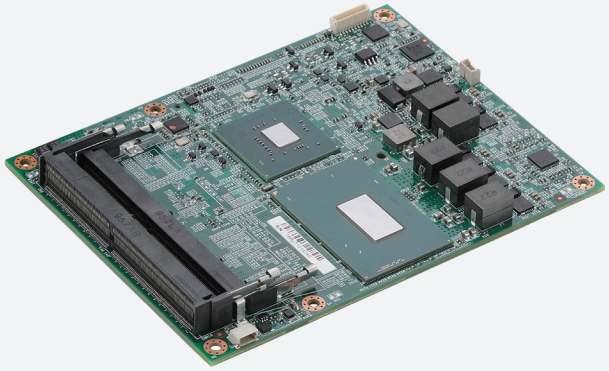
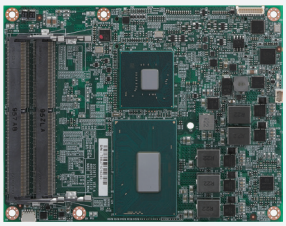
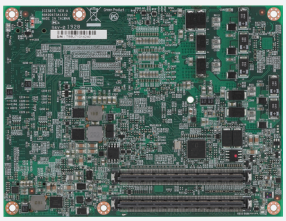
ICES 675

COM Express Basic Type 6

8th Gen Intel® Core™/Xeon® Processors







Main Features

- 8th Gen 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 24-bit dual channel
- PCI express lane x16 (configurable: “1 x 16”;“2 x 8”;“1 x 8 + 2 x 4”)
- PCI express lane x1 (Gen 3), 8 x (can be configured x 1, x 4)
- IO: 2 x UART (RX/TX), 8-bit DIO, WDT, TPM (optional)

Product Overview

The ICES 675 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 ICES 675 integrated Intel® HD graphics engines support or expands via PCI express graphic 1 x16 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), Intel® Core™ i7-8850H processor (non-ECC) and Intel® Core™ i5-8400H processor (non-ECC).

The high performance ICES 675 COM express basic module supports 1 x GbE LAN, 4 x USB 3.1 GEN1, 8 x USB 2.0, 4 x SATA 3.0, 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 Support

- 8th Gen 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 engine
- 1 x VGA connector (resolution up to 1920 x 1080@60Hz)
- 1 x LVDS connector(resolution up to 1920 x 1080@60Hz)
- DDI 1/2 port configurable to HDMI 1.4/DVI/display port 1.4 HDMI up to 4096 x 2160@30Hz/24bpp, DVI up to 1920 x 1200@60Hz, DP up to 4096 x 2304@60Hz

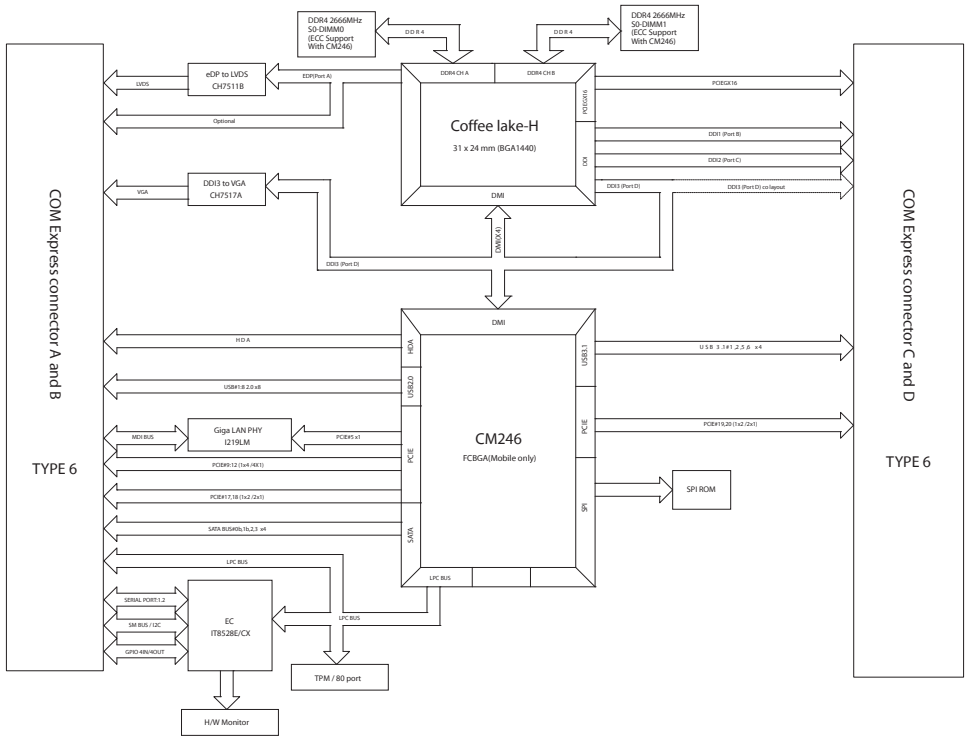
BIOS

- AMI (UEFI)

COM Express Connector

- AB: LVDS: (LVDS/eDP co-lay), VGA: (VGA/DDI port3 co-lay), 1 x GbE LAN, 6 x PCIe x1, HD audio, 4 x SATA 3.0, 8 x USB 2.0, LPC Bus, SM Bus/I2C, 2 x COM, GPIO 8-bit
- CD: DDI1, DDI2, 1 x PCIe x16, 2 x PCIe x1, 4 x USB 3.0

Block Diagram



Power Requirement

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

Dimensions

- 125 mm x 95 mm

Environment

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

Certifications

- Meet CE/FCC Class B

Ordering Information

Barebone

- **ICES 675 (P/N: 10K00067500X0)**
  Onboard Intel® 8th Intel® Xeon® E-2176M processorr, 2 x DDR4 SO-DIMM (support ECC), support multiple display from VGA/LVDSD/ DDI1/2, 4 x SATA 3.0, 1 x GbE LAN, 2 x COM, 4 x USB 3.0, 8 x USB 2.0, HD audio, 8-bit GPIO

- **ICES 675-8850H (P/N: 10K00067502X0)**
  Onboard Intel® 8th Intel® Core™ i7-8850H processor, 2 x DDR4 SO-DIMM (non-ECC), support multiple display from VGA/LVDSD/ DDI1/2, 4 x SATA 3.0, 1 x GbE LAN, 2 x COM, 4 x USB 3.0, 8 x USB 2.0, HD audio, 8-bit GPIO

- **ICES 675-8400H (P/N: 10K00067501X0)**
  Onboard Intel® 8th Intel® Core™ i5-8400H processor, 2 x DDR4 SO-DIMM (non-ECC), support multiple display from VGA/LVDSD/ DDI1/2, 4 x SATA 3.0, 1 x GbE LAN, 2 x COM, 4 x USB 3.0, 8 x USB 2.0, HD audio, 8-bit GPIO

Optional Accessories

- **CPU cooler (P/N: TBD)**
- **Heat spreader (P/N: TBD)**
- **TPM 2.0 module kit (P/N: 5050300994X00)**

We reserve the right to change specifications and product descriptions at any time without prior notice.