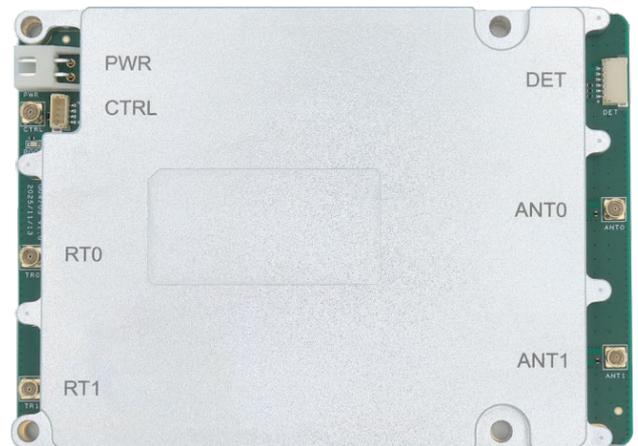


GPA-5 is a dual-channel 2×5 W TDD bidirectional RF power amplifier launched by Zencheer. Measuring 108 × 77 mm, it operates over 500–1500 MHz and delivers high-linearity output, making it compatible with radio modules supporting standards such as WiFi, LTE, and DVB-T. GPA-5 is an upgraded version of [DPA-5](#). Based on DPA-5, 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 5 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: 16 dB Can be customized up to 35 dB (maximum)
Output Power	37 dBm ± 1 dB
EVM	≤ -25 dB @ 37 dBm ≤ -28 dB @ 34 dBm
RX Channel	
Gain	Typical: 12 dB
RF Connectors	MMCX
Control Interface	
Connector	MMCX or 1 mm pitch 4-pin header (JST BM04B-SRSS-TB)
Switching 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 6-pin header (JST SM06B-SRSS-TB)
Supply Voltage	12–27 V
Dimensions	108 × 77 × 15.6 mm (excluding SMA connectors)
Temperature Range	Storage: -40 to +125 °C Operating: -20 to +65 °C
Power Consumption	50 W @ 70% TX duty cycle

Interface Definitions

Interface	Description
TR0/TR1	RF signal input/output, connecting to the RF module
ANT0/ANT1	PA output and LNA input, connecting to the antenna
CTRL	TX/RX control signal, 4-pin header definition:

- DET**
- 1: Connected in parallel with the MMCX connector; connect to the control signal
 - 2: Not connected (NC)
 - 3: Not connected (NC)
 - 4: GND
- Open-circuit detection interface: 6-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
 - 5: Not connected (NC)
 - 6: Not connected (NC)
- PWR**
- 2-pin power connector for PA power input: Pin 1 is positive (+), Pin 2 is negative (-)

Ordering Information

Model	Frequency Range	TX Gain	TX Power	RX Gain
GPA1470-5	1420-1530 MHz	16 dB	37 dBm	12 dB

Physical Size

