



# Power Amplifier

## Model: PA-18G-40G-2

18-40GHz 2W CW

Ultrabroad frequency range, high performance and exceptional RF characteristics

### Features:

- Frequency range: 18-40GHz
- High output power at saturation, 2W Typ.
- High gain, 33 dB Min.
- 50 Ohm Matched Input / Output.

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Product Overview:

The PA-18G-40G-2 is a power amplifier with a minimum small signal gain of 33 dB and a nominal  $P_{sat}$  of 2W across the frequency range of 18 to 40GHz. The DC power requirement for the amplifier is +18 VDC/1.1 A. The input and output port configuration offers coax adapter structure with 2.92mm female.



## Electrical Specifications at 25°C:

| Parameter                  | Min | Typ | Max | Units |
|----------------------------|-----|-----|-----|-------|
| Frequency range            | 18  |     | 40  | GHz   |
| Small Signal Gain          | 33  |     |     | dB    |
| Small Signal Gain Flatness |     | ±5  |     | dB    |
| Output P1dB                |     | 30  |     | dBm   |
| Output Psat                |     | 33  |     | dBm   |
| Spurious@Pout=33dBm        |     |     | -50 | dBc   |
| Harmonics@Pout=33dBm       |     | -15 |     | dBc   |
| Input VSWR                 |     | 2   |     | :1    |
| DC Voltage                 |     | +18 |     | V DC  |
| DC Supply Current          |     | 1.1 |     | 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       | 2.92mm Female/2.92mm 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            | 130.4*74.5*16                                       | mm    |
| Weight                          | ≤500                                                | g     |

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

## Absolute Maximum Ratings:

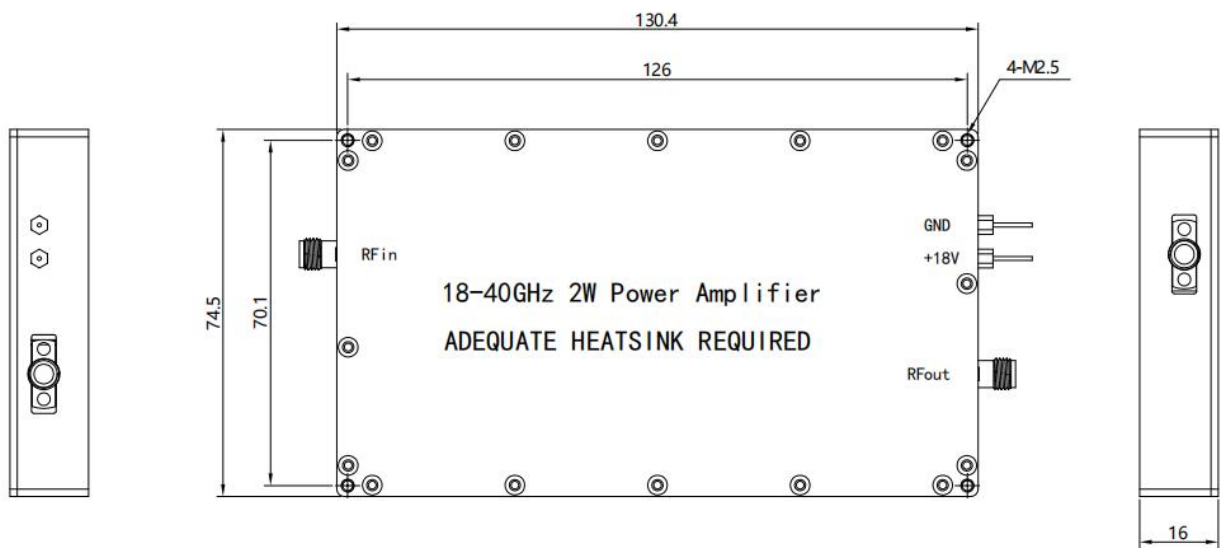
| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +18 V                |
| RF Input Power        | +10 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |



Outline Drawing:

Unit:mm

PA-18G-40G-2



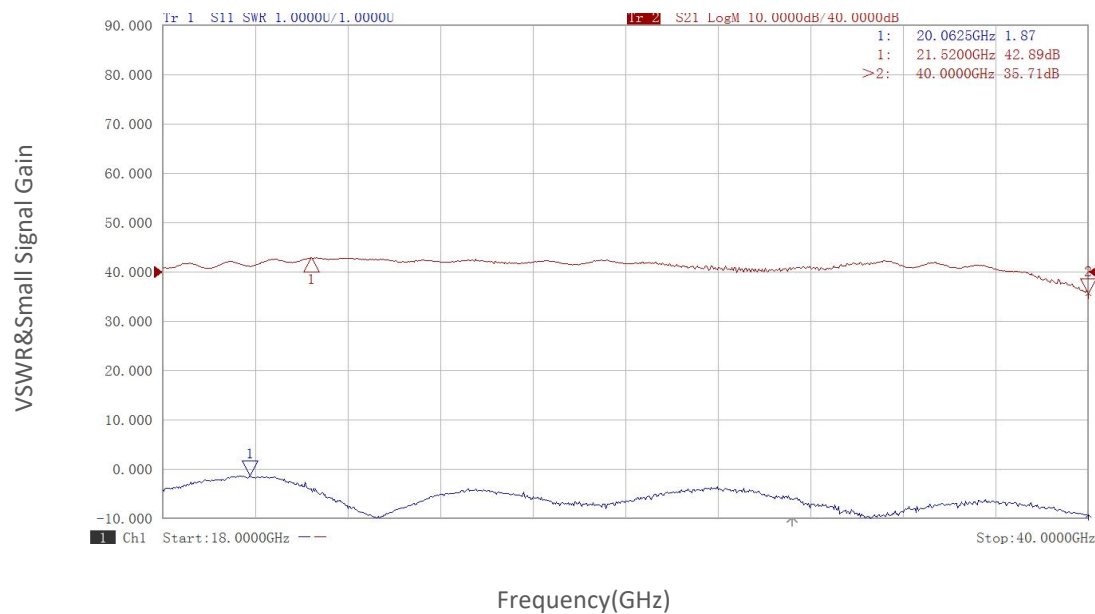
Ordering Information:

| Base Number     | Description                                             | Optional         |
|-----------------|---------------------------------------------------------|------------------|
| PA-18G-40G-2    | Power Amplifier, 18-40GHz,<br>Gain:33dB,Psat:2W,+18V DC | Without Heatsink |
| PA-18G-40G-2-HS | Power Amplifier, 18-40GHz,<br>Gain:33dB,Psat:2W,+18V DC | With Heatsink    |

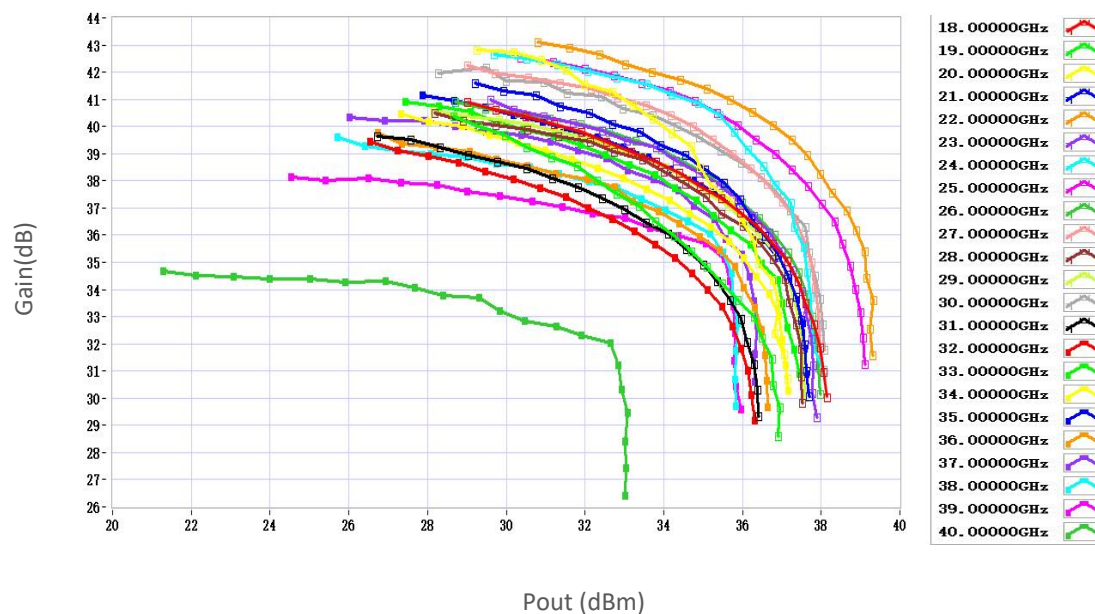


# Typical Performance Data:

## VSWR&Small Signal Gain vs Frequency



## Gain vs Output Power

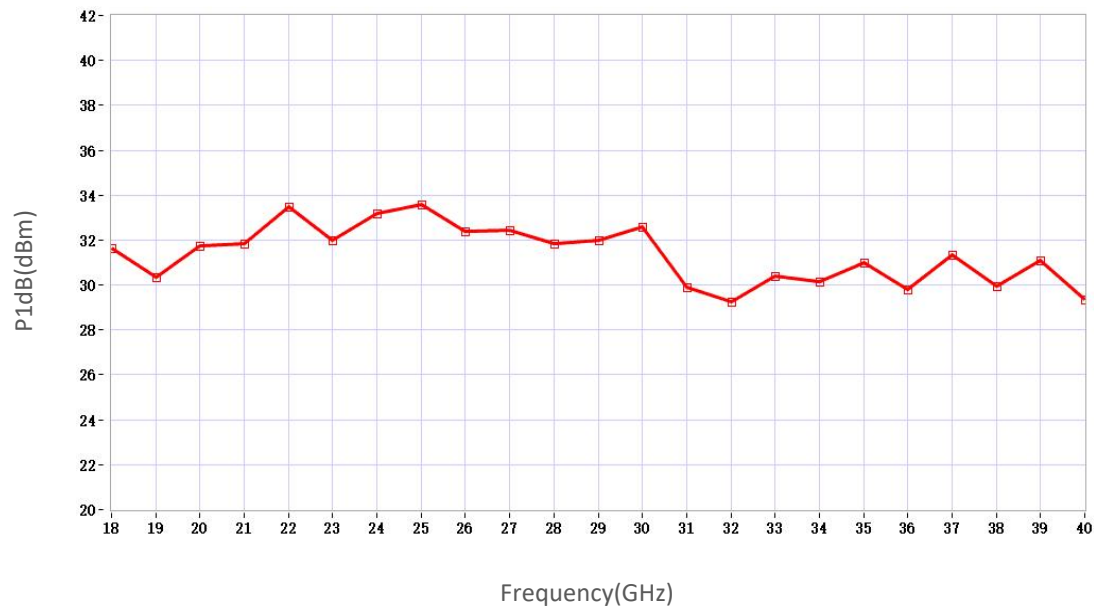


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

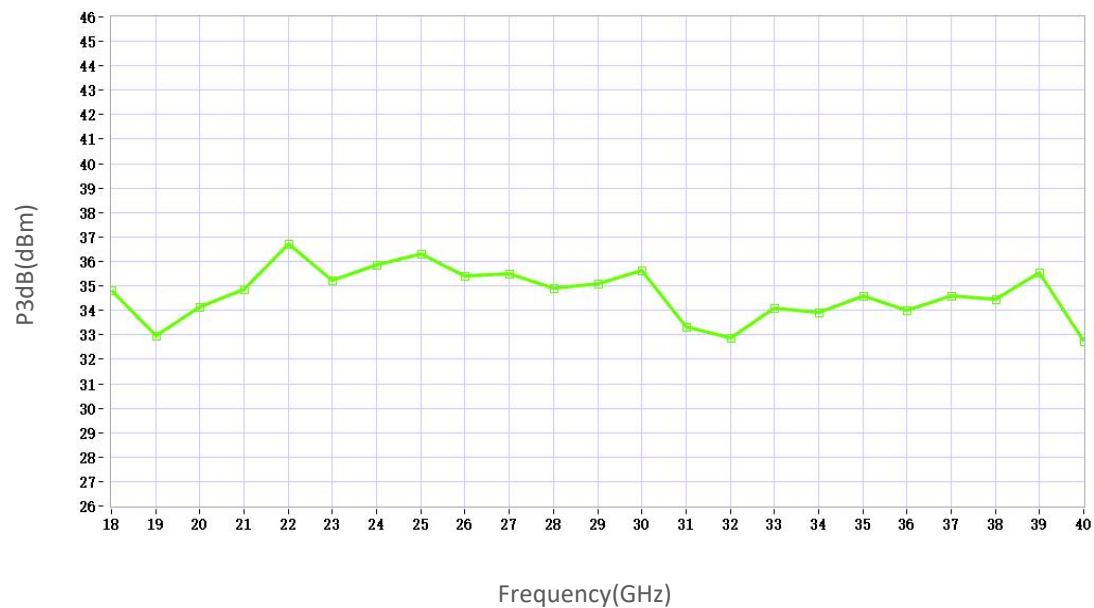


Typical Performance Data:

P1dB vs Frequency



P3dB vs Frequency

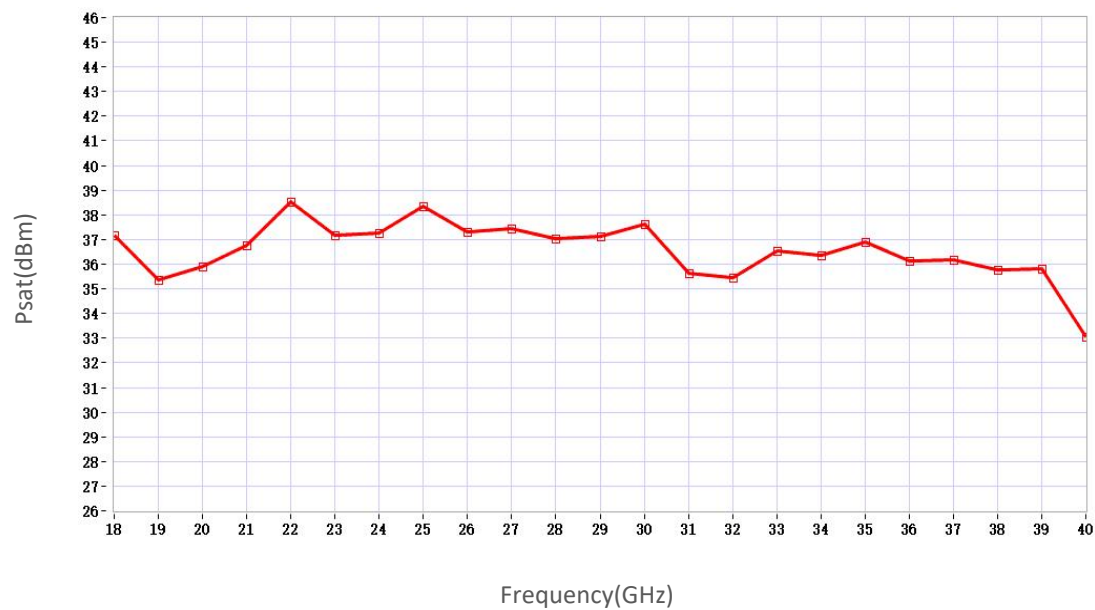


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Typical Performance Data:

Psat vs Frequency



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