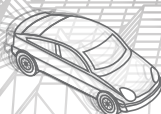# TELCO
Product Portfolio
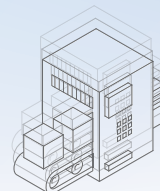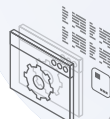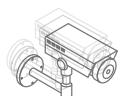
CU/DU Server for Open RAN and Core Server for Data Center

Open RAN transforms the architecture of mobile network by bringing cloud, AI and machine learning into the radio access network. It also optimizes management and brings unlimited possibility to synergy with new applications, accelerating the construction of a 5G world.

QCT offers a comprehensive product line to support Open RAN deployments in various scenarios, including Centralized RAN and Distributed RAN. The server design supports the capacity required by vRAN workloads with O-RAN function split option 7-2, time synchronization, and virtualization. In addition, the server reserves flexibility for future expansion including MEC application. Additionally, our high-performance core servers provide the foundation for critical network functions, enabling efficient and scalable operations for the entire Open RAN system.

GPS Receiver

- Network Function
- QCT NFVI Ecosystem Partner
- QCT Hardware System

vRAN: RLC | MAC | Hi-Phy
Virtualization Platform
FEC Accelerator NIC Card with time sync

vRAN: RRC | PDCP
Virtualization Platform

RU — Open Fronthaul eCPRI — **DU** — Midhaul F1 — **CU** — Backhaul — **Core**

RRU
Indoor RRU IronRAN-RUPI | Outdoor RRU IronRAN-RUMI

Cabinet/Server
QuantaEdge EGX88D-1U | QuantaEdge EGX77B-1U | QuantaEdge EGX74I-1U | QuantaEdge EGX77I-1U2N

Data Center
QuantaGrid D55X-1U | QuantaGrid D55Q-2U

Open RAN centric COTS Design
- Optimized expansion slots for maximum I/O ports
- System validated with accelerator and NIC card with time synchronization function
- System validated with latest selected Intel CPU
- <400 mm short depth fitting Telco cabinet
- Lower power consumption

Integration and Optimization
- Workload optimized Intel select vRAN configuration

Environmental Robust
- Wide operation temperature range
- System comply with NEBS Level 3
- MTBF 100,000 hours

Management
- Support Redfish v1.8
- Customized BMC and BIOS Setup supports virtualized platform and Open RAN requirement
- Technology of failure precautious

Community Involvement

AI-RAN ALLIANCE

Open RAN POLICY COALITION

O-RAN ALLIANCE

TELECOM INFRA PROJECT

Learn more: https://go.qct.io/telco/

Core Server

Powered by Intel ® Xeon® 6 processors with PCIe 5.0

QuantaGrid D55X-1U

The QuantaGrid D55X-1U is a powerful server featuring dual Intel® Xeon® 6 processors, 32x DDR5 RDIMM memory of up to 6,400 MHz, and versatile storage options including 2.5" hot-pluggable drives, E1.S, and E3.S tiers. It supports 3x PCIe 5.0 x16 expansions for networking, GPUs, and DPU devices, all within a compact 1U chassis.

Processor	(2) Intel® Xeon® 6700E/6700P/6500P-Series processor, up to 350W
Memory	Up to 8 TB memory capacity with (32) DDR5 RDIMM, up to 6400 MHz
Networking	(1) Dedicated 1GbE management port Support (2) OCP 3.0 SFF network cards
Storage	**Option 1:** (12) 2.5" hot-pluggable NVMe/SATA/SAS drives **Option 2:** (16) E1.S hot-pluggable NVMe drives **Option 3:** (20) E3.S 1T hot-pluggable NVMe drives **Option 4:** (4) E3.S 1T hot-pluggable NVMe drives + (8) E3.S 2T CXL devices
Expansion Slot	**Option 1** (2) PCIe 5.0 x16 FHHL slots (2) PCIe 5.0 x16 OCP 3.0 SFF slots **Option 2** (3) PCIe 5.0 x16 HHHL slots (2) PCIe 5.0 x16 OCP 3.0 SFF slots
Dimensions	(W) 447 x (H) 43.2mm x (D) 780 mm

Form Factor: 1U CPU Number: 2 Memory Number: 32

intel XEON

QuantaGrid D55Q-2U

The QuantaGrid D55Q-2U is a robust server equipped with dual Intel® Xeon® 6 processors, 32x DDR5 RDIMM memory of up to 6,400 MHz, and versatile storage options including 3.5" and 2.5" drives. It features flexible networking with 2x OCP 3.0 SFF slots and offers multiple PCIe 5.0 expansion options, making it a versatile solution for diverse device support in modern data centers.

|	
Processor	(2) Intel® Xeon® 6 processors (6700E-Series, 6700P-Series, 6500P-Series), up to TDP 350W
Memory	Up to 8 TB memory capacity with (32) DDR5 RDIMM up to 6400 MHz
Networking	(1) Dedicated 1GbE management port Support (2) OCP 3.0 SFF network cards
Storage	**Option 1:** (12) 3.5" hot-pluggable SATA/SAS HDDs or (12) 2.5" hot-plug NVMe drives **Option 2:** (24) 2.5" hot-pluggable NVMe / SATA / SAS drives
Expansion Slot	**Upper Deck** [General SKU] (4) PCIe 5.0 x8 FHHL slots + (2) 2.5" hot-pluggable NVMe SSDs [SW GPU SKU] (2) PCIe 5.0 x16 FHFL slots + (2) 2.5" hot-pluggable NVMe SSDs [DW GPU SKU] (2) PCIe 5.0 x16 FHFL slots **Lower Deck** Option 1: (2) PCIe 5.0 x16 HHHL slots + (1) PCIe 5.0 x8 HHHL slots Option 2: (2) PCIe 5.0 x16 FHHL slots Option 3: (1) PCIe 5.0 x8 HHHL slot Option 4: (1) PCIe 5.0 x16 HHHL slot + (1) PCIe 5.0 x8 HHHL slot *For PCIe expansion, consider storage options; contact QCT for further details.
Dimensions	(W) 447mm x (H) 87.5mm x (D) 780mm

Form Factor: 2U CPU Number: 2 Memory Number: 32

intel XEON

CU/DU Server

Pizza Box Design ···

Powered by Intel ® Xeon® 6 SoC with PCIe 5.0

QuantaEdge EGX88D-1U	

The QuantaEdge EGX88D-1U is a compact, efficient server designed for optimal performance. Its 300 mm chassis depth allows easy cable management and ample airflow. It features integrated vRAN acceleration, GNSS for precise timing, a 1+1 redundant AC/DC PSU for reliability, and front access for easy maintenance.

Processor	(1) Intel® Xeon® 6 SoC, up to TDP 325W
Memory	HCC: (4) DDR5 RDIMM up to 6400 MHz XCC: (8) DDR5 RDIMM up to 6400 MHz
Networking	**Density SKU** (24) 25GbE SFP28 (LoM & QCT LAN BD) **Expansion SKU** (16) 25GbE SFP28 (LoM) **OCP3.0 D-SFF SKU** (24) 25GbE SFP28 (LoM & Intel Carter Flat)
Storage	(2) SATA/NVMe M.2 2280/22110
Expansion Slot	**Expansion SKU** (1) FHHL PCIe 5.0 **OCP3.0 D-SFF SKU** (1) OCP 3.0 PCIe 5.0 for Intel Carter Flat
Dimensions	(W) 447.8 x (H) 42.8 x (D) 300.65 mm (ear to rear wall)

Form Factor	CPU Number	Memory Number
1U	1	8

intel XEON

5th/4th Gen Intel ® Xeon® Scalable Platform with PCIe 5.0

QuantaEdge EGX77B-1U	

QuantaEdge EGX77B-1U is a 300mm extremely short depth edge server that features wide operation temperature and up to 12 LOM for advanced networking. Powered by 5th/4th Gen Intel® Xeon® Scalable processors, this model delivers enhanced performance with a built-in FEC and SyncE on board.

Processor	(1) 5th/4th Gen Intel® Xeon® Scalable processor, up to 250W TDP	
Memory	(8) 4800 MHz DDR5 ECC RDIMM, up to 512GB	
Storage	(2) SATA/NVMe M.2 2280	
Network Controller	**Config 1** (8) 25GbE w/ SyncE NCSI	**Config 2** (4) 25GbE and (8) 10GbE w/ SyncE NCSI
Expansion Slot	(1) FHHL PCIe Gen5 x16	
Dimensions	(W) 447.8mm x (H) 42.8mm x (D) 300.65mm (ear to rear wall)	
Operating Temperature	-5°C to 55°C; -40°C to 65°C (optional)	

Form Factor	CPU Number	Memory Number
1U	1	8

intel XEON PLATINUM

intel. Powered by Intel® Technology.

▍Pizza Box Design $\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots$

5th/4th Gen Intel ® Xeon® Scalable Platform with PCIe 5.0

QuantaEdge EGX74I-1U		

QuantaEdge EGX74I-1U is a 400mm ultra short depth edge server that features flexible configuration and wide operation temperature. Powered by 5th/4th Gen Intel® Xeon® Scalable processors, this model also delivers higher performance with a built-in FEC.

Processor	(1) 5th/4th Gen Intel® Xeon® Scalable processor, up to 250W TDP	
Memory	(8) 4800 MHz DDR5 ECC RDIMM, up to 512GB	
Storage	**Storage SKU** (2) NVMe/SATA3 M.2 2280 (2) 2.5" U.2 SSDs	**Expansion SKU** (2) NVMe/SATA3 M.2 2280
Network Controller	(4) 25GbE SFP28	
Expansion Slot	**Storage SKU** (2) FH3/4L PCIe Gen5 x16	**Expansion SKU** (1) FHHL PCIe Gen5 x16 (2) FH3/4L PCIe Gen5 x16*
Form Factor	1U Rackmount	
Dimensions	(W) 447.8mm x (H) 42.8mm x (D) 400mm	
Operating Temperature	-5°C to 55°C; -40°C to 65°C (optional)	

* Note : (FH3/4L) supports 266.7mm length GPU

Form Factor	CPU Number	Memory Number
1U	1	8

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▍Sled Design $\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots\cdots$

5th/4th Gen Intel ® Xeon® Scalable Platform with PCIe 5.0

QuantaEdge EGX77I-1U2N		

QuantaEdge EGX77I-1U2N is a 400mm ultra short depth edge server powered by 5th/4th Gen Intel® Xeon® Scalable processors. This model features high density and flexibility with two nodes, providing optimal computing performance and better cost-effectiveness with a chip-down design.

Processor	(1) 5th/4th Gen Intel® Xeon® Scalable processor, up to 50W TDP	
Memory	(8) 4800 MHz DDR5 ECC RDIMM, up to 512GB	
Storage	(2) SATA/NVMe M.2 2280	
Network Controller	**Expansion SKU** (8) 25GbE w/ Sync-E, NCSI	**Density SKU** (4) 25GbE + (8) 10GbE SFP ports w/ Sync-E, NCSI
Expansion Slot	**Expantion SKU** (1) FHHL PCIe Gen 5 x16 (1) HHHL PCIe Gen 5 x16	**Density SKU** (1) FHHL PCIe Gen5 x16
Form Factor	1U Rackmount	
Dimensions	(W) 447.8mm x (H) 42.8mm x (D) 400mm	
Operating Temperature	-5°C to 55°C; -40°C to 65°C (optional)	

Form Factor	CPU Number	Memory Number
1U	1 per node	8 per node

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Learn more: https://go.qct.io/telco/

Next-gen RRU

IronRAN-RUPI

The IronRAN RUPI is a high-performance indoor Remote Radio Unit (RRU) with 4 x 250mW output power and 5G RU O-RAN compliance. It supports n78, n79, and n48 frequency bands, offering flexibility for various deployments. With software-defined radio technology, it's ideal for both private and public networks, making it a versatile choice for many applications.

Band	n78, n79, n48
Network	5G SA
3GPP Compliance	5G NR Release 16
MIMO	4T4R
Maximum Output Power	4 x 250mW
Bandwidth	Up to 100MHz
Carrier Aggregation	Up to 4CC
Synchronization	IEEE 1588v2, SyncE
Function Split	O-RAN option 7-2a
Ingress Protection	IP30
Power Supply	100~240V AC (AC adapter); POE++
Operating Environment	5°C~ 45°C
Dimensions	(W) 204.7 x (H) 259.6 x (D) 52.5 mm without mount kit (W) 204.7 x (H) 259.6 x (D) 72.5 mm with mount kit
Placement	Wall mount/ceiling mount

IronRAN-RUMI

The IronRAN RUMI is a robust outdoor Remote Radio Unit (RRU) with 4 x 5W output and 5G RU O-RAN compliance. It supports n78, n79, and n48 frequency bands, offering flexible deployment. Its software-defined Radio technology allows easy configuration for both private and public networks, making it a versatile solution for various needs.

Band	n78, n79, n48
Network	5G SA
3GPP Compliance	5G NR Release 16
MIMO	4T4R
Maximum Output Power	4 x 5W
Bandwidth	Up to 100MHz
Carrier Aggregation	Up to 4CC
Synchronization	IEEE 1588v2, SyncE
Function Split	O-RAN option 7-2a
Ingress Protection	IP65
Power Supply	100~240V AC (AC adapter) *subject to change
Operating Environment	-40°C~ 55°C
Dimensions	(W) 355 x (H) 418.5 x (D) 165 mm *subject to change
Placement	Wall mount/pole mount

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