



Power Amplifier

Model: PA-80M-1000M-100

0.08-1GHz 100W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

Features:

- Frequency range: 0.08-1GHz
- High output power at saturation, 100W Min.
- High gain, 50 dB Min.
- 50 Ohm Matched Input / Output.

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

Product Overview:

The PA-80M-1000M-100 is a power amplifier with a minimum small signal gain of 50 dB and a minimum P_{sat} of 100W across the frequency range of 0.08 to 1 GHz. The DC power requirement for the amplifier is +28 VDC/13 A. The input and output port configuration offers coax adapter structure with SMA female.



Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	0.08		1	GHz
Small Signal Gain	50	52		dB
Gain Flatness		±2	±3	dB
Output P1dB	47	47.5		dBm
Output Psat	50	50.5		dBm
Harmonics		-15	-8	dBc
Input VSWR		1.5	2.0	:1
DC Voltage		+28	+30	V DC
Static Current		2		A
Saturation current		13	15	A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-20°C to +50°C	
Non-operating Temperature*	-30°C to +60°C	
Relative humidity	95	%
RF Input/Output Connector	SMA Female/SMA Female	
DC Bias	D-SUB-9	
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	
Dimensions W x H x D	170*80*20	mm
Weight	500	g

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

Absolute Maximum Ratings:

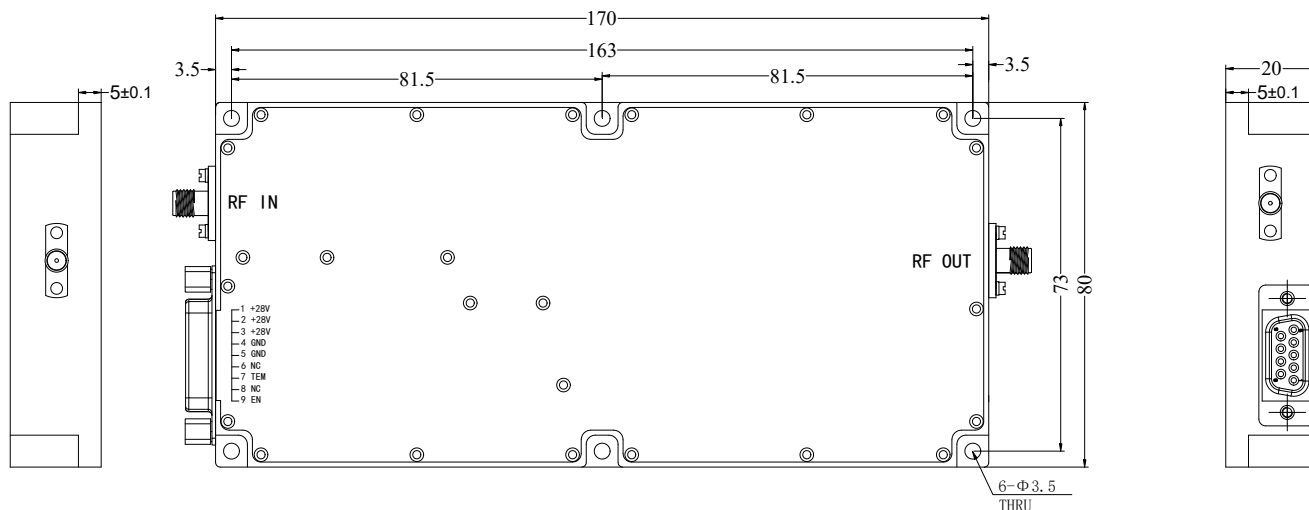
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



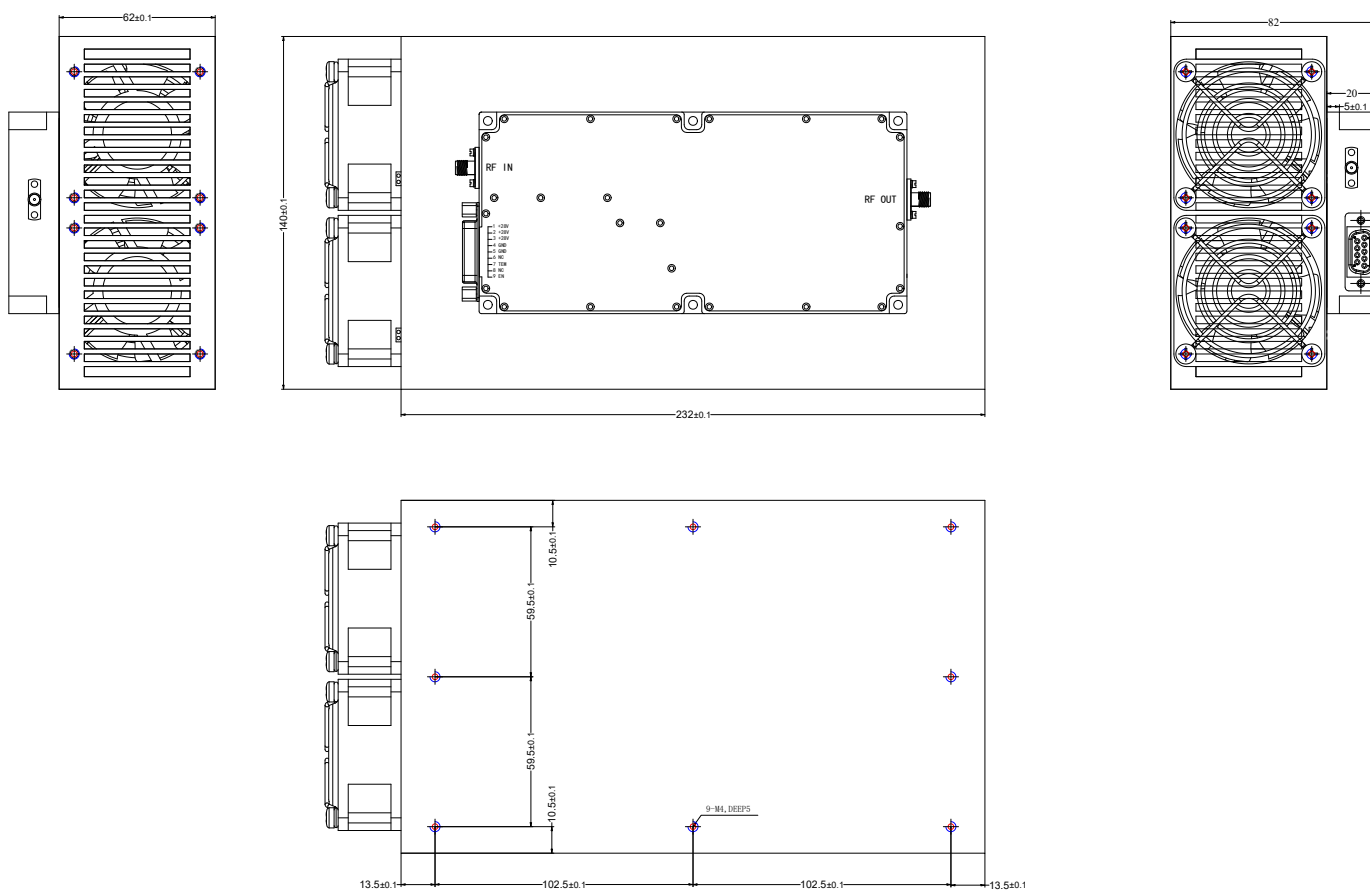
Outline Drawing:

Unit:mm

PA-80M-1000M-100



PA-80M-1000M-100-HS





Fan power supply:

Fan power supply	
Red line	Power supply positive,+24.0-28.0VDC DC current: 0.3A
Black line	Ground

DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1~3	+36V	Power supply positive,+34.0-36.0VDC
4~5	GND	Ground
6、8	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 80 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

Instruction Manual:

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

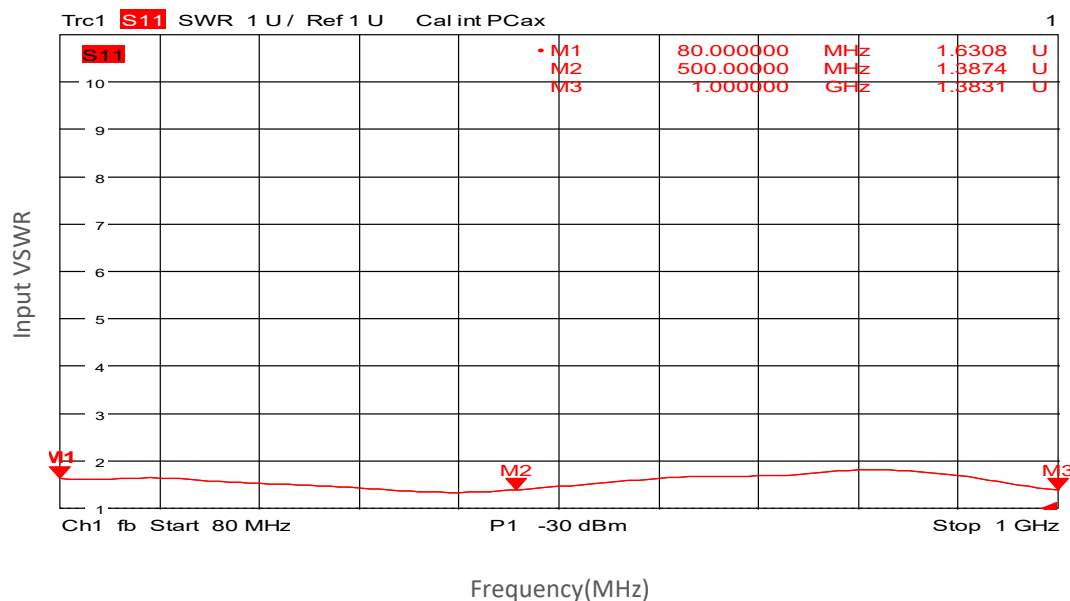
Ordering Information:

Base Number	Description	Optional
PA-80M-1000M-100	Power Amplifier, 0.08-1GHz, Gain:50dB,Psat:100W,+28V DC	Without Heatsink
PA-80M-1000M-100-HS	Power Amplifier, 0.08-1GHz, Gain:50dB,Psat:100W,+28V DC	With Heatsink

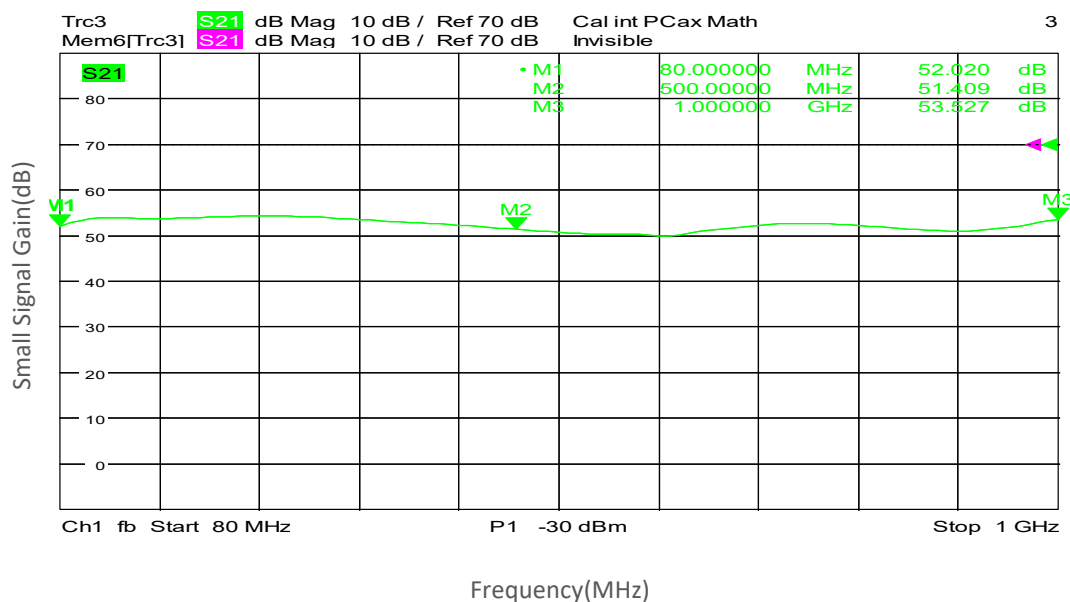


Typical Performance Data:

Input VSWR vs Frequency



Small Signal Gain vs Frequency

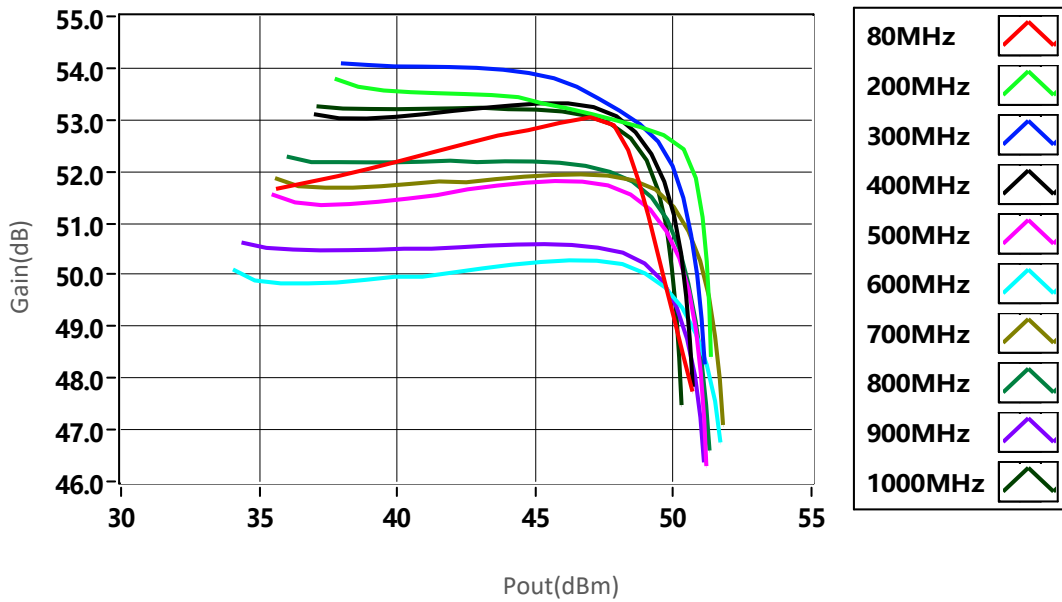


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

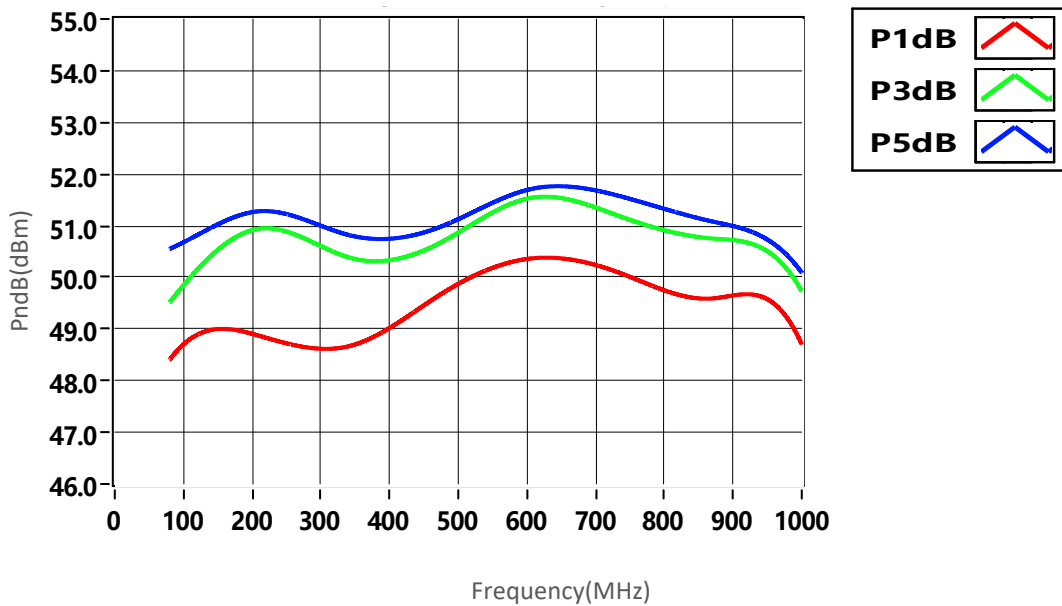


Typical Performance Data:

Gain vs Output Power



PndB vs Frequency

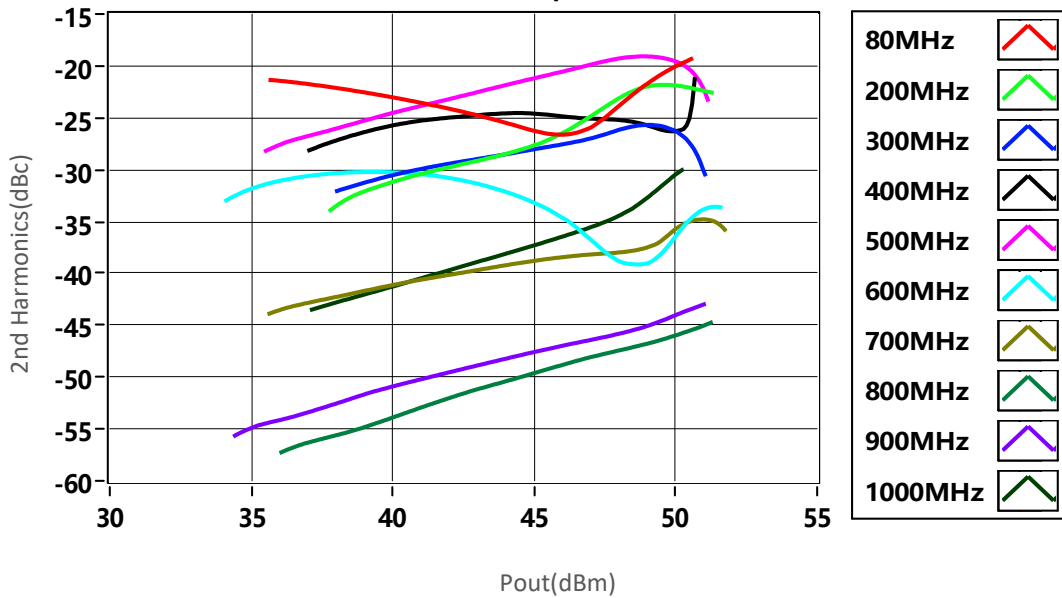


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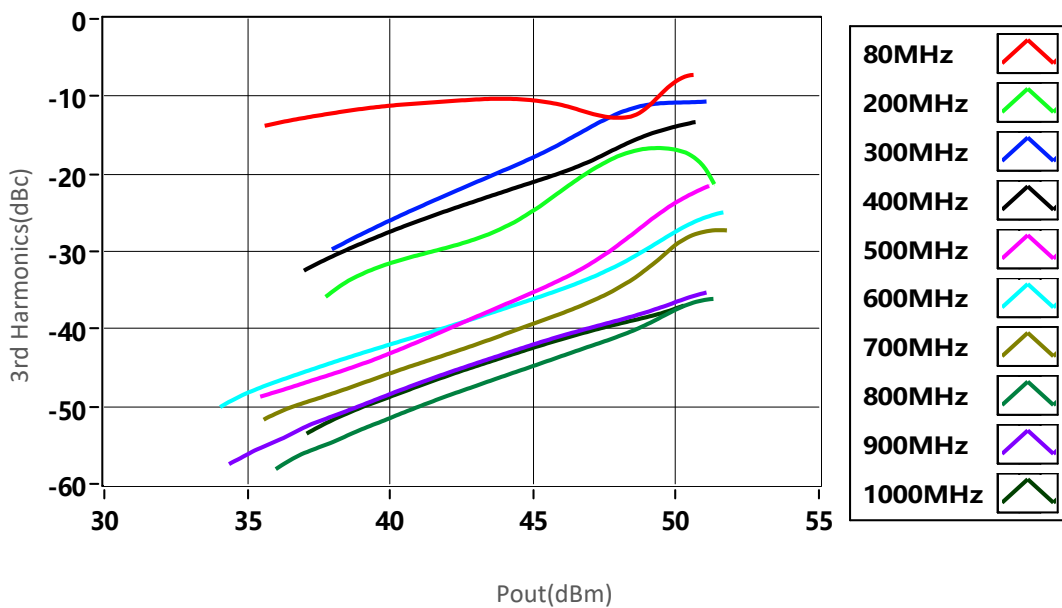


Typical Performance Data:

2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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