

@qualcomm

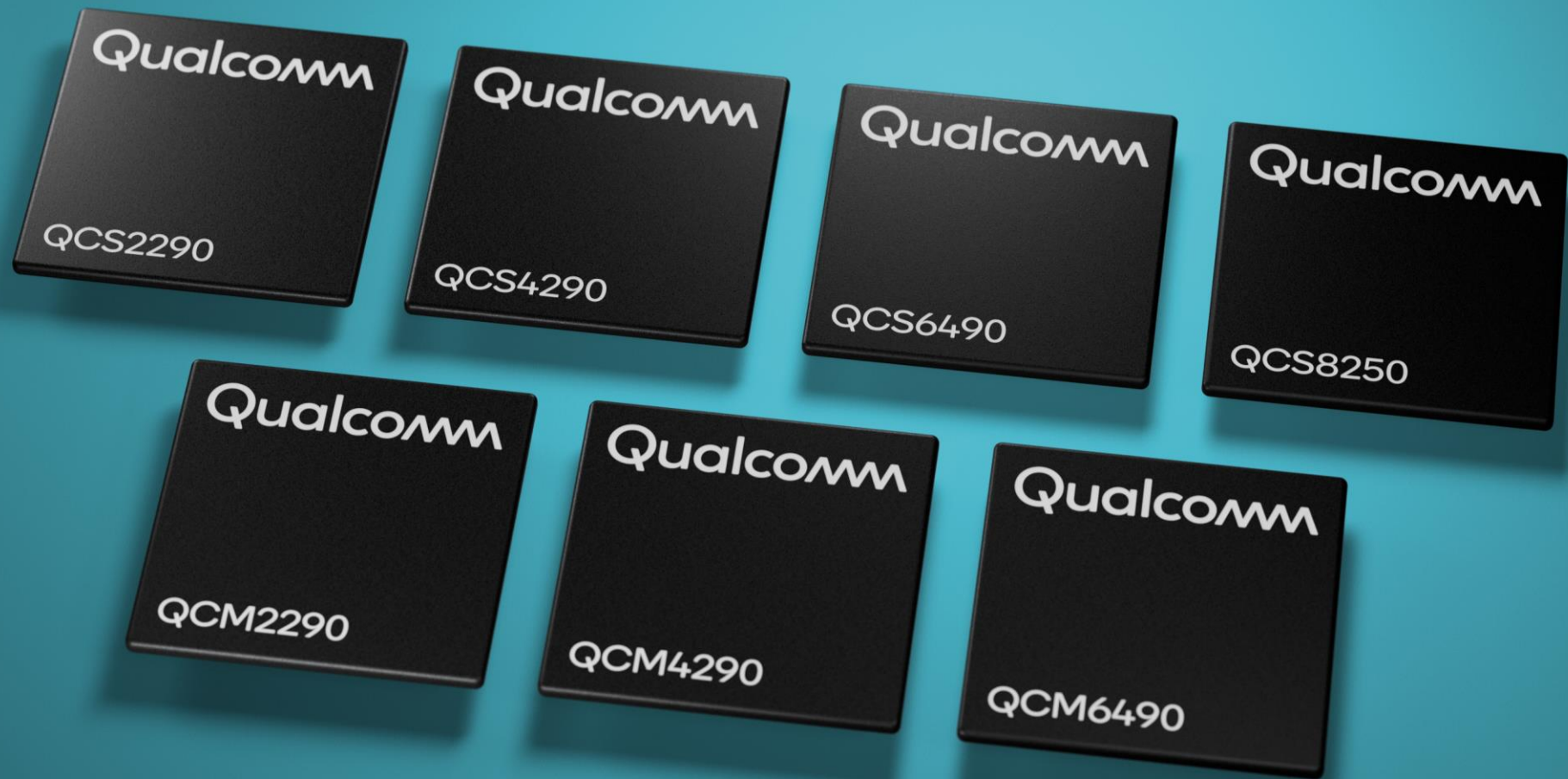
Qualcomm

Driving Global Digital Transformation:

Introducing a new family of IoT solutions

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Introducing a purpose-built family of SoCs to help drive global acceleration and digital transformation for the Internet of Things

Available now

Maximum performance for edge AI and compute intensive premium IoT experiences



Available Q3 '21

Global multimode, 5G mmW/Sub-6 GHz and ultra fast Wi-Fi 6E connectivity with accelerated AI



Available now

Delivering greater performance, better graphics and broader connectivity options



Available now

Robust entry level delivering blazing fast LTE connectivity, enhanced GPS and advanced camera features



Extended life hardware and software support

Comprehensive offerings from entry level, high-end, to premium tier to meet the needs of a broad range of IoT solutions



Video collaboration

Superior camera:

Virtual AI director managing three 4K cameras, ultra-wide, wide and telephoto

Image signal processing for electronic pan/tilt/zoom, lens dewarp and denoising

Video/display:

Concurrent ultra-HD encode/decode, three 4K HDMI outputs, 4K HDMI input, premium graphics

On-device AI acceleration:

Supports ML based people detection and tracking, background blur, pose detection

Dedicated audio DSP:

On board mic array to support echo cancellation, noise suppression and source tracking algorithms

Connectivity:

Wi-Fi 6, Bluetooth 5.1 and Gigabit ethernet

Security:

Enterprise grade, hardware-based support



Smart cart

Portabella Mushrooms

Quantity: 1 package

Price: \$4.99

Point-of-sale

Retail:

Transforming retail experiences

Integrated connectivity
Multiple wireless options

Sensor fusion:
Using computer vision, aggregate camera signals from across the store

Person ID/detection:
Continuously identify and track each person in store - Who took what?

Object detection:
distinguish different items being sold

Edge interaction:
Detect when near shelf and what position arm is at

Activity analysis:
Determine item picked-up vs. returned

Personalization:
Analyze basket, recommend products, deliver ads/coupons



Self checkout

Bananas (Bundle)

Quantity: 1 bundle

Price: \$2.99

Just walk out

Groceries (PAID)

Lettuce	\$2.99
Bell Pepper	\$0.99
Milk	\$4.99
Chocolate	\$8.99
Cheese	\$4.99
Olive Oil	\$10.99

Warehouse management

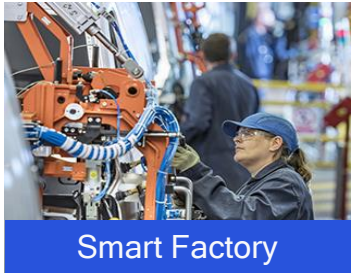
- Real time asset monitoring and more accurate location within warehouse
- Monitors inventory levels and individual stock levels
- Enhance safety, reduce potential collision risk
- Edge AI and analytics to improve productivity and efficiency
- Optimization of end-end delivery



Shipping and delivery

- Real-time precise location and tracking of your packages and assets via fusion of sensors and GPS
- Environmental sensors for monitoring condition of sensitive shipments
- Computer vision for damage detection, visual inspection and predictive maintenance and analytics
- AI and 3D ToF cameras to improve productivity and driver safety: monitor for distracted driving, real-time alerts, live scene analysis, object classification and counting, assisted driver navigation and route optimization
- Ubiquitous connectivity for a global logistics deployment and management





Smart Factory



Smart Cities



Smart Retail

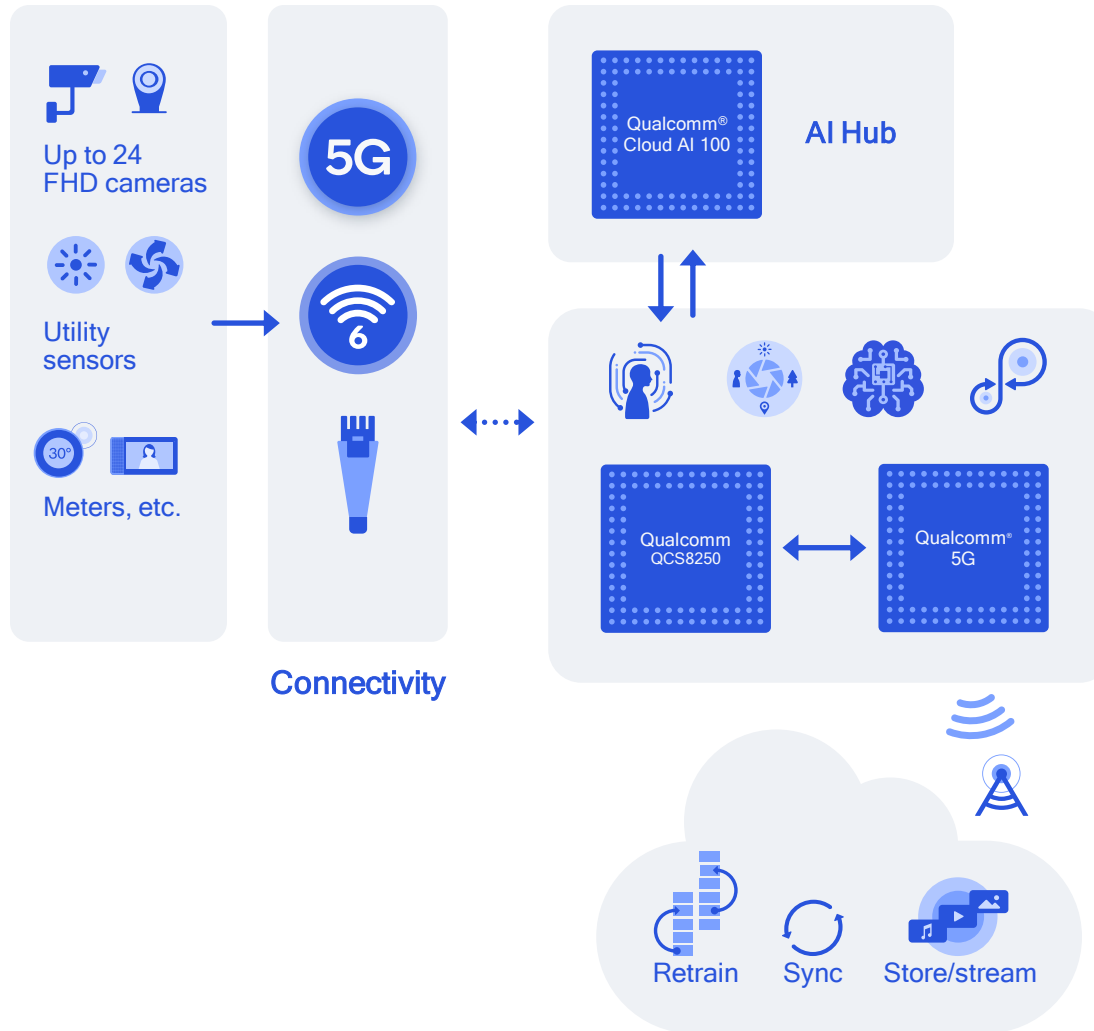


Smart Healthcare



First level analytics completed on the end-device edge

Advanced level analytics processed in the AI Hub on input streams



AI Hub:

Edge AI/Analytics

Sensor Fusion:
Process streams from multiple cameras

Re-use existing infrastructure to add AI capability to existing cameras already installed

Privacy/ Latency:
High edge compute coupled with 5G private network

Central Intelligence:
Heterogenous sensor inputs camera, BT, Audio, etc

AI Hub Configurations:

Qualcomm® QCS AI Hub

Qualcomm QCS AI Hub + AIC 100

Qualcomm 5G Enabled

Qualcomm Technologies

Low power and powerful computing processors

CPU, GPU, DSP, NSP

Multimedia

Video

Language

Voice UI

Display processing

Camera processing

Audio processing

AR / VR

Sensors

Security

Qualcomm® Trusted Execution Environment (TEE)

Secure boot

Wireless protocol security

Storage Security & Key Provisioning

Debug Security

Fingerprint

Hardware Crypto

Secure video processing

Computing

AI / ML / DL

Security

Connectivity

AI / ML

Cognitive Computing

Qualcomm® AI Engine

Qualcomm® Hexagon™

Tensor Accelerator

CV-ISP

Depth sensor

Always on camera

Connectivity

2G, 3G, 4G, 5G

802.11 n / ac / ad

Wi-Fi 6, Wi-Fi 6E

Bluetooth

802.15.4

C-V2X

Powerline

GNSS / Location

Peripherals (PCIe, USB.)

RF

Power amp

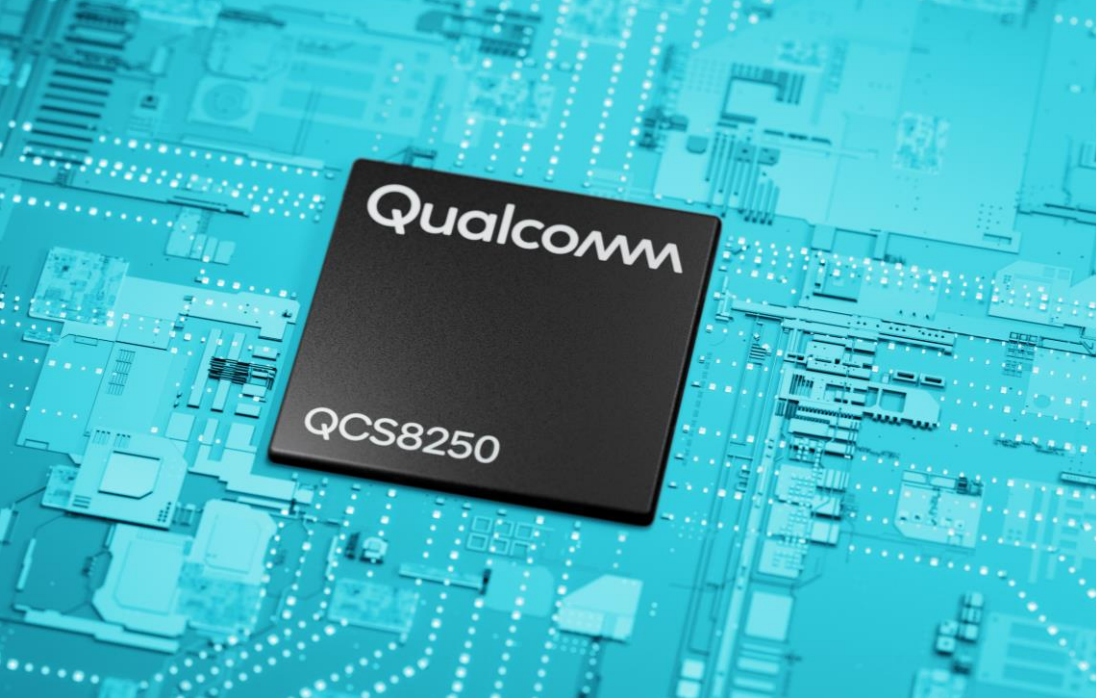
LNAs

Acoustic filters

Antenna Tuner

RF switches

Envelope Tracker



IoT Applications:

- Video Collaboration
- AI Hubs
- Smart Retail

Maximum Performance

For premium experiences for compute intensive camera and Edge AI applications with support for 5G and Wi-Fi 6



Dedicated Computer Vision HW block and Qualcomm Hexagon processor delivering 15 TOPS AI performance



Support for 5G mmW/Sub-6 GHz and Multi-gigabit Wi-Fi 6 speed



Support for up to seven concurrent cameras running AI models



Up to 8K video encode/decode and 64 MP capture



IoT Applications:

- Warehousing Management
- Shipping and Delivery
- Retail Payment POS / Kiosks

Global 5G and Wi-Fi 6E

Integrated multi-mode 5G and support for Wi-Fi 6E, with a robust set of features designed for high-compute and greater connectivity



Global coverage with mmWave and Sub-6 TDD/FDD, NSA and SA mode



Enterprise grade, multi-gigabit speeds for a boost in speed, capacity and latency



Fused AI-accelerated architecture to bring astonishing performance at low power



Triple ISP support with 4K video encode/decode



IoT Applications:

- Warehouse management
- Shipping & delivery

All the speed you need

Delivering greater performance, better graphics and broader connectivity options



Increased speeds and robust on-device performance powered by Qualcomm® Kyro™ 260



Global coverage with LTE Cat.13 modem; Wi-Fi 6 ready



NAVIC and dual-band GNSS, up to 6x better location accuracy (vs GNSS L1)



Premium camera image quality with Qualcomm Spectra™ 340T 3x ISP camera configurations



IoT Applications:

- Warehouse management
- Shipping & delivery
- Retail Payment POS / Kiosks

More than enough

Robust entry level delivering blazing fast LTE connectivity, enhanced GPS and advanced camera features



Powerful CPU and GPU in its tier for reliable performance and power-conservation;



Global coverage with LTE Cat.13 modem



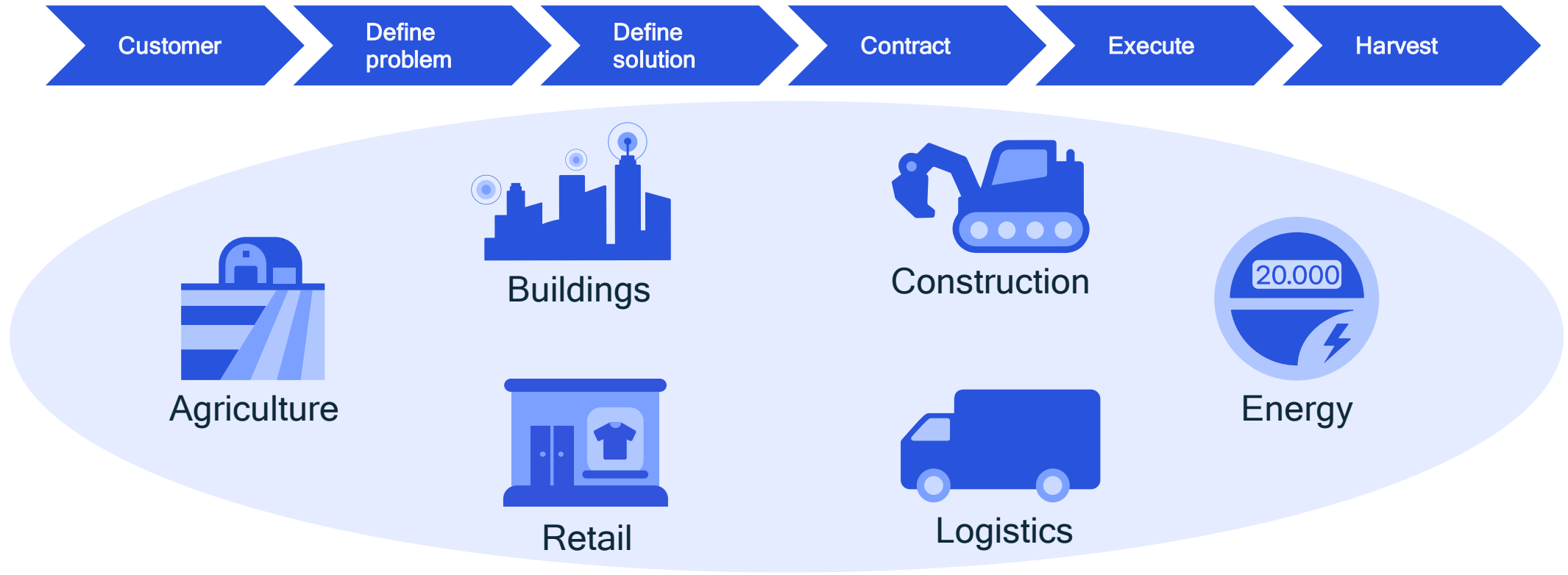
NAVIC and dual-band GNSS, up to 6x better location accuracy (vs GNSS L1)



Cutting edge camera image quality with dual camera configurations

IoT is fueling the digital transformation of the enterprise

We're collaborating with companies that are pioneering digital transformation



Qualcomm Technologies is the trusted engine for digital transformation

system design expertise | leading technology portfolio | end-to-end solutions | industry relationships



AmTRAN
瑞軒科技

ANW

AVer

eInfochips
An Arrow Company

Fibocom

HongTech

Honeywell

iBASE

LANTRONIX®

MEIG

PAX
Your Payment Partner of Choice

QUECTEL™

SMART™
Wireless Computing

SUNMI

SUNSEA IOT

Thundercomm

TYMPHANY

VIDERI

ZEBRA

Adoption and accelerating development of new IoT products

Development kits, reference designs, turnkey solutions plus early customer adoptions
to expand scale and fast-track commercialization



IoT starts with Qualcomm

 Manufacturing

 Industrial

 Smart cities

 Energy



Enterprise



Healthcare



Retail



Warehouse/logistics



Thank you

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