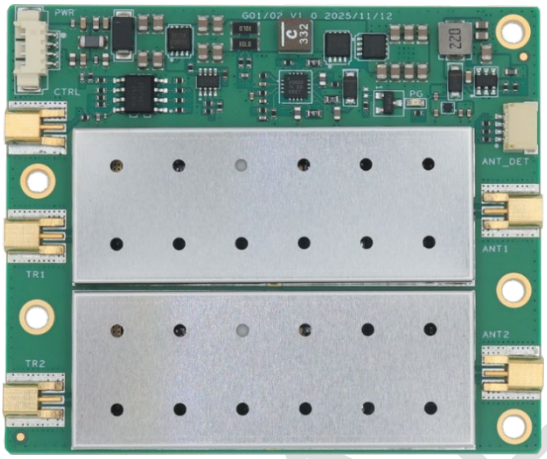
GPA-2 is a dual-channel 2×2 W TDD bidirectional RF power amplifier launched by Zencheer. Measuring only 69 × 58 mm, it operates over 500–1500 MHz and delivers high-linearity output, making it compatible with radio modules supporting standards such as WiFi, LTE, and DVB-T. GPA-2 is an upgraded version 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

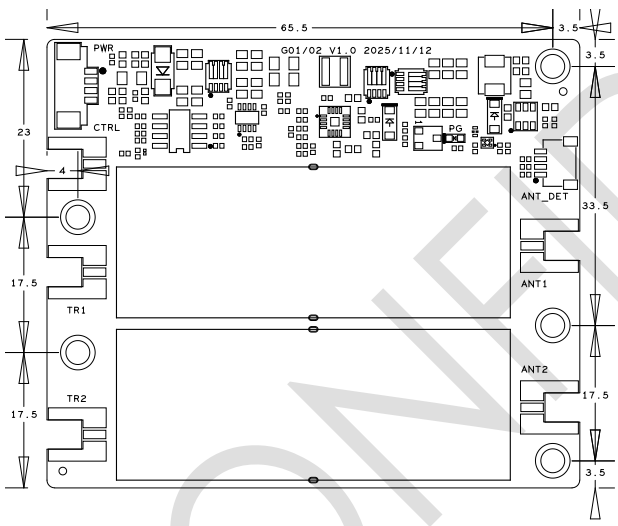
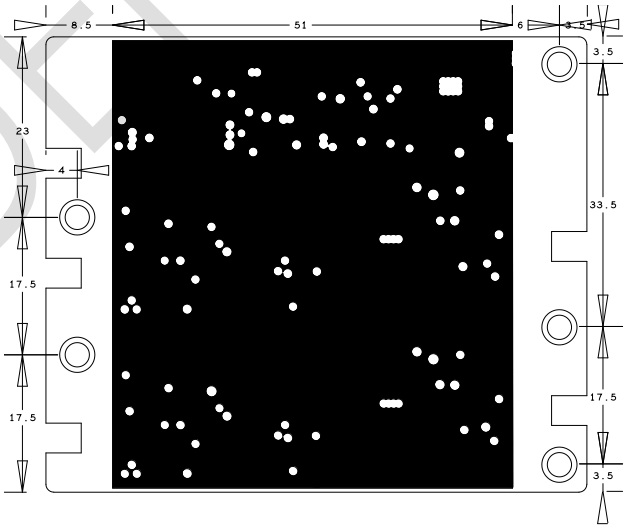
Interface Definitions

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

Top	Bottom (Mirrored)
	

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.