



QPF4559

Wi-Fi 7 Front End Module

Product Overview

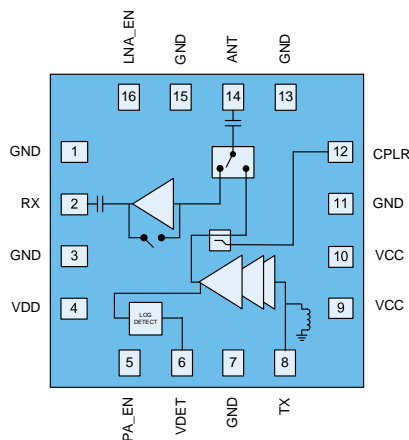
The Qorvo® QPF4559 is an integrated front end module (FEM) designed for Wi-Fi 7 (802.11be) systems. The compact form factor and integrated matching minimizes layout area in the application.

Performance is focused on optimizing the PA for a 5V supply voltage that conserves power consumption while maintaining the highest linear output power and leading-edge throughput. This is done across a wide bandwidth enabling operation in all channels from UNII1-4 (5.1 to 5.9 GHz)

Integrated die level filtering for 2nd and 3rd harmonics as well as 2.4 GHz rejection for DBDC operation are included. A coupler with RF output as well as a broad range, constant slope voltage logarithmic power detector is provided for application feedback

The QPF4559 integrates a 5 GHz power amplifier (PA), single pole two throw switch (SP2T) and bypassable low noise amplifier (LNA) into a single device.

Functional Block Diagram



Top View



16 Pad 3 x 3 mm Laminate Package

Key Features

- 5170 – 5895 MHz
- $P_{OUT} = +18$ dBm MCS13 EHT80 -47dB Dynamic EVM
- $P_{OUT} = +20$ dBm MCS11 HE80 -43dB Dynamic EVM
- $P_{OUT} = +24$ dBm MCS9 VHT80 -35dB Dynamic EVM
- $P_{OUT} = +27$ dBm MCS0 HT20 Spectral Mask Compliance
- Optimized for +5 V Operation
- 32 dB Tx Gain
- 1.6 dB Noise Figure
- 15 dB Rx Gain & 7 dB Bypass Loss
- 25 dB 2.4 GHz Rejection on Rx Path
- Integrated RF & DC Logarithmic Power Detector

Applications

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

Ordering Information

Part Number	Description
QPF4559SB	Sample bag with 5 pieces
QPF4559SR	7" reel with 100 pieces
QPF4559TR13	13" reel with 5,000 pieces
QPF4559EVB	Assembled Evaluation Board



QPF4559

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Handling Precautions

Parameter	Rating	Standard
ESD – Human Body Model (HBM)	Class 1C (1,500V)	ANSI/ESD/JEDEC JS-001
ESD – Charged Device Model (CDM)	Class C3 (1,000V)	ANSI/ESD/JEDEC JS-002
MSL – Moisture Sensitivity Level	MSL 3	IPC/JEDEC J-STD-020



Caution!

ESD sensitive device

Solderability

Compatible with both lead-free (260 °C max. reflow temperature) and tin/lead (245 °C max. reflow temperature) soldering processes.

Package lead plating: Electroless Ni/Electroless Pd/Immersion Au (ENEPIG)

RoHS Compliance

This part is compliant with the 2011/65/EU RoHS directive (Restrictions on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment), as amended by Directive 2015/863/EU.

This product also has the following attributes:

- Lead Free
- Halogen Free (Chlorine, Bromine)
- Antimony Free
- TBBP-A (C₁₅H₁₂Br₄O₂) Free
- SVHC Free
- PFOS Free

Contact Information

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

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