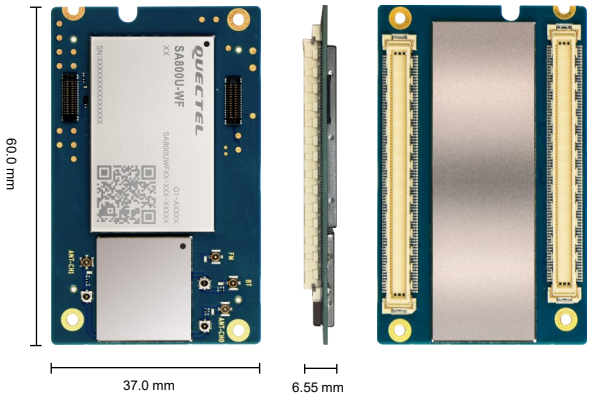
Quectel SA800U-WF

Smart Module
with Wi-Fi & Bluetooth



SA800U-WF is Quectel's new generation of Smart module with built-in Android 9.0*/10.0* OS. Based on Qualcomm octa-core 64-bit Kryo™ 385 processors with built-in Adreno™ 630 GPU, SA800U-WF supports 2.4/5 GHz Wi-Fi, BT 5.0 and Qualcomm® Quick Charge 4.0. Featuring high performance and various multimedia functions, it is ideal for both industrial and consumer applications requiring high data-rate and multimedia functions.

SA800U-WF supports 2 × 2 Wi-Fi MIMO. The use of multiple antennas at the receiver end at the same time and on the same frequency band greatly minimizes errors and optimizes the data speed.

A rich set of interfaces (such as LCM, Camera, Touch Panel, I2S, PCIe, UART, USB, I2C, SPI, etc.) extend the applicability of the module to a wide range of M2M applications, including video conference systems, live streaming devices, cloud servers, AI robots, smart homes, AR/VR devices, smart POS, smart cash registers, smart home gateways, smart wearables, security surveillance, PDA & tablets, vending machines, delivery lockers, police and law enforcement equipment, in-car video streaming and entertainment systems, etc.

Key Features

- Qualcomm® Kryo™ 385 64-bit CPU + Adreno™ 630 GPU
- Supports MIPI_DSI and DP over USB Type-C for dual-LCD independent display. MIPI_DSI supports 3840 × 2400 @ 60 fps for primary display and DP supports 4K @ 60 fps
- Supports up to 4 cameras. Supports single camera of up to 32 MP and 3 cameras of 16 MP + 16 MP + 2 MP working simultaneously
- Supports 2 USB 3.1 interfaces, one of which supports Type-C with DisplayPort
- Supports 4K @ 60 fps video recording and playback
- Supports 2 groups of 1-lane PCIe interfaces

Qualcomm® Kryo™ 385 64-bit Processor (Octa-core)

Qualcomm® Adreno™ 630 GPU

PCIe Interfaces

Android 9.0*/10.0*

IEEE 802.11 a/b/g/n/ac

BT 5.0

Powerful Multimedia Functions

Version: 1.0 | Status: Released

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Smart Module
with Wi-Fi & Bluetooth

Global

Wi-Fi: 2.4 GHz, 802.11b/g/n
5 GHz, 802.11a/n/ac

Bluetooth: BT 2.1+EDR/3.0/4.1 LE/4.2 BLE/BT 5.0

Enhanced Features

Supports Wi-Fi MIMO 2 × 2

Supports firmware upgrade via OTA

Supports firmware upgrade via USB

Audio & Video

Audio: QCELP, EVS, EVRC, EVRC-B, EVRC-WB, G.7Gen, G.729 A/AB, AMR-NB, AMR-WB, GSM-EFR, GSM-FR, GSM-HR

Video: 4K @ 60 fps H.264/265 encoding + decoding
Supports HDR

Interfaces

LCM:

Supports 2 groups of 4-lane MIPI_DSI

Dual independent display

3840 × 2440 @ 60 fps for primary display + 4K @60 fps over DP

Camera:

3 groups of 4-lane + 1 group of 2-lane MIPI_CSI, up to 2.5 Gbps/lane

2 Full ISPs + 1 Lite ISP

Supports 3 cameras of 16 MP + 16 MP + 2 MP working simultaneously

Supports single camera of up to 32 MP

Touch Panel: Capacitive touch panel

USB: × 2, USB 3.1, one of which supports Type-C with DisplayPort

PCIe: × 2, 1-lane PCIe Gen 2 + 1-lane PCIe Gen 3

GPIO: × 109

SD Card: × 1, SD 3.0, 4-bit SDIO

UART: × 13, Supports up to 4 Mbps and hardware flow control

I2C: × 15

SPI: × 15

ADC: × 2

I2S: × 5

Keypad: PWRKEY, VOL_UP, VOL_DOWN, HOME_KEY

PWM: × 2

RGB LED: × 3

Flashlight: × 3

Vibrator Driver: × 1

Antenna: Wi-Fi/BT, Wi-Fi MIMO, BT*, FM*

Electrical Characteristics

Supply Voltage: 3.55–4.4 V, Typ. 3.8 V

Consumption: TBD

General Features

OS: Android 9.0*/10.0*

Memory: 64 GB UFS + 4 GB LPDDR4X

Temperature Range: TBD

Dimensions: 60.0 mm × 37.0 mm × 6.55 mm

Package: B2B connector

Weight: Approx. 15 g

Certifications

TBD

* means under development.

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