



# Power Amplifier

## Model: PA-20M-6G-6

0.02-6GHz 6W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 0.02-6GHz
- High output power at saturation, 6W Typ.
- High gain, 35 dB Typ.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-20M-6G-6 is a power amplifier with a typical power gain of 35 dB and a nominal  $P_{sat}$  of 6W across the frequency range of 0.02 to 6 GHz. The DC power requirement for the amplifier is +28 VDC/0.5 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	0.02		6	GHz
Power Gain	33	35		dB
Power Gain Flatness		±3	±5	dB
Output P1dB	35	37		dBm
Output Psat	37	38		dBm
Harmonics@Pout=37dBm			-10	dBc
Input VSWR		1.5	2.0	:1
DC Voltage	+26	+28	+30	V DC
DC Supply Current		0.5	1.7	A
Impedance		50		Ohms

## Mechanical Specifications:

Parameter	Value	Notes
Operating Temperature*	-40°C to +60°C	
Non-operating Temperature*	-50°C to +70°C	
Relative humidity	95	%
RF Input/Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
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	100*86*40	mm
Weight	250	g

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

## Absolute Maximum Ratings:

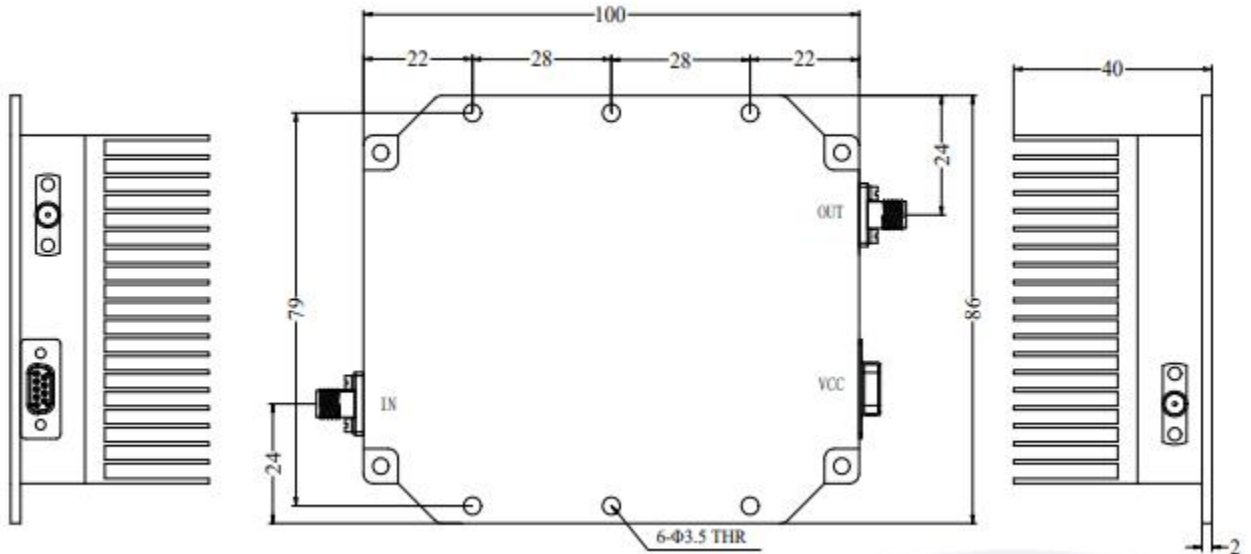
Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



## Outline Drawing:

Unit:mm

PA-20M-6G-6



## DC Supply Connector J30J-9ZKW-J(J30J-9TJL):

Pin	Name	Function
1	Power amplifier enable	A high (or suspended) level turns on the power amplifier, and a low level turns it off
2	GND	Power supply negative
3	GND	Power supply negative
4	GND	Power supply negative
5	GND	Power supply negative
6	+28V	Power supply positive +26.0-30.0VDC
7	+28V	Power supply positive +26.0-30.0VDC
8	+28V	Power supply positive +26.0-30.0VDC
9	+28V	Power supply positive +26.0-30.0VDC

Note: TTL is 5V.

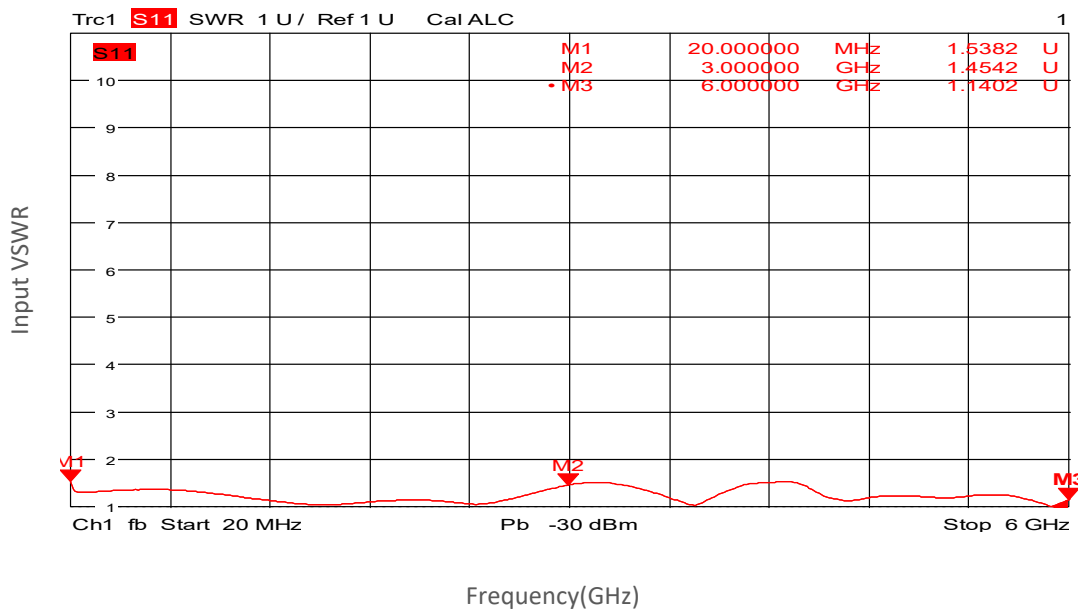


## Ordering Information:

Base Number	Description	Optional
PA-20M-6G-6	Power Amplifier, 0.02-6GHz, Gain:35dB,Psat:6W,+28V DC	Without Heatsink
PA-20M-6G-6-HS	Power Amplifier, 0.02-6GHz, Gain:35dB,Psat:6W,+28V DC	With Heatsink

## Typical Performance Data:

### Input VSWR vs Frequency

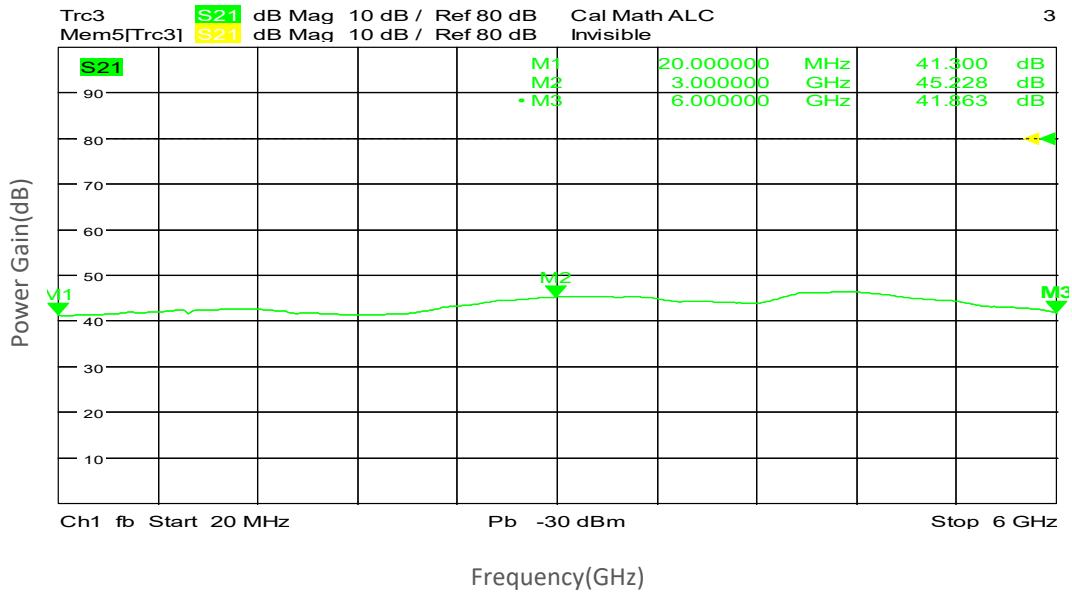


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

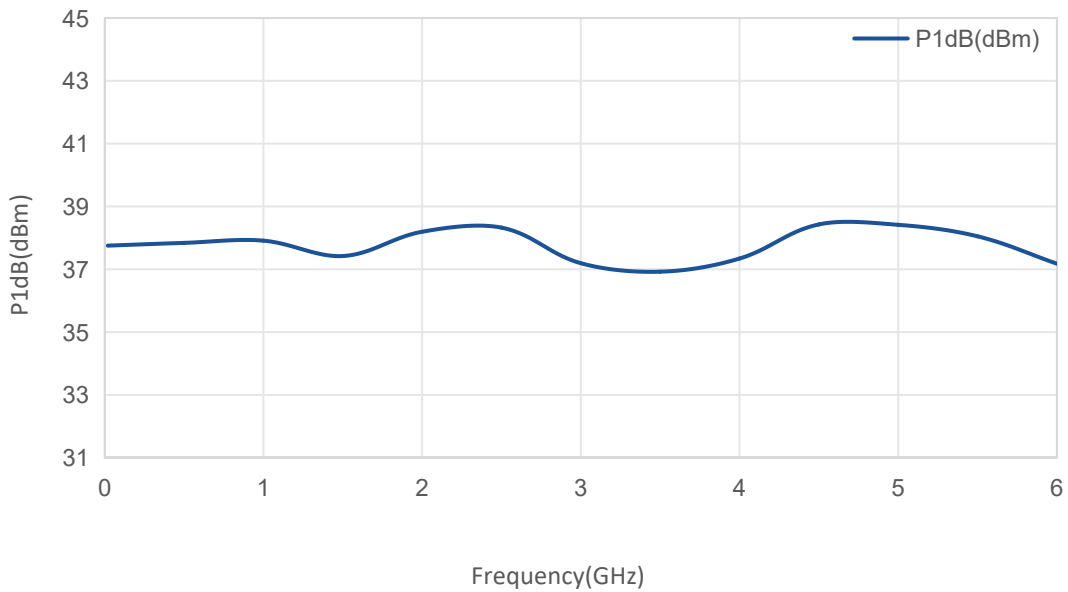


## Typical Performance Data:

### Power Gain vs Frequency



### P1dB vs Frequency

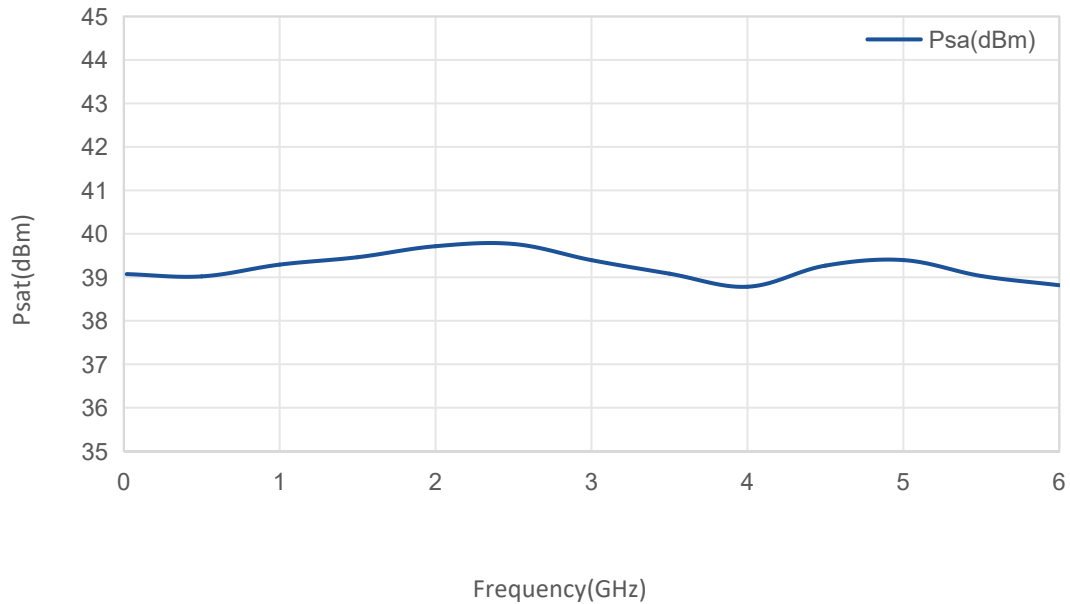


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

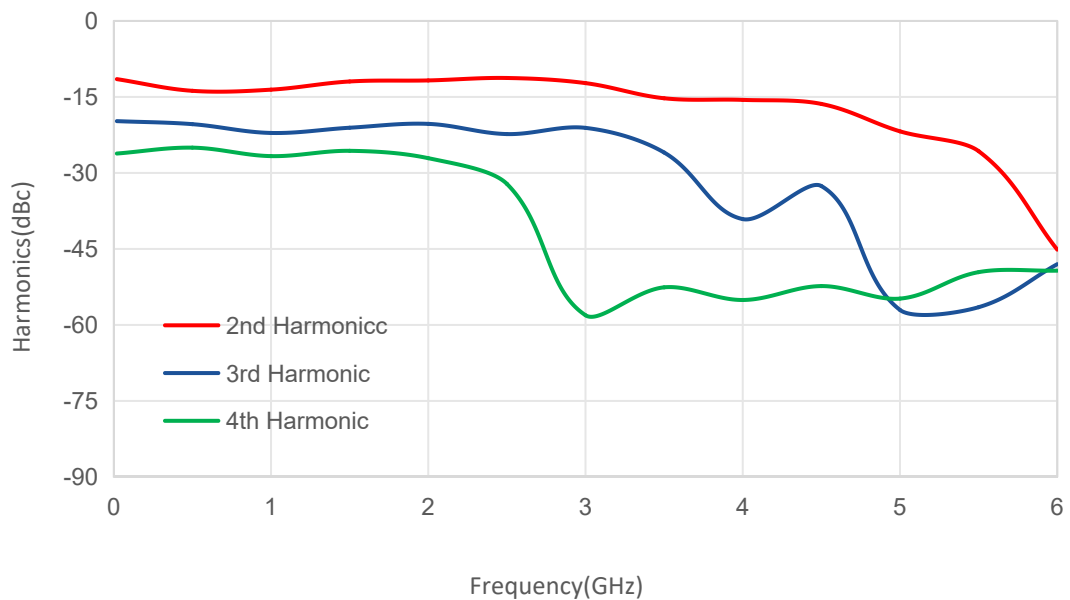


## Typical Performance Data:

### P<sub>sat</sub> vs Frequency



### 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.