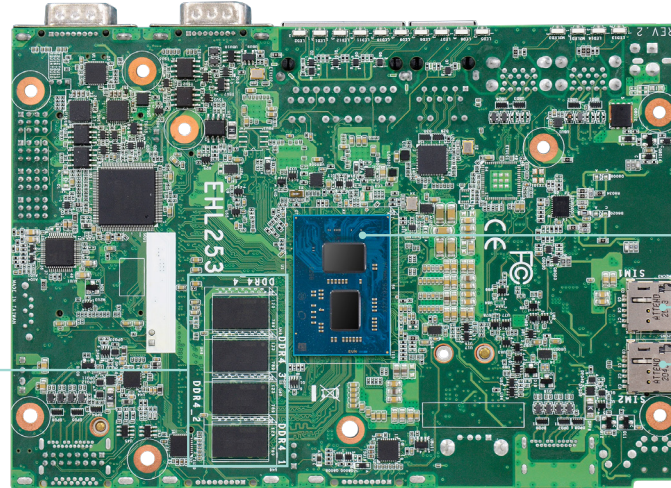
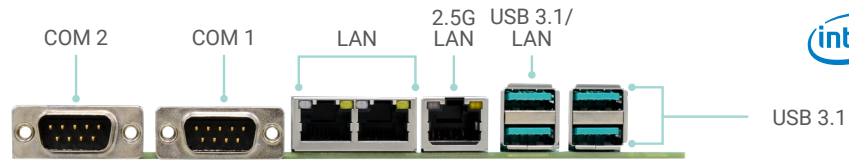


EHL253

Atom

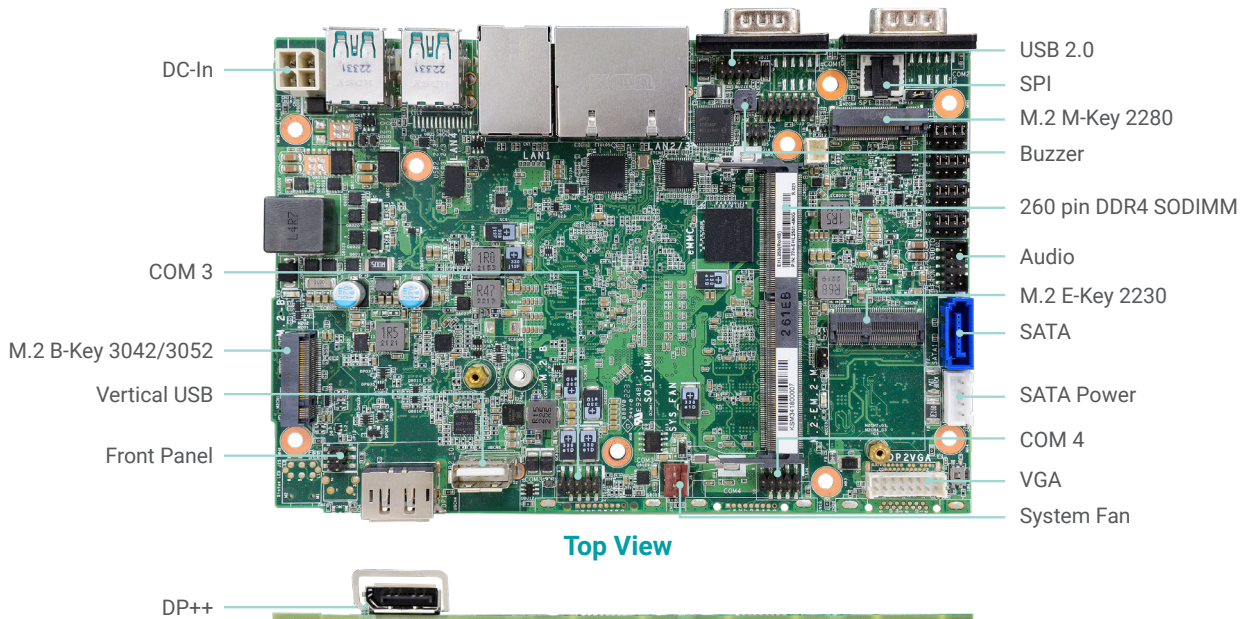


Intel® Atom® Processor X Series
4" SBC



- COM 2
- COM 1
- LAN
- 2.5G LAN
- USB 3.1/LAN
- USB 3.1
- Intel® Atom® Processor X Series
- SIM1
- SIM2
- DDR4 on board Memory

Bottom View



- DC-In
- COM 3
- M.2 B-Key 3042/3052
- Vertical USB
- Front Panel
- DP++
- USB 2.0
- SPI
- M.2 M-Key 2280
- Buzzer
- 260 pin DDR4 SODIMM
- Audio
- M.2 E-Key 2230
- SATA
- SATA Power
- COM 4
- VGA
- System Fan

KEY FEATURES



DDR4

On board DDR4 +
1 DDR4 3200 SODIMM



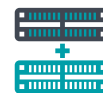
4K High Resolution

Supports 4K/ 2K resolution



Dual Independent Displays

1 VGA + 1 DP++



Multiple Expansion

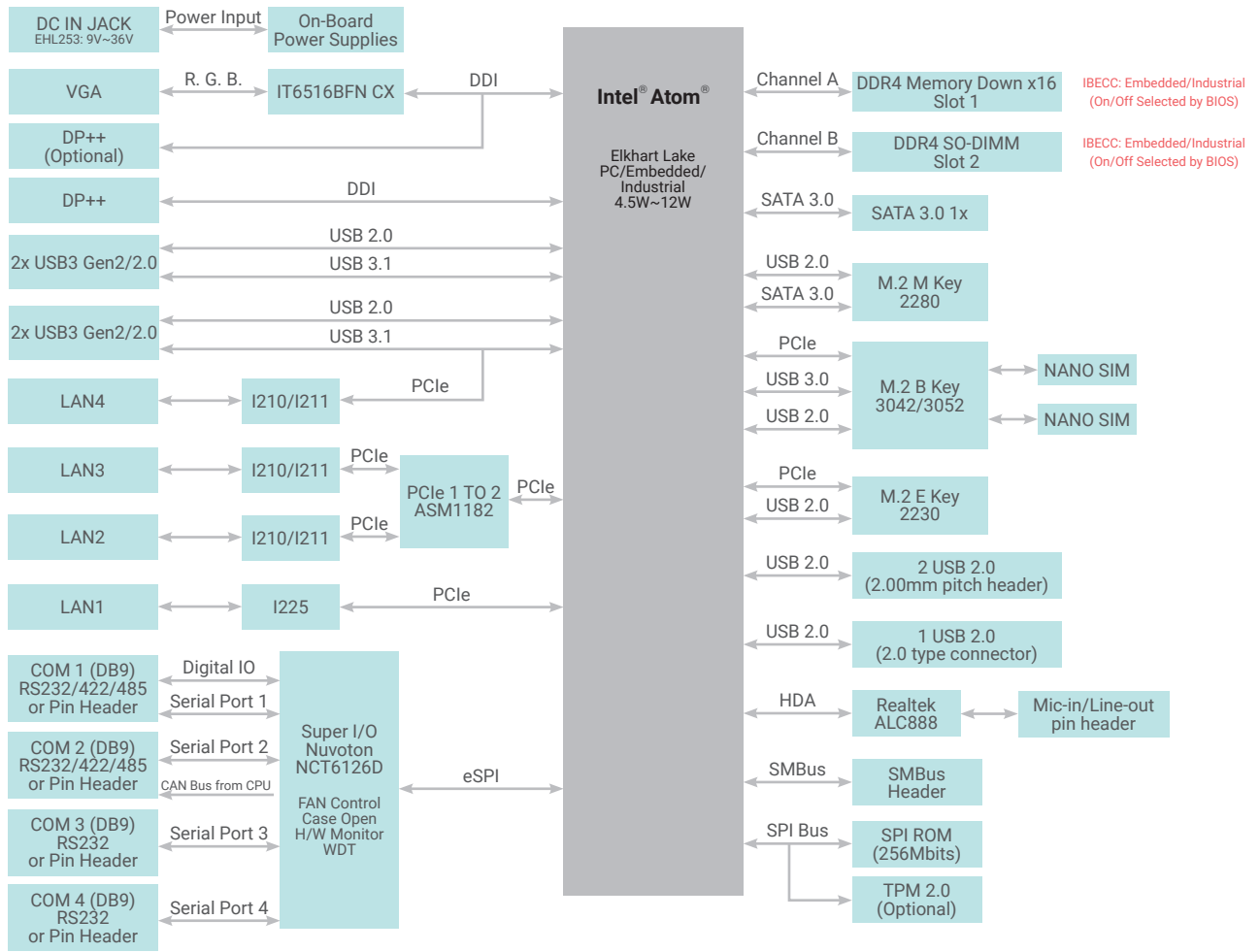
1 M.2 E Key,
1 M.2 B Key,
1 M.2 M Key



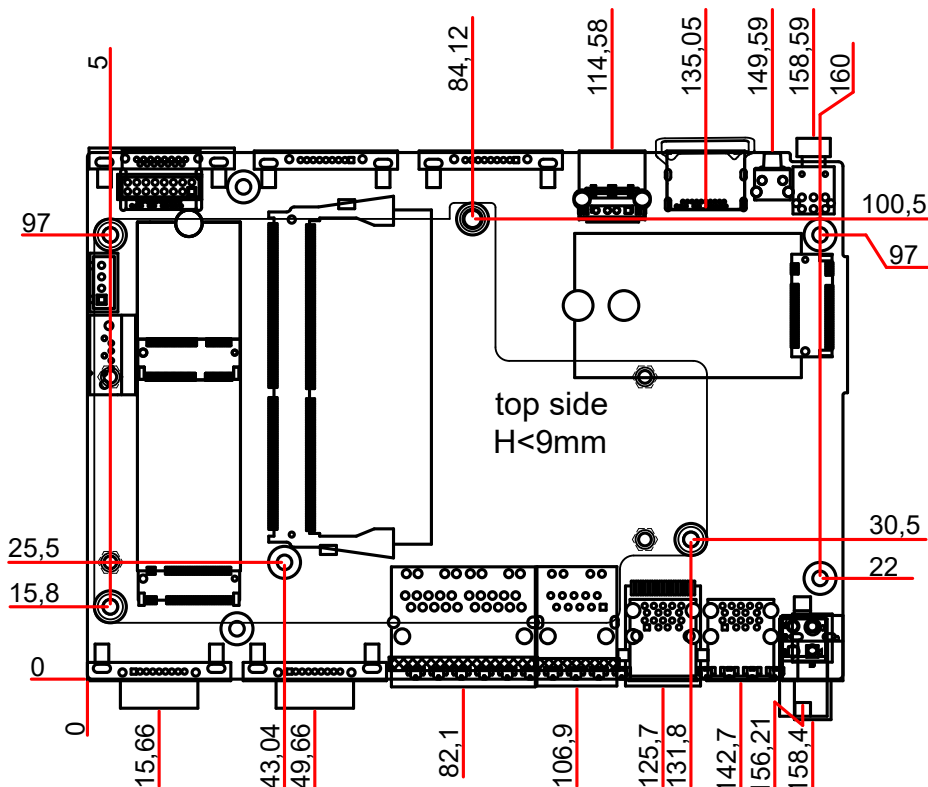
Rich I/O

2 or 3 GbE, 1 2.5 GbE,
2 or 4 USB 3.1, 2 USB 2.0,
1 USB 2.0 (Vertical),
2 COM + 2 COM (Internal),
1 SATA 3.0

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	<p>Intel Atom Elkhart Lake</p> <p>Industrial</p> <p>Intel® Atom® x6425RE 4 cores, 1.9 GHz, TDP 12W</p> <p>Embedded</p> <p>Intel® Atom® x6211E 2 cores, 1.3 to 3.0 GHz, TDP 6.5W</p> <p>Intel® Atom® x6413E 4 cores, 1.5 to 3.0 GHz, TDP 9W</p> <p>Intel® Atom® x6425E 4 cores, 2.0 to 3.0 GHz, TDP 12W</p> <p>PC Client</p> <p>Intel® Celeron® J6412 4 cores, 2.0 to 2.6 GHz, TDP 10W</p> <p>Intel® Celeron® J6413 4 cores, 1.8 to 3.0 GHz, TDP 10W</p>	
	Memory	<p>4GB/8GB DDR4 Memory onboard</p> <p>One 260 pin DDR4 SODIMM up to 3200MHz</p> <p>Total Memory up to 32GB</p> <p>(in-band ECC support in embedded/industrial SKU)</p>	
	BIOS	<p>AMI SPI 256Mbit (supports UEFI boot only)</p>	
GRAPHICS	Controller	<p>Intel® UHD Graphics for 10th Gen Intel® Processors</p>	
	Feature	<p>OpenGL 4.5, DirectX 12, Open CL 1.2, Vulkan 1.1</p> <p>HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9</p> <p>HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP9</p>	
	Display	<p>1 x VGA (Support via VGA cable)</p> <p>1 x DP++</p>	
STORAGE	Internal	<p>SATA III</p>	
	eMMC	<p>16GB/32GB (Available upon request)</p>	
EXPANSION	Interface	<p>1 x M.2 2280 (SATA)</p> <p>1 x M.2 2230 (USB/PCIe)</p> <p>1 x M.2 3042/3052 (USB 3.0/PCIe) with dual SIM</p>	
AUDIO	Audio Codec	<p>Realtek ALC888</p>	
ETHERNET	Controller	<p>2 or 3 x Intel® Ethernet Controller I210/I211 GbE LAN</p> <p>1 x Intel® Ethernet 2.5GbE LAN</p>	
FRONT I/O	Ethernet	<p>2 or 3 x GbE (RJ-45) (configuration options)</p> <p>1 x 2.5GbE TSN RJ45</p>	
	Serial	<p>2 x RS232/422/485</p>	
	USB	<p>2 or 4 x USB 3.1 (configuration options)</p>	
	DIO	<p>8-bit DIO (jumper switch to COM)</p>	
INTERNAL I/O	Serial	<p>2 x RS232</p>	
	USB	<p>2 x USB 2.0 (Pin header)</p> <p>1 x USB 2.0 (Vertical)</p>	
	Display	<p>1 x VGA</p>	
	Audio	<p>1 x Audio (Line Out and Mic in)</p>	
	SATA	<p>1 x SATA 3.0</p> <p>1 x 5V SATA Power (support SATA HDD LED via front panel)</p>	
	Front Panel	<p>1 x front panel (power button/reset button, power LED, HDD act LED)</p>	
	SMBus	<p>1 x SMBus</p>	
REAR I/O	Display	<p>1 x DP++</p>	
WATCHDOG TIMER	Output & Interval	<p>System Reset, Programmable via Software from 1 to 255 Seconds</p>	
SECURITY	TPM	<p>TPM 2.0 (Available Upon Request)</p>	
POWER	Type	<p>Wide Range 9~36VDC</p>	
	Connector	<p>DC Jack (or vertical type 4pin connector)</p>	
	RTC Battery	<p>CR2032 Coin Cell</p>	
OS SUPPORT	Microsoft	<p>Windows 10 IoT Enterprise LTSC 2019 RS5</p>	
	Linux	<p>Linux</p>	
ENVIRONMENT	Temperature	<p>Operating: 0 to 80°C (PC Client SKU)</p> <p>Operating: -40 to 80°C (Embedded SKU)</p>	<p>Storage: -40 to 85°C</p>
	Humidity	<p>Operating: 5 to 90% RH</p>	<p>Storage: 5 to 90% RH</p>
MECHANISM	Dimensions	<p>4" SBC Form Factor</p> <p>165mm (6.5") x 115mm (4.53")</p>	
STANDARDS AND CERTIFICATIONS	Certifications	<p>CE, FCC Class B (TBD in later stage)</p>	

ORDERING INFORMATION

Model Name	Part Number	Processor	Memory	Display	USB	LAN	COM	In-Band ECC Support	Operating Temp.	TCC
EHL253	770-EHL2531-000G	Intel® Celeron® J6412	1 SODIMM	DP++ / *VGA	2 USB 2.0 4 USB 3.1	1 2.5GbE 2 GbE	2 COM	N/A	0 to 80°C	N/A
EHL253	770-EHL2531-400G	Intel® Atom® x6425RE	1 SODIMM	DP++ / *VGA	2 USB 2.0 2 USB 3.1	1 2.5GbE 3 GbE	2 COM	YES (Default disabled)	-40 to 80°C	Support

*VGA: VGA display support via cable

PACKING LIST

• 1 EHL253 board	
• 1 COM port cable	A81-015019-004G
• 1 SATA data with 4pin power cable	A81-002118-054G
• 1 Heat sink	
• 1 VGA cable	A81-012004-001G
• 1 DC cable	A81-004241-054G

OPTIONAL ITEMS

• Power adapter, 60W L=1000mm	671-106013-000G
• Power adapter, 60W L=1500mm	671-106012-000G
• USB 2.0 cable	A81-001170-016G
• Front panel cable	TBD
• Audio Cable	A81-022019-016G
• Heat spreader	TBD