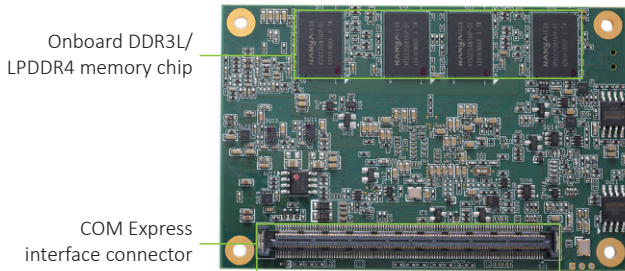
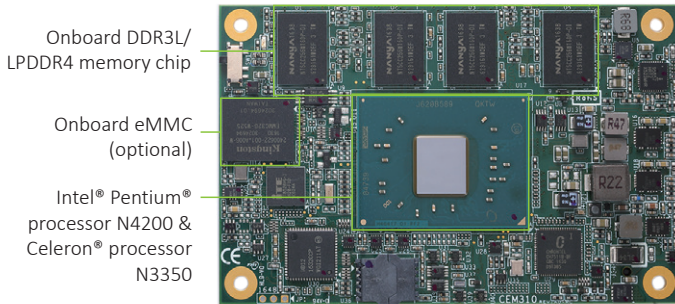


# CEM311

COM Express Type 10 Mini Module with Intel® Pentium® Processor N4200 & Celeron® Processor N3350



▲ Rear view

## Features

- Intel® Pentium® processor N4200 & Celeron® processor N3350 (Apollo Lake)
- 4GB DDR3L / 8GB LPDDR4 memory onboard
- Max. up to 4 lanes of PCI Express
- 2 SATA-600
- 2 USB 3.0 and 8 USB 2.0



## Specifications

### Core System

|                     |  |
|---------------------|--|
| CPU                 | Intel® Pentium® processor N4200 & Celeron® processor N3350 (Apollo Lake) onboard |
| System Memory       | 4GB DDR3L memory onboard<br>8GB LPDDR4 memory onboard                            |
| Chipset             | SoC integrated   |
| BIOS                | AMI uEFI (Legacy free)   |
| Storage             | eMMC 5.0 upto 64GB (optional)  |
| Watchdog Timer      | 65536 levels, 0 to 65535 sec.  |
| Expansion Interface | 4 x PCIe x1 devices (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                 |

### Display

|                   |  |
|-------------------|--|
| Chipset           | Intel® Gen 9 Graphics Engine<br>Support 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) |

## I/O

|                     |  |
|---------------------|--|
| MIO                 | 1 x LPC interface<br>1 x SPI interface<br>2 x Serial TX/RX<br>1 x I <sup>2</sup> C   |
| SATA                | 2 x SATA-600   |
| Hardware Monitoring | Yes  |
| Ethernet            | 1 x 10/100/1000 Mbps Ethernet with Intel® i211AT; 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   |
| TPM                 | N/A  |
| SMBus               | Yes  |
| Digital I/O         | 4-CH in & 4-CH out   |
| Smart Battery       | Yes  |

## Mechanical and Environmental

|                    |  |
|--------------------|--|
| Dimensions         | 84 x 55 mm                                 |
| Board Thickness    | 2.0 mm                                     |
| Temperature        | -20°C to +70°C (-4°F to +158°F), operation |
| Operation Humidity | 10%- 95% relative humidity, non-condensing |
| Vibration          | 3.5 Grms                                   |

## Packing List

Quick installation guide

## Ordering Information

### Standard

|                                     |  |
|-------------------------------------|--|
| CEM311PG-N4200<br>(P/N: E38D311103) | COM Express Type 10 compact module with Intel® Pentium® N4200, DDI/LVDS, USB 3.0, and GbE LAN                        |
| CEM311PG-N3350<br>(P/N: E38D311100) | COM Express Type 10 compact module with Intel® Celeron® N3350, DDI/LVDS, USB 3.0, and GbE LAN                        |
| CEM311-G3C-P1G<br>(P/N: E38D311107) | COM Express Type 10 compact module with Intel® Pentium® N4200, DDI/LVDS, USB 3.0, GbE LAN, LPDDR4 8GB, and eMMC 64GB |
| CEM311-H2B-P1G<br>(P/N: E38D311108) | COM Express Type 10 compact module with Intel® Pentium® N3350, DDI/LVDS, USB 3.0, GbE LAN, LPDDR4 4GB, and eMMC 32GB |
| 7128D311000E                        | CEM311 heat spreader   |
| E39J011100                          | CEM311 heat sink without fan   |

## Block Diagram

