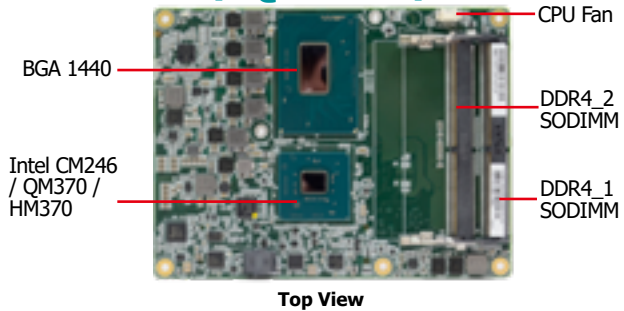
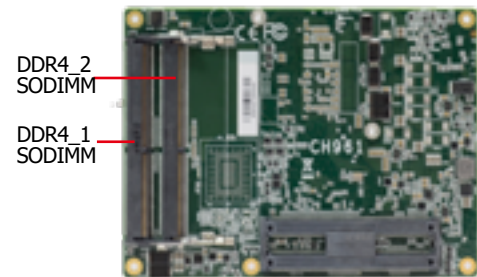


CH961- CM246/QM370/HM370

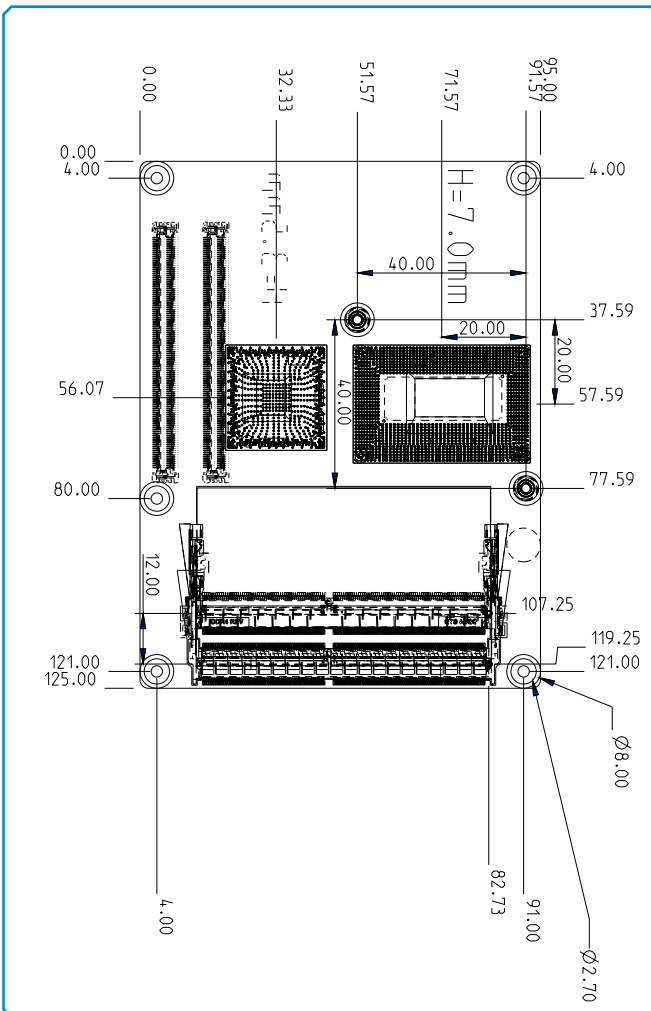


Top View



Bottom View

Mechanical Drawing



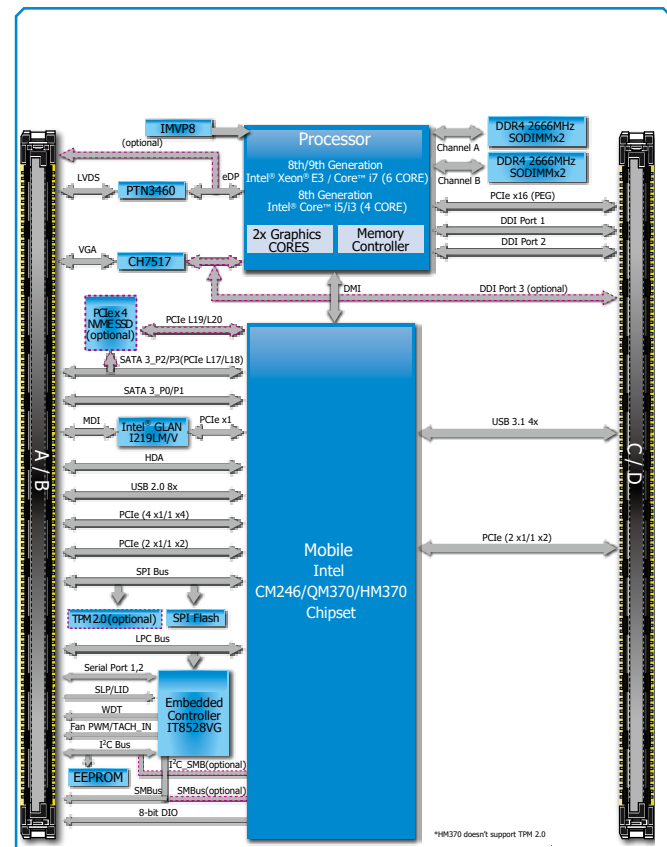
Features

- Dual channel DDR4 2666MHz SODIMM up to 96GB
- Four display ports: VGA*/DDI + LVDS*/eDP + 2 DDI Supports three independent displays
- DP++ resolution supports up to 4096x2304 @ 60Hz
- Multiple expansion: 1 PCIe x16, 8 PCIe x1
- Rich I/O: 1 Intel GbE, 4 USB 3.1, 8 USB 2.0

* Populated by default



Block Diagram



PCIe L0~3				PCIe L4~5		PCIe L6~7	
x4				x4			
x2	x2	x2	x2	x1	x1	x1	x1
x1	x1	x1	x1	x1	x1	x1	x1

* 8 x PCIe x1 or 2 x PCIe x4 or 4 x PCIe x2

Specifications

SYSTEM	Processor	8th/9th Generation Intel® Core™ Processors, BGA 1440 Intel® Core™ i7-8850H, 6 Cores, 12M Cache, 2.6GHz (4.3GHz), 45W (CM246/QM370) Intel® Core™ i5-8400H, 4 Cores, 8M Cache, 2.5GHz (4.2GHz), 45W (CM246/QM370/HM370) Intel® Core™ i3-8100H, 4 Cores, 6M Cache, 3.0GHz, 45W (QM370/HM370) Intel® Core™ i3-9100HL, 4 Cores, 6M Cache, 1.6GHz (2.9GHz), 25W (HM370) Intel® Core™ i7-9850HL, 6 Cores, 9M Cache, 1.9GHz (4.1GHz), 25W (QM370) Intel® Core™ i7-9850HE, 6 Cores, 9M Cache, 2.7GHz (4.4GHz), 45W (QM370) Intel® Xeon® E-2176M, 6 Cores, 12M Cache, 2.7GHz (4.4GHz), 45W (CM246/QM370) Intel® Xeon® E-2276ML, 6 Cores, 12M Cache, 2.0GHz (4.2GHz), 25W (CM246) Intel® Xeon® E-2276ME, 6 Cores, 12M Cache, 2.8GHz (4.5GHz), 45W (CM246) Intel® Xeon® E-2254ML, 4 Cores, 8M Cache, 1.7GHz (3.5GHz), 25W (CM246) Intel® Xeon® E-2254ME, 4 Cores, 8M Cache, 2.6GHz (3.8GHz), 45W (CM246) Intel® Celeron® G4930E, 2 Cores, 2M Cache, 2.4GHz (2.4GHz), 35W (CM246) Intel® Celeron® G5600E, 2 Cores, 4M Cache, 3.9GHz, 35W (HM370) Intel® Celeron® G4932E, 2 Cores, 2M Cache, 1.9GHz (1.9GHz), 25W (HM370)
Chipset	Intel® CM246 Chipset (Support ECC)	Intel® QM370/HM370 Chipset
Memory	Four 260-pin SODIMM up to 96GB	
BIOS	AMI SPI 128Mbit	
GRAPHICS	Controller	Intel® HD Graphics
Feature	OpenGL up to 4.5, DirectX 11, OpenCL 2.1 HW Decode: HEVC/H.265, H.264, M/JPEG, MPEG2, VC1/WMV9, VP8 (8-bit), VP9 (10-bit) HW Encode: HEVC/H.265, M/JPEG, MPEG2, VP8	
Display	1 x VGA/DDI (DDI available upon request) 1 x LVDS/eDP (eDP available upon request) 2 x DDI (HDMI/DVI/DP++)	VGA: resolution up to 2560x1600 @ 60Hz LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz HDMI: resolution up to 2560x1600@60Hz/4096x2160@24Hz DVI: resolution up to 1920x1200 @ 60Hz DP++/eDP: resolution up to 4096x2304 @ 60Hz
EXPANSION	Triple Displays	VGA + LVDS + DDI or VGA + DDI 1 + DDI 2 eDP + 2 DDI (available upon request)
Interface	1 x PCIe x16 or 2 x PCIe x8 (Gen 3) 8 x PCIe x1 or 2 x PCIe x4 or 4 x PCIe x2 (Gen 3) 1 x LPC 1 x I ² C 1 x SMBus 2 x UART (TX/RX)	
AUDIO	Interface	HD Audio
ETHERNET	Controller	1 x Intel® I219LM/V with iAMT12.0 10/100/1000Mbps PCIe (Only CM246/QM370 has iAMT)
I/O	USB	4 x USB 3.1 8 x USB 2.0
SATA	4 x SATA 3.0 (up to 6Gb/s) RAID 0/1/5/10	
DIO	1 x 8-bit DIO (Default 4 inputs and 4 outputs)	
STORAGE (Option)	NVMe SSD	PCIe x4, 64GB~1TB Share NVMe SSD PCIe 0/1 Port with SATA 2/3 Port SSD is alternative function with SATA 2/3 Port SSD and 2nd DDR4 SO-DIMM(DIMM2) is alternative function. Micron 2100AI for normal temp. Micron 2100AT for wide temp.
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM	TPM2.0 by request. (CM246/QM370)
POWER	Type	8.5V~20V, 5VSB, VCC_RTC (ATX mode)
OS SUPPORT	Consumption	TBD
ENVIRONMENT	Temperature	Windows: Windows 10 IoT Enterprise 64-bit Linux Operating: 0 to 60°C Storage: -40 to 85°C -40 to 85°C
MECHANICAL	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH
Dimensions	MTBF	TBD
Compliance	Dimensions	COM Express® Basic 95mm (3.74") x 125mm (4.9")
	Compliance	PICMG COM Express® R3.0, Type 6