

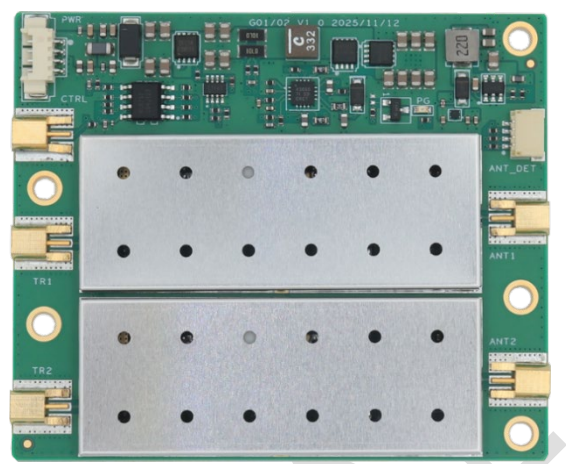
GPA-2 is a dual-channel 2×2 W TDD bidirectional RF power amplifier launched by Zencheer. Measuring only 69 × 58 mm, it operates over 500–1500 MHz and delivers high-linearity output, making it compatible with radio modules supporting standards such as WiFi, LTE, and DVB-T. GPA-2 is an upgraded version of [EPA-2](#). Based on EPA-2, it adds antenna-port open-circuit detection to improve overall system reliability.

Key Features

- Supports 2×2 MIMO with integrated TX/RX amplifiers (TDD mode)
- Onboard DC-DC boost converter, supporting a wide input voltage range
- Supports open-circuit detection
- Compact and lightweight, suitable for handheld and backpack radio
- Up to 2 W output power per channel

Specifications

| | |
|------------------------|---|
| Frequency Range | Typical: 1420–1530 MHz Customizable within 500–1500 MHz on request |
| Bandwidth | Typical: 110 MHz Can be customized up to 150 MHz (maximum) |
| Tx Channel | |
| Gain | Typical: 12 dB |
| Output Power | 33 dBm ± 1 dB |
| EVM | ≤ −25 dB @ 33 dBm ≤ −28 dB @ 30 dBm |
| Rx Channel | |
| Gain | Typical: 12 dB |
| RF Connectors | MMCX |
| Control Interface | |
| Connector | MMCX |
| Switch Logic | Logic high (1.8–3.3 V) enables TX Logic low (0 V) enables RX |
| Switching Time | < 1 μs |
| Open-circuit Detection | 1 mm pitch 4-pin header (JST SM04B-SRSS-TB) |
| Supply Voltage | 12–27 V |
| Dimensions | 69 × 58 × 5.7 mm |
| Weight | 30 g |
| Temperature Range | Storage: -40 to +125 °C Operating: -20 to +65 °C |
| Power Consumption | TBD |



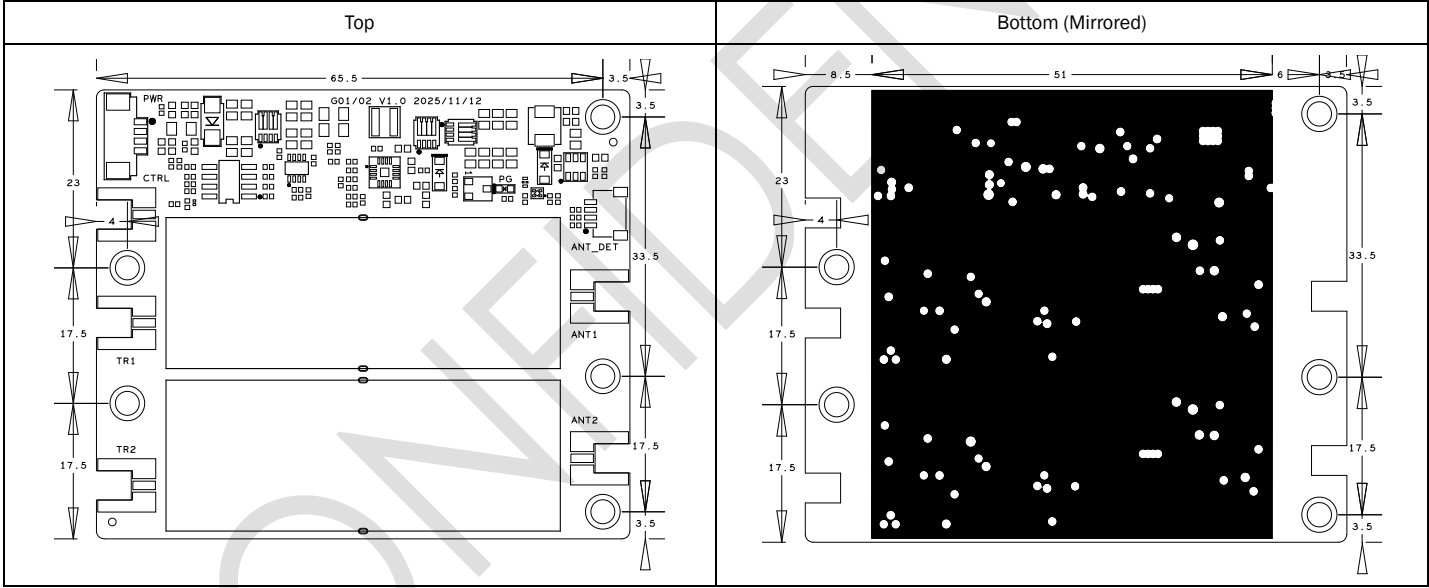
Interface Definitions

| Interface | Description |
|-----------|---|
| TR1/TR2 | RF signal input/output, connecting to the RF module |
| ANT1/ANT2 | PA output and LNA input, connecting to the antenna |
| CTRL | TX/RX control signal |
| ANT_DET | Open-circuit detection interface: 4-pin connector pin definition: 1: Detection enable, active high 2: Antenna 0 status: low = normal, high = open circuit 3: Antenna 1 status: low = normal, high = open circuit 4: GND |
| PWR | 4-pin power connector for PA power input: Pins 1 and 2 are positive (+), Pins 3 and 4 are negative (–) |

Ordering Information

| Model | Frequency | Tx Gain | Tx Power | Rx Gain |
|-----------|---------------|---------|----------|---------|
| GPA1470-2 | 1420–1530 MHz | 12 dB | 33 dBm | 12 dB |

Physical Size



Note: All mounting holes have a diameter of 3.1 mm and can be secured with M3 screws. The black shaded area indicates the heat-generating region and should be in contact with the device enclosure.