

EHL556

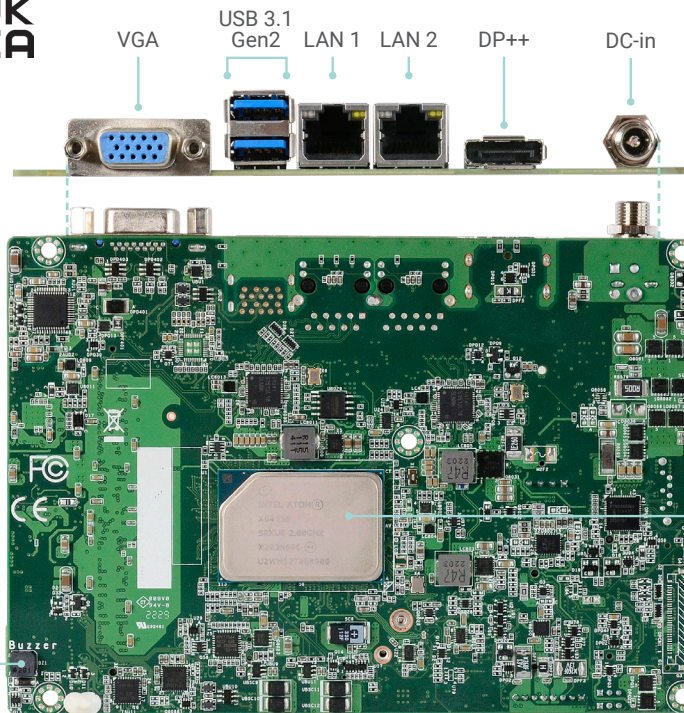
Atom



Intel® Atom® Processor X Series
3.5" SBC



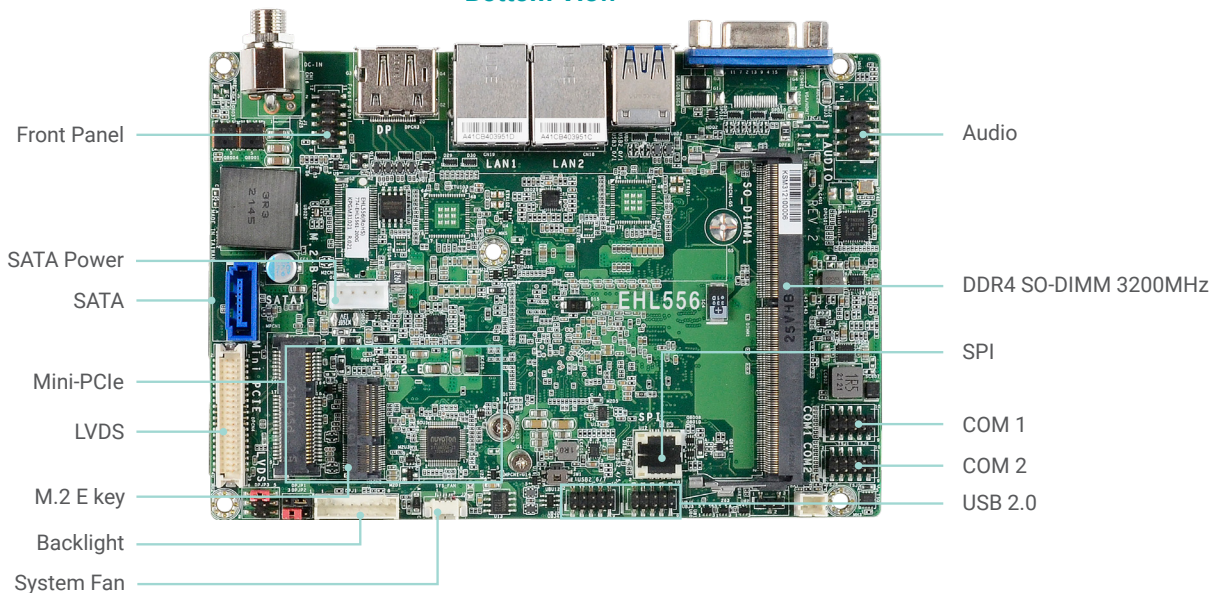
Products with VGA



Buzzer

Intel® Atom® Processor X Series

Bottom View



Front Panel

Audio

SATA Power

DDR4 SO-DIMM 3200MHz

SATA

SPI

Mini-PCIe

COM 1

LVDS

COM 2

M.2 E key

USB 2.0

Backlight

System Fan

Top View

KEY FEATURES



DDR4

1 DDR4-3200 SODIMM up to 32GB



4K High Resolution

Supports 4K/ 2K resolution



3 Independent Displays

1 VGA + 1 DP++ + 1 LVDS/eDP



Multiple Expansion

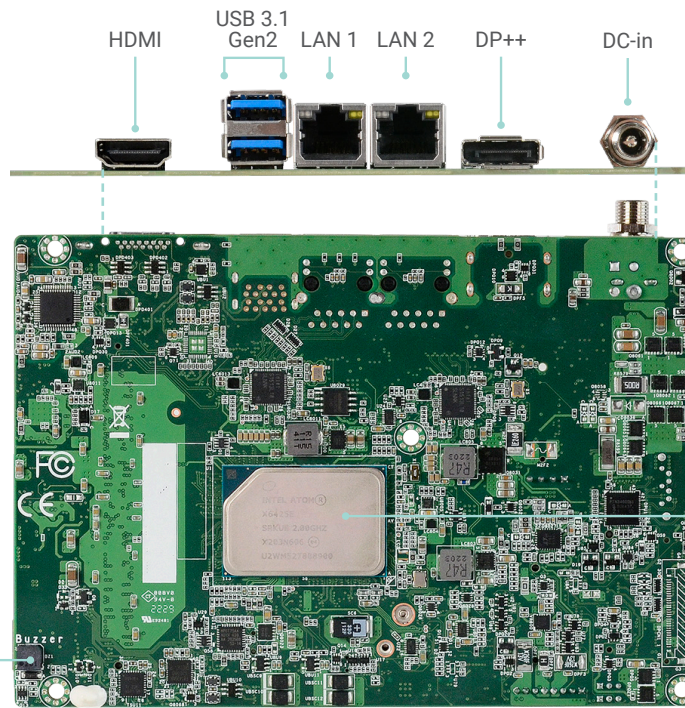
1 M.2 E Key, 1 Mini-PCIe, I2C



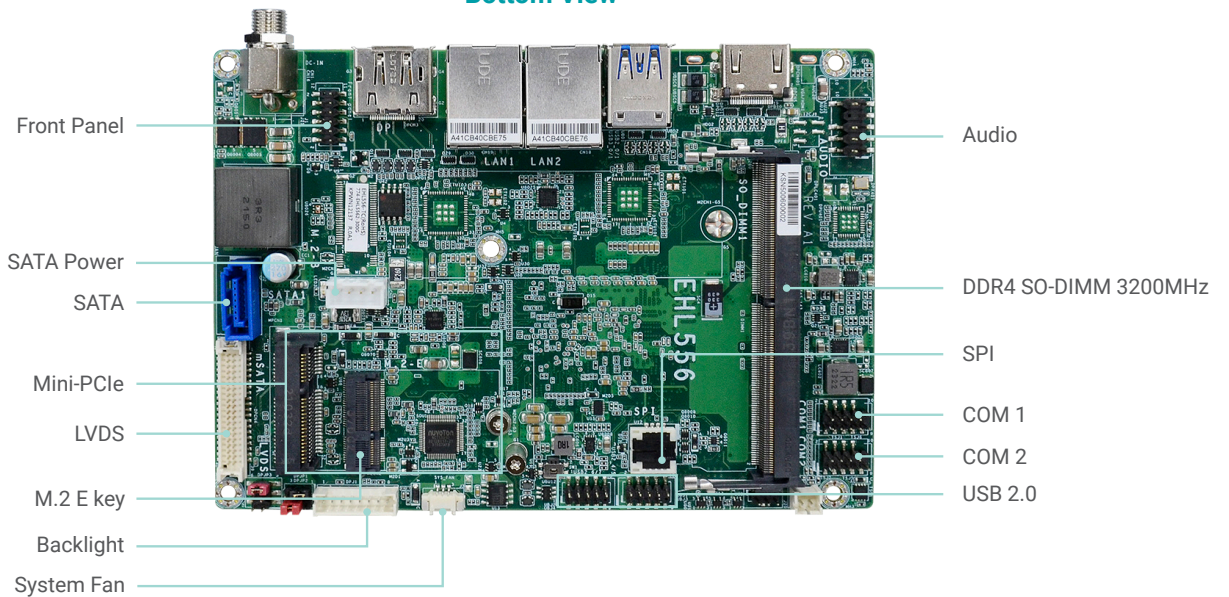
Rich I/O

2 GbE, 2 USB 3.1 Gen2, 2 USB 2.0, 2 COM, 1 SATA 3.0

Products with HDMI

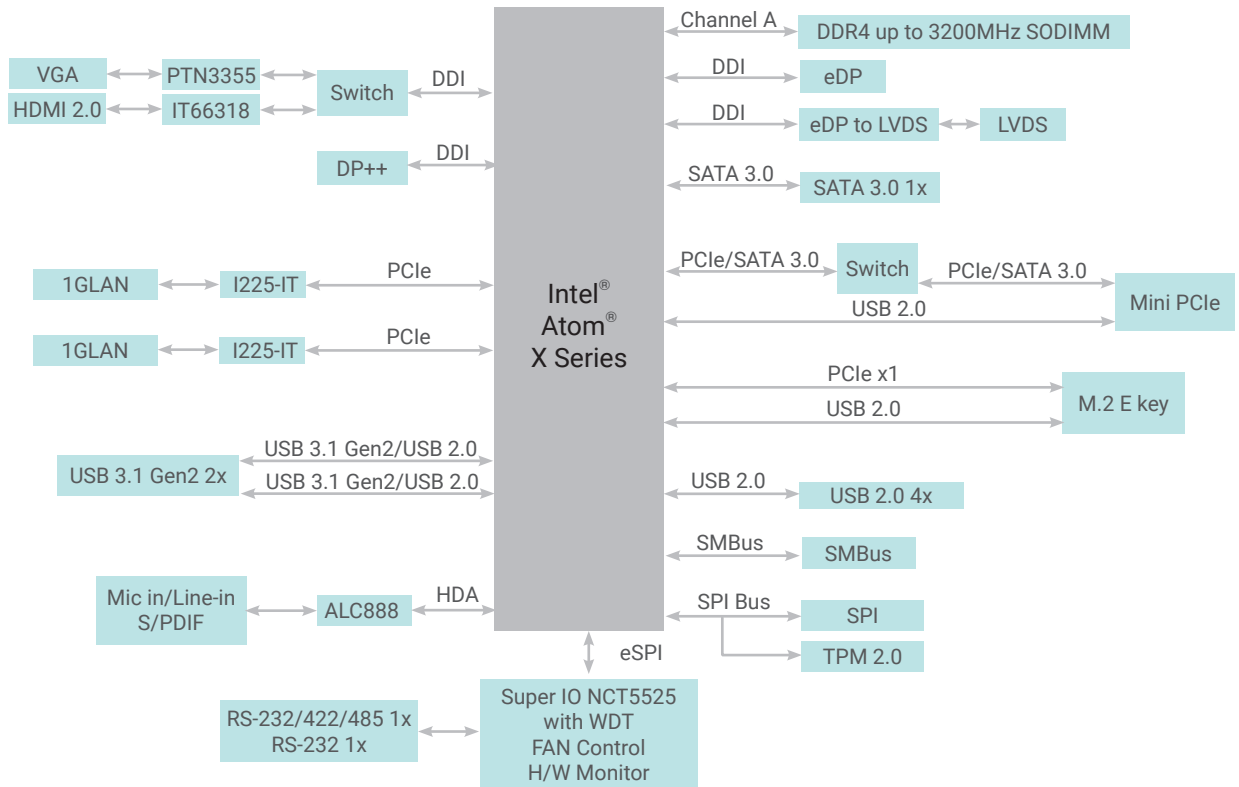


Bottom View

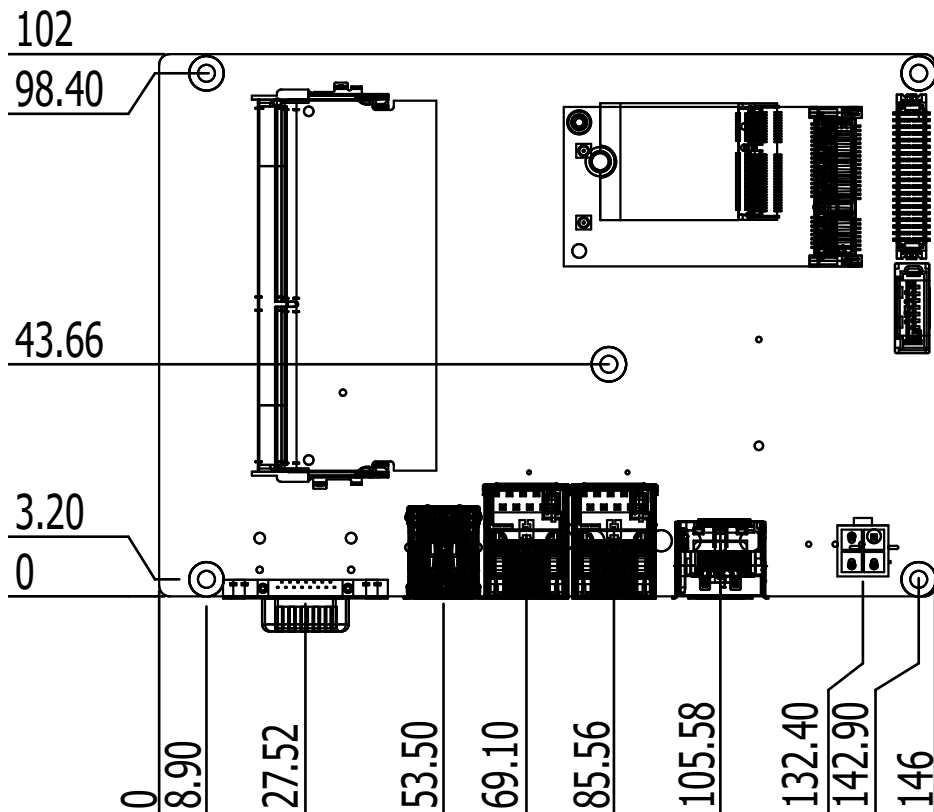


Top View

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

SYSTEM	Processor	Intel Atom Elkhart Lake Industrial Atom, x6425RE, 4C, 1.9GHz,12W Atom, x6414RE, 4C, 1.5GHz,9W Embedded Atom, x6425E, 4C, 2.0GHz(3.0GHz),12W Atom, x6413E, 4C, 1.5GHz(3.0GHz),9W PC Client Celeron N6210, 2C 1.2GHz(2.6GHz), 6.5W	
	Memory	Single DDR4-3200 SODIMM Up to 32GB	
	BIOS	AMI SPI 256Mbit	
GRAPHICS	Controller	Intel® HD Graphics	
	Feature	OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1, WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC	
	Display	1 x VGA (or BOM option change to HDMI 2.0)	HDMI: resolution up to 1920x1080 @60Hz
		1 x DP++	DP++: resolution up to 4096x2304 @60Hz
1 x LVDS or eDP + Backlight		LVDS: resolution up to 1920x1200 @60Hz	
Triple Display	VGA + DP++ + LVDS/eDP		
EXPANSION	Interface	1 x M.2 2230 E key (USB/PCIe) (Support WiFi 5 & WiFi 6) 1 x mini-PCIe (USB/PCIe) I2C	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	2 x Intel® I225-IT PCIe	
REAR I/O	Ethernet	2 x GbE (RJ-45)	
	USB	2 x USB 3.1 Gen2 10Gbps	
	Display	1 x DP++ 1 x VGA	
INTERNAL I/O	Serial	1 x RS232/422/485 + 1 x RS232, or 1 x RS232/422/485 + 8bit DIO (BIOS select)	
	USB	4 x USB 2.0	
	Display	1 x LVDS or eDP + Backlight	
	Audio	1 x Audio (Line-out/Mic-in)	
	SATA	1 x SATA 3.0 1 x 5V SATA Power (support SATA HDD LED via front panel)	
	Front Panel	1 x front panel (power button/reset button, power LED, HDD act LED)	
	SMBus	2 x SMBus	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	TPM 2.0	
POWER	Type	Wide Range 9~36VDC	
	Connector	DC Jack (or vertical type 4pin connector)	
	Consumption	TBD	
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	Microsoft	Windows 10 IoT 2019 LTSC Windows 10 IoT 2021 LTSC Linux	
	Linux	Linux	
ENVIRONMENT	Temperature	Operating: -40°C ~ 85°C	Storage: -40°C ~ 85°C
	Humidity	Operating: 5% ~ 90% RH	Storage: 5% ~ 90% RH
	MTBF	TBD	
MECHANISM	Dimensions	3.5" SBC Form Factor	146mm (5.75") x 102mm (4.02")
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC Class B (TBD in later stage), RoHS, UKCA	

ORDERING INFORMATION

Model Name	Part Number	Description	CPU	Display	LAN	COM	GPIO	TPM	DC-in	Working temp.	Expansion
EHL556	770-EHL5561-000G	EHL556: N6210, eDP, 2 LAN, I2C, TPM 2.0	N6210	VGA+ eDP	2 GbE	1	8bit	Yes	DC jack	-20°C ~ 70°C	Mini-PCIe, M.2 2230, I2C
EHL556	770-EHL5561-100G	EHL556: x6413E, LVDS, 2 LAN, TPM 2.0	x6413E	VGA+ LVDS	2 GbE	2	N/A	Yes	DC jack	-40°C ~ 85°C	Mini-PCIe, M.2 2230
EHL556	770-EHL5561-200G	EHL556: x6425E, LVDS, 2 LAN, TPM 2.0	x6425E	VGA+ LVDS	2 GbE	2	N/A	Yes	DC jack	-40°C ~ 85°C	Mini-PCIe, M.2 2230
EHL556	770-EHL5562-200G	EHL556: x6425E, HDMI+DP, LVDS, 2 LAN, TPM 2.0	x6425E	HDMI+ DP	2 GbE	2	N/A	Yes	DC jack	-40°C ~ 85°C	Mini-PCIe, M.2 2230
EHL556	770-EHL5562-300G	EHL556: x6425E, HDMI+DP, LVDS, 2LAN, 1COM+DIO, mPCIe, TPM 2.0	X6425E	HDMI+ DP	2 GbE	1	8bit	Yes	DC jack	-40°C ~ 85°C	Mini-PCIe, M.2 2230

OPTIONAL ITEMS

Items	Part Number	Description
Power adapter	671-106012-000G	60W, 12V, DC Jack, 0~40°C
	671-106013-000G	60W, 12V, DC Jack, -30 to 70°C
USB 2.0 cable	A81-001032-016G	Length: 200mm
Heat spreader	A71-808363-010G	HEATSPREADER, AL1050 146*102*7.5mm, FOR EHL556 BARE DIE CPU (J6413, J6412, J646, N621, N6210, N6415)
	A71-808363-000G	HEATSPREADER, AL1050 146*102*7.5mm, FOR EHL556 IHS CPU (x6211E, x6413E, x6425E, x6414RE, x6425RE)

PACKING LIST

• 1 EHL556 board	
• 1 SATA cable (Length: 300mm)	332-553001-205G
• 1 SATA power cable (Length: 250mm)	A81-004041-016G
• 1 COM cable (Length: 250mm)	332-753040-000G
• 1 Heatsink -20 to 70°C (Height: 29mm)	A71-008357-010G (PC client CPU)
• 1 Heatsink -40 to 80°C (Height: 29mm)	A71-008357-000G (Industry CPU)