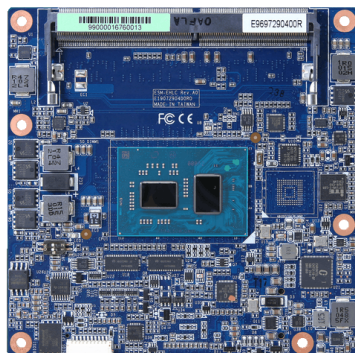




ESM-EHLC

Onboard Intel® Celeron®/ Pentium®/ Atom™ Sc BGA Processor Type 6 COMe Compact Mod

Onboard Intel® Celeron®/ Pentium®/ Atom™ Sc Processor

2x SODIMM DDR4 3200 SDRAM slot up to 32GB
In-Band ECC memory protection (selected SKUs)
Triple display support, Display Port1.4, HDMI2.0
Dual Channel LVDS, VGA, eDP1.3 (optional)

Intel I225 Gigabit Ethernet

2 SATA (6.0GB/s), 8 USB 2.0, 4 x USB 3.2 Gen2
PCIex1 Gen3, 8-bit GPIO, eMMC Flash (build op

HD Audio Interface

+9~+19V Wide Range Power Input

Type 6 Rev3.0 Pin-out

Compact Size: 95x95mm

TPM2.0 (Optional)

eMMC 5.1 up to 128GB (optional)



Spec

System Information

Processor

Intel® Celeron® J6413 4C 1.8 GHz/ 10W
Intel® Celeron® J6412 4C 1.8 GHz/ 10W
Intel® Atom® x6413E 4C 1.5 GHz/ 9W
Intel® Atom® x6425RE 4C 1.9 GHz/ 12W

Platform Controller Hub

Elkhart Lake SoC integrated

System Memory

Two 260-pin SODIMM DDR4 3200 SDRAM slot up to 32GB, support In-Band ECC memory protection (selected SKU)

I/O Chipset

ITE IT5571

BIOS Information

AMI uEFI BIOS, 256 Mbit SPI Flash ROM

Watchdog Timer

H/W Reset, 1sec. ~ 65535sec. and 1sec./step

H/W Status Monitor

Monitoring System Temperature, Voltage and FAN Status with Auto Throttling Control

TPM

TPM 2.0 (Optional)

Expansion

Expansion

3 PCIex1 Gen3 (8.0 GT/s)

I/O

USB Port

8 x USB 2.0
4 x USB 3.2 Gen2x1 (10 Gbps)

COM Port

2 x COM Ports (RX/TX only)

SATA

2 x SATA3.0 (6.0Gb/s)

DIO

1 x 8bit GPIO

MIO

1 x SMBus
1x LPC (via eSPI-to-LPC bridge), or 1x eSPI (Only support 20MHz), build option
1 x I2C 1 x I2C

Other

eMMC 5.1 up to 128GB (optional)

Display

Graphic Chipset

Intel® Elkhart Lake SoC Processor integrated Gen11 LP graphics

Spec. & Resolution

HDMI 1.4b/2.0b: 4096x2160 @60Hz
DP 1.4: 4096x2160 @60Hz *Per Intel design guide, need to add Redriver (Redriver in carrier board to fine tune the si
eDP 1.3b (Optional): 4096x2160 @60Hz (Only support 4Lanes 2560x1440 & 2Lanes 1920x1080)
LVDS(via eDP-to-LVDS): 1920x1080 @60Hz, LVDS via CH7511B
VGA(via DP-to-VGA): 1920x1080 @60Hz, VGA via CH7517A (DP to VGA)

LVDS

CH7511B(eDP to LVDS)

DDI

HDMI
DP
DisplayPort

Audio

Audio Interface

Intel® HD Audio integrated in SoC

Certifications

Certification Information

CE
FCC Class B

Ethernet

LAN Chipset

1 x Intel KT1225LM for STD-Temp. SKU 1 x Intel KT1225IT for Wide-Temp. SKU

Ethernet Interface

1 x 10BASE-TE/100BASE-TX/1000BASE-T/2500BASE-T compatible Gigabit, above 70°C Tc, the recommended spe

Mechanical & Environmental

1/4/24, 2:21 PMAvalue - Medical panel pc,Embedded platform,Fanless touch panel,Medical panel pc,Embedded pc,Embedded board, Industri...

Operating Temperature	Operating Standard: 0°C ~ 60°C with 0.2m/s air flow Conditional extend: -40°C ~ 85°C with 0.5m/s air flow. (Note: Above 70°C Tc, the recommended ethernet speed is 1G
Storage Temperature	-40°C ~ 75°C (-40°F ~ 167°F)
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing
Weight	0.44lbs (0.2kg)
Power Requirement	+9V ~ +19V
ACPI	Single power ATX Support S0, S3, S4, S5 ACPI 6.0 Compliant
Power Mode	AT/ATX
Dimension (L x W)	95 x 95 mm (3,74" x 3,74")

Software Support



OS Information	Windows* 10 IoT Enterprise (64-bit) Linux
Ordering Information	
Ordering Information	ESM-EHLC-J6413-A1R Intel® Celeron® SoC Processor J6413 Type6 COMe Compact Module
	ESM-EHLC-J6412-A1R Intel® Celeron® SoC Processor J6412 Type6 COMe Compact Module
	ESM-EHLC-X13E-A1R Intel® Atom® SoC Processor x6413E Type6 COMe Compact Module
	ESM-EHLC-X25RE-A1R Intel® Atom® SoC Processor x6425RE Type6 COMe Compact Module
	EEV-EX16-B1R mATX Ev. Board for COMe Type 6
	ACC-ESMEHLC-SK-1R Heatsink of ESM-EHLC W/O FAN H=34mm for Standard Temp. SKUs
	ACC-ESMEHLC-CL-1R Cooler of ESM-EHLC W/FAN H=60mm for Wide Temp. SKUs
	ACC-ESMEHLC-SD-1R Heatspreader for ESM-EHLC H=11mm for the Module W/ Standard Temp. CPU SKUs
	ACC-ESMEHLC-SD-2R Heatspreader for ESM-EHLC H=11mm for the Module W/ Wide Temp. CPU SKUs

