QWX27115 Advance Datasheet

5-7 GHz Wi-Fi CMOS DPD-Efficient Linear FEM

Applications

- Edge AI Wi-Fi: AI/XR Glasses, Cameras, Drones, Robots
- Smartphones and other battery-operated devices

Intelligent and Adaptive FEM Features

- PA architecture maintaining EVM performance over varying VSWR conditions
- Autonomous frequency tracking and calibration

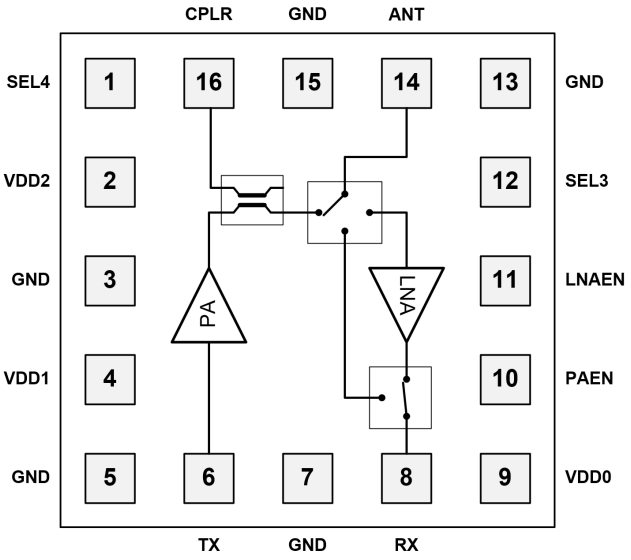
Features

- DPD-Efficient linear PA with superior output power and consistent linearity across all Wi-Fi channels
- Monolithic die implementation in CMOS SOI ensures the smallest form factor
- LNA with high gain, low power and bypass modes
- Transmit with mid power and low power modes

Key Specifications

- 5150 – 6425 MHz
- 3.3V supply voltage for PA and 1.8V supply voltage for LNA
- Transmit output power (DPD Applied):
  - 21.5 dBm, 802.11a, 20 MHz, 3 dB SEM margin
  - 17 dBm, HE80, -42 dB DEVM (18 dBm -35 dB)
  - 17 dBm, HE160, -42 dB DEVM
  - 16 dBm, EHT320, -43 dB DEVM
- Transmit gain: 26 dB (low power mode)
- Current consumption:
  - 161 mA at 17 dBm (mid power mode); 115 mA at 14 dBm (low power mode)
- Noise figure: 2 dB
- Receive gain: 15 dB

Functional Block Diagram



16-pin LGA 2x2 mm

Description

The QuantalRF QWX27115 is a highly integrated monolithic DPD-Efficient Linear front-end module designed for Edge AI Wi-Fi devices such as AI/XR glasses, cameras, drones and robots, supporting all standards up to Wi-Fi 8. It features a patent-pending PA architecture providing superior linearity across all power modes, a low loss single-pole, triple-throw (SP3T) switch and an LNA.

Linearity is optimized for Digital Pre-Distortion (DPD) for further improved system EVM performance across all modulation classes.

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

The QWX27115 is fabricated as a monolithic die in CMOS SOI technology.

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6 Order Information

Table 12: Order Information

Part Number	Description
QWX27115EVB	Evaluation Board
QWX27115EVK	Evaluation Kit (w/ Coupon & Host Adapter)
QWX27115SR	100 pcs 7” Reel
QWX27115T13	10,000 pcs 13” Reel

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**

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