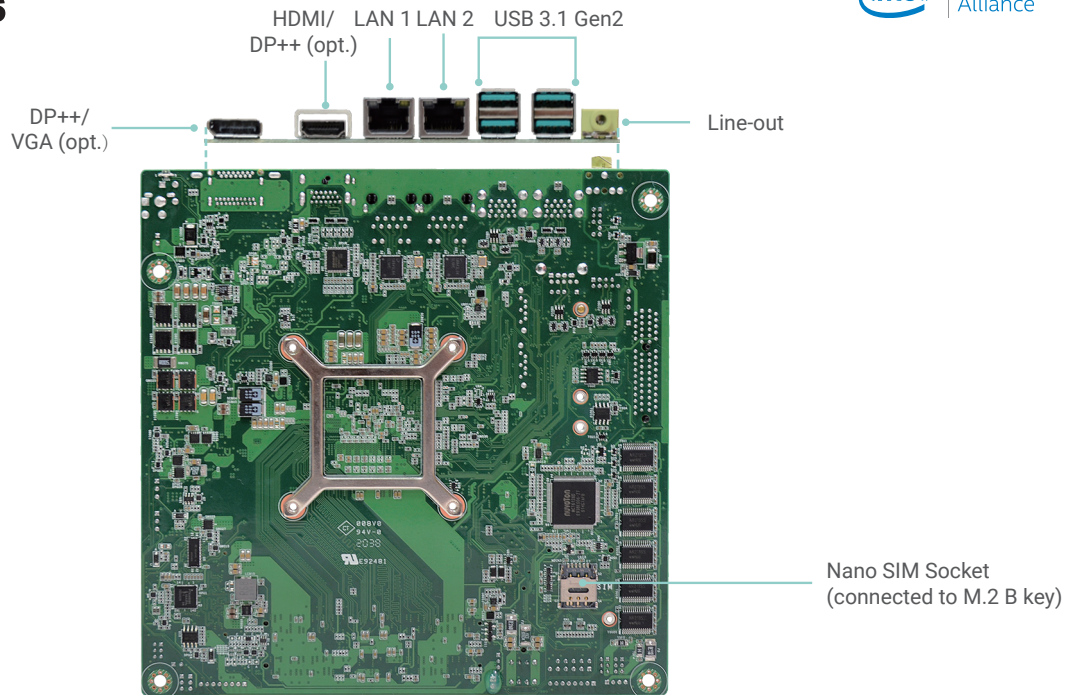


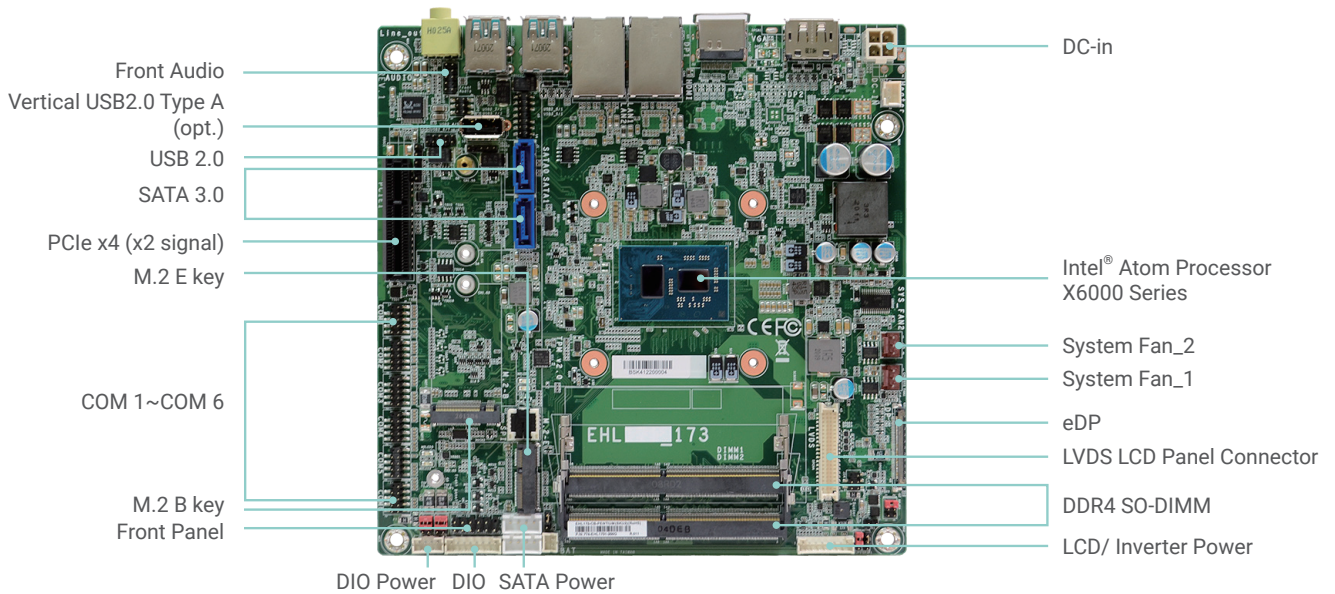
# EHL171/EHL173

Atom

Intel® Atom® Processor X6000 Series  
mini-ITX



Bottom View



Top View

\*The photo above refers to EHL173.

## KEY FEATURES



### DDR4

2 DDR4 SODIMM up to 32GB



### 4K High Resolution

Supports 4K/ 2K resolution



### 3 Independent Displays

1 DP++/VGA, 1 HDMI/ DP++, 1 eDP/LVDS



### Multiple Expansion

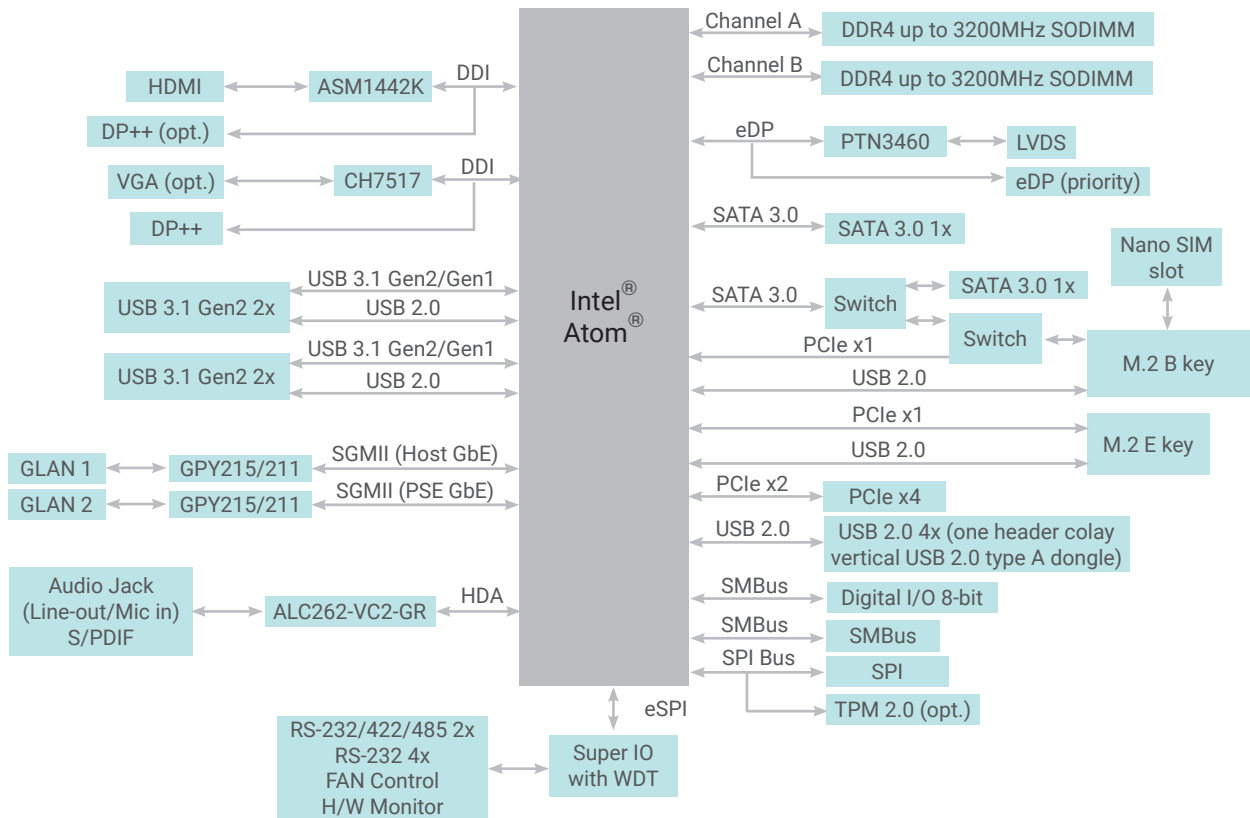
1 M.2 B Key, 1 M.2 E Key, 1 PCIe x4 (x2 signal)



### Rich I/O

2 2.5GbE, 4 USB 3.1 Gen2, 6 COM, up to 4 USB 2.0

## BLOCK DIAGRAM



## MECHANICAL DRAWING



## SPECIFICATION

SYSTEM	<b>Processor</b>	Intel Atom® x6000 Series Processors, BGA 1493 Intel® Atom® x6425E Processor, Quad Core, 1.5M Cache, 1.8GHz (3.0GHz), 12W Intel® Atom® x6413E Processor, Quad Core, 1.5M Cache, 1.5GHz (3.0GHz), 9W Intel® Atom® x6211E Processor, Dual Core, 1.5M Cache, 1.2GHz (3.0GHz), 6W Intel® Pentium® J6413 Processor, Quad Core, 1.5M Cache, 1.8GHz (3.0GHz), 10W	
	<b>Memory</b>	Two 260-pin SODIMM up to 32GB Dual channel DDR4 up to 3200MHz (in-band ECC support in embedded/industrial SKU)	
	<b>BIOS</b>	AMI SPI 256Mbit (supports UEFI boot only)	
GRAPHICS	<b>Controller</b>	Intel® UHD Graphics	
	<b>Feature</b>	OpenGL 4.5, DirectX 12, Open CL 1.2, Vulkan 1.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9 HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP9	
	<b>Display</b>	1 x DP++ (Colay VGA, MOQ required) 1 x HDMI 1.4b (Colay DP++, MOQ required) 1 x eDP/LVDS (eDP in priority)	HDMI: resolution up to 3840x2160 @ 30Hz DP++: resolution up to 4096x2160 @ 60Hz eDP: resolution up to 4096x2160 @ 60Hz VGA: resolution up to 2560x1600 @ 60Hz LVDS: resolution up to 1920x1200 @ 60Hz
	<b>Triple Displays</b>	DP++/VGA + HDMI/DP++ + eDP/LVDS	
EXPANSION	<b>Interface</b>	1 x PCIe x4 (PCIe x2 signal) 1 x M.2 2242/2280/3052 B Key (PCIe x1/SATA/USB2.0) 1 x M.2 2230 E Key (PCIe x1/USB2.0) 1 x Nano SIM socket (connected to M.2 B key)	
AUDIO	<b>Audio Codec</b>	Realtek ALC262-VC2-GR	
ETHERNET	<b>Phy</b>	-40~85°C: 2 x Intel® GPHY215 (10/100/1000/2500Mbps) or -5 to 65°C: 2 x Intel® GPHY211 (10/100/1000/2500Mbps)	
REAR I/O	<b>Ethernet</b>	2 x GbE (RJ-45)	
	<b>USB</b>	4 x USB 3.1 Gen2	
	<b>Display</b>	1 x HDMI/DP++ (opt., MOQ required) 1 x DP++ /VGA (opt., MOQ required)	
	<b>Audio</b>	1 x Line-out	
INTERNAL I/O	<b>Serial</b>	2 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch) 4 x RS-232 (2.0mm pitch)	
	<b>USB</b>	4 x USB 2.0 (2.0mm pitch) or 2 x USB 2.0 (2.00mm pitch) + 1 x Vertical USB 2.0 (type A) (opt., MOQ required)	
	<b>Display</b>	1 x eDP LCD Panel Connector (Colay LVDS LCD, auto-detection) 1 x LCD/Inverter Power	
	<b>Audio</b>	1 x S/PDIF 1 x Audio (Line-out/Mic-in)	
	<b>SATA</b>	2 x SATA 3.0 (up to 6Gb/s) (one SATA port shared with M.2 B key)	
	<b>DIO</b>	1 x 8-bit DIO	
	<b>SMBus</b>	1 x SMBus	
WATCHDOG TIMER	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	<b>TPM</b>	fTPM (default) dTPM2.0 (opt.)	
POWER	<b>Type</b>	Single 12V +/-10% DC (EHL171) Wide Range 9~36V (EHL173)	
	<b>Connector</b>	DC-in Jack Right Angle Connector (4-pin) (opt., MOQ required) Vertical Type Connector (4-pin) (opt., MOQ required)	
	<b>Consumption</b>	TBD	
	<b>RTC Battery</b>	CR2032 Coin Cell	
OS SUPPORT	<b>Microsoft</b>	Windows 10 IoT Enterprise 64-bit	
	<b>Linux</b>	Linux	
ENVIRONMENT	<b>Temperature</b>	Operating: -5 to 65°C, -40 to 85°C	Storage: -40 to 85°C
	<b>Humidity</b>	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	<b>MTBF</b>	TBD	
MECHANICAL	<b>Dimensions</b>	Mini-ITX Form Factor	170mm (6.7") x 170mm (6.7")
	<b>Height</b>	PCB: 1.6mm	Top Side: TBD
CERTIFICATIONS	CE, FCC, RoHS		

## ORDERING INFORMATION

Model Name	P/N	Processor	Memory	Display	GbE	RS-232	RS-232/422/485	USB 3.2 Gen2	USB 2.0	Power	Thermal	Temp.
EHL-CT-6425E	770-EHL1711-000G	x6425E	2 SODIMM	DP++ + DP++	2	2	4	2	4	12V DC	Fanless	-40 to 85°C
EHL-CT-6211E	770-EHL1711-100G	x6211E	2 SODIMM	DP++ + HDMI	2	2	4	2	4	12V DC	Fanless	-40 to 85°C
EHL-CT-6413E	770-EHL1711-200G	x6413E	2 SODIMM	DP++ + HDMI	2	2	4	2	4	12V DC	Fanless	-40 to 85°C
EHL-CB-6413	770-EHL1711-300G	J6413	2 SODIMM	VGA + HDMI	2	2	4	2	4	12V DC	Fanless	-5 to 65°C
EHL-CT-6425E	770-EHL1731-000G	x6425E	2 SODIMM	DP++ + DP++	2	2	4	2	4	9-36V DC	Fanless	-40 to 85°C
EHL-CT-N6211E	770-EHL1731-100G	x6211E	2 SODIMM	DP++ + HDMI	2	2	4	2	4	9-36V DC	Fanless	-40 to 85°C
EHL-CT-6413E	770-EHL1731-200G	x6413E	2 SODIMM	DP++ + HDMI	2	2	4	2	4	9-36V DC	Fanless	-40 to 85°C
EHL-CB-6413	770-EHL1731-300G	J6413	2 SODIMM	VGA + HDMI	2	2	4	2	4	9-36V DC	Fanless	-5 to 65°C

## PACKING LIST

1 EHL171/EHL173 motherboard	
1 COM port cable (Length: 250mm, 1 x COM ports)	A81-015011-001G
1 Serial ATA data with power cable (Length: 250mm)	A81-002013-000G
1 Heat sink	TBD

## OPTIONAL ITEMS

USB port cable (Length: 200mm)	A81-001032-016G
COM port cable (Length: 250mm, 1 x COM port)	A81-015011-001G
Serial ATA data with power cable (Length: 300mm)	A81-002013-000G