

Main Features

- Onboard 6/7th Gen Intel® Core™ i7/i5/i3/Xeon® + PCH QM175/CM238 (optional)
- 2 channel DDR4 with non-ECC/SO-DIMM 2133MHZ up to 32GB
- Support display LVDS/VGA/DDI 1/DDI 2
- PCIe x16/8 PCIe x1, 4 x USB 3.0, 8 x USB 2.0, 4 x SATA 3.0 and GBE

Product Overview

The ICES 674 is a COM express type 6-pinouts basic module which featuring Intel® 100 series PCH chipset supports Intel® 6th and 7th generation Intel® Core™ with Dual DDR4 SO-DIMM socket up to 32GB DDR4 2400MHZ SDRAM. The ICES 674 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® Core™ i7/i5 with quad-core or dual core. The high performance ICES 674 COM express basic module supports 4 x USB 3.0/8 x USB 2.0, 4 x SATA 3.0 and 8 x PCIe x 1 lanes through our NEXCOM designed ICEB 8060 as well as customized solution for your embedded projects.

Specifications

CPU/Chipset

- Support Intel® Mobile QM175
- Intel® i7-7820EQ Core™ i7, 4 x 3.0 GHz (3.7 GHz), GT2, 45/35 W
- Intel® i7-6820EQ Core™ i7, 4 x 2.8 GHz (3.5 GHz), 45 W
- Intel® i7-6822EQ Core™ i7, 4 x 2.0 GHz (2.8 GHz), 25 W
- Intel® i5-7440EQ Core™ i5, 4 x 2.9 GHz (3.6 GHz), GT2, 45/35 W
- Intel® i5-7442EQ Core™ i5, 4 x 2.1 GHz (2.9 GHz), GT2, 25 W
- Intel® i5-6440EQ Core™ i5, 4 x 2.7 GHz (3.4 GHz), 45 W
- Intel® i5-6442EQ Core™ i5, 4 x 1.9 GHz (2.7 GHz), 25 W

Main Memory

- Dual channel DDR4 SO-DIMM memory socket with non-ECC support, up to 32 GB 2133/2400MHZ

Display

- Integrated Intel® Gen 9 graphics graphic 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/DisplayPort
- 1.2 HDMI up to 4096 x 2160 @ 30/24Hz, DVI up to 1920 x 1200 @ 60Hz, DP up to 4096 x 2304 @ 60Hz)

BIOS

- Up to 1 x 8MB (128Mb) SPI flash ROMs
- AMI (UEFI)

COM Express Connector

- AB :
LVDS, VGA (VGA/eDP co-lay), 1 x Gbe LAN, 6 x PCIe x1, HD Audio, 4 x SATA III, 8 x USB 2.0, LPC Bus, SM Bus/I2C, 2 x COM, GPIO 8-bit
- CD :
eDP (VGA/eDP co-lay), 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

Dimensions

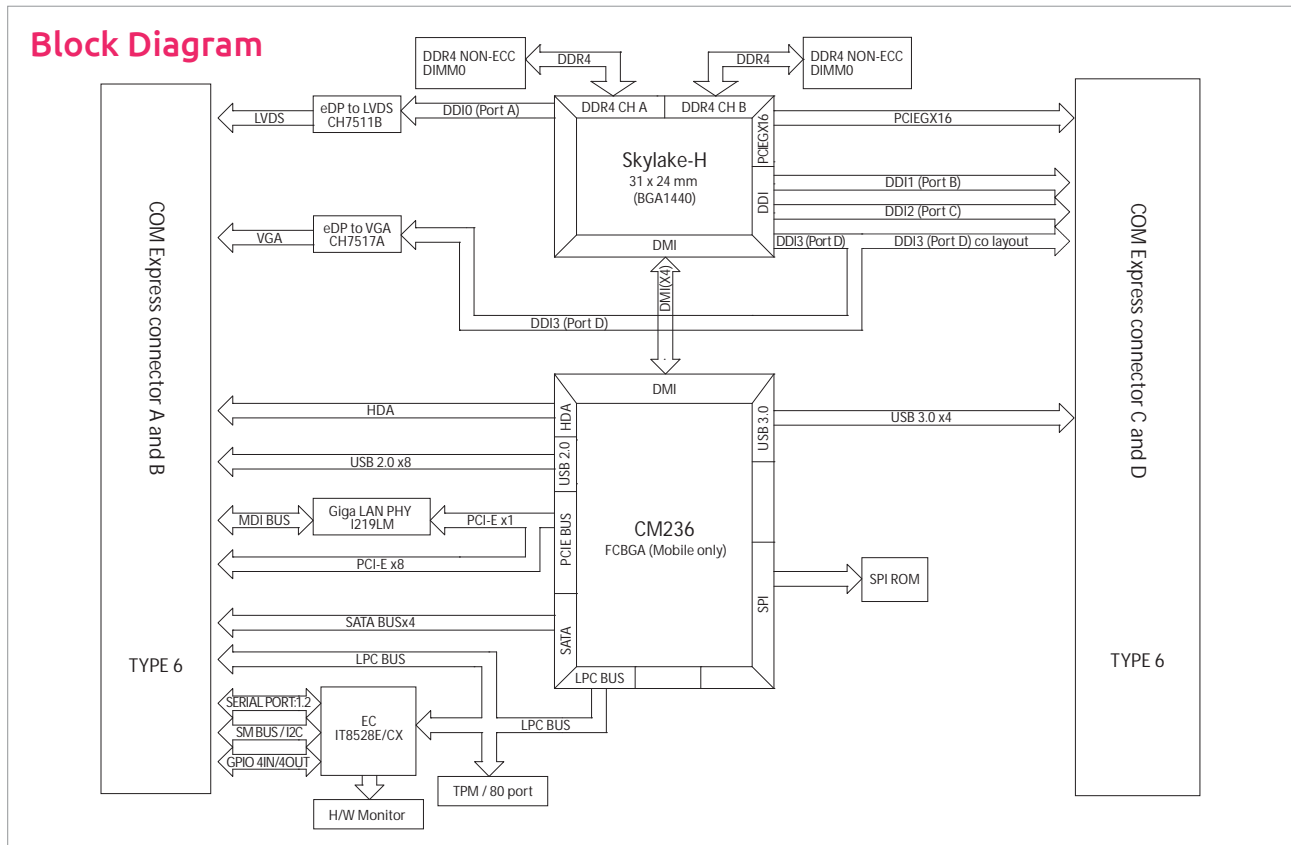
- 125mm (W) x 95mm (L)

Environment

- Board level operation temperature : -15°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 A



Ordering Information

Barebone

- ICES 674 (P/N: 10K00067400X0)**
 On-board Intel® 7th i7-7820E processor, w/DDR4 SO-DIMM, support multiple display from VGA/LVDS/DDI1/2, 4 x SATA III, 1 x GbE LAN, 2 x COM, 4 x USB 3.0, 8 x USB 2.0, HD audio, 8bit GPIO
- ICES 674-644EQ (P/N: 10K00067401X0)**
 On-board Intel® 6th ICES 674-644 EQ processor, w/DDR4 SO-DIMM, support multiple display from VGA/LVDS/DDI1/2, 4 x SATA III, 1 x GbE LAN, 2 x COM, 4 x USB 3.0, 8 x USB 2.0, HD audio, 8-bit GPIO

Optional Accessories

- ICES 674 heat spreader thermal pad screw**
 (P/N: 79K0067401X00)
- ICES 674 cpu cooler fan heat sink screw**
 (P/N: 79K0067402X00)

* Notice

Heat spreader: The heat spreader acts as a thermal coupling device to the module and is thermally coupled to the CPU via a thermal gap filler. On some modules, it may also be thermally coupled to other heat generating components with the use of additional thermal gap fillers. Although the heatspreader is the thermal interface where most of the heat generated by the module is dissipated, it is not to be considered as a heatsink. It has been designed as a thermal interface between the module and the application specific thermal solution.