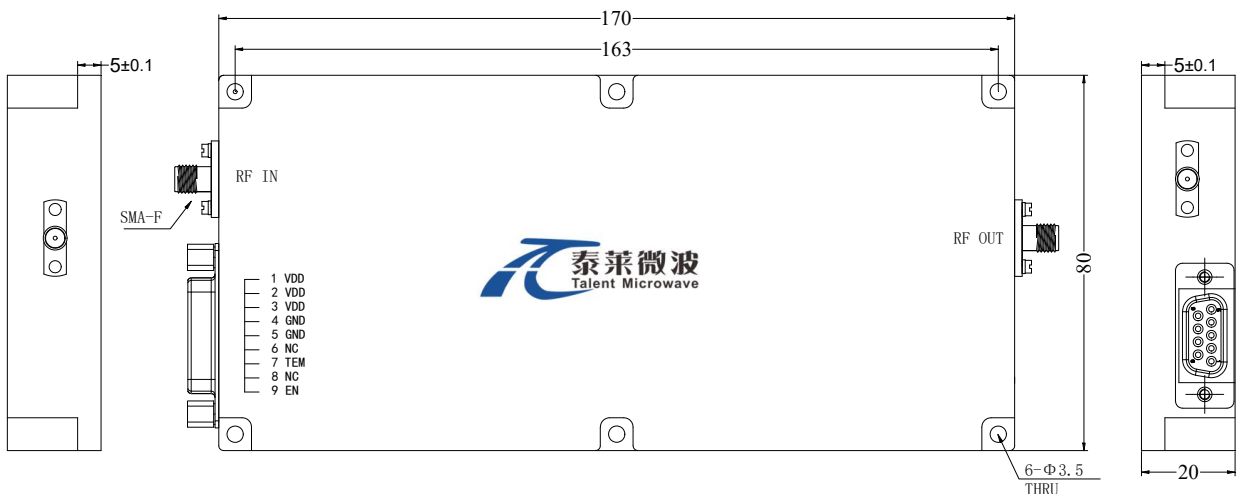
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	DSUB-9	
Size	170*80*20(Without Heatsink) 264*140*82(With Heatsink)	mm
Weight	3.7	Kg

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



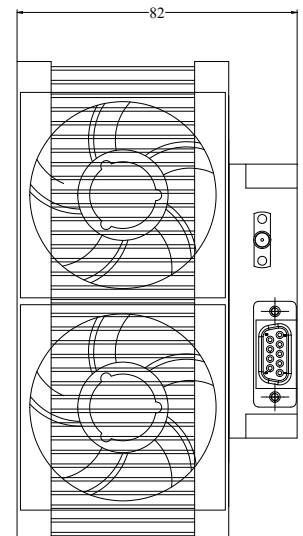
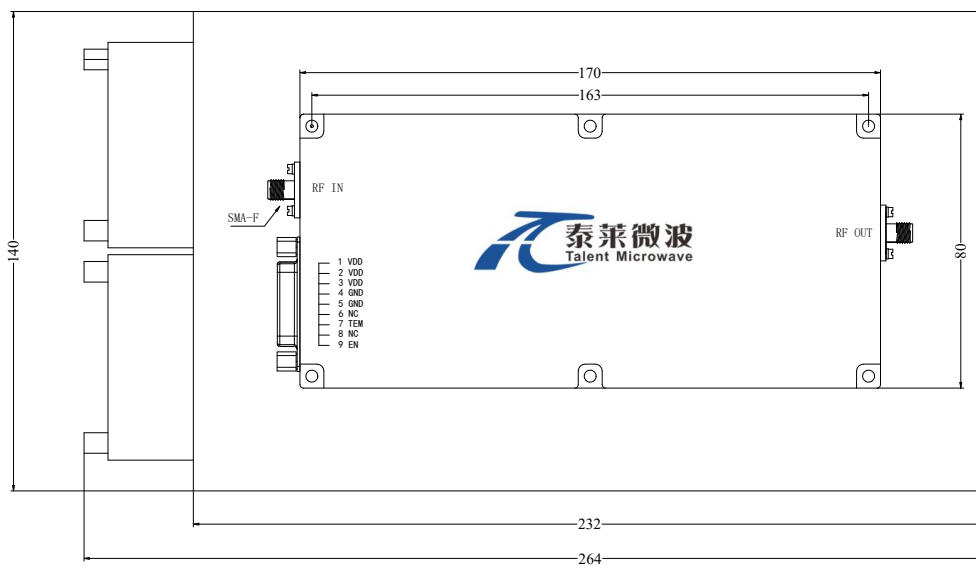
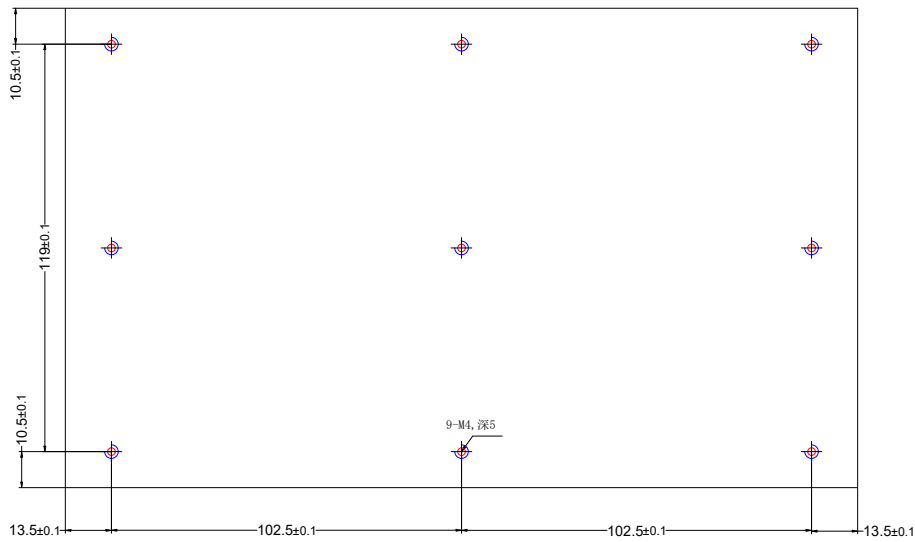
*****Heat Sink Required During Operation**



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Outline Drawing:

Unit:mm



Fans Supply Current: 0.4A@24V

DC Supply Connector (DSUB-9 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	Over 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

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			

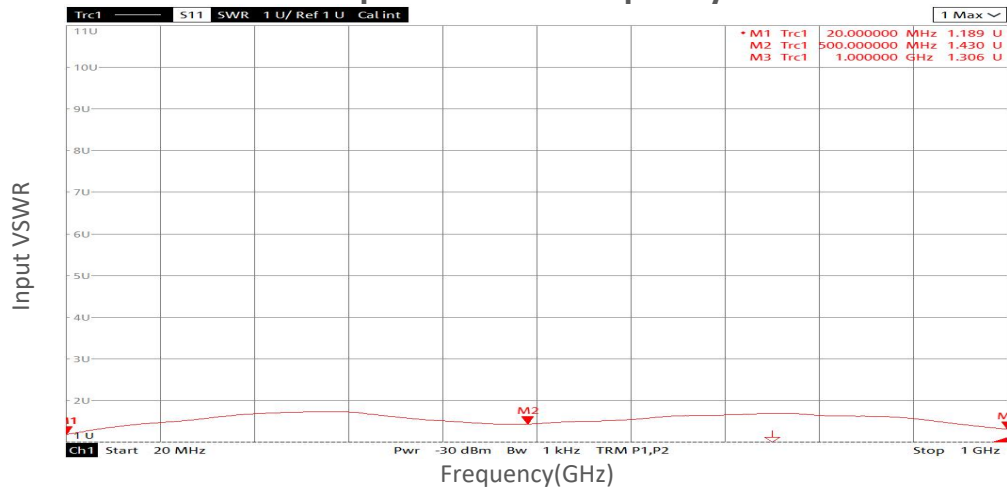
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

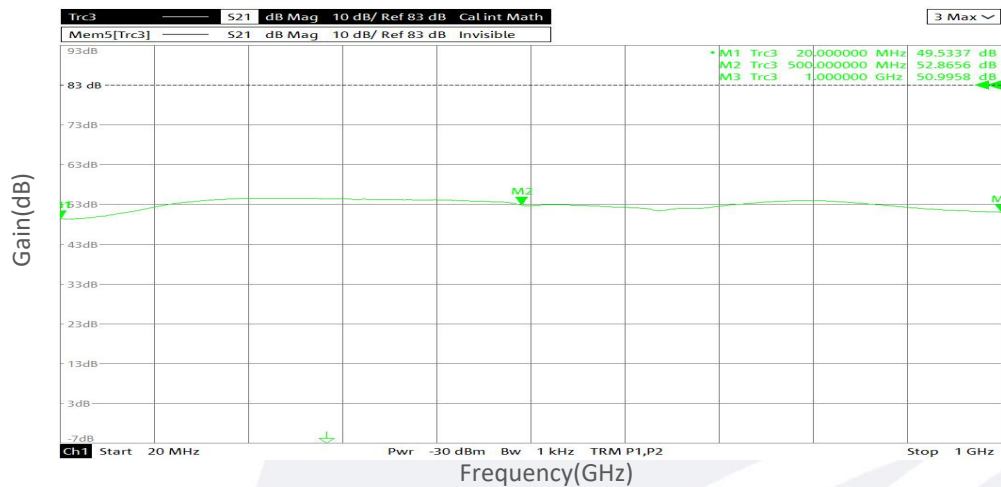
Base Number	Description	Revision
TLPA20M1G-43-43	Power amplifier 20MHz-1GHz,Gain:43dB,Psat:43dBm, +28V DC,Without Heatsink	Rev.1.1
TLPA20M1G-43-43-HS	Power amplifier 20MHz-1GHz,Gain:43dB,Psat:43dBm, +28V DC,With Heatsink	Rev.1.1

Typical Performance Data:

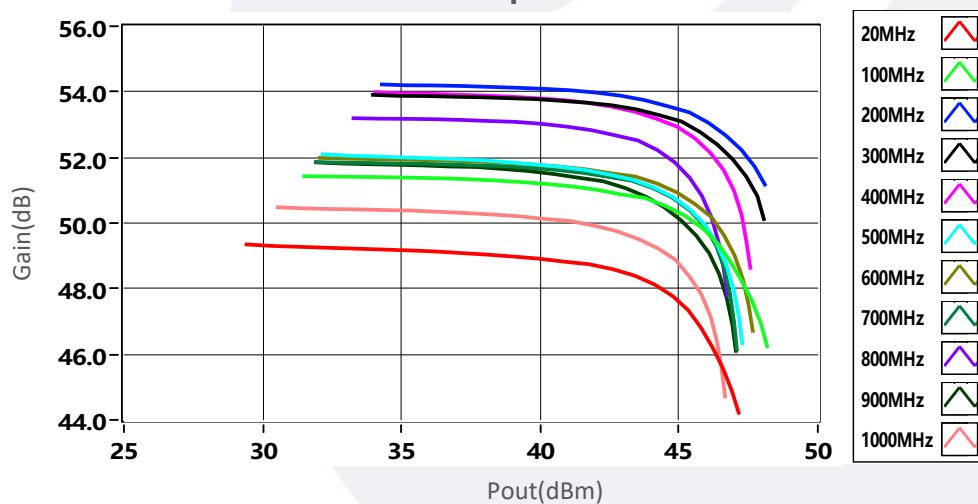
Input VSWR vs Frequency



Small Signal Gain vs Frequency



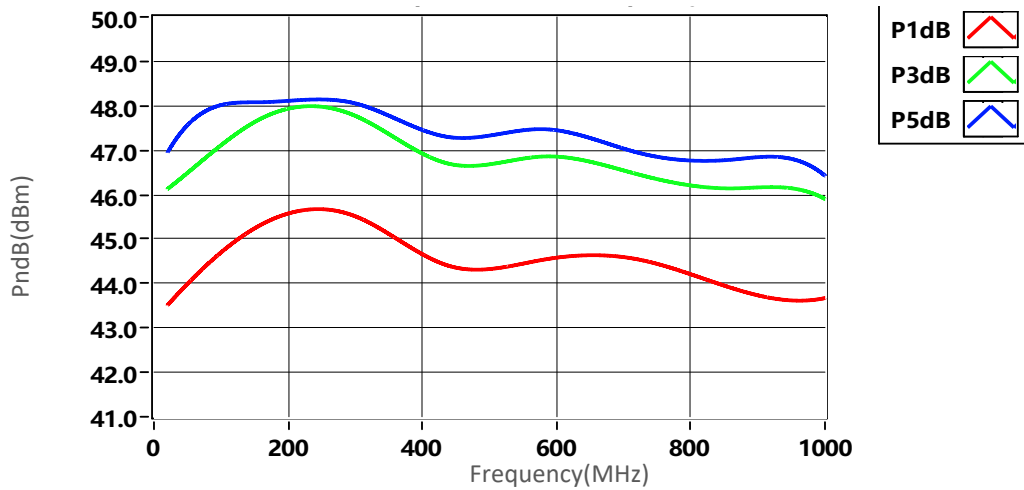
Gain vs Output Power



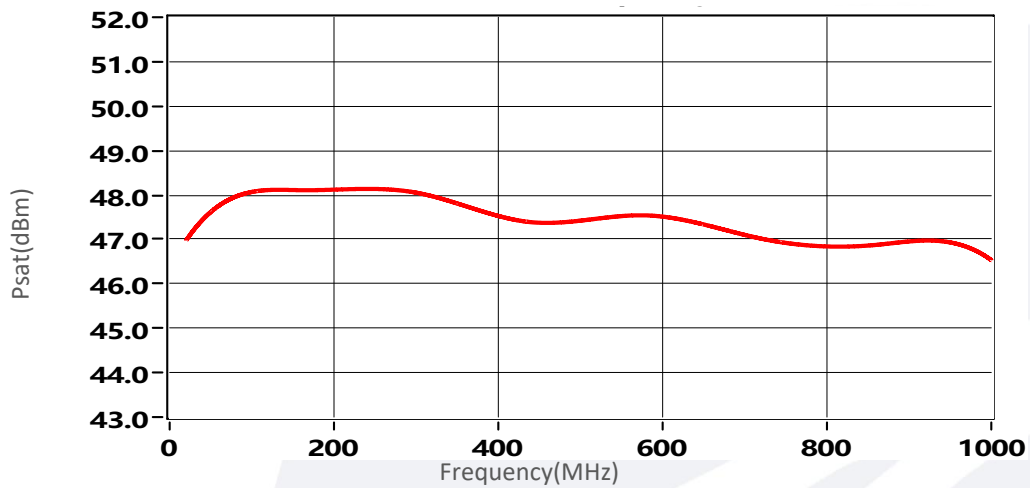
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

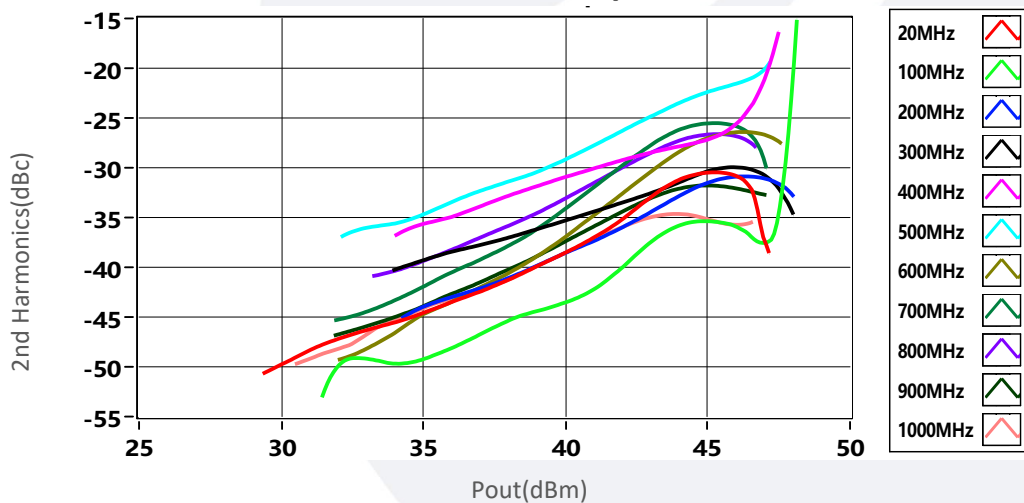
PndB vs Frequency



Psat vs Frequency

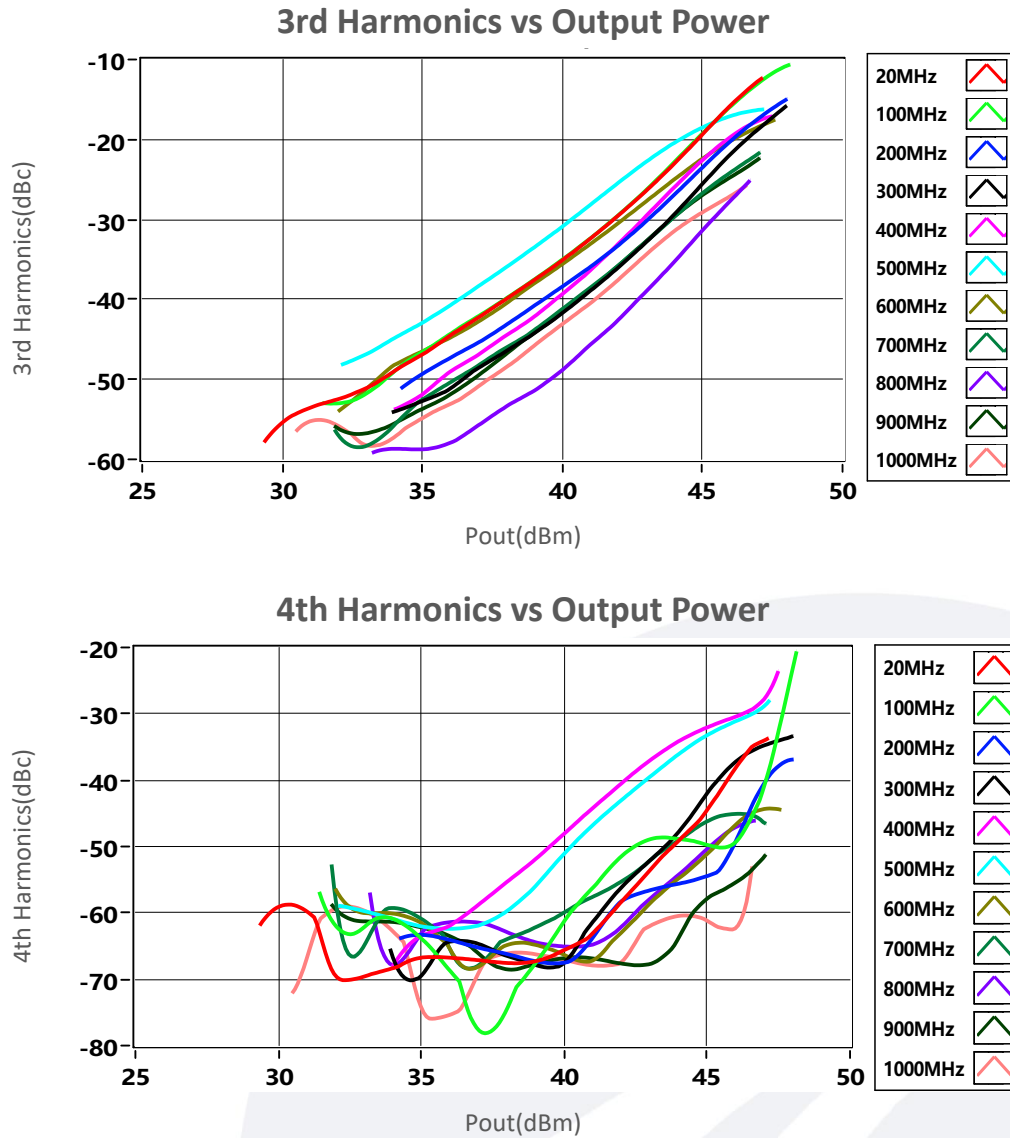


2nd Harmonics vs Output Power



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