

QWX27105 Advance Datasheet

5-7 GHz Wi-Fi CMOS Linear FEM

Applications

- Wi-Fi 7 and Wi-Fi 8 systems
- Smartphones and other portable, rechargeable battery-operated devices
- AI wearables, AR/VR headsets

Intelligent and Adaptive FEM Features

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

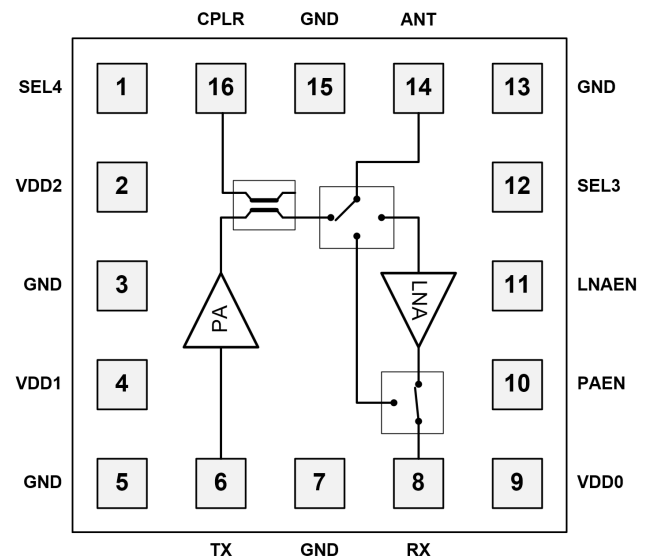
Features

- PA with superior linear output power and best-in-class power efficiency for Wi-Fi 7 and Wi-Fi 8 high data rate applications
- Monolithic die implementation in CMOS SOI ensures the smallest form factor
- LNA with high gain, low power and bypass modes
- Transmit with high power, mid power and low power modes

Key Specifications

- 5150 – 7125 MHz
- 3.8V supply voltage for PA and 1.8V supply voltage for LNA
- Transmit output power:
 - 22 dBm, HE20, MCS0, 3 dB SEM margin
 - 20 dBm, VHT80, -33 dB DEVM
 - 17 dBm, HE160, -41 dB DEVM
 - 13 dBm, EHT320, -43 dB DEVM
- Transmit gain: 30 dB (high gain mode)
- Current consumption:
 - 280 mA at 21 dBm output power
- Noise figure: 1.9 dB
- Receive gain: 15 dB

Functional Block Diagram



16-pin LGA 2x2 mm

Description

The QuantalRF QWX27105 is a highly integrated monolithic linear front-end module designed for high-performance Wireless Local Area Network (WLAN) applications supporting all standards up to Wi-Fi 8. 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 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 QWX27105 is fabricated as a monolithic die in CMOS SOI technology.

1 Order Information

Table 1: Order Information

Part Number	Description
QWX27105EVB	Evaluation Board
QWX27105EVK	Evaluation Kit (w/ Coupon & Host Adapter)
QWX27105SR	100 pcs 7" Reel
QWX27105T13	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:

sales@quantalrf.com

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

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