



# Power Amplifier

## Model: PA-100K-400M-158

0.1-400MHz 158W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 0.1-400MHz
- High output power at saturation, 158W Typ.
- High gain, 52 dB Typ.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-100K-400M-158 is a power amplifier with a typical power gain of 52 dB and a nominal Psat of 158W across the frequency range of 0.1 to 400 MHz. The DC power requirement for the amplifier is +28 VDC/10 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N Female.



## Electrical Specifications at 25°C:

Parameter	Min	Typ	Max	Units
Frequency range	0.1		400	MHz
Power Gain	49	52		dB
Gain Flatness		±3	±5	dB
Output P1dB	49	50		dBm
Output Psat	50	52		dBm
Harmonic@Pout=50dBm		-12		dBc
Input VSWR		1.5	2.0	:1
DC Voltage	+26	+28	+30	V DC
DC Supply Current		10	20	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/N Female	
DC Bias	DB9	
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	
Dimensions W x H x D	255*130*35	mm
Weight	2500	g

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

## Absolute Maximum Ratings:

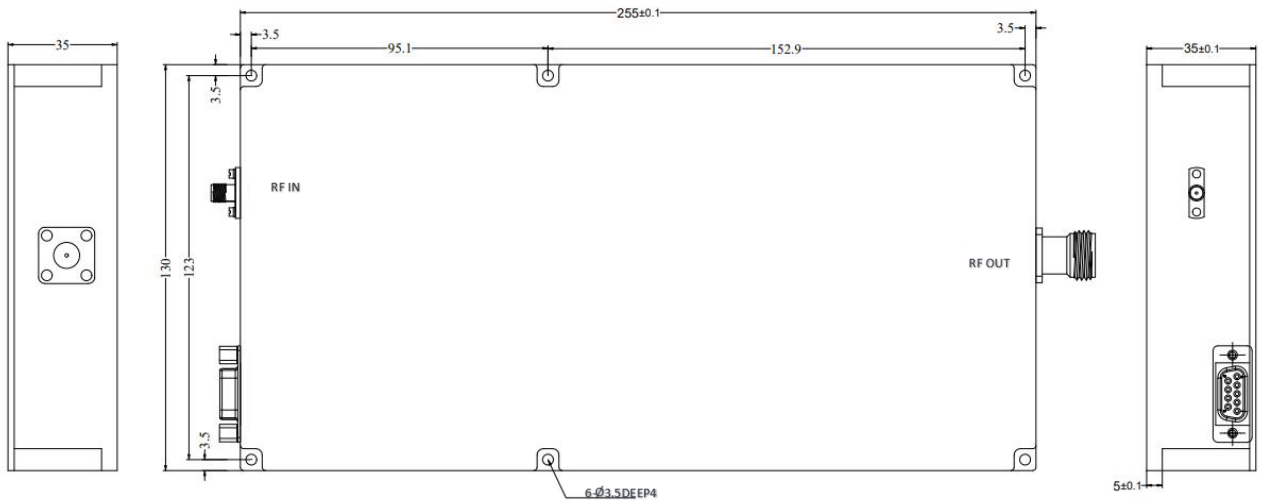
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm

PA-100K-400M-158



## 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 Temperature	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

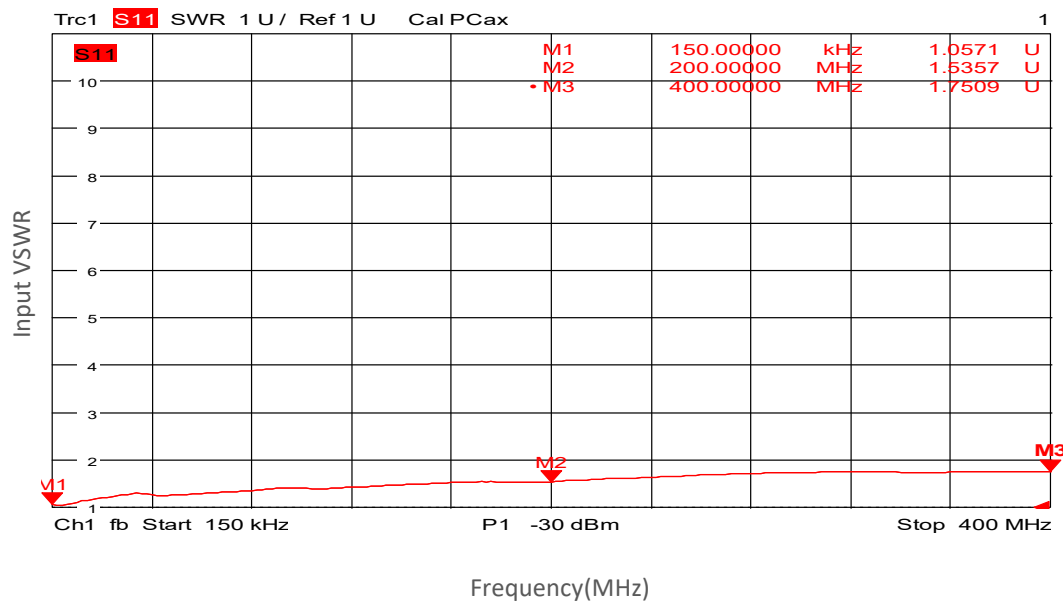


## Ordering Information:

Base Number	Description	Optional
PA-100K-400M-158	Power Amplifier, 0.1-400MHz, Gain:52dB,Psat:158W,+28V DC	Without Heatsink
PA-100K-400M-158-HS	Power Amplifier, 0.1-400MHz, Gain:52dB,Psat:158W,+28V DC	With Heatsink

## Typical Performance Data:

### Input VSWR vs Frequency

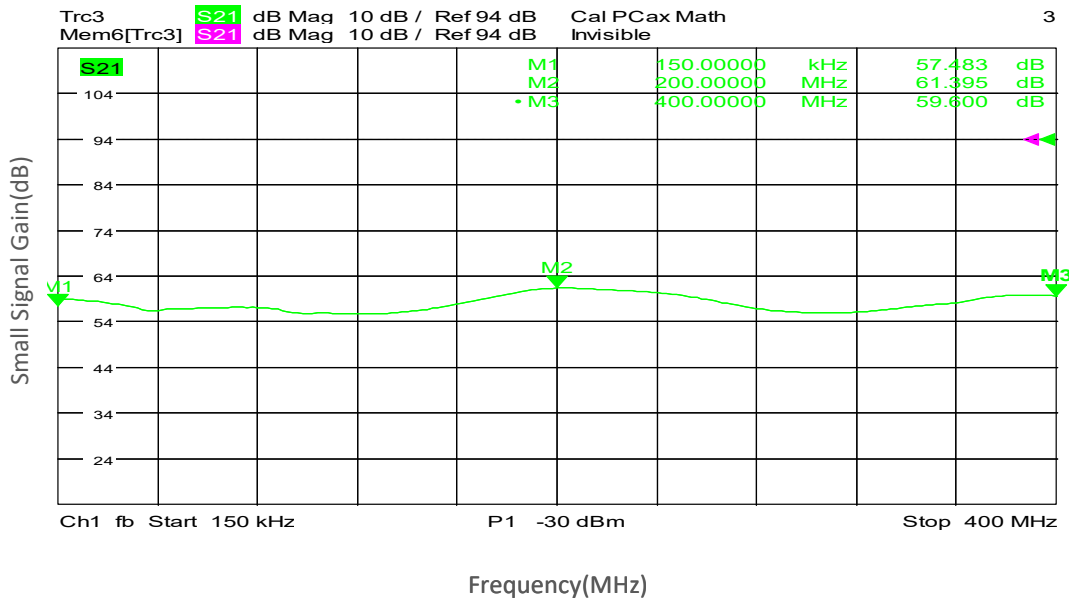


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

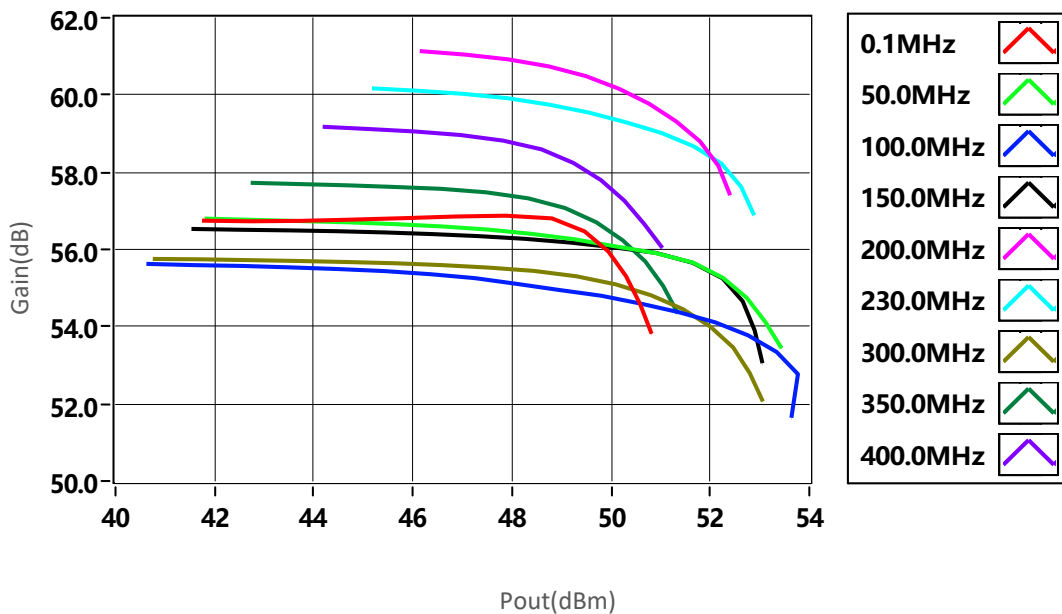


## Typical Performance Data:

### Small Signal Gain vs Frequency



### Gain vs Output Power

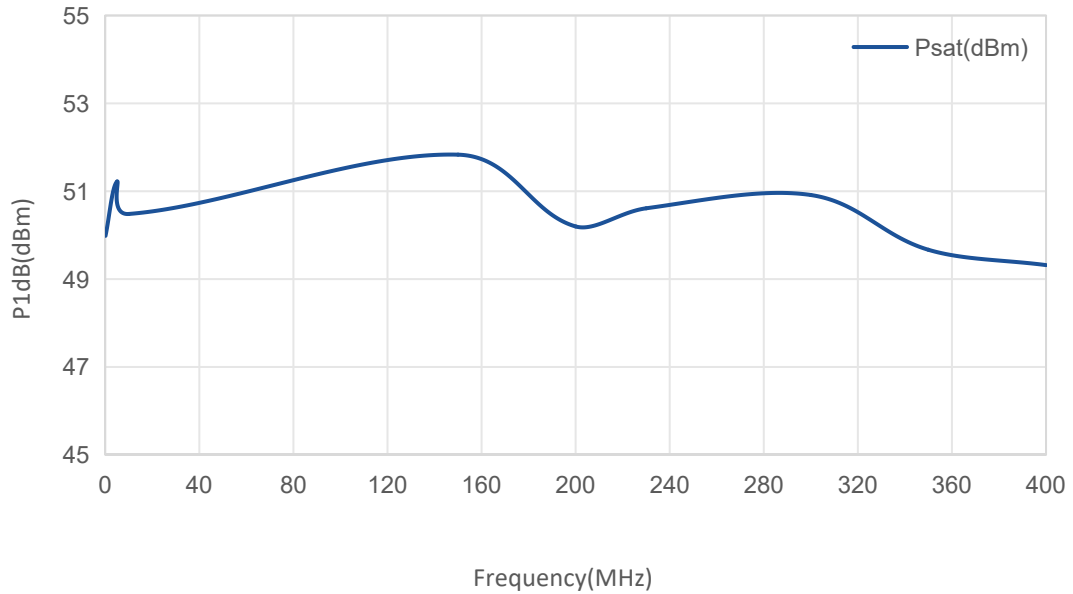


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

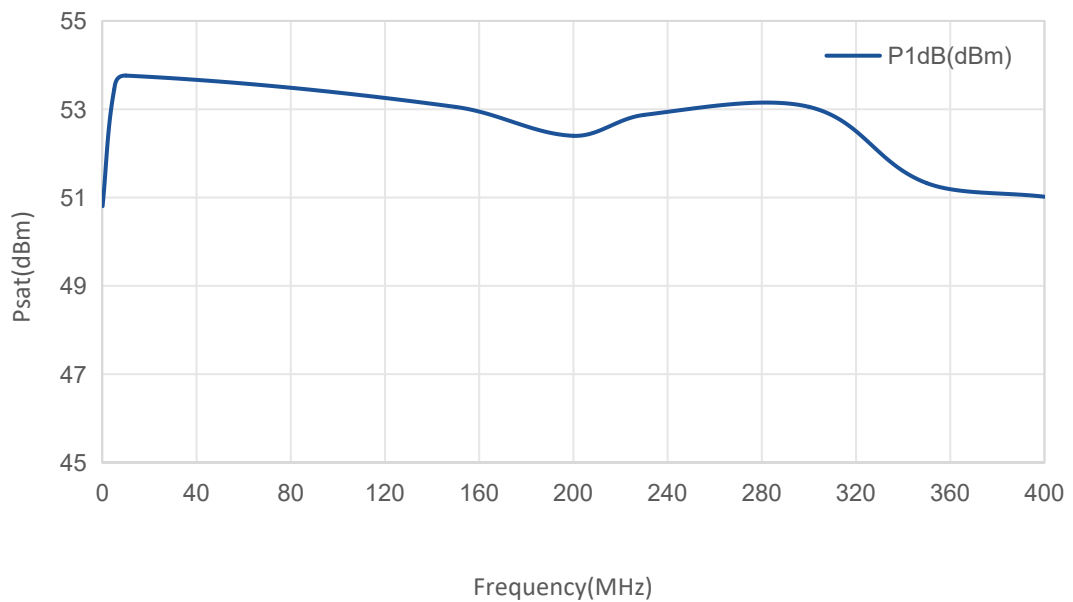


## Typical Performance Data:

### P1dB vs Frequency



### Psat vs Frequency

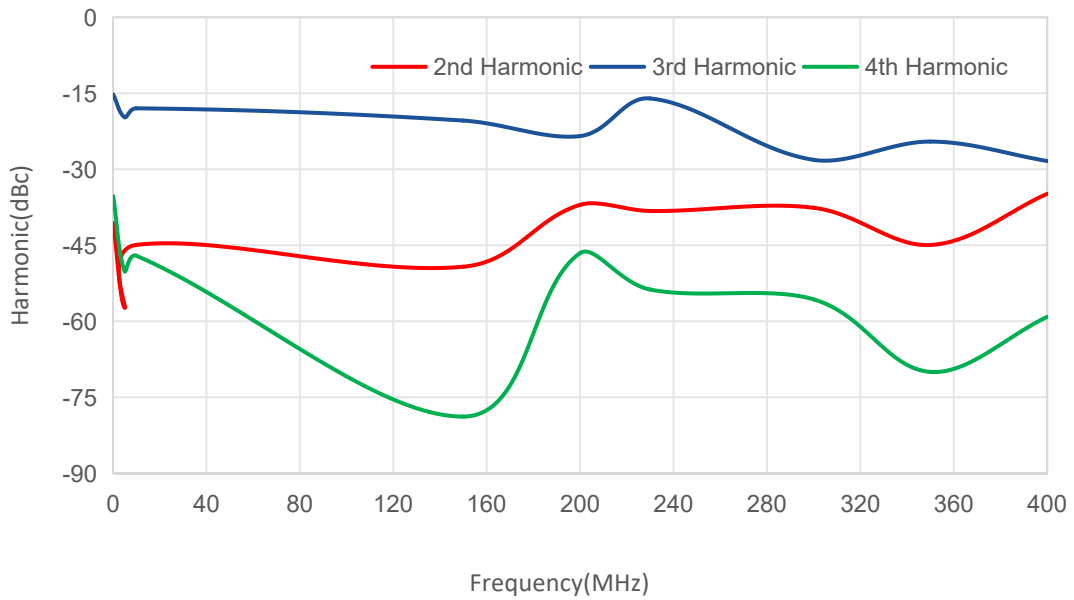


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.



## Typical Performance Data:

### Harmonic vs Frequency



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