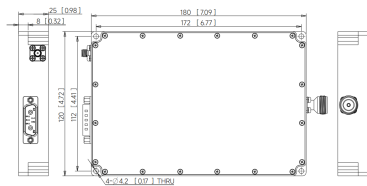


## 500 MHz–2.5 GHz 100 W Broadband RF Power Amplifier Module

This 500–2500 MHz module specifies 100 W typical saturated output with 50 dB typical gain. Gain flatness is  $\pm 1.5$  dB typical; typical current at 100 W is 9 A.



### Electrical Specifications · +28.0 VDC, 25 °C, 50 Ω system unless otherwise stated

| Parameter                           | Symbol    | Minimum | Typical   | Maximum | Unit |
|-------------------------------------|-----------|---------|-----------|---------|------|
| Operating frequency                 | BW        | 500     | -         | 2500    | MHz  |
| Saturated RF output power           | Pout      | -       | 100       | -       | W    |
| Power gain                          | Gp        | -       | 50        | -       | dB   |
| Power gain flatness                 | Gp        | -       | $\pm 1.5$ | -       | 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       | -       | 35        | -       | %    |
| Current consumption at Pout = 100 W | IDD       | -       | 9         | -       | 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 12 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                     |

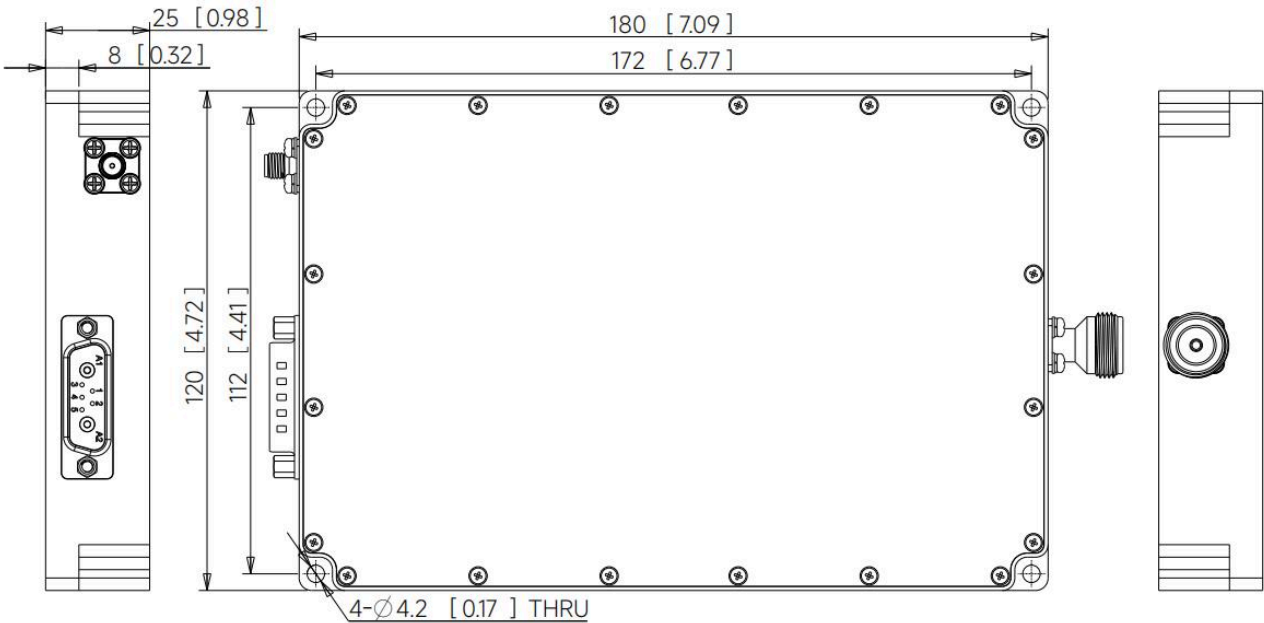
Environmental Specifications · Design targets; project confirmation required

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

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                      | -       |

Mechanical Outline



All dimensions are in mm [in].

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                                 |

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.