

Qualcomm

# Qualcomm® QCA4020 Product Development Kit

The QCA4020 Product Development Kit for creating Internet of Things (IoT) products supports key wireless technologies and cloud ecosystems.

The QCA4020 Product Development Kit is engineered to help developers and device manufacturers create unique IoT products that work in concert with a wide variety of other devices and cloud ecosystems. The kit is well suited for developing IoT applications such as smart cities, toys, home control and automation, appliances, networking and home entertainment.

The QCA4020 kit is designed to provide interoperability among diverse IoT devices including most popular wireless standards, protocols and communication frameworks, and ease connectivity to various cloud and application services.

The QCA4020 SoC is a tri-mode intelligent connectivity solution with advanced smart coexistence, integrating numerous wireless communication technologies into a single SoC, a proven approach to address fragmentation in many technology areas. It combines the latest specifications of Wi-Fi®, Bluetooth® 5 and 802.15.4 based technologies, including ZigBee® and Thread and has advanced hardware-based security features to help improve device protection in ways not possible with just software.

The QCA4020 SoC comes with pre-integrated support for HomeKit™ and the Open Connectivity Foundation (OCF™) specifications, as well as support for AWS IoT software development kit (SDK) and Microsoft Azure IoT Devices SDK to connect with Azure IoT Hub.

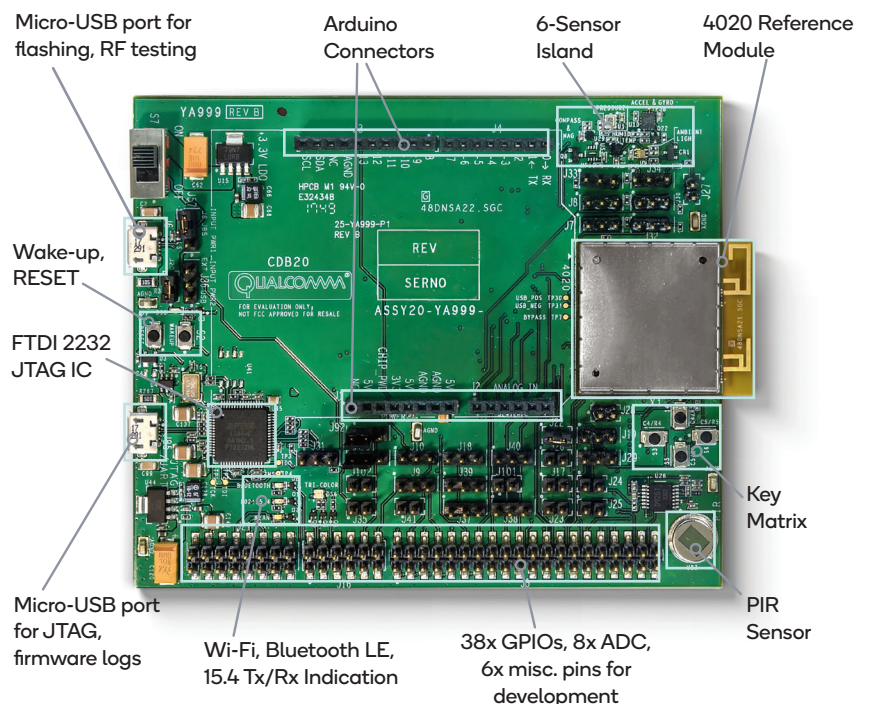
## Development Kit Contents

- QCA4020 Reference Module and Development Board
- 2x Micro USB cables to connect to host PC and power supply
- Set-up guide

## Development Board Highlights

- 6-Sensor Island
- Arduino Connector
- Key Matrix
- PIR sensor, LEDs
- FTDI Based JTAG
- USB Interface for RF testing, manufacturing

## QCA4020 Development Board





## QCA4020 Target Applications

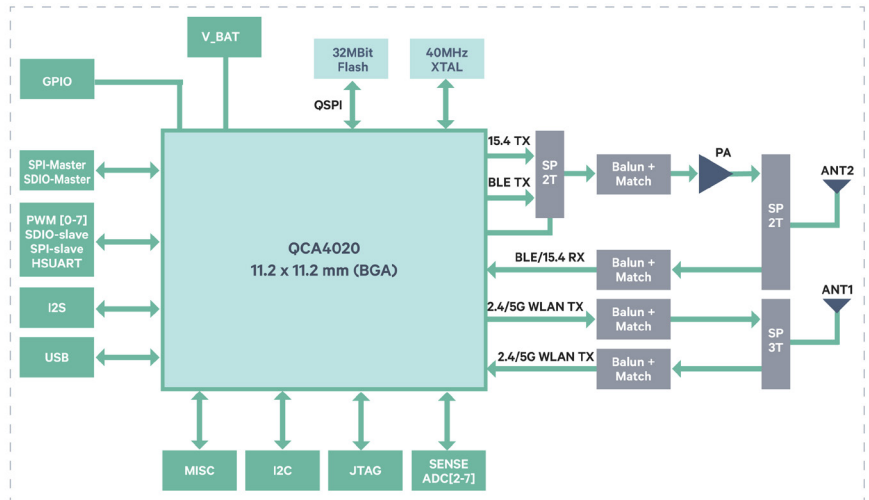


- Smart Cities
- Smart Homes
- Home Gateway
- Appliances
- Home Control
- Home Entertainment/Toys

## Features

- QCA4020 tri-mode SoC with integrated Bluetooth 5, dual-band Wi-Fi, and 802.15.4 technologies
- On-board FTDI2232 IC for 4-wire JTAG debugging
- Various commercial and free IDE options for JTAG debugging and software development
- Arduino connector to extend kit and add shields
- Open schematics and layout files
- Eclipse based IDE for single-step JTAG debugging
- UART-AT commands to connect QCA4020 to MCU/CPU
- Eight sensors and actuators on-board:
  - Ambient light luminosity
  - 3D accelerometer
  - 3D gyroscope/rotation
  - 3D magnetic field
  - Temperature
  - Humidity
  - Pressure
  - PIR sensor
- Out-of-box drivers for sensors in demo applications
- Miscellaneous headers, test-points for power measurement, direct connect to battery, boot-configuration, and other measurements

## QCA4020 Module Block Diagram



## QCA4020 Module Specifications

<b>Module Size</b>	28.57 x 33.5 mm 124-pin
<b>WLAN Tx/Rx</b>	Integrated WLAN PA and LNA with 19dBm Pout and dedicated WLAN antenna
<b>Bluetooth LE &amp; 802.15.4 Tx</b>	Shared PA between 15.4 and Bluetooth LE for transmit 21 dBm Pout for 15.4 and 10 dBm Pout for Bluetooth LE
<b>Bluetooth LE &amp; 802.15.4 Rx</b>	Concurrent 15.4 and Bluetooth LE Rx Shared antenna between 15.4 and Bluetooth LE
<b>Voltage</b>	3.3V supply voltage
<b>Application I/O</b>	SPI master/slave, 8-channel PWM, SDIO master/slave, HUART, I2C, 12-bit/8-channel 1-MSPS ADC, 4-wire JTAG debugging Extra GPIOs for application-specific use
<b>Interfaces</b>	SDIO/SPI/UART interfaces to connect to external MCU/CPU interface
<b>Testing</b>	USB interface for RF testing, factory automation

## Ordering Information

Product	Part Number
QCA4020 Product Development Kit	65-YA999-1

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