

QWX27200 Product Brief

5-7 GHz Wi-Fi 6E/7 Dual Front-End IC

Applications

- Wi-Fi 6E and Wi-Fi 7 systems
- Laptops, smart TVs and set-top boxes
- Access points, routers, gateways
- Modules for embedded systems

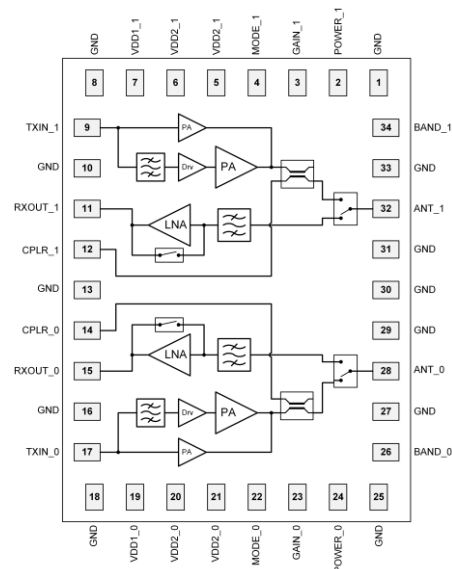
Features

- Dual Wi-Fi 6E/7 front-end module
- PA with superior linear output power and best-in-class power efficiency for Wi-Fi 7 high data rate applications
- LNA with bypass mode and industry leading current consumption
- High power, mid power, and ultra-low power modes
- Fully integrated CMOS SOI single die IC
- 34-pin LGA 3 mm x 4 mm or bare die with Cu pillars for flip chip assembly
- Directional coupler output
- Integrated RF filters offer superior interferer immunity

Key Specifications

- 5150 – 7125 MHz
- Single 3.3V supply voltage
- Pout = +15 dBm MCS13 EHT320 -45 dB DEVM
- Pout = +16.5 dBm MCS11 HE160 -43 dB DEVM
- Pout = +17 dBm MCS11 HE80 -40 dB DEVM
- Pout = +18 dBm MCS9 VHT80 -34 dB DEVM
- Pout = +22 dBm 6 Mbps 802.11a
- Transmit gain = 28 dB
- Current consumption:
242 mA at 18 dBm output power
- Noise Figure (including on-chip filter) = 2 dB
- Receive gain = 16.5 dB

Functional Block Diagram



Pin description follows on the next page.

Description

The QuantalRF QWX27200 is a highly integrated dual front-end IC designed for high performance Wireless Local Area Network (WLAN) applications supporting all standards up to Wi-Fi 7. It features a patent pending PA architecture providing superior linearity, a low loss single-pole, double-throw (SPDT) switch and an LNA.

The QWX27200 is equipped with on-chip filters enhancing coexistence performance. IoT devices are supported via the ultra-low power mode.

All RF ports are matched on-chip to 50 ohms. Combined with the on-chip filtering, it minimizes the external components and application layout area.

The QWX27200 is fabricated as a single die in CMOS SOI technology.

Pin Configuration and Description

| Pin No. | Label | Description |
|--|-------|--|
| 26, 34 | BAND | Control signal for PA band selection |
| 5, 6, 7, 19, 20, 21 | VDD | 3.3V supply |
| 1, 8, 10, 13, 16, 18, 25, 27, 29, 30, 31, 33 | GND | Ground |
| 9, 17 | TXIN | RF PA input ports |
| 11, 15 | RXOUT | RF LNA output ports |
| 4, 22 | MODE | Control signals, see truth table in the datasheet. |
| 3, 23 | GAIN | Control signals, see truth table in the datasheet. |
| 2, 24 | POWER | Control signals, see truth table in the datasheet. |
| 28, 32 | ANT | Bidirectional antenna ports, matched to 50Ω |
| 12, 14 | CPLR | TXRF coupler output ports |

Handling Precautions

Proper caution must be exercised to prevent electrostatic (ESD) damage.

| Parameter | Rating | Condition |
|-----------|--------|--|
| HBM | 2000 V | Human body model contact discharge per ANSI/ESDA/JEDEC JS-001-2014 |
| CDM | 500 V | Charged device model contact discharge per ANSI/ESDA/JEDEC JS-002-2014 |

RoHS Compliance

The part is compliant with the 2011/65/EU RoHS directive, as amended by Directive 2015/863/EU.

Contact Information

For the latest specifications, additional product information and support:

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Learn more at [quantalrf.com](https://www.quantalrf.com)

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