

### Product Overview

The Qorvo® QPF4588 is an integrated front end module (FEM) designed for Wi-Fi 802.11ax 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. Receive path matches the optimal technologies to maximize Rx sensitivity through noise figure performance that is consistent over a wider variety of conditions.

The receive path is pinned out so external filtering can be added in the optimal position. Integrated die level filtering for 2nd and 3rd harmonics as well as 2.4 GHz rejection for DBDC operation are included.

There are two options for power detect, a DC power detector which has voltage output and an RF power detector with an RF output from a directional coupler.

The QPF4588 integrates a 5 GHz power amplifier (PA), regulator, single pole two throw switch (SP2T), bypassable low noise amplifier (LNA) and coupler into a single device



24 Pin 5x3 mm QFN Package

### Key Features

- 5150 – 5925 MHz
- P<sub>OUT</sub> = +16dBm MCS11 HE80 -47dB Dynamic EVM
- P<sub>OUT</sub> = +18dBm MCS11 HE80 -43dB Dynamic EVM
- P<sub>OUT</sub> = +23dBm MCS9 VHT80 -35dB Dynamic EVM
- P<sub>OUT</sub> = +24dBm MCS7 HT20/40 -30dB Dynamic EVM
- P<sub>OUT</sub> = +26dBm MCS0 HT20 Spectral Mask Compliance
- Optimized for +5 V Operation
- 33 dB Tx Gain
- 2 dB Noise Figure
- 16 dB Rx Gain & 7 dB Bypass Loss
- 30 dB 2.4 GHz Rejection on Rx Path
- Integrated RF Power Detector Coupler as well as DC Power Detector

### Functional Block Diagram



Top View

### Applications

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

### Ordering Information

Part Number	Description
QPF4588SB	Sample bag with 5 pieces
QPF4588SQ	Sample bag with 25 pieces
QPF4588SR	7" reel with 100 pieces
QPF4588TR13-5K	13" reel with 5,000 pieces
QPF4588PCK-01	Assembled Evaluation Board + 5 pieces

### Handling Precautions

Parameter	Rating	Standard
ESD – Human Body Model (HBM)	Class 1B (750V)	ANSI/ESD/JEDEC JS-001
ESD – Charged Device Model (CDM)	Class C2a (750V)	ANSI/ESD/JEDEC JS-002
MSL – Moisture Sensitivity Level	Level 2	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: NiPdAu-Ag

### 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 (C<sub>15</sub>H<sub>12</sub>Br<sub>4</sub>O<sub>2</sub>) Free
- SVHC Free



### Contact Information

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

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