Qualcomm

Qualcomm® QCS2290/ QCM2290 Processors

The robust entry-level QCS2290/QCM2290 processors deliver blazing-fast LTE connectivity (QCM2290 only), enhanced GPS, and advanced camera features.

The QCS2290/QCM2290 enable reliable performance and power conservation with LTE connectivity, upgraded features, and memory support for low power consumption. Equipped with the Arm® Cortex®-A53 architecture, 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. This platform is well suited for retail point-of-sale (POS), industrial handhelds, tracking, and camera applications.

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 QCM2290), the QCS2290/QCM2290 supports a range of connectivity options. With QCM2290, compatibility with virtually any band supported by global cellular operators enables devices to stay connected from almost anywhere.*

Accelerate time to commercialization

The QCS2290/QCM2290 baseband processor is pin-to-pin compatible with the Qualcomm® QCS4290/QCM4290 which helps customers utilize hardware and software development across various IoT devices to reduce cost and time to commercialization.

* Requires a network connection and a compatible network

Expected Product Longevity: November 2030

The QCS2290 processor is a part of the Product Longevity Program for Qualcomm IoT Portfolio. These products are developed and engineered with product longevity and durability in mind, helping to bring stability to our customer product designs. Product longevity dates are subject to change without notice.
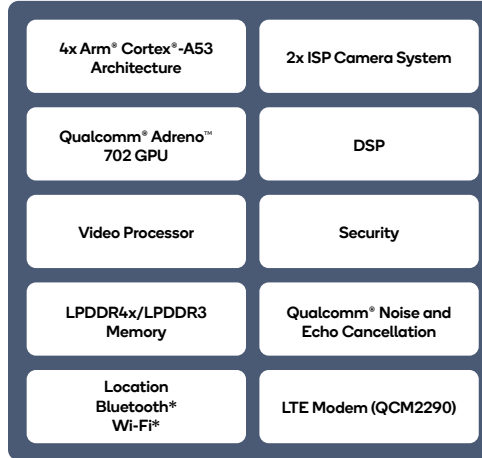
QCS2290/QCM2290 Target Applications

- Retail Point-of-Sale (POS)
- Industrial Handhelds
- Asset Tracking
- Camera

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QCS2290
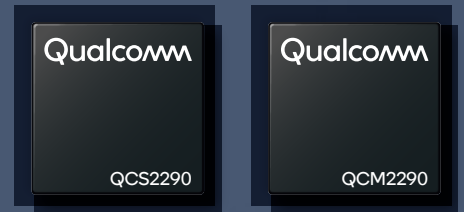
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QCM2290

Features

- Customized 64-bit Arm® 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

- Always-on subsystem with RPM for power management

Block Diagram

4x Arm® Cortex®-A53 Architecture	2x ISP Camera System
Qualcomm® Adreno™ 702 GPU	DSP
Video Processor	Security
LPDDR4x/LPDDR3 Memory	Qualcomm® Noise and Echo Cancellation
Location Bluetooth* Wi-Fi*	LTE Modem (QCM2290)

* Supported with a companion module

Specifications

Package	752 NSP, 12.0 x 12.4 x 0.91 mm; 0.4 mm pitch
CPU	4x Arm® Cortex-A53 architecture @ up to 2.0 GHz
Modem	6th generation LTE multimode modem 3GPP Rel. 10 with selected 3GPP Rel. 12 features. (QCM2290 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

To learn more visit: qualcomm.com

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