

DPA-1 is a dual-channel 2×1 W TDD broadband RF power amplifier launched by Zencheer. Measuring only 59 × 88 mm, it operates in the 1200–1500 MHz band and delivers highly linear output, making it compatible with our [SDR-B1](#) software-defined radio platform.

Key Features

- Supports 2×2 MIMO with integrated Tx/Rx amplifiers, TDD mode
- Onboard DC-DC boost converter, supporting a wide input voltage range
- Basic AGC functionality
- Compact and lightweight, suitable for handheld and backpack radio
- Up to 1 W output power per channel

Specifications

Frequency Range	1200–1500 MHz
Bandwidth	300 MHz
Tx Channel	
Gain	42 dB ± 1 dB
Output Power	30 dBm ± 1 dB
EVM	≤ −30 dB @ 30 dBm (64QAM)
Rx Channel	
AGC	If RX level is > −30 dBm, LNA bypass is enabled
Gain	32 dB (LNA bypass disabled) −4 dB (LNA bypass enabled)
RF Connectors	
Baseband Side	MCX
Antenna Side	MMCX
Control Interface	
Connector	1.0 mm pitch, 4-pin header
Switch Logic	Logic high (1.8–3.3 V) enables TX Logic low (0 V) enables RX
Switch Speed	< 1 μs
Power Supply	12–27 V
Size	59 × 88 × 11.6 mm (RF connectors excluded)
Weight	109 g
Temperature	Storage: −40 to +125 °C Operating: −20 to +65 °C
Power Consumption	20 W @ 70% TX duty cycle

Interface Definitions

Interface	Description
TX1/TX2	Tx signal input, interfacing with the baseband board
RX1/RX2	Rx signal output, interfacing with the baseband board
ANT1/ANT2	Connecting to the antennas
CTRL	PA T/R control signals: Pin 1 is the control pin; Pins 2 and 3 are not defined (NC); Pin 4 is 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 Range	Tx Gain	Tx Power	Rx Gain
DPA-1	1200-1500 MHz	42dB	30dBm	-4dB/32dB

Physical Size

