

QWX27120 Product Brief

5-7 GHz Wi-Fi 7 CMOS Front-End IC

Applications

- Wi-Fi 6E and Wi-Fi 7 systems
- Smartphones and other portable, rechargeable battery-operated devices
- Smart TV, set-top boxes, AR/VR headsets

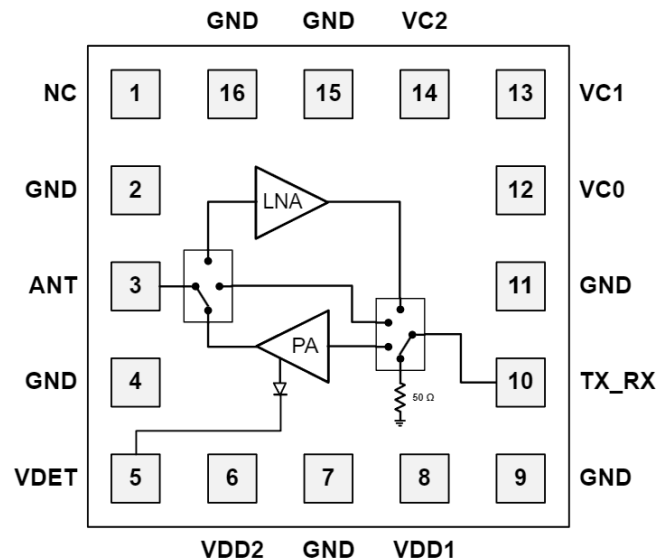
Features

- PA with superior linear output power and best-in-class power efficiency for Wi-Fi 7 high data rate applications
- Monolithic die implementation in CMOS SOI ensures smallest form factor
- LNA with bypass mode and industry leading current consumption
- High gain and low gain transmit modes
- 16-pin LGA 2 mm x 2 mm or bare die with Cu pillars for flip chip assembly
- Power detector output

Key Specifications

- 5150 – 7125 MHz
- Single 3.80V supply voltage
- Transmit output power:
 - Min 21 dBm, 20 MHz
 - 19 dBm, EHT160 -35 dB DEVM
 - 17 dBm, EHT160 -42 dB DEVM
 - 11 dBm, EHT320 -45 dB DEVM
- Transmit gain: 28 dB (high gain mode)
- Current consumption:
 - 290 mA at 21 dBm output power
- Noise figure: 1.7 dB
- Receive gain: 16.5 dB

Functional Block Diagram



Pin description follows on next page.

Description

The QuantalRF QWX27120 is a highly integrated monolithic 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 power efficiency, a low loss single-pole, triple-throw (SP3T) switch and an LNA.

Support for Digital Pre-Distortion (DPD) is implemented in both transmit modes for further improved EVM performance.

All RF ports are matched on-chip to 50 ohms to minimize the external components and application layout area.

The QWX27120 is fabricated as a monolithic die in CMOS SOI technology.

Pin Configuration and Description

Pin No.	Label	Description
1	NC	No connect
2, 4, 7, 9, 11, 15, 16	GND	Ground
3	ANT	Bidirectional antenna port, matched to 50Ω
5	VDET	Power detector output
6	VDD2	3.80V supply
8	VDD1	3.80V supply
10	TX_RX	Bidirectional TX/RX input/output port
12, 13, 14	VC0, VC1, VC2	Control signals

RoHS Compliance

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

Contact Information

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Learn more at quantalrf.com

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