

# EHL556

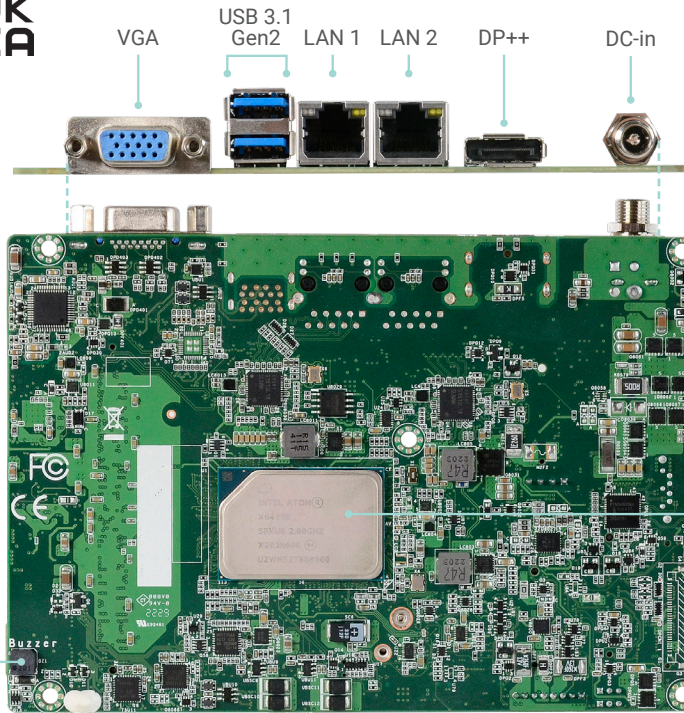
Atom



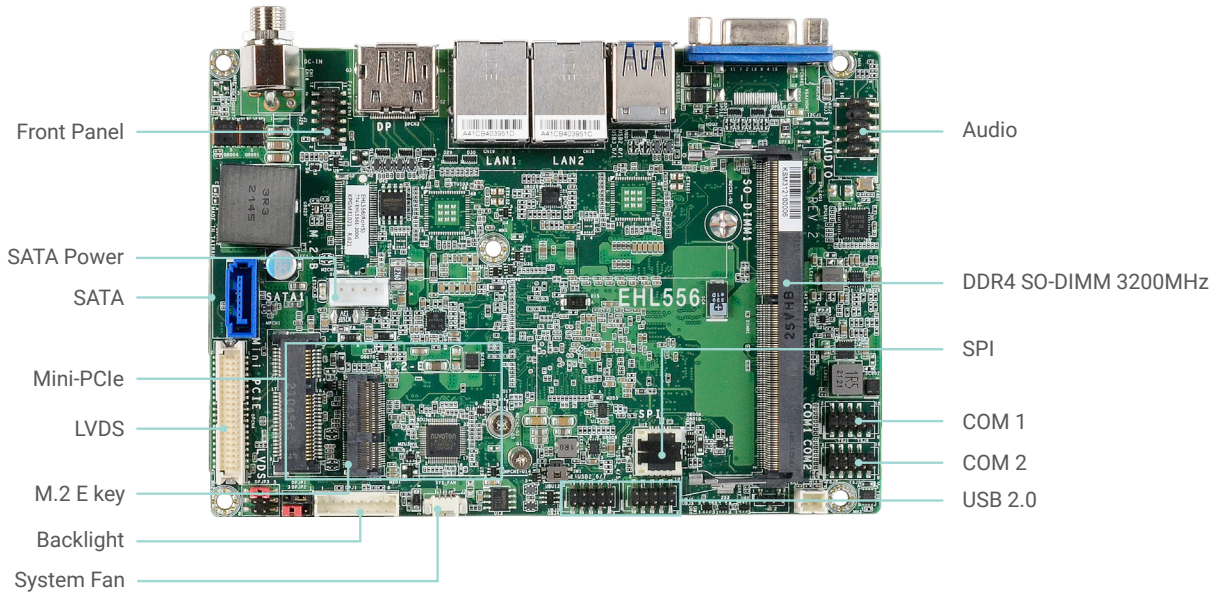
Intel® Atom® Processor X Series  
3.5" SBC



Products with VGA



Bottom View



Top View

## KEY FEATURES



### DDR4

1 DDR4-3200 SODIMM up to 32GB



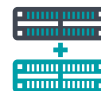
### 4K High Resolution

Supports 4K/ 2K resolution



### 3 Independent Displays

1 HDMI + 1 DP++ + 1 LVDS/eDP



### Multiple Expansion

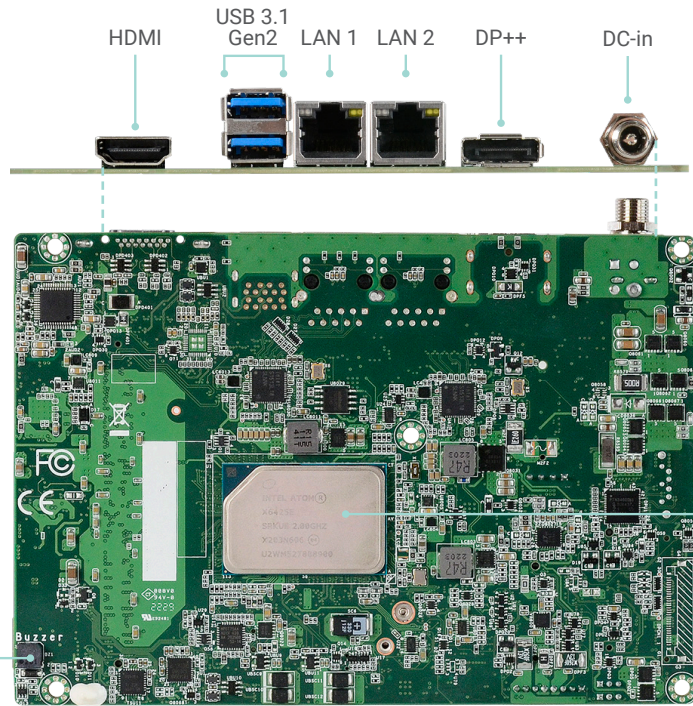
1 M.2 E Key, 1 Mini-PCIe, I2C



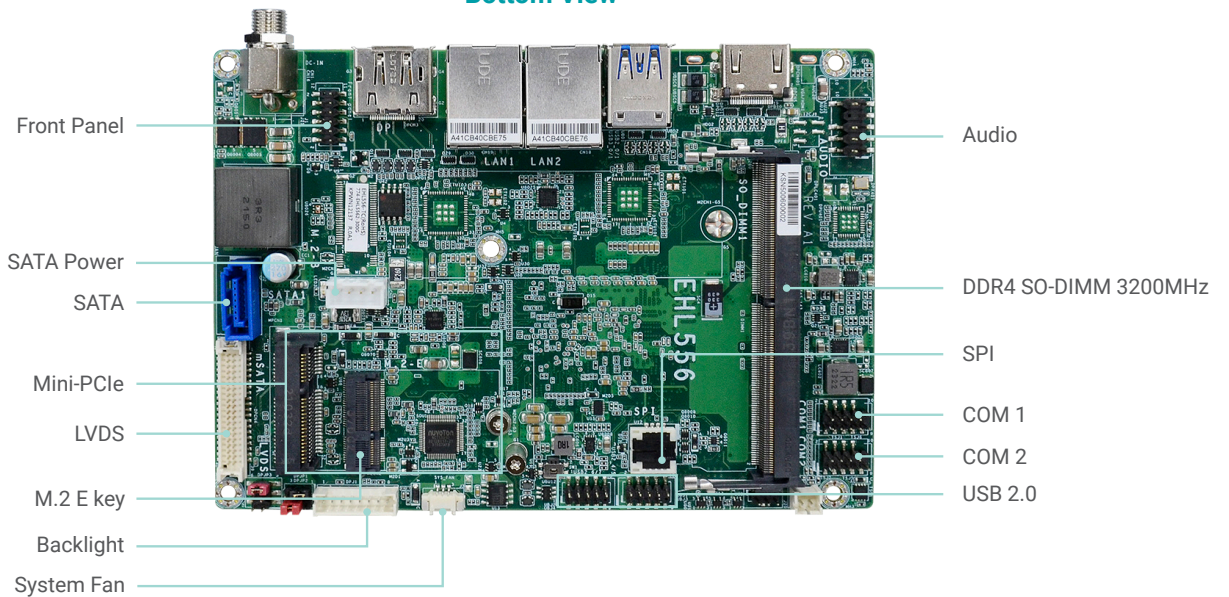
### Rich I/O

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

Products with HDMI

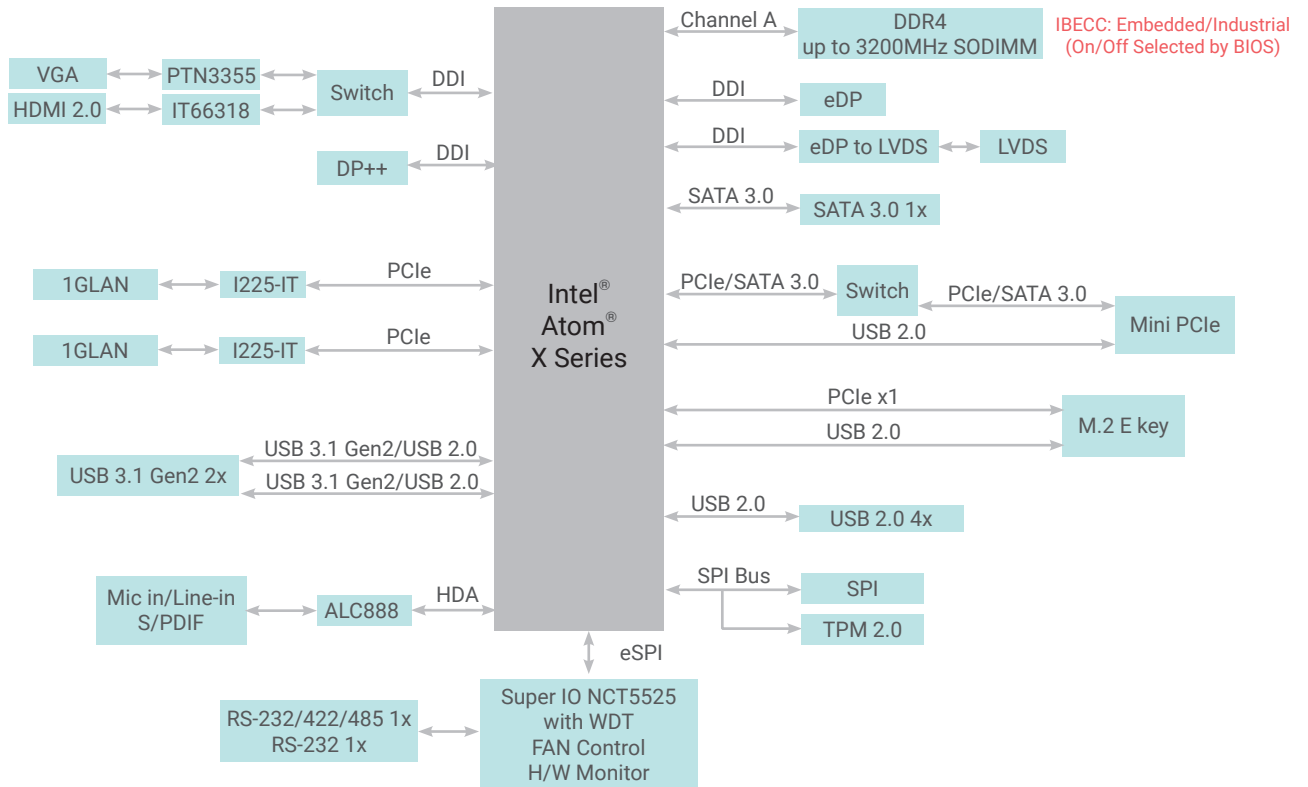


### Bottom View

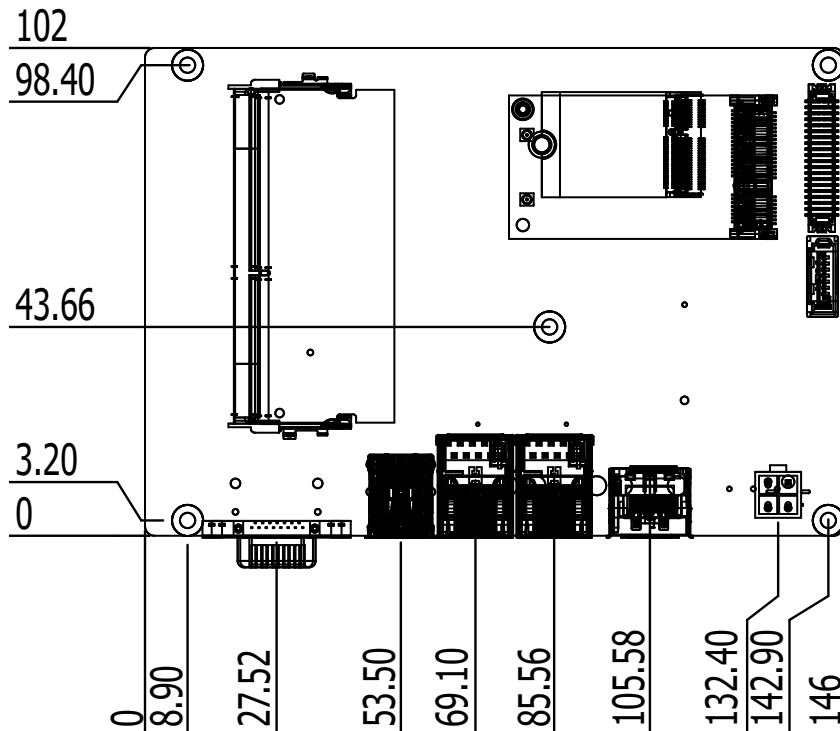


### Top View

## BLOCK DIAGRAM



## MECHANICAL DRAWING



## SPECIFICATION

SYSTEM	Processor	Intel Atom Elkhart Lake <b>Industrial</b> Atom, x6425RE, 4C, 1.9GHz,12W Atom, x6414RE, 4C, 1.5GHz,9W <b>Embedded</b> Atom, x6425E, 4C, 2.0GHz(3.0GHz),12W Atom, x6413E, 4C, 1.5GHz(3.0GHz),9W <b>PC Client</b> Celeron N6210, 2C 1.2GHz(2.6GHz), 6.5W
	Memory	Single DDR4-3200 SODIMM Up to 32GB (in-band ECC support in embedded/industrial SKU)
	BIOS	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® HD Graphics
	Feature	OpenGL 5.0, DirectX 12, OpenCL 2.1 <b>HW Decode:</b> AVC/H.264, MPEG2, VC1, WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC <b>HW Encode:</b> AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC
	Display	1 x HDMI (or BOM option change to VGA) 1 x DP++ 1 x LVDS or eDP + Backlight <b>HDMI:</b> resolution up to 1920x1080 @60Hz <b>DP++:</b> resolution up to 4096x2304 @60Hz <b>LVDS:</b> resolution up to 1920x1200 @60Hz
	Triple Display	HDMI + 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)
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
ENVIRONMENT	Temperature	<b>Operating:</b> -40°C ~ 85°C <b>Storage:</b> -40°C ~ 85°C
	Humidity	<b>Operating:</b> 5% ~ 90% RH <b>Storage:</b> 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-EHL5563-000G	Celeron N6210, HDMI+DP, eDP, 2LAN, 1COM+DIO, mSATA, I2C, TPM2.0	Celeron N6210	HDMI+DP, eDP	2 GbE	1	8bit	TPM 2.0	DC jack	-20~70°C	mSATA, I2C
	770-EHL5563-003G	Celeron N6210, eDP+VGA, 2LAN, I2C, TPM2.0	Celeron N6210	eDP+VGA		2	N/A			-20~70°C	mPCIe, I2C
	770-EHL5563-102G	Atom x6413E, LVDS+VGA, 2LAN, TPM2.0	Atom x6413E	LVDS+VGA		2	N/A			-40~85°C	mPCIe, I2C
	770-EHL5563-200G	Atom x6425E, HDMI+DP, LVDS, 2LAN, 2COM, mSATA, I2C, TPM2.0	Atom x6425E	HDMI+DP		2	N/A			-40~85°C	mSATA, I2C
	770-EHL5563-203G	Atom x6425E, LVDS+VGA, 2LAN, TPM2.0	Atom x6425E	LVDS+VGA		2	N/A			-40~85°C	mPCIe, I2C
	770-EHL5563-300G	Atom x6425E, HDMI+DP, LVDS, 2LAN, 1COM+DIO, mPCIe, I2C, TPM2.0	Atom x6425E	HDMI+DP		1	8bit			-40~85°C	mPCIe, I2C

## 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)