# 4–6 GHz 100 W Broadband RF Power Amplifier Module

The 4–6 GHz module delivers 100 W typical saturated power with 50 dB typical gain and ±2 dB typical gain flatness. At 100 W, current is 15 A typical and harmonics are −10 dBc typical.

It uses 24–32 VDC, SMA/N female connectors and a 180 × 120 × 25 mm housing. RS-485 and internally pulled-low 3.3 V TTL enable share the 7-pin D-Sub; shutdown is specified above 20 A.



## Electrical Specifications

+28.0 VDC, 25 °C, 50 Ω system unless otherwise stated

| Parameter | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Operating frequency | BW | 4000 | - | 6000 | MHz |
| Saturated RF output power | Pout | - | 100 | - | W |
| Power gain | Gp | - | 50 | - | dB |
| Power gain flatness | Gp | - | ±2 | - | dB |
| VSWR | S11 | - | 1.5 | - | - |
| Harmonics at 100 W | H | - | -10 | - | dBc |
| Spurious signals | Spur | - | -60 | - | dBc |
| Input/output impedance | Impedance | - | 50 | - | Ω |
| Operating voltage | VDC | 24 | 28 | 32 | VDC |
| Power-added efficiency | Eff | - | 30 | - | % |
| Current consumption at Pout = 100 W | IDD | - | 15 | - | A |

## Monitoring and Protection

| Parameter | Specification |
|---|---|
| Monitoring | Voltage, current, output power, reflected power, and temperature |
| Output VSWR protection | Amplifier shutdown at output VSWR between 3:1 and 3.5:1 |
| Over-temperature protection | Amplifier shutdown above 85 °C |
| Supply protection | Shutdown above 32 V, below 24 V, or with accidental reverse wiring |
| Over-current protection | Amplifier shutdown above 20 A |

## Absolute Maximum Ratings

Exceeding these ratings may damage the module

| Parameter | Rating |
|---|---|
| RF input drive without damage | +10 dBm |
| Load VSWR at Pout = 100 W | 3:1 at all load phases, continuous |
| Thermal overload | 85 °C shutdown |

## Environmental Specifications

The environmental figures are design targets. Confirm the applicable values for your project.

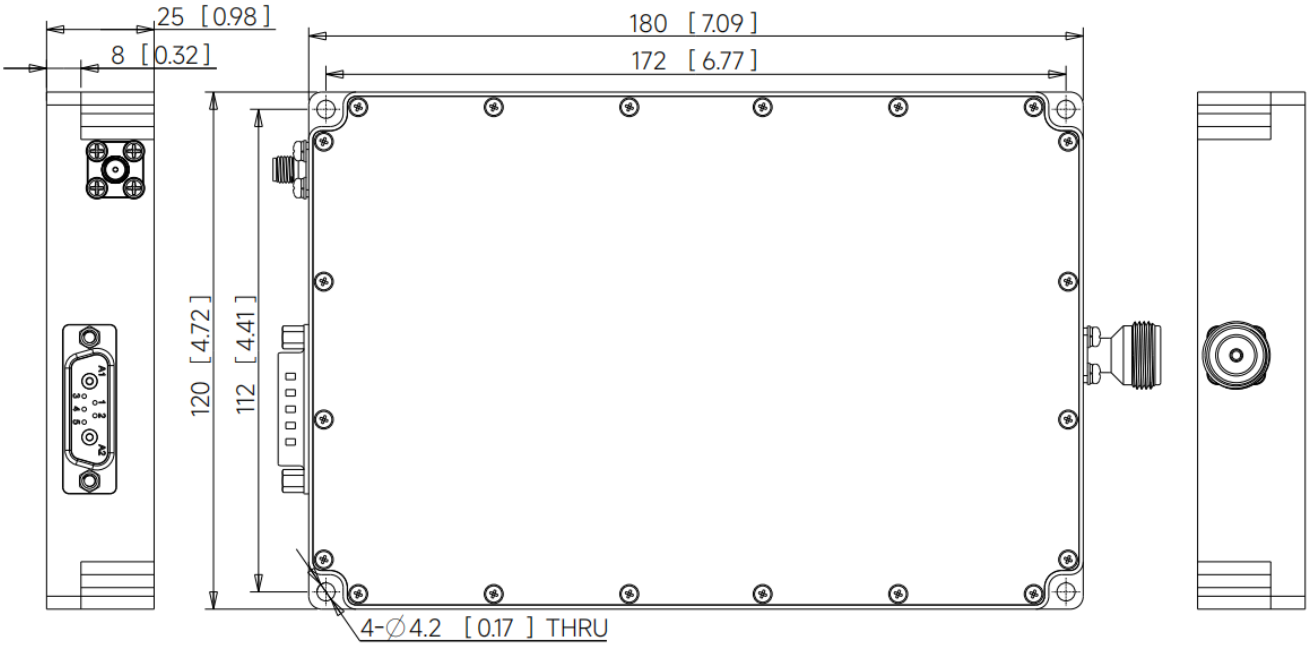
| Parameter | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|
| Operating temperature | -20 | - | 50 | °C |
| Storage temperature | -25 | - | 65 | °C |
| Relative humidity (non-condensing) | - | - | 95 | % RH |

## DC and Control Interface

| Pin # | Description | Specification |
|---|---|---|
| A1 | GND | Ground |
| A2 | VDD | +28V |
| 1 | ENABLE | TTL logic high (3.3 V); internally pulled low |
| 2 | GND | Ground |
| 3 | 485A | RS-485 serial communication |
| 4 | 485B | RS-485 serial communication |
| 5 | NC | Not connected |

## Mechanical Specifications

| Parameter | Value | Unit |
|---|---|---|
| Dimensions | 180 × 120 × 25[7.09 × 4.72 × 0.98] (Maximum) | mm [in] |
| Weight | 2[4.4] (Maximum) | kg [lb] |
| RF input connector | SMA female | - |
| RF output connector | N female | - |
| DC/control interface | Hybrid D-Sub 7-pin male | - |

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**Document notice**

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.