

Qualcomm

Qualcomm® QWS2290/ QWM2290 Processors

The robust entry-level QWS2290/QWM2290 processors deliver blazing-fast LTE connectivity (QWM2290 only), enhanced GPS, and advanced camera features.

The QWS2290/QWM2290 enable reliable performance and power conservation with LTE connectivity, upgraded features, and memory support for low power consumption. Equipped with the Arm® Cortex®-A53 processor, the entry-level platform is a cost-effective solution, delivering greater performance, higher graphics capabilities, better quality images, and improved power performance compared to previous generations.

Highlights

Powerful CPU and GPU in its tier

Reliable performance and power conservation; 11 nm process node offers improved power performance.



Flexible connectivity solutions

From Bluetooth® to Wi-Fi or 4G LTE (available only with QWM2290), the QWS2290/QWM2290 supports a range of connectivity options. With QWM2290, compatibility with virtually any band supported by global cellular operators enables devices to stay connected from almost anywhere.*



Accelerate time to commercialization

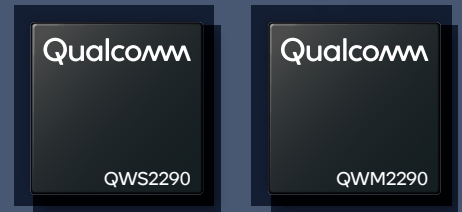
Reference designs based on the QWS2290 and QWM2290 are currently available. Featuring a digitally advanced suite of technologies for compute, connectivity, and precise positioning, the reference design will allow OEMs to quickly develop safe and differentiated products for two-wheelers and new vehicle classes.



* Requires a network connection and a compatible network

QWS2290/QWM2290 Target Applications

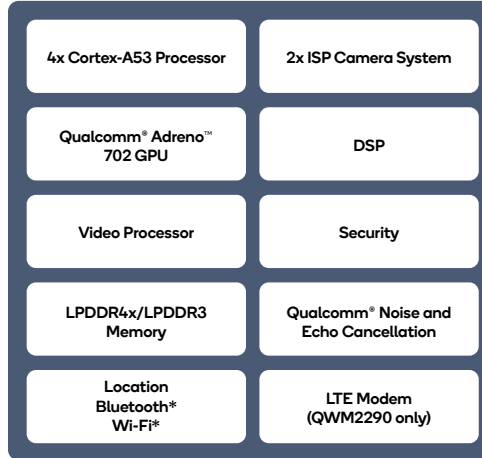
- Motorcycles
- E-Scooters
- E-Bicycles
- Kick Scooters
- Shared and Micro Mobility
- LCV (light commercial vehicles)



Features

- Customized Cortex-A53 processor @ up to 2.0 GHz
- Dedicated DSP shared between sensor core and low-power audio subsystem
- Adreno 702 GPU @ 845 MHz, 3D graphics accelerator with 64-bit addressing
- Qualcomm® Universal Bandwidth Compression (UBWC) with GPU
- Display support: HD+, 720 x 1680 @ 60 Hz,
- 10-bit end-to-end, and up to four hardware layer composition. Features Qualcomm® Low-Power Picture Enhancement and Qualcomm® True Palette Display
- One 4-lane DSI D-PHY 1.2 @ 1.5 Gbps per lane, split link supported
- 2x ISP (13 MP + 13 MP or 25 MP) @ 30 fps ZSL
- Two 4-lane CSIs (4/4 or 4/2/1) D-PHY 1.2 @ 2.5 Gbps per lane or C-PHY 1.0 @ 10 Gbps (3.42 Gbps/trio)
- Support for USB 3.1 Type-C/Micro USB
- Virtually always-on subsystem with RPM for power management

Block Diagram



* Supported with a companion module

Specifications

Package	752 NSP, 12.0 x 12.4 x 0.91 mm; 0.4 mm pitch
CPU	4x Cortex-A53 processor @ up to 2.0 GHz
Modem	6th generation LTE multimode modem 3GPP Rel. 10 with selected 3GPP Rel. 12 features. (QWM2290 only)
Camera Support	13 MP + 13 MP or 25 MP at 30 fps ZSL
Video	1080p30 8-bit decode for H.264/H.265/VP9, 1080p30 8-bit encode for H.264/H.265
GPU	Adreno 702 GPU @ 845 MHz with support for Open GL ES 3.1, Open CL 2.0, Vulkan 1.1
Display Support	Adreno 920 DPU
Memory	Dual-channel, non-PoP high-speed memory: LPDDR4x SDRAM @ 1804 MHz clock (2 x 16 bit); LPDDR3 SDRAM @ 933 MHz clock (1 x 32 bit)
Audio	Integrated Low Power Island (LPI) DSP for Voice UI, Qualcomm® Noise and Echo Cancellation, Qualcomm® Voice Suite
Connectivity	WLAN 1x1 802.11a/b/g/n/ac, Bluetooth 5.0, and FM with Qualcomm® WCN3950 or Qualcomm® WCN3910 (802.11b/g/n)
Location	GPS, GLONASS, NavIC, BeiDou, Galileo, QZSS, and SBAS

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