ICES675

COM Express Type 6-Pinouts
8th Gen Intel® Core™/Xeon® Processors

Main Features

- 8th Generation Intel® Core™ Processors, BGA 1440, PCH CM246
- 2 channel DDR4 with ECC or non-ECC SO-DIMM 2666MHZ up to 32GB
- Support triple display VGA, 2 x DP, eDP/LVDS 24bit dual channel
- PCI Express Lane x16 (configurable: “1 x16”; “2 x8”; “1 x8 + 2 x4”)
- PCI Express Lane x1 (Gen 3), 8x (can be configured x1, x4)
- IO: 2 x UART (RX/TX), 8 Bit DIO, WDT, TPM (optional)

Product Overview

The ICES675 Series is a COM Express Type 6-pinouts Basic module which featuring Intel® C240 series PCH chipset supports Intel® 8th and Intel® Xeon® and Intel® Core™ processors 2 channel DDR4 with ECC or non-ECC SO-DIMM 2666MHZ up to 32GB. The ICES675 integrated Intel® HD Graphics engines support or expands via PCI Express Graphic 1 x 16 lanes and support three DDI (Digital Display Interface) to follow the standard of PICMG COM2.0 specification. It allows type 6-pinout Carrier board to implement DDI and legacy VGA interface.

With the 125 x 95mm Type 6 COM Express modules, the boards are offered with numerous processor variants: Intel® Xeon® E-2176M Processor (Support ECC), and Intel® Core™ i5-8400H Processor (non-ECC). The high-performance ICES675 Express Basic Module supports 1 x GBE LAN, 4 x USB3.1 GEN1, 8 x USB2.0, 4 x SATA3.0, 2 x UART (TX/RX), HD Audio, 8-bit DIO, TPM (optional) ICEB 8060 as well as customized solution for your embedded projects.

Specifications

CPU/Chipset

- 8th Generation Intel® Core™ Processors, BGA 1440
  Intel® Xeon® E-2176M Processor, 6 Cores, 12M Cache, 2.7GHz (4.4GHz), 45W (Support ECC)
  Intel® Core™ i7-8850H Processor, 6 Cores, 12M Cache, 2.6GHz (4.3GHz), 45W
  Intel® Core™ i5-8400H Processor, 4 Cores, 8M Cache, 2.5GHz (4.2GHz), 45W
- Intel® Mobile CM246

Main Memory

Dual channel DDR4 SO-DIMM memory Socket with non-ECC support, up to 32 GB 2666MHZ, ECC support as option with Intel® Xeon® E-2176M Processor.

Display

- Integrated Intel® Gen9 Graphics graphic engine
- 1 x VGA connector (resolution up to 1920x1080@60Hz)
- 1 x LVDS connector (resolution up to 1920x1080@60Hz)
- DDI 1/2 Port configurable to HDMI1.4/DVI/Display port 1.4 HDMI up to 4096 x 2160@30Hz/24bpp, DVI up to 1920 x1200@60Hz, DP up to 4096 x 2304 @ 60Hz)

BIOS

- AMI (UEFI)

COM Express Connector

- AB: LVDS: (LVDS/eDP co-lay), VGA: (VGA/DDI port3 co-lay), 1 x GbE LAN, 6x PCIe x1, HD Audio, 4 x SATA III, 8 x USB2.0, LPC Bus, SM Bus/I2C, 2 x COM, GPIO 8bit
- CD: DDI1, DDI2, 1 x PCIe x16, 2 x PCIe x1, 4 x USB 3.0

Power Requirement

- +12VDC, +5Vsb
- Support both AT and ATX power supply mode

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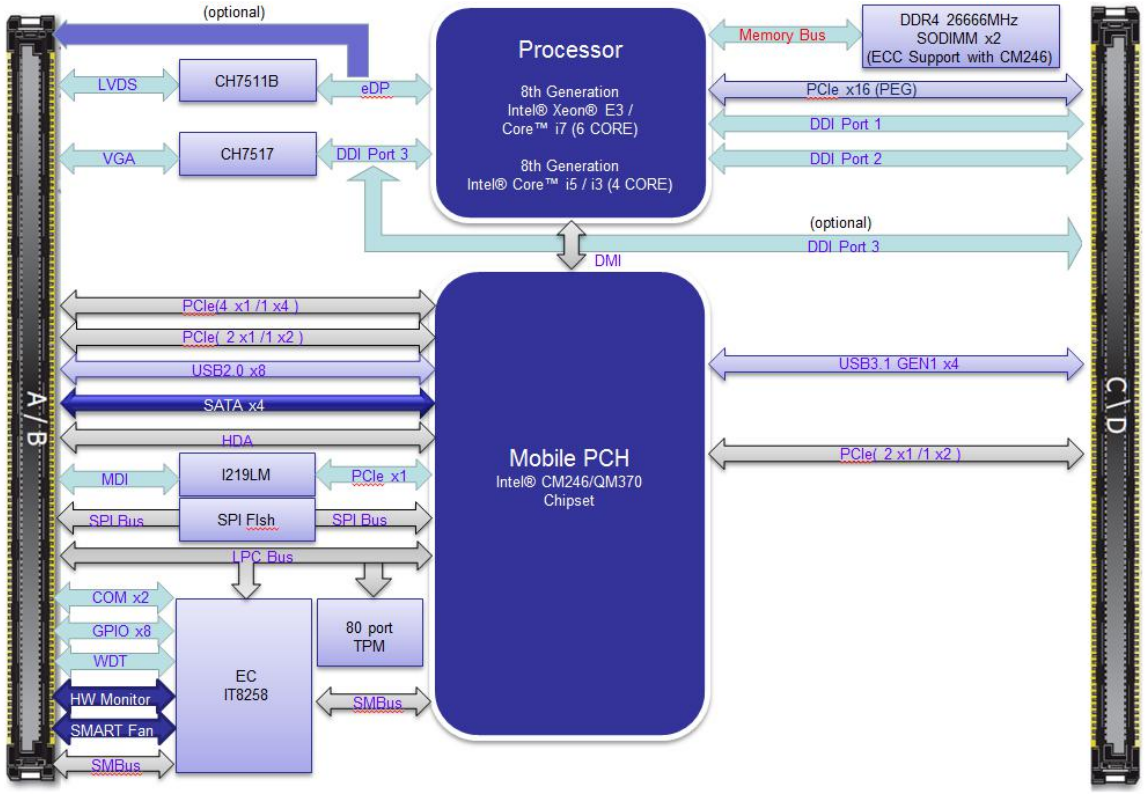
Black Diagram



Dimensions
- 125mm x 95mm

Environment
- Board level operation temperature: -0˚C to 60˚C
- Storage temperature: -20˚C to 85˚C
- Relative humidity:
  - 10% to 95% (operating, non-condensing)
  - 5% to 95% (non-operating, non-condensing)

Certifications
- Meet CE/FCC Class B

Ordering Information

Barebone

- ICES675**(P/N: 10K00067500X0)**
  On-board Intel® 8th Intel® Xeon® E-2176M Processor, 2 x DDR4 SO-DIMM (Support ECC), Support multiple display from VGA/LVDSD/DDI1/2, 4 x SATAIII, 1x GbE LAN, 2 x COM, 4x USB 3.0, 8 x USB2.0, HD Audio, 8-bit GPIO

- ICES675-8400 **(P/N: 10K00067501X0)**
  On-board Intel® 8th Intel® Core™ i5-8400H Processor, 2 x DDR4 SO-DIMM (Non-ECC), support multiple display from VGA/LVDSD/DDI1/2, 4 x SATAIII, 1x GbE LAN, 2 x COM, 4x USB 3.0, 8 x USB2.0, HD Audio, 8-bit GPIO

- ICES675-8400 **(P/N: 10K00067502X0)**
  On-board Intel® 8th Intel® Core™ i7-8850H Processor, 2 x DDR4 SO-DIMM (Non-ECC), support multiple display from VGA/LVDSD/DDI1/2, 4 x SATAIII, 1x GbE LAN, 2 x COM, 4x USB 3.0, 8 x USB2.0, HD Audio, 8-bit GPIO

Optional Accessories
- CPU Cooler (P/N: 5050200161X00)
- Heat spreader (P/N: TBD)
- TPM 2.0 Module KIT (P/N: 79E00TPM01X00)

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