



Product Overview

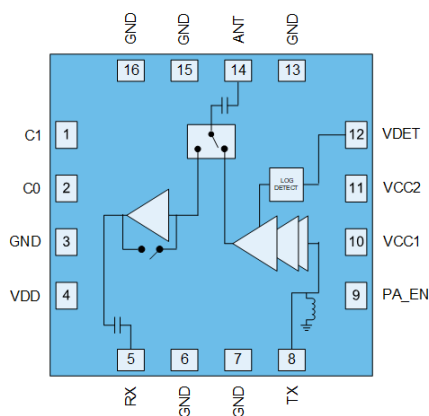
The Qorvo® QPF4656 is an integrated front end module (FEM) designed for Wi-Fi 6 & 6E (802.11ax) systems. The small form factor and integrated matching minimizes layout area in the application.

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) on the fly without the need for any logic switching.

Integrated die level filtering for 2nd and 3rd harmonics as well as 2.4 GHz rejection for DBDC operation are included. A broadband logarithmic voltage detector is provided for application feedback

The QPF4656 integrates a 5.9-7.1 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

- 5945 – 7125 MHz
- $P_{OUT} = +18$ dBm MCS11 HE160 -43dB Dynamic EVM
- $P_{OUT} = +20$ dBm MCS11 HE80 -43dB Dynamic EVM
- $P_{OUT} = +27$ dBm MCS0 HE20 Spectral Mask Compliance
- Optimized for +5 V Operation
- 32 dB Tx Gain
- 2 dB Noise Figure
- 14.5 dB Rx Gain & 8 dB Bypass Loss
- 25 dB 2.4 GHz Rejection on Rx Path
- Integrated DC Logarithmic Power Detector

Applications

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

Ordering Information

Part Number	Description
QPF4656SB	Sample bag with 5 pieces
QPF4656SR	7" reel with 100 pieces
QPF4656TR13	13" reel with 5,000 pieces
QPF4656EVB	Assembled Evaluation Board

Parameter	Rating	Standard
ESD – Human Body Model (HBM)	Class 1C (1,000V)	ANSI/ESD/JEDEC JS-001
ESD – Charged Device Model (CDM)	Class C3 (1,000V)	ANSI/ESD/JEDEC JS-002
MSL – Moisture Sensitivity Level	MSL3	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:

Web: www.qorvo.com

Tel: 1-844-890-8163

Email: customer.support@qorvo.com

Important Notice

The information contained in this Data Sheet and any associated documents ("Data Sheet Information") is believed to be reliable; however, Qorvo makes no warranties regarding the Data Sheet Information and assumes no responsibility or liability whatsoever for the use of said information. All Data Sheet Information is subject to change without notice. Customers should obtain and verify the latest relevant Data Sheet Information before placing orders for Qorvo® products. Data Sheet Information or the use thereof does not grant, explicitly, implicitly or otherwise any rights or licenses to any third party with respect to patents or any other intellectual property whether with regard to such Data Sheet Information itself or anything described by such information.

DATA SHEET INFORMATION DOES NOT CONSTITUTE A WARRANTY WITH RESPECT TO THE PRODUCTS DESCRIBED HEREIN, AND QORVO HEREBY DISCLAIMS ANY AND ALL WARRANTIES WITH RESPECT TO SUCH PRODUCTS WHETHER EXPRESS OR IMPLIED BY LAW, COURSE OF DEALING, COURSE OF PERFORMANCE, USAGE OF TRADE OR OTHERWISE, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Without limiting the generality of the foregoing, Qorvo® products are not warranted or authorized for use as critical components in medical, life-saving, or life-sustaining applications, or other applications where a failure would reasonably be expected to cause severe personal injury or death. Applications described in the Data Sheet Information are for illustrative purposes only. Customers are responsible for validating that a particular product described in the Data Sheet Information is suitable for use in a particular application.

© 2022 Qorvo US, Inc. All rights reserved. This document is subject to copyright laws in various jurisdictions worldwide and may not be reproduced or distributed, in whole or in part, without the express written consent of Qorvo US, Inc. | QORVO® is a registered trademark of Qorvo US, Inc.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Qorvo:](#)

[QPF4656EVB](#) [QPF4656SR](#) [QPF4656TR13](#) [QPF4656TR13C00](#)