

# CEM310

COM Express Type 10 Mini Module with Intel® Atom® x5 and x7 Processor

## Features

- Intel® Atom® x5 and x7 processors (Apollo Lake)
- Onboard 4GB DDR3L memory (8GB optional)
- Max. up to 4 lanes of PCI Express
- 2 SATA-600
- 2 USB 3.0 and 8 USB 2.0

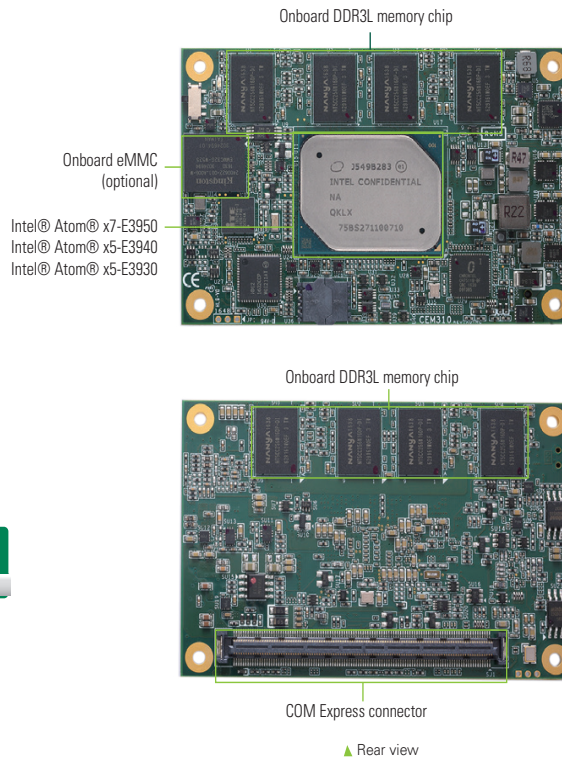


### Core System

|                       |                                                                                                       |
|-----------------------|-------------------------------------------------------------------------------------------------------|
| CPU                   | Intel® Atom® x7-E3950 (2.0 GHz)<br>Intel® Atom® x5-E3940 (1.8 GHz)<br>Intel® Atom® x5-E3930 (1.8 GHz) |
| System Memory         | 4GB DDR3L memory onboard, up to 8GB (optional)                                                        |
| Chipset               | SoC integrated                                                                                        |
| BIOS                  | AMI UEFI BIOS (Legacy Free)                                                                           |
| SSD                   | eMMC 5.0 up to 64GB (optional)                                                                        |
| Watchdog Timer        | 65536 levels, 0 to 65535 sec.                                                                         |
| Expansion Interface   | 4 x PCIe x1 (3 x1 while internal LAN is connected)                                                    |
| Battery Lithium       | N/A                                                                                                   |
| Power Input           | ATX: +12V, +5VSB<br>AT: +12V<br>Wide range input: +4.75V to +20V                                      |
| Dimensions            | 84 x 55 mm                                                                                            |
| Board Thickness       | 2.0 mm                                                                                                |
| Operating Temperature | Industrial: -40°C to +85°C (-40°F to +185°F)<br>Standard: -20°C to +70°C (-4°F to +158°F)             |
| Humidity              | 10% to 95% relative humidity, non-condensing                                                          |
| Vibration Endurance   | 3.5 Grms                                                                                              |

### I/O

|                     |                                                                                       |
|---------------------|---------------------------------------------------------------------------------------|
| SATA                | 2 x SATA-600                                                                          |
| Hardware Monitoring | Yes                                                                                   |
| Ethernet            | 1 x 10/100/1000 Mbps Ethernet with Intel® i210-IT; supports Wake-on-LAN, PXE Boot ROM |
| Audio               | HD link interface to baseboard for Codec                                              |
| USB                 | 2 x USB 3.0<br>8 x USB 2.0                                                            |
| Serial              | 1 x LPC<br>1 x SPI<br>2 x TX/RX                                                       |
| TPM                 | N/A                                                                                   |
| SMBus               | Yes                                                                                   |
| Others              | 1 x I <sup>2</sup> C                                                                  |
| GPIO                | 4-CH in & 4-CH out                                                                    |
| Smart Battery       | Yes                                                                                   |



### Packing List

|                   |                                                                              |
|-------------------|------------------------------------------------------------------------------|
| Chipset           | Intel® Gen 9 Graphics Engine<br>Supports Gfx – DX12.0, OCL2.0, OGL 4.3       |
| Display Interface | 1 x DDI (DP, HDMI, DVI)<br>1 x LVDS; 18/24-bit single channel (eDP optional) |

### Packing List

Quick installation guide

### Ordering Information

| Standard                                   |                                                                                                        |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------|
| CEM310PG-E3930+4GB (Ind) (P/N: E38D310100) | COM Express Type 10 Mini module with Intel® Atom® x5-E3930, DDI, LVDS, USB 3.0 and GbE LAN (Ind. Temp) |
| CEM310PG-E3940+4GB (Ind) (P/N: E38D310102) | COM Express Type 10 Mini module with Intel® Atom® x5-E3940, DDI, LVDS, USB 3.0 and GbE LAN (Ind. Temp) |
| CEM310PG-E3950+4GB (Ind) (P/N: E38D310103) | COM Express Type 10 Mini module with Intel® Atom® x7-E3950, DDI, LVDS, USB 3.0 and GbE LAN (Ind. temp) |
| CEM310PG-E3930+4GB (P/N: E38D310104)       | COM Express Type 10 Mini module with Intel® Atom® x5-E3930, DDI/LVDS, USB 3.0 and GbE LAN              |
| CEM310PG-E3940+4GB (P/N: E38D310105)       | COM Express Type 10 Mini module with Intel® Atom® x5-E3940, DDI, LVDS, USB 3.0 and GbE LAN             |
| CEM310PG-E3950+4GB (P/N: E38D310106)       | COM Express Type 10 Mini module with Intel® Atom® x7-E3950, DDI, LVDS, USB 3.0 and GbE LAN             |
| Optional                                   |                                                                                                        |
| 7128D310000E                               | CEM310 heatspreader                                                                                    |
| 5078D840200E                               | Heatsink with fan (need to be with 7128D310000E)                                                       |
| CEB94017 (P/N: E394017101)                 | COM Express Type 10 development baseboard                                                              |

## Assured Systems

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