

Powerful Application Processors for IoT

Qualcomm® Application Processors are driving digital transformation across industries and enabling the next generation of advanced devices for the Connected Intelligent Edge.

Our highly integrated SoCs are designed to help facilitate the development of today's complex industrial and commercial products. From intelligent cameras to interactive kiosks, to intuitive robots and smart displays, Qualcomm Application Processors power the IoT.

Highly Integrated SoC

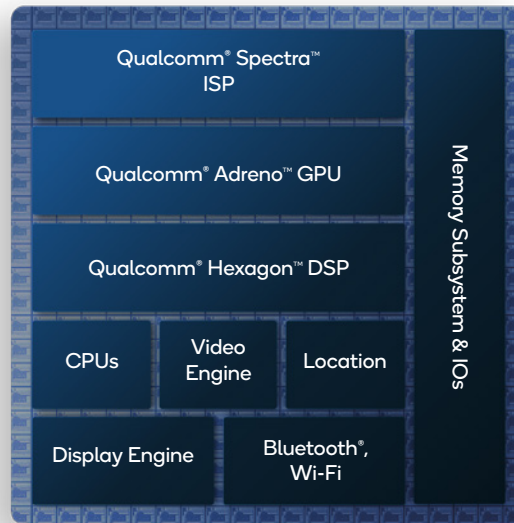
Cutting-edge, optimized heterogeneous computing platform supports smaller form factors and low-power performance

On-Board Intelligence

More on-board compute across devices for future-proofed automation

High Performance, Low Power Consumption

Optimizes system performance with longer battery life



AI/Machine Learning

Computer Vision and Camera

Wi-Fi, Bluetooth, Bluetooth Low Energy (LE)

Linux and Android

Authentication and Execution Security

Qualcomm Application Processors for IoT

Tier	Processor	Technology	Dimensions	OS	CPU	Other Features
Premium Tier	Qualcomm QCS8550	4nm	15.6x14mm	Android/Linux	Octa-core CPU	<ul style="list-style-type: none"> Camera ISP, 4K/8K Video Graphics Processor, DSP Wi-Fi 6/7, Bluetooth 5 Optional Neural Processing Unit Product Longevity Program
	Qualcomm QRB5165	7nm FFP	12.4x12.7mm	Linux	Octa-core CPU	
	Qualcomm QCS8250	7nm FFP	12.4x12.7mm	Android	Octa-core CPU	
High Tier	Qualcomm QCS6490	6nm	12x14mm	Android/Linux/Win	Octa-core CPU	<ul style="list-style-type: none"> Camera ISP, 4K Video Graphics Processor, DSP Wi-Fi 5/6, Bluetooth 5 Product Longevity Program*
	Qualcomm QCS610	11nm FF	11.1x12mm	Android/Linux	Octa-core CPU	
	Qualcomm QCS6125	14nm, 11nm	12x14mm	Android	Octa-core CPU	
	Qualcomm QCS5430	6nm	12x14mm	Android/Linux/Win	Hexa-core CPU	
Mid Tier	Qualcomm QCS4490	4nm	12x11mm	Android	Octa-core CPU	<ul style="list-style-type: none"> CPU: Octa-core, Quad-core (QCS410) Camera ISP, 1080p Video Graphics Processor, DSP Wi-Fi 5/6, Bluetooth 5 Product Longevity Program
	Qualcomm QCS4290	11nm LPP	12x12.4mm	Android	Octa-core CPU	
	Qualcomm QRB4210	11nm LPP	12x12.4mm	Linux	Octa-core CPU	
	Qualcomm QCS410	11nm	11.1x12mm	Android/Linux	Quad-core CPU	
Entry Level	Qualcomm QCS2290	11nm LPP	12x12.4mm	Android	Quad-core CPU	<ul style="list-style-type: none"> CPU: Quad-core Camera ISP, 1080p Video Graphics Processor, DSP Wi-Fi 5/6, Bluetooth 5 Product Longevity Program
	Qualcomm QRB2210	11nm LPP	12x12.4mm	Linux	Quad-core CPU	

* Excepting the QCS6125 processor
This material is subject to change without notice.

Solution Areas



Robotics

- In-store service robots to provide directions and product information to customers
- Inventory robots to track shelving stock and even grab objects for customers
- Delivery robots to bring the store to the customer autonomously
- Companion robots to keep an eye on the kids while playing in the yard and send alerts in case of unusual activities
- Household robots to vacuum, clean and perform other chores around the house

- QCS8550
- QRB5165
- QCS6490
- QCS610
- QCS6125
- QCS4290
- QRB4210
- QCS410
- QRB2210



Connected Cameras

- Intelligent Motion Detection can analyze video in real time and detects valid motion in a scene. It filters out "noise" such as lighting changes, natural tree movements, water movements, small animals, and even small video artifact noise
- Object Tracking tracks objects of interest and draws bounding boxes around them
- Collaboration systems, such as conference systems with high-quality video/audio and AI
- Camera Tamper Detection identifies any event that significantly changes the field of view of the camera
- Face Detection and Recognition detects and recognizes people from an on-device database
- Body Cams, Dash Cams, Sports Cameras, Surveillance

- QCS8550
- QCS8250
- QCS6490
- QCS610
- QCS5430
- QCS4290
- QCS410
- QCS2290



Digital Signage/Shelf Labels

- More targeted signage with Analytics through Facial Recognition, Edge processing, and AI
- Enhanced interactive and bonding experience by integrating touch, voice, gestures, location, and camera
- Display standards-based bi-directional, secure communication, driving display, and sensors
- Camera customer engagement/counting via anonymous edge processing

- QCS8550
- QCS8250



Smart Display/Home Entertainment

- Connected device that responds to voice commands and displays relevant information, including reminders, alerts, to-do lists, stream music and video
- Integrated camera for face detection/recognition and gesture commands while supporting video calling
- Integrated sensors for temperature and light control as well as other appliances

- QCS8550
- QCS8250
- QCS610
- QCS4290
- QCS410
- QCS2290



Retail and Payments

- Handheld POS, Electronic Cash Registers
- Eliminate overstocks and out of stocks
- Adjust prices
- Product organization on shelves with Multimedia Video ads
- Predict and influence customer behavior
- Self service kiosk and checkout, cashier-free stores

- QCS8550
- QRB5165
- QCS6490
- QCS6125
- QCS4290
- QCS2290



Kiosks/Vending Machines

- Product Locator, Price Checking, Way Finding
- Advertising, Ordering and Checkout, Store Pickup
- Magic mirror (Augmented Reality)
- Vending machines with Camera and Facial Detection/Recognition

- QCS610
- QCS410



Healthcare

- Patient monitoring
- Asset tracking
- Environmental control
- Security and Safety

- QCS5430



Control Panels/Industrial Panels

- Automation control
- Remote operation, setup, and control including ability to see what's going on at home or place of business
- Program alerts
- Monitor and control devices such as safety light, doors, and other sensors
- Monitor and control power consumption, temperature, access, schedules, and collaboration

- QCS610
- QCS6125
- QCS4290
- QCS410
- QCS2290



Industrial Handheld Scanners

- Superior bar code scanning and image capture in low light
- Fast scanning/returns
- Enhanced picture quality with low power usage
- Inventory management which is accurate and real-time
- Staff collaboration

- QCS6490
- QCS6125
- QCS5430
- QCS4290
- QCS2290