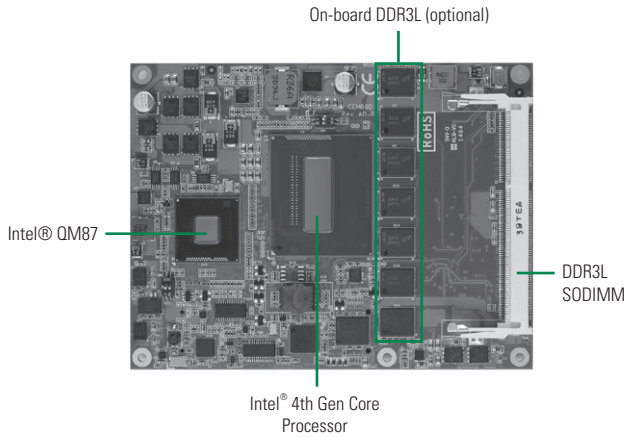


# CEM880

5th Generation Intel® Core™ i7 & 4th Intel® Core™ i7/i5/i3 & Celeron® Processor COM Express Type 6 Module with Intel® QM87



## System

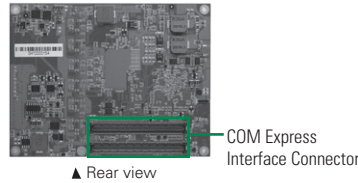
|                     |  |
|---------------------|--|
| CPU                 | 5th generation Intel® Core™ i processor (Broadwell), i7-5700EQ (47W), i7-5850EQ (47W) & 4th generation Intel® Core™ processor (Haswell/Haswell Refresh) with i7-4700EQ (47W), i5-4422E (25W), i3-4110E (37W), Celeron® 2000E (37W) |
| System Memory       | 1st bank as on-board extended temperature DDR3L chips up to 4 GB (optional)<br>1 x 204-pin SO-DIMM supports DDR3L up to max. up to 8 GB  |
| Chipset             | Intel® QM87  |
| BIOS                | AMI uEFI with Intel® Active Management Technology 9.0 supported  |
| Watchdog Timer      | 255 levels, 1-255 sec.   |
| Expansion Interface | 1 x PCIe x16 Gen 3.0<br>8 x PCIe lanes (7 x lanes while internal LAN is connected)   |
| Battery Lithium     | N/A  |
| Power Requirements  | TBD  |
| Size                | 125 x 95 mm  |
| Board Thickness     | 2.0 mm   |
| Temperature         | -40°C ~ +85°C (-40°F ~ +185°F), operation  |
| Operation Humidity  | 10% ~ 95% relative humidity, non-condensing  |

## I/O

|                     |  |
|---------------------|--|
| MIO                 | 1 x LPC interface<br>1 x SPI interface   |
| SATA                | 4 x SATA-600, support<br>Intel® Rapid Start Technology<br>Intel® Smart Response Technology |
| Hardware Monitoring | Yes  |
| Ethernet            | 1 port as 10/100/1000Mbps supports Wake-on-LAN, PXE Boot ROM with Intel® i218LM            |
| Audio               | HD link interface to baseboard for Codec   |
| USB                 | 8 x USB 2.0 and 4 x USB 3.0  |
| TPM 1.2             | ST for trusted platform  |
| SMBus               | Yes  |
| Digital I/O         | 4 channels IN & 4 channels OUT   |

## Features

- 5th generation Intel® Core™ i7 (Broadwell) & 4th generation Intel® Quad/Dual Core™ i7/i5/i3 & Celeron® processor (Haswell/Haswell Refresh)
- Intel® QM87 chipset
- On-board 4 GB DDR3L (optional) and 1 DDR3L SO-DIMM up to 8 GB
- Max. up to 24 lanes of PCIe
- 4 SATA-600 support RAID 0/1/5/10
- 4 USB 3.0
- TPM support



## Display

|                   |  |
|-------------------|--|
| Chipset           | Intel® Iris Pro Graphic 6200 (i7-5850EQ)<br>Intel® HD Graphic 5600 (i7-5700EQ)<br>Intel® HD Graphic 4600 (i7-4700EQ)<br>Intel® InTru™ 3D, Intel® Quick Sync Video 2.0,<br>Intel® Clear Video HD Technology<br>Gfx APIs - DX11.2, OCL1.1, OGL 4.3<br>3 independent displays |
| Memory Size       | DVMT Gfx physical memory up to 256 MB<br>DVMT Gfx pre-allocated memory up to 1024 MB   |
| Display Interface | 1 x VGA<br>1 x LVDS; 18/24-bit single/dual channel<br>3 x DDI (DP, HDMI, DVI)  |

## Packing List

Quick installation guide, user's manual/utility CD

## Ordering Information

| Standard                                 |   |
|--|---|
| CEM880PVG-i7-4700EQ<br>(P/N: E38D880100) | COM Express type 6 module with Intel® Core™ i7-4700EQ 2.4 GHz, VGA/LVDS/DP, 10/100/1000Mbps Ethernet, USB 3.0 and TPM |
| CEM880PVG-i5-4422E<br>(P/N: E38D880103)  | COM Express type 6 module with Intel® Core™ i5-4422E 1.8 GHz, VGA/LVDS/DP, 10/100/1000Mbps Ethernet, USB 3.0 and TPM  |
| CEM880PVG-i3-4110E<br>(P/N: E38D880104)  | COM Express type 6 module with Intel® Core™ i3-4110E 2.6 GHz, VGA/LVDS/DP, 10/100/1000Mbps Ethernet, USB 3.0 and TPM  |
| CEM880PVG-CEL-2000E<br>(P/N: E38D880105) | COM Express type 6 module with Intel® Celeron® 2000E 2.2 GHz, VGA/LVDS/DP, 10/100/1000Mbps Ethernet, USB 3.0 and TPM  |
| CEM880PVG-i7-5850EQ<br>(P/N: E38D880107) | COM Express type 6 module with Intel® Core™ i7-5850EQ 2.7 GHz, VGA/LVDS/DP, 10/100/1000Mbps Ethernet, USB 3.0 and TPM |
| CEM880PVG-i7-5700EQ<br>(P/N: E38D880108) | COM Express type 6 module with Intel® Core™ i7-5700EQ 2.6 GHz, VGA/LVDS/DP, 10/100/1000Mbps Ethernet, USB 3.0 and TPM |

| Optional                          |  |
|-----------------------------------|--|
| CEM94006<br>(P/N: E394006100)     | ATX from factor type 6 evaluation board                        |
| TS001-CEM880<br>(P/N: E39J001100) | High profile heatsink with fan (L=95 mm, W=125 mm, H=27 mm)    |
| TS002-CEM880<br>(P/N: E39J002100) | Low profile heatsink with fan (L=95 mm, W=125 mm, H=20 mm)     |
| TS003-CEM880<br>(P/N: E39J003100) | High profile heatsink without fan (L=95 mm, W=125 mm, H=27 mm) |
| TS004-CEM880<br>(P/N: E39J004100) | Heatspreader for CEM880  |

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ARM Embedded Boards

Accessories

Appendix