

Product Overview

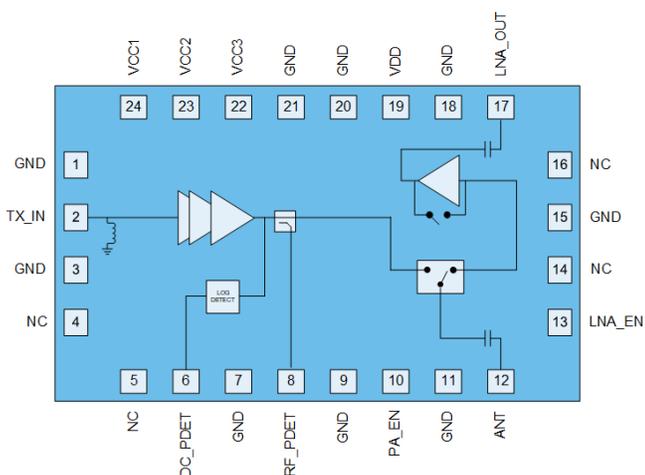
The Qorvo® QPF4658 is an integrated front end module (FEM) designed for Wi-Fi 6 & 6E (802.11ax) systems. The compact form factor and integrated matching minimizes layout area in the application.

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. This is done across a wide bandwidth enabling operation in all channels from UNII5-8 (5.9 to 7.1GHz)

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 broadrange, constant slope voltage logarithmic power detector is provided for application feedback

The QPF4658 integrates a 6-7 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



24 Pad 5 x 3 mm Laminate Package

Key Features

- 5935 – 7125 MHz
- P_{OUT} = +17 dBm MCS11 HE160 -43dB Dynamic EVM
- P_{OUT} = +19 dBm MCS11 HE80 -43dB Dynamic EVM
- P_{OUT} = +23 dBm MCS11 HE80 -35dB Dynamic EVM
- P_{OUT} = +27 dBm MCS0 HE20 Spectral Mask Compliance
- Optimized for +5 V Operation
- 31 dB Tx Gain
- 1.9 dB Noise Figure
- 14.5 dB Rx Gain & 7.5 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
QPF4658SB	Sample bag with 5 pieces
QPF4658SR	7" reel with 100 pieces
QPF4658TR13	13" reel with 5,000 pieces
QPF4658EVB	Assembled Evaluation Board

Handling Precautions

Parameter	Rating	Standard
ESD – Human Body Model (HBM)	Class 1C (1000 V)	ANSI/ESD/JEDEC JS-001
ESD – Charged Device Model (CDM)	Class C3 (1000 V)	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:

- Leadfree
- 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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