

# CEM510

COM Express Type 6 Basic Module with Intel® Xeon® E3/7th Gen Intel® Core™ i7/i5/i3 Processors and Intel® CM238/QM175/HM175

## Features

- Intel® Xeon® E3 and 7th gen Intel® Core™ i7/i5/i3 processors (Kaby Lake-H)
- Intel® CM238/QM175/HM175 chipset
- 2 DDR4-2133 SO-DIMM slots, up to 32GB ECC or non-ECC
- 1 PCIe x16 and 8 PCIe x1 (Gen3)
- 4 SATA-600 with RAID 0/1/5/10
- 4 USB 3.0 and 8 USB 2.0
- Intel® AMT 11.0 and TPM 2.0 function supported

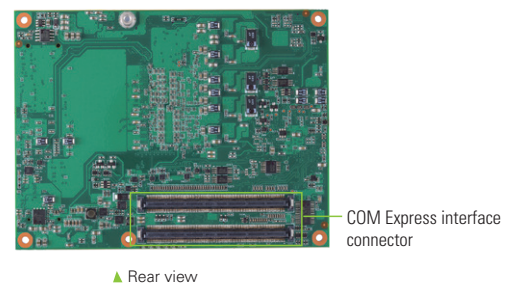
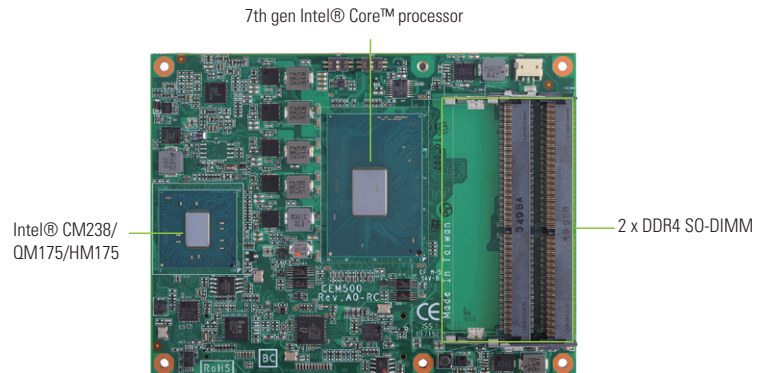


### Core System

CPU	Intel® Xeon® E3 and 7th gen Intel® Core™ i7/i5/i3 processors (Kaby Lake-H)
System Memory	2 x DDR4-2133 SO-DIMM, up to 32GB
Chipset	Intel® CM238/QM175/HM175
BIOS	AMI uEFI (Legacy Free)
SSD	N/A
Watchdog Timer	65536 levels, 0 ~ 65535 sec.
Expansion Interface	1 x PCIe x16 Gen 3.0 8 x PCIe x1 Gen 3.0
Battery Lithium	N/A
Power Input	ATX: +12V, +5VSB; AT: +12V
Size	125 x 95 mm
Board Thickness	2.0 mm
Temperature	-40°C to +85°C (-40°F ~ +185°F), operation
Operation Humidity	10% to 95% relative humidity, non-condensing
Vibration	3.5 Grms

### I/O

MIO	1 x LPC interface 1 x SPI interface 1 x I <sup>2</sup> C interface 2 x TX/RX serial interface
SATA	4 x SATA-600 with RAID 0/1/5/10
Hardware Monitoring	Yes
Ethernet	1 port as 10/100/1000 Mbps supports Wake-on-LAN, PXE Boot ROM with Intel® i219LM
Audio	HD link interface to baseboard for Codec
USB	4 x USB 3.0 8 x USB 2.0
TPM	TPM 2.0
SMBus	Yes
Digital I/O	4-CH in & 4-CH out
Smart Battery	Yes



### Display

Chipset	Intel® Gen 9 HD Graphic Gfx APIs - DX11/12, OCL2.x, OGL 4.3/4.4 3 independent displays
Display Interface	1 x LVDS <i>default: 18/24-bit single/dual channel</i> <i>optional: 18/24-bit single/dual channel with eDP</i> 1 x VGA, up to 1920 x 1200 @60Hz 2 x DDI (DisplayPort/HDMI/DVI)

### Packing List

Quick installation guide, user's manual/utility CD

### Ordering Information

Standard	
CEM510-E3-1505M v6+CM238 (P/N: E38D510100)	COM Express Type 6 basic module with Intel® Xeon® E3-1505MV6, CM238, DDI/LVDS, GbE LAN, USB 3.0 and TPM
CEM510-I7-7820E+QM175 (P/N: E38D510102)	COM Express Type 6 basic module with Intel® Core™ i7-7820EQ, QM175, DDI/LVDS, GbE LAN, USB 3.0 and TPM
CEM510-I5-7440E+QM175 (P/N: E38D510103)	COM Express Type 6 basic module with Intel® Core™ i5-7440EQ, QM175, DDI/LVDS, GbE LAN, USB 3.0 and TPM
CEM510-I3-7100E+QM175 (P/N: E38D510104)	COM Express Type 6 basic module with Intel® Core™ i3-7100E, QM175, DDI/LVDS, GbE LAN, USB 3.0 and TPM
Optional	
CEB94011 (P/N: E394011100)	CEB94011 COM Express Type 6 evaluation board
TS008-CEM500 (P/N: E39J008100)	CEM500 heat sink with fan
TS006-CEM500 (P/N: E39J006100)	CEM500 heat spreader

### Block Diagram

