SOLUTION BRIEF

CARRIER-GRADE NETWORK EQUIPMENT BUILDING SYSTEMS (NEBS) LEVEL 3 CERTIFIED SERVERS FOR 5G TELECOM SOLUTIONS

EXECUTIVE SUMMARY

Telecommunications is one of the fastest-growing markets as 5G comes into the picture. As a global leader in enterprise computing, storage, networking solution, and green computing technology, Supermicro has optimized its 1U Carrier Grade NEBS Level 3 certified Ultra SuperServers to bring powerful processing capabilities to 5G telecommunication markets.

5G TELECOM SERVER SOLUTION

NEBS compliance is a critical requirement for equipment deployment in the telecommunications environment globally. Supermicro's Carrier Grade Ultra SuperServers will power the next-generation 5G network infrastructure for operators and service providers.

The Ultra 1U SuperServers offer NEBS Level-3 compliance running on Intel® Xeon® Scalable processors known for high performance, stability, and global availability. The 1U rackmount AC and DC servers deliver scalability, safety, and reliability.

Supermicro 11th Generation Ultra Carrier Grade SuperServer features:

- Open standard systems:
  – Enhanced capabilities based on industry-leading Supermicro products
  – Proven compatibility and reliability from standard Supermicro Ultra servers
  – Rapidly scalable and easily expandable

- Telecom industry-standard solutions:
  – Validated to NEBS Level 3 standards GR-63 Issue 5 and GR-1089 Issue 7 standards
  – Enabled for operation in higher environments than traditional data centers
  – Designed for extreme conditions such as high humidity, high altitude, earthquakes and dust

- Global regulatory support and availability

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ULTRA 1U SUPERSERVER APPLICATIONS

CLOUD DATA CENTERS

– Enterprise-grade computer systems
– High-performance computational systems
– Big data applications

TELECOM CENTRAL OFFICE

– NEBS Level 3 certified, both GR-63 and GR-1089
– Meets high Telecom central office application requirements
– Resistant to humidity, high altitude, earthquakes, and dust
– Highly available, reliable and dependable

5G EDGE COMPUTING

– Flexibility with open hardware designs to support mixed
  workloads
– Multi-Access Edge Computing (MEC), provides execution
  resources for applications with networking close to the end users
– Low-latency, high-bandwidth, and high-concurrency device
  processing and data offload as well as trusted computing and
  storage from cloud data center
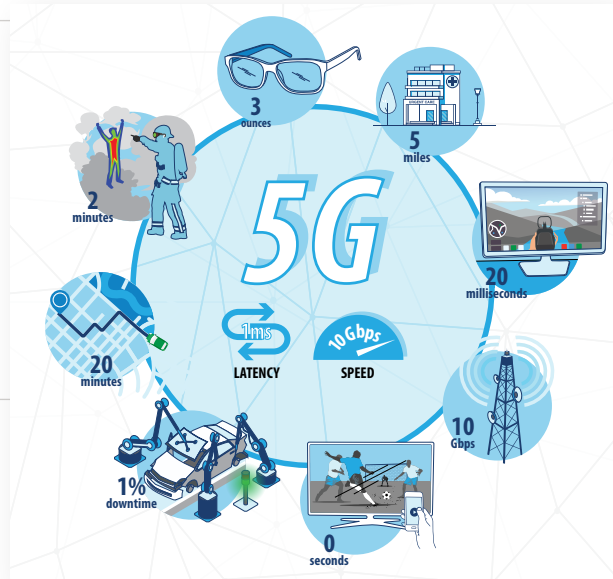
ULTRA 1U CARRIER GRADE SUPERSERVER OVERVIEW

The Supermicro Ultra 1U Carrier Grade AC/DC SuperServers are designed with two Intel® Xeon® Scalable processors with up to 24 cores each, supporting 150 watt TDP, and delivers high-performance compute, storage and networking for Edge micro data centers, standard data centers, and telecom central office applications. These new 1U servers support up to 6TB of DDR4 memory in 24 slots and features three PCI-E 3.0 expansion slots for flexible networking as well as storage configurations. The convenient 12 all-hybrid NVMe/SATA/SAS hot-swappable drive bays offer complete storage versatility. A compact 29.1" (739mm) depth and NEBS-3 certification make these systems valuable assets for organizations looking to modernize their data centers, telecom central offices, and Edge infrastructure. These are the first of many Ultra SuperServers that will be NEBS-certified and optimized for 5G and telecom installations.

1029U-TN12RV-NEBS (AC/DC) ULTRA FRONT VIEW

1029U-TN12RV-NEBS (AC) ULTRA REAR I/O VIEW

SYS1029U-TN12RV-NEBS-DC REAR I/O VIEW

1029U-TN12RV-NEBS/1029U-TN12RV-NEBS-DC CARRIER GRADE ULTRA SUPERSERVER SPECIFICATIONS

FEATURES	TECHNICAL SPECIFICATIONS
Processor	2x Intel® Xeon® Scalable processors up to 24-core, 2.1 GHz, 150W TDP
Memory	24 DDR4 DIMM slots supporting RDIMM, speeds up to 2933 MHz, 6TB max 16GB, 32GB, 64GB DIMMs supported
Storage Controllers	Onboard: Intel® C621 chipset SATA 3 (6Gbps) Internal: Broadcom 3108L SAS3 (12Gbps)
Drive Bays	Up to 12x hot-swap 2.5" NVMe/SATA drive bays (SAS support via HBA/SAS controller)
Power Supplies	Titanium redundant hot-swap 1600W AC or Gold redundant hot-swap 1300W DC power supplies
Dimensions	Form Factor: 1U Depth: 29.1" (739 mm)
Embedded Management	• Intel® Node Manager • Redfish API • IPMI 2.0 • KVM with dedicated LAN • NMI • SSM, SPM, SUM • SuperDoctor® 5
Embedded NIC Options	AOC-URN4-b2XT-O: 2-port 10GbE RJ45, Broadcom BCM57416 AOC-URN4-m2TS: 2-port 25GbE SFP28, Mellanox CX-4 Lx EN
Add-on NIC Options	AOC-S25G-M2S-O: low-profile 25G dual port SFP28, based on Mellanox, two SFP28 25Gpbs Ethernet ports AOC-S100G-M2C-O: low-profile adapter card based on Mellanox ConnectX-4 chipset, two QSFP28 100Gpbs Ethernet ports
Ports	Front ports: USB 2.0 Rear ports: Video, serial, 2 x USB 3.0, IPMI
Rack Rail Support	Ready Rails, Sliding Rails
Environmental Specs (NEBS Level-3)	Temperature: Continuous operating temperature of -5C to 40C; 96 hour operating excursions from -5C to 55C
	Humidity: Operating Humidity of 5% to 85% with excursions of 5% to 93%,
	Altitude: Up to 4000m; Sea Level -60M to 1800M; -61m to 1829m at 40C; from 1829M to 3960m at 30C
	Seismic: Operational resiliency up to Richter 7.5 seismic event (Zone 4 seismic event)
	EMI: Immunity up to 8kV/15kV or contact/air
	Fire resistance: Built with fire-retardant material to contain and extinguish fire if any occurs inside the box

ABOUT SUPER MICRO COMPUTER, INC.

Supermicro® (NASDAQ: SMCI), the leading innovator in high-performance, high-efficiency server technology is a premier provider of advanced server Building Block Solutions® for Data Center, Cloud Computing, Enterprise IT, Hadoop/Big Data, HPC and Embedded Systems worldwide. Supermicro is committed to protecting the environment through its "We Keep IT Green®" initiative and provides customers with the most energy-efficient, environmentally-friendly solutions available on the market.

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