

# CG2200 CARRIER GRADE SERVER

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## DUAL Intel® Xeon® 10-CORE PROCESSOR E5-2600 V2 FAMILY

- ▶ Dual 10 Cores with Hyperthreading (40 threads total)
- ▶ 16 slot, 4 channel support of DDR3 RDIMM/UDIMM;  
supports 256 GByte maximum (with 16 GByte DIMM)
- ▶ Hot-Swap 2.5" SAS/SATA HDDs
- ▶ Quad rear GbE NIC ports (standard)

POSSIBILITIES START HERE



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## PRODUCT OVERVIEW

With a long and proven history dedicated to designing 'long-life' carrier grade communication servers, Kontron also introduces the NEBS-3 compliant communication rack mount server, CG2200.

Featuring a 'dual-socket' approach with the 8-core Intel® Xeon® Processors E5-2600 Family, this Kontron server combines high memory, flexible I/O and storage options, and dual redundant AC or DC power options into a compact 2U, 20-inch deep form factor.

### Benefits of Designing With Dual 8-Core Intel® Xeon® Processor E5-2600 Series Family

The 22nm Intel® Xeon® Processor E5 family introduces a multitude of enhancements intended to significantly improve processor performance over previous generations, plus lower latency and intelligently save power. It is the first dual-socket server-class Intel® processor to integrate PCI Express® 3.0, thus enabling the I/O hub to be removed to save blade or board level real estate. The Intel® Xeon® Processor E5-2600 v2 family features exemplary performance and a maximized feature set, ideal for telecom and

network equipment manufacturers (TEMs/NEPs) planning to go to market with high-bandwidth infrastructure used in carrier cloud computing and 4G LTE EPC networks.

The Kontron CG2200 benefits from the following Intel® advancements:

- ▶ Massive I/O bandwidth increase: a total of 80 lanes of PCIe (40 lanes per processor);
- ▶ Faster memory bandwidth: each processor has 4 channels running up to 1600 MHz, a 60% increase over previous Intel® Xeon® Processor 5600 Series;
- ▶ Large inter-processor connection: reduced latency with two 8GT/s QPI, which accelerates access a processor needs to access resources (PCIe and/or memory) attached to second processor;
- ▶ More cores, similar power budget: supports for up to 10 cores (20 threads) with the same power budget that allowed only up to 8 cores previously; dual-socket supplies 20 cores (40 threads)

## FEATURES & BENEFITS

STANDARD FEATURES	BENEFITS
DUAL SOCKET SUPPORT FOR INTEL® XEON® PROCESSOR E5-2600 V2 FAMILY	22nm process technology for 20cores/40 threads available per system, enable significant performance improvement for multi-threaded applications. 80 PCIe Gen 3 lanes
THREE-TO-FIVE YEAR LIFECYCLE SUPPORT	Reduced customer risk with fewer platform transitions and greater lifecycle stability
SHALLOW 20-INCH DEPTH	Increases installation and service flexibility. Meets typical depth needed for most central office installations
650 W AC OR DC HOT-SWAP, REDUNDANT POWER SUPPLIES WITH PMBUS SUPPORT	Flexibility of either AC or DC power installation. Power supply unit supports high 80 plus efficiency and PMBus power management.
TELCO ALARM MANAGEMENT	Telco alarm LEDs on front panel. Relay connector on rear panel supports central office alarm systems
HOT-SWAP, REDUNDANT FANS	Greater uptime and improved serviceability
FOUR REAR-PANEL GBE NIC (CU) PORTS	Four on-board NIC ports are standard
SIXTEEN RDIMM/UDIMM MEMORY SLOTS (DDR3-1066/1333/1600 MT/S)	Supports four channel per processor and two slots per channel. Integrated memory controller in CPU enables higher lower power
DRIVE TRAYS FOR UP TO SIX HOT-SWAP 2.5-INCH SAS HARD DISK DRIVES	Choice of SAS drives. Improved serviceability with hot-swap drives. Large number of drives enables a variety of SW and HW RAID options. Improved drive reliability due to proprietary rotational vibration suppression technology. SATA Solid State Drives supported.
CUSTOMIZABLE FRONT BEZEL	Adaptable to customer needs and environment
OPTIONAL FEATURES	BENEFITS
INTEGRATED HARDWARE RAID WITH FLASH BACKUP AND SUPERCAP TECHNOLOGY	Supports RAID levels 0, 1, 5, and 6 providing greater protection, reliability, and performance
REMOTE MANAGEMENT	Lights-out management via optional Intel® Remote Management Module 4 (RMM4) Dedicated Management NIC. Improved integration over previous versions
FLASH MEMORY SUPPORT	Choice of multiple flash memory options are available: <ul style="list-style-type: none"> <li>- Internal bootable USB flash device</li> <li>- Two (2) front accessible SD flash media devices</li> <li>- SATA solid state drives</li> </ul>
UP TO SIX PCI SLOTS FOR FLEXIBILITY AND ADDITIONAL I/O	Faster performance with PCI-E Gen3/Gen 2. Two low-profile PCI-E slots (one internal without rear I/O accessibility); Choice of risers to support either: (1) Four PCI-E x 8 slots; (2) Two PCI-E x16 slots; (3) Two PCI-E x8 or one PCI-E x16 and two PCI-x slots

► TECHNICAL INFORMATION

<b>PROCESSOR</b>	<b>TYPE CHIPSET</b>	Dual 10-Core Intel® Xeon® Processor E5-2600 v2 Family Intel® C600 Chipset
<b>CONNECTIONS</b>	<b>PCI ADAPTER SLOT SUPPORT</b>  <b>SERIAL PORTS VIDEO PORT USB 2.0 PORTS MANAGEMENT PORTS</b>	Two low-profile slots and one without rear I/O accessibility; The following riser card options are supported: Right side: one slot x16 PCI-E riser; two slots x8 PCI-E riser; or two slots PCI-X riser; Left side: one slot x16 PCI-E riser; or two slots x8 PCI-E riser RJ-45 serial connector in front and one DB-9 connector in rear One DB-15 video connector (rear) Five (5): one front / four rear One RJ-45 connector to support optional Intel® Remote Management NIC
<b>STORAGE</b>	<b>TYPE REDUNDANCY INTERNAL SD FLASH STORAGE</b>	Up to six 2.5-inch hot-swap SAS hard drive Software RAID 0, 1 and 5 and optional Hardware RAID 0, 1, 5 and 6 Carrier with six HDD trays Two (2) front accessible Secure Data flash media devices are supported
<b>MEMORY</b>	<b>TYPE DIMM SLOTS CAPACITY</b>	DDR3 technology at 1066/1333/1600 MT/s Sixteen (16) RDIMM or UDIMM slots 256 GByte (non-mirrored mode with 16 GByte DIMMs)
<b>PHYSICAL</b>	<b>HEIGHT X WIDTH X DEPTH PORT</b>	3.45 inches (87.6 mm) x 17.14 inches (435.3 mm) x 20 inches (508 mm)
<b>ENVIRONMENTAL</b>	<b>TEMPERATURE, OPERATING TEMPERATURE, NON-OPERATING HUMIDITY, NON-OPERATING ALTITUDE VIBRATION, NON-OPERATING</b>  <b>SHOCK, OPERATING</b>  <b>SHOCK, NON-OPERATING</b>  <b>ELECTROSTATIC DISCHARGE (ESD) ACOUSTIC RoHS</b>	5 °C to 40 °C (41 °F to 104 °F) -40 °C to 70 °C (-40 °F to 158 °F) 95 %, non-condensing at temperatures of 23 °C (73 °F) to 40 °C (104 °F) 0 to 1,800 m (0 to 5,905 ft) @ 40 °C; 0 to 4,000 m (0 to 13,123 ft) @ 30 °C 5 Hz @ 0.001g2/Hz to 20Hz @ 0.01g2/Hz (slope up)*; 20 Hz to 500Hz @ 0.01g2/Hz (flat)*; Input acceleration is 2.20g RMS*; 10 min per axis in all 3 axes on all samples*; Random control limit tolerance in +/- 3 dB* Half-sine 2 G, 11 ms pulse, 100 pulses in each direction, on each of the three axes** Trapezoidal, 25 G, 205 inches/sec delta V, two drops in per face, (total 12 drops)** Tested ESD levels up to 12 kV (kilovolts) air discharge and up to 8 kV contact discharge without physical damage** Sound power: 7 B max at ambient temperatures < 23 +/- 2 °C** Complies with RoHS Directive 2002/95/EC * per Intel®'s 25-G50009 Boards and Systems Environmental Standards Governing Spec; ** per the K00158 CRMS Environmental Standards Specification
<b>SAFETY COMPLIANCE</b>	<b>USA/CANADA EUROPE INTERNATIONAL</b>	UL 60950-1, 2nd Edition/CSA 22.2 No. 60950-1 2nd Edition Nemko/GS EN 60950-1, 2nd Edition; Low Voltage Directive, 2006/95/EC CB Certificate and Report to IEC60950-1, 2nd Edition and all international deviations
<b>ELECTROMAGNETIC COMPATIBILITY</b>	<b>AUSTRALIA/NEW ZEALAND CANADA EUROPE</b>  <b>INTERNATIONAL JAPAN KOREA RUSSIA TAIWAN USA</b>	EN55022, Class A Limit IC ICES-003 Class A Limit EMC Directive, 2004/108/EC; EN55022, Class A Limit, Radiated & Conducted Emissions; EN55024 Immunity Characteristics for ITE; EN61000-4-2 ESD Immunity; EN61000-4-3 Radiated Immunity; EN61000-4-4 Electrical Fast Transient; EN61000-4-5 Surge; EN61000-4-6 Conducted RF; EN61000-4-8 Power Frequency Magnetic Fields; EN61000-4- 11 Voltage Fluctuations and Short Interrupts; EN61000-3-2 Harmonic Currents; EN61000-3-3 Voltage Flicker CISPR 22, Class A Limit, CISPR 24 Immunity VCCI Class A ITE (CISPR 22, Class A Limit) KCC Approval, Class A Gost Approval (EMC and safety) BSMI Approval, CNS 13438, Class A and CNS 14336 Safety FCC 47 CFR Parts 15, Verified Class A Limit

### Leading performance and energy efficiency in a rugged, carrier-grade design

The CG2200 Carrier Grade Server combines performance, ruggedness, reliability, and long life in a NEBS-3 and ETSI-compliant 2U chassis.

This high-performing, rugged server is an excellent choice for the demanding environment and limited space of the Telco central office, as well as for network data centers. It enables OEMs and TEMs to create specialized, value-added solutions for a variety of telecom applications including unified messaging, SolP, call control, streaming media and signaling gateways, and operational system support. In addition, the CG2200 is ideal for other types of rugged applications, such as in the Military and Medical segments, where meeting tough environmental requirements is critical.

The CG2200 has been designed to withstand extreme heat, humidity, altitude and zone 4 earthquake shock and multiple other extreme environmental conditions in compliance with NEBS-3/ETSI requirements. Also important for the rigid requirements of the telecom central office, the server includes advanced server management and telco alarm management features that provide visual, audible (optional) and SNMP event indications of faults.

### Maintaining High Performance and Reliability: Innovative Vibration Suppression Technology

Kontron has integrated innovative vibration suppression technologies into its communication rack mount servers which benefit customers by allowing denser systems to operate at higher temperatures, thus, enabling the customer to deploy their solutions in environments not previously possible.

In addition, they benefit from being able to use a greater variety of hard disk types and sizes instead of being limited to a few "extra rugged" devices.

The proprietary vibration suppression technologies in Kontron's communication rack mount servers are designed to significantly reduce the amount of vibration by isolating both vibration-generating devices and vibration-sensitive devices.

The company's 1U and 2U Carrier Grade and IP Network servers utilize a unique vibration-absorbing material allowing its designers to isolate both the fans and hard drives from direct contact with the system's metal infrastructure so they literally "float" inside the chassis.

This approach requires that the initial system design includes vibration suppression as a key requirement.

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