

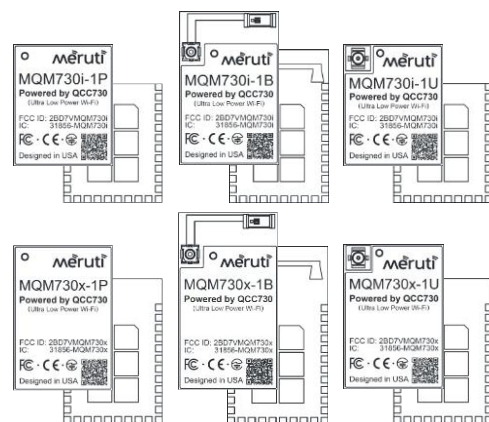


Qualcomm QCC730 Module Portfolio

mW ultra-low power 2.4/5GHz dual band Wi-Fi targeting for battery powered IoT applications.

OVERVIEW

Powered by Qualcomm game changing micro walt ultra-low power Wi-Fi technology, Qualcomm QCC730 IoT connectivity LGA module portfolio (“MQM730-1”) is purposely-designed to pack processing capabilities, embedded memory, Wi-Fi connectivity, on-module flash, and most of all ultra-low power technology into a single 32-pin LGA form factor with flexible choices of Pin, PCB and U.FL antenna. All variant antenna modules are pin compatible, allowing easy swap among modules. Its 1.27mm (0.05”) pitch design enables seamless LGA pad into standard 1.27mm (0.05”) header conversion to allow field replaceable header module portfolio if needed. Its compact size and on-chip SRAM and RRAM (NVM) contribute to reduced costs and enhanced performance, making it an attractive choice for space-constrained IoT devices requiring battery power.



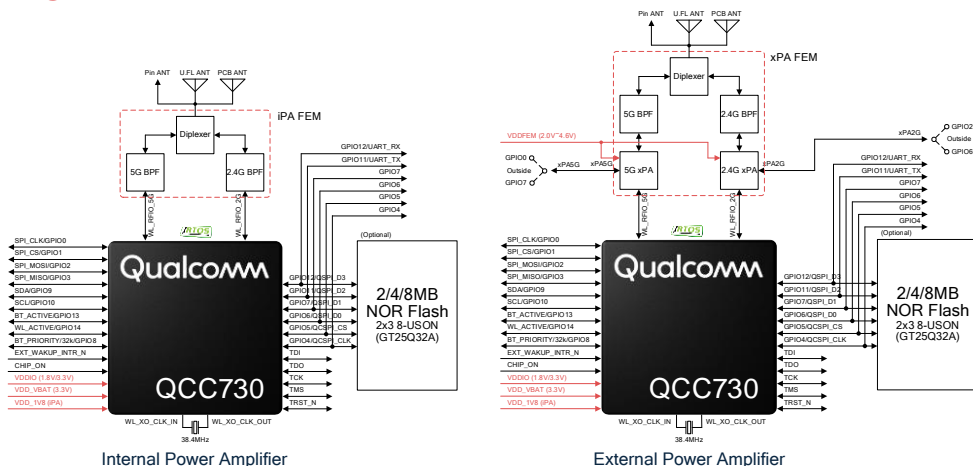
Unlike many other Wi-Fi modules on the market, MQM730-1 has integrated 60MHz Arm Cortex-M4 processor with on-chip 640KB SRAM and 1.5MB RRAM to be capable of handling all protocol stacks all the way to cloud level. It has built-in Resistive RAM (RRAM), the industry latest Non-volatile Memory (NVM) technology, eliminating need for externally attached NOR flash for more streamlined and cost-effective system. Furthermore, MQM730-1 can be powered directly by a battery with only 1.8V input, making it suitable for battery-operated devices.

MQM730-1 has a variant supporting external power amplifier both on 2.4GHz and 5GHz to extend Wi-Fi range for an improved coverage.

MQM730-1 can operate in hostless mode, capable of running both the protocol stack and applications without requiring an external MCU. It can also be used as a Wi-Fi transceiver in hosted mode, offloading all the protocol stack to enable the external MCU to concentrate on IoT applications as well as managing system power consumption.

MQM730-1 has undergone rigorous regulatory compliance testing and is certified with FCC, CE, IC, UKCA, RCM, MIC, KC, SRRC and environmentally compliant with RoHS/WEEE directives.

BLOCK DIAGRAM



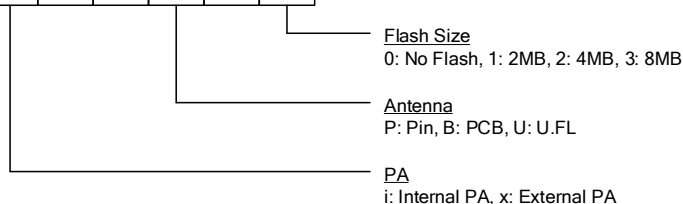
Qualcomm QCC730 Module Portfolio

SPECIFICATION

ITEM	SPECIFICATION	
Microcontroller	- 60MHz Arm Cortex-M4 processor	
On-chip Memory	- 640KB SRAM	- 1.5MB NVM (Resistive RAM – RRAM)
External Flash	- Optional 2/4/8 MB NOR flash selectable	
Security System	- Hardware crypto acceleration engine	- Secure services (boot, debug, OTA, etc.)
Wi-Fi Standard	- 802.11a/b/g/n	
Wi-Fi Radio (Internal PA)	<ul style="list-style-type: none"> - Max Tx Power (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: +11.5 dBm • 5GHz: +11.5 dBm - Active Tx Power (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: 145 mW • 5GHz: 165 mW (High Throughput) 	<ul style="list-style-type: none"> - Rx Sensitivity (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: -83.7 dBm (High Throughput) • 5GHz: -82.8 dBm (High Throughput) - Active Rx Power (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: 14 mW • 5GHz: 17 mW (High Throughput)
Wi-Fi Radio (External PA)	<ul style="list-style-type: none"> - Max Tx Power (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: +24.9 dBm • 5GHz: +24.9 dBm - Active Tx Power (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: TBD mW • 5GHz: TBD mW (High Throughput) 	<ul style="list-style-type: none"> - Rx Sensitivity (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: -80.6 dBm (High Throughput) • 5GHz: -78.5 dBm (High Throughput) - Active Rx Power (HT20 and MCS3) <ul style="list-style-type: none"> • 2.4GHz: TBD mW • 5GHz: TBD mW (High Throughput)
Peripherals	15x configurable digital I/O: <ul style="list-style-type: none"> - QSPI - I2C - 3-wire PTA coexistence - SPI - UART - JTAG 	
Voltage	- Input voltage: 1.8V~3.6V	- I/O voltage: 1.8V/3.3V
Compliance	- FCC, CE, IC, UKCA, RCM, MIC, KC, SRRC, WEEE, RoHS	
Environmental	<ul style="list-style-type: none"> - Temperature <ul style="list-style-type: none"> • Operating: -20°C ~ 85°C • Storage: -40°C ~ 85°C 	<ul style="list-style-type: none"> - Humidity <ul style="list-style-type: none"> • Relative: < 90% Non-condensing • Storage: < 90% Non-condensing
Physical	Internal PA Module (MQM730i-1P/B/U): <ul style="list-style-type: none"> - Size: 12.28 x 14.82/19.0 x 2.2 mm - Pin: 32 LGA pad - Weight: TBD - Antenna: Pin or PCB or U.FL 	External PA (MQM730x-1P/B/U): <ul style="list-style-type: none"> - Size: 12.28 x 18.0/22.0 x 2.2 mm - Pin: 32 LGA pad - Weight: TBD - Antenna: Pin or PCB or U.FL

ORDER INFORMATION

M Q M 7 3 0 P - 1 A - F



ABOUT MERUTI DESIGN: Headquartered in US with R&D center spread out globally, Meruti is dedicated to design, marketing and support of Wi-Fi/BT/15.4 connectivity modules. Meruti module products have fully certified and compliant with FCC, CE, IC, UKCA, RCM, SRRC, MIC, KC. As a Qualcomm Authorized Design Center (ADC) partner, Meruti collaborates closely with Qualcomm to offer a portfolio of cutting-edge, purpose-built, and cost-optimized modules based upon Qualcomm IoT connectivity chipsets. For more information, please visit our website at www.meruti.io.

Copyright © 2024 Meruti Design, Inc. All rights reserved. Meruti and the Meruti logo are registered trademarks of Meruti Design, Inc. All other trademarks are the property of their respective owners. Revision: March-2024