This extended life chipsets are designed for Enterprise and IoT applications including support for 5G and Wi-Fi 6E for ubiquitous coverage, powerful AI and expanded interfaces for industrial use cases.

The 6nm QCM6490/QCS6490 is a powerful System-on-Chip (SoC) that delivers premium-tier features with true global 5G and support for Wi-Fi 6E, with advanced camera, AI and compute for powerful performance at low-power, purpose built for industrial and commercial IoT applications such as ruggedized handhelds and tablets, kiosks, industrial scanners, point of sale systems and human machine interface systems.

As companies in the industrial and commercial space are increasingly dependent on wireless connectivity to efficiently operate and connect countless IoT devices, the QCM6490 provides the advantages of 5G for full mobility, high data rates and coverage, while connecting the unconnected to unlock data and insights to help increase efficiency and drive adoption of emerging technologies like computer vision and machine learning. An enterprise grade Wi-Fi 6E also provides extended coverage and scale.

The QCM6490/QCS6490 supports the latest re-engineered Qualcomm® Hexagon™ processor that features a fused AI-accelerator architecture to bring astonishing performance at low power.

Improvements to our Qualcomm® Kryo™ CPU and Qualcomm® Adreno™ GPU provide powerful computing performance.

Combined with a high-performing triple-ISP and support for up to five concurrent cameras, and video encode/decode at up to 4K30/4K60 respectively, these chipsets deliver powerful edge AI for high-performance at low power.

Support for freeway lane-level vehicle navigation (with meter-level positioning) and urban pedestrian navigation with sidewalk accuracy.

Material are subject to change without notice.
87-28733-1 Rev. B

Qualcomm QCM6490, Qualcomm QCS6490, Qualcomm Hexagon, Qualcomm Kryo, Qualcomm Adreno, Qualcomm 4K QAM and Qualcomm AI Engine are products of Qualcomm Technologies, Inc. and/or its subsidiaries.
Features

- Kryo 670 CPU built on Arm v8 Cortex technology
  - Kryo Gold plus: high-performance core up to 2.7 GHz
  - Kryo Gold: three high-performance core at 2.4 GHz
  - Kryo Silver: four low-power cores at 1.9 GHz
- Designed with the 6 nm process, for superior performance and power efficiency.
- 6th gen Qualcomm AI Engine: Compute Hexagon DSP with dual Hexagon Vector eXtensions (HVX), Hexagon Co-processor (Hexagon CP) 2.0 and Hexagon Tensor Accelerator
- Adreno 643 GPU at 812 MHz
- Dual-channel non-PoP high-speed memory, LPDDR5/LPDDR4x SDRAM
  - LPDDR5 SDRAM designed for 3200 MHz clock (2 × 16 bit)
  - LPDDR4x SDRAM designed for 2133 MHz clock (2 × 16 bit)
- Qualcomm® Universal Bandwidth Compression (UBWC) with camera, display, GPU, video, and compute DSP
- Display support: FHD+, 10 bit DisplayPort, eight hardware layers, improved HDR10+, and wide color Gamut, Qualcomm® Low-Power Picture Enhancement display feature, and Qualcomm® True Palette Display feature
- One 4-lane DSI DSC1.2, D-PHY 1.2, or C-PHY 1.0; VESA DSC 1.2
- Triple 14-bit image signal processing (ISP) + two lite ISP 22 + 22 + 22 MP, 64 MP/30 fps
- Five 4-lane CSIs (4/4/4/4/4) D-PHY 1.2 or C-PHY 1.2
- Adreno 633 VPU for high-quality, ultra HD video encode and decode
- Support for USB 3.1 Type-C with DisplayPort and USB2.0
- Long term support for Android OS upgrades, security updates and enterprise grade hardware.

To learn more visit: www.qualcomm.com

QCM6490/QCS6490 Target Segments

- Transportation & Logistics
- Smart Warehousing
- Retail
- Manufacturing
- Healthcare
- Ecommerce

QCM6490/QCS6490 Block Diagram

QCM6490/QCS6490 Specifications

**AI** 6th gen Qualcomm AI Engine

**Modem**

- 2G/3G/4G/5G – mmWave and sub-6 GHz bands (Rel. 15)
- 3.7 Gbps DL, 2.5 Gbps UL, 400 MHz mmW, 100 MHz sub-6 (QCM6490 only)

**Connectivity**

- WLAN: Wi-Fi 6 (802.11ax) and Wi-Fi 6E (6 GHz), Bluetooth* 5.2 and FM supported. Uplink/Downlink MU-MIMO, 4K QAM, 160MHz channels (5 & 6 GHz)

**CPU**

- 8x Kryo 670 CPU from 1.9 up to 2.7 GHz

**GPU**

- Adreno GPU 643 with support for Open GL ES 3.2, Open CL 2.0, Vulkan 1x, DX FL 12

**DSP**

- Compute Hexagon DSP with dual HVX and 4K HMX

**Memory & Storage**

- Dual channel, non-PoP LPDDR5/LPDDR4x SDRAM, UFS 2x/31, two-lane H5 gear 4, 5D v3.0, eMMC 5.1, PCIe two-lane NVMe

**Display Support**

- Adreno 1075 DPU

**Camera Support**

- Qualcomm Spectra™ ISP 570L
- 64 MP / 36 + 22 MP / 3x22 MP at 30fps ZSL
- 192 MP non-ZSL

**Video**

- Up to 4K60 decode for H.264/H.265/VP9, Up to 4K30 encode for H.264/H.265; Support for HDR10 and HDR10+ playback

**Location**

- GPS, GLONASS, NavIC, BeiDou, Galileo, QZSS, and SBAS

**Operating System**

- Android

Qualcomm Universal Bandwidth Compression, Qualcomm Low-Power Picture Enhancement, Qualcomm True Palette Display and Qualcomm Spectra are products of Qualcomm Technologies, Inc. and/or its subsidiaries.