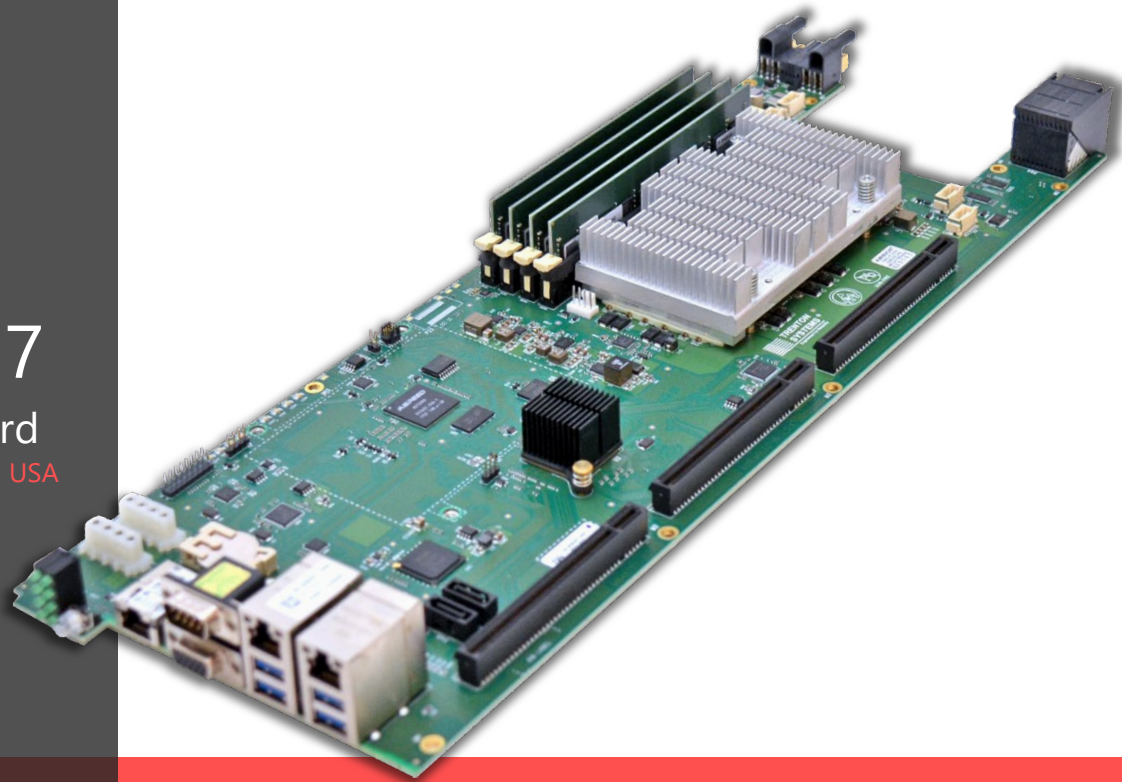




# MBK8257

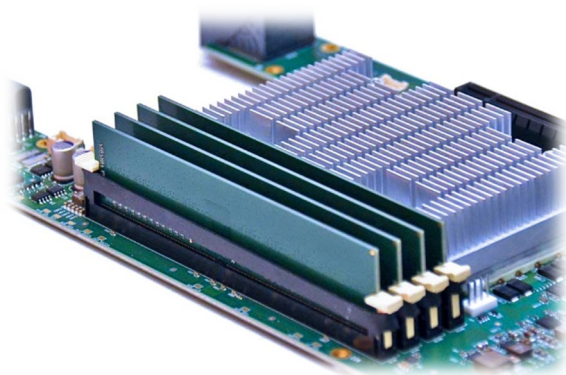
## Processor Board

RUGGEDIZED | MADE IN USA



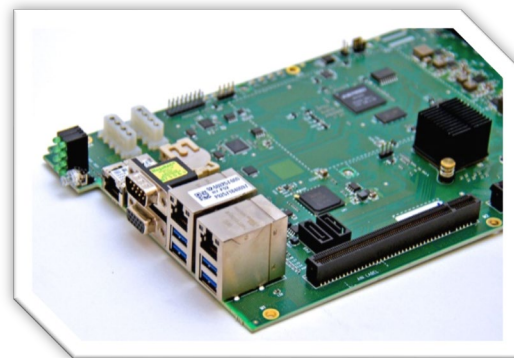
## 4.6 Pounds of Truly Ruggedized Power

The MBK8257 processor board can take your rugged server, blade server or workstation to the next level using its Intel Core i3, i5 i7 or Xeon E3 v6 processor, four DDR4-2400 memory slots and two PCIe Gen 3 slots. Shall we get to work?



### Four DDR-2400 Slots

Achieve peak performance with the MBK8257's four DDR4-2400 SDRAM slots, or a maximum 64GB of RAM.



### More PCIe Gen 3 Slots

PCIe Gen 3 slots and compatible riser cards can give your rugged server, workstation or blade the expansion capability it needs.

### ECC Memory Support

Stop data corruption dead in its tracks with error-correcting code memory, perfect for mission-critical applications.

## Section 5 / System Overview

### PROCESSOR BOARD

MBK8257

### COMPATIBLE CHASSIS MODEL NUMBER(S)

TRC1001, TRC1002, MBS1001, MBS1002, MBS2000, MBS2001

[Contact us for custom options](#)

### PROCESSORS

- ▶ Intel® Core™ or Xeon® E processors; LGA1151 Socket
- ▶ CPU TDP support up to 125W

CPU	Cores/Threads	Frequency	Cache	TDP
i5-7500	4/4	3.40-3.80GHz	6 MB	65W
i7-7700	4/8	3.60-4.20GHZ	8 MB	65W
E3-1275v6	4/8	3.80-4.20GHz	8 MB	73W

### MEMORY

**Slots:** 4x DDR4 with ECC support

**Dual:** Channel memory support

**Capacity:** Up to 64GB DDR4 ECC

**Type:** ECC DDR4-2400 UDIMM

**DIMM Sizes:** 16GB, 8GB or 4GB

**Error Detection:** Corrects single-bit errors and detects double-bit errors using ECC memory

\*ECC support dependent on CPU installed

### STORAGE

#### Type(s):

- ▶ 2x SSD/HDD SATA3 (6 Gbps) drives of any size
- ▶ 4x M.2 NVMe PCIe 3.0 x4
- ▶ **Capacity:** Up to 12TB per drive (larger capacities available upon request)

**SATA Modes:** AHCI or RAID

**RAID:** Intel® RSTe SATA RAID support 0/1/5/10 Modes

### PCIe SLOT CONFIGURATION

**Type(s):** x1 PCIe Gen 3 x16, x1 PCIe Gen 3 x4

\*Dependent on riser cards used

### ON-BOARD DEVICES

**Chipset:** Intel® C236

**IPMI:** Support for Intelligent Platform Management Interface v2

- ▶ IPMI 2.0 with virtual media over LAN and KVM-over-LAN support

#### Network Controllers:

- ▶ Intel® i350 Gigabit Ethernet
- ▶ Dual Intel® i210 Gigabit Ethernet

**Graphics:** ASPEED AST2400 BMC; VGA 1920X1200@60Hz 32bpp

**TPM 2.0:** Secure cryptoprocessor that helps you with actions such as generating, storing, and limiting the use of cryptographic keys. A requirement for Microsoft's bitlocker drive volume encryption features.

### INPUT / OUTPUT

**Power:** 2x Power Connectors

**USB:** 6x USB 3.0 Ports

**Display:** 1x VGA Port

**LAN:** 4x RJ-45 Gigabit Ethernet LAN ports

**Serial:** 1x RS232 Serial Port

### PROCESSOR BOARD DIMENSIONS

Length: 17.62" | 44.74 cm

Width: 6.19" | 15.72 cm

Average Weight: 4.6 lbs. | 2.09 kg

\*System dimensions and weight dependent on rugged chassis and component selection

### SYSTEM BIOS

**BIOS Type:** 128Mb Macronix MX25L12835FM2I-10G SPI Serial EEPROM (SPI Flash)

#### BIOS Features:

- ▶ Plug and Play (PnP)
- ▶ TPM 2.0
- ▶ PCI 2.2
- ▶ ACPI 1.0 / 2.0
- ▶ USB Keyboard Support
- ▶ SMBIOS 2.3
- ▶ UEFI

### SYSTEM MANAGEMENT

ASPEED AST2400 Baseband Management Controller: rKVM, System Monitoring, Out of Band Management

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature: 0°C - 50°C

Storage Temperature: -40°C - 70°C

Operating Humidity: 8% - 90% Non-Condensing

Non-operating Humidity: 5% - 95% Non-Condensing

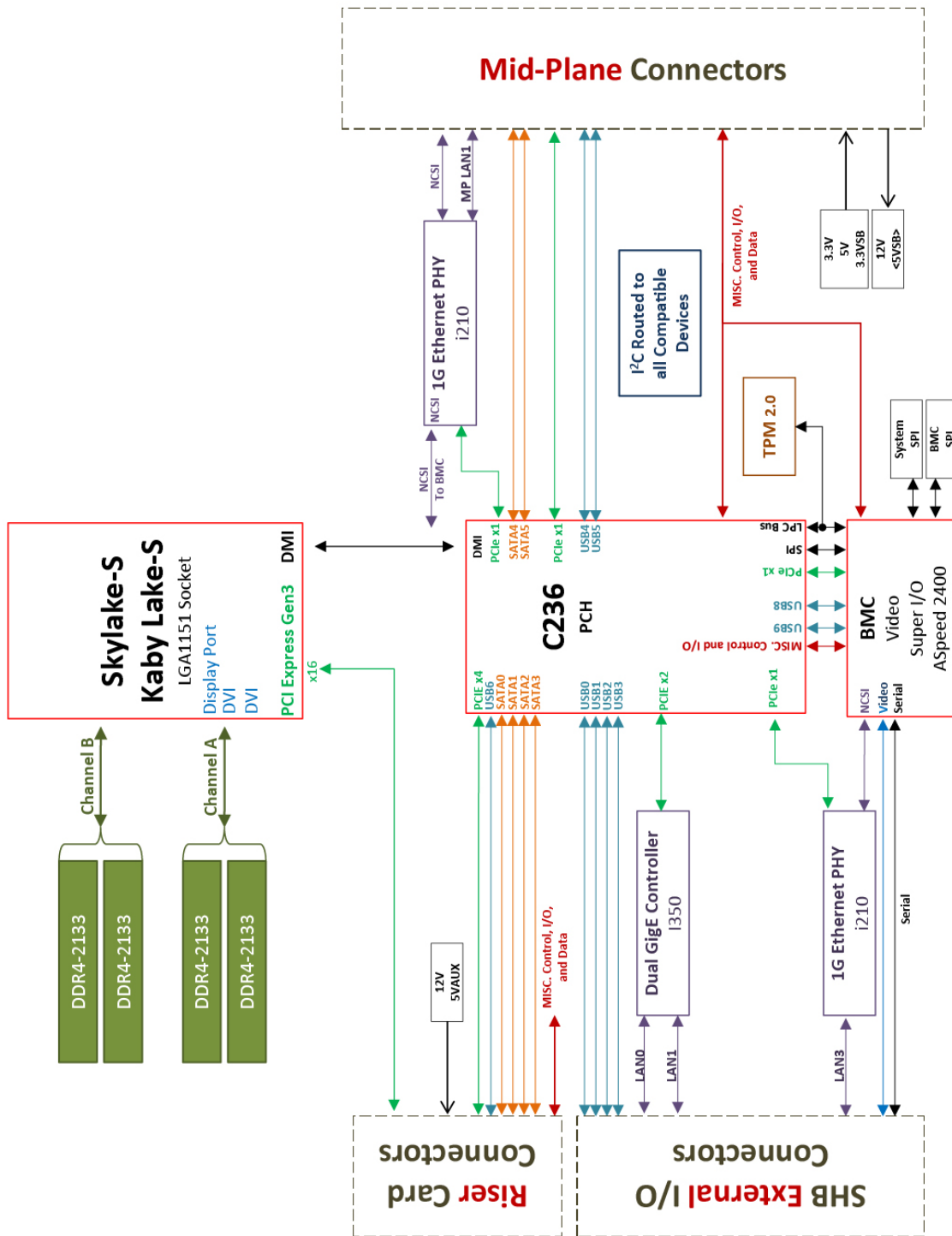
Trenton Systems Model TRC1002 with MBK8257 tested and passed RTCA/DO-160G (Section 21) Category B and Category M.

Trenton Systems Model TRC1002 with MBK8257 tested and passed MIL-STD-461G, CE102, and RE102 requirements

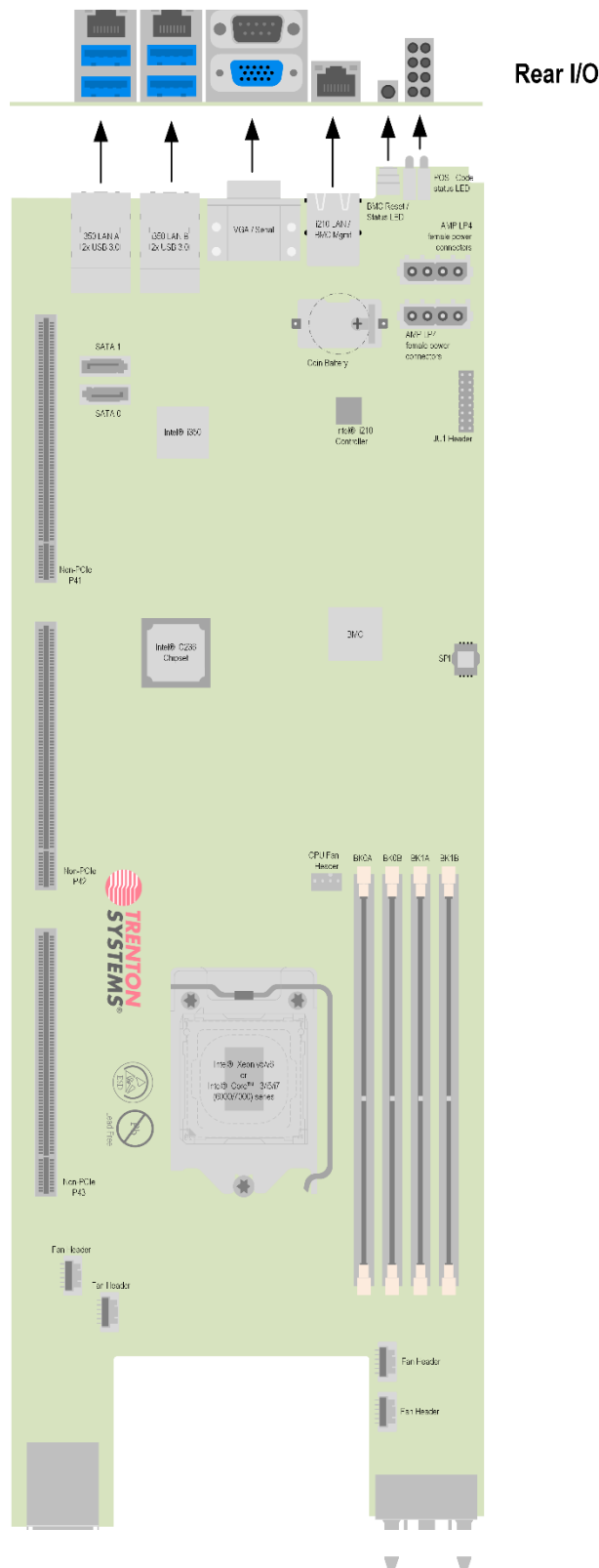
\*Numbers noted are dependent on CPU selection. Please [contact Trenton Systems](#) for specific CPU environmental specs.



# BLOCK DIAGRAM



# LAYOUT DRAWING





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