

1. Product Overview

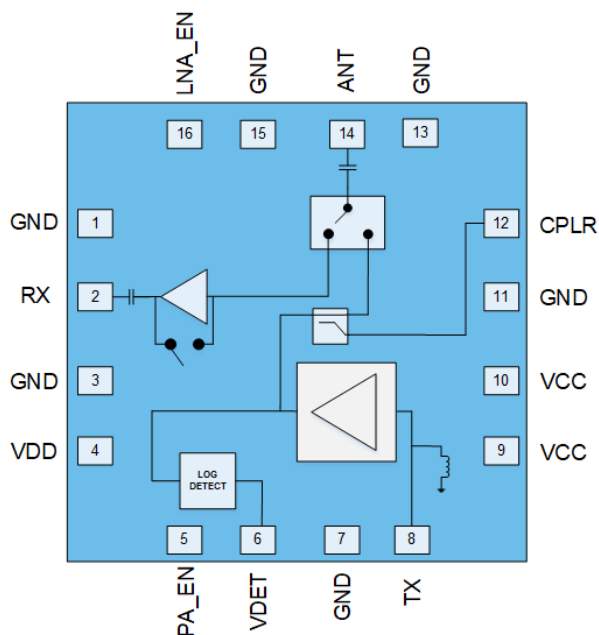
The Qorvo® QPF4609E is an integrated front end module (FEM) designed for Wi-Fi 7 (802.11be) systems. The compact form factor and integrated matching minimize layout area in the application.

Performance is focused on optimizing the PA for a 5V supply voltage that minimizes power consumption to allow for systems that use digital pre-distortion to achieve the highest linear output power and leading edge throughput for the RF chain. This is done across a wide bandwidth enabling operation in all channels from UNII5-8 (5.925 to 7.125 GHz)

A coupler with RF output is integrated for DPD feedback training. Options for alternate routing of the feedback are included with low loss. For power control a broadrange constant slope voltage logarithmic power detector is provided for application feedback.

The QPF4609E integrates a 6 GHz power amplifier (PA), single pole two throw switch (SP2T), coupler structure and bypassable low noise amplifier (LNA) into a single device.

2. Functional Block Diagram



16 Pad 3 x 3 mm Laminate Package

3. Key Features

- 5925 – 7125 MHz
- $P_{SAT} = +31$ dBm
- Corrected DEVM¹
 - $P_{OUT} = +21.5$ dBm MCS13 EHT320 -43dB Dynamic EVM
 - $P_{OUT} = +21.5$ dBm MCS11 HE160 -43dB Dynamic EVM
 - $P_{OUT} = +23$ dBm MCS9 VHT80 -35dB Dynamic EVM
 - $P_{OUT} = +27.5$ dBm MCS0 HT20 Spectral Mask Compliance
- Optimized for +5 V Operation
- DC Power = 1.9 W at +27dBm
- 32 dB Tx Gain
- 1.5 dB Noise Figure
- 14.5 dB Rx Gain & 6.5 dB Bypass Loss
- 26 dB 2.4 GHz Rejection on Rx Path
- Integrated RF Coupler & DC Logarithmic Power Detector

¹Memoryless LUT DPD Correction

4. Applications

- Access Points
- Wireless Routers
- Residential Gateways
- Customer Premise Equipment
- Internet of Things

5. Ordering Information

Part Number	Description
QPF4609ETR13	13" reel with 5,000 pieces
QPF4609ESR	7" reel with 100 pieces
QPF4609ESB	Sample Bag with 5 pieces
QPF4609EEVB	Assembled Evaluation Board



Contact Information

For the latest specifications, additional product information, worldwide sales and distribution locations:

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