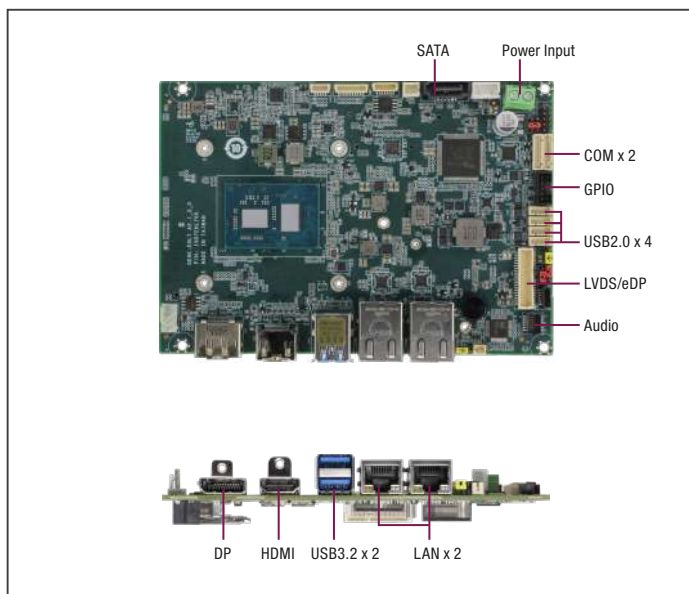


SubCompact Board with Intel Atom® x6000E Series, and Intel® Pentium® and Celeron® N and J Series Processors



## Specifications

SYSTEM	
FORM FACTOR	3.5" SubCompact Board
CPU	Intel Atom® x6000E series, Pentium®, and Celeron® N and J series Processors: x6413E (4C/4T, 1.50GHz, 9W) J6412 (4C/4T, 2.00GHz, 10W) N6210 (2C/2T, 1.20GHz, 6.5W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	Single-Channel DDR4 3200MHz SODIMM x 1, Max. 32GB, Non-ECC *IB ECC supported by selected CPU SKU
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	TPM 2.0 (Optional)
RTC BATTERY	Lithium Battery 3V/240mAh
DIMENSION	5.75" x 4" (146mm x 101.7mm), 0.83 lbs (0.38 kg)
OS SUPPORT	Windows 10 (64bit) Linux Ubuntu 20.04.5 / 5.15.0-46-generic
POWER	
POWER REQUIREMENT	+12V
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector
POWER CONSUMPTION	Intel Atom® x6413E, DDR4 32GB, 2.17A @+12V (Typical) Intel Atom® x6413E, DDR4 32GB, 2.72A @+12V (Max)
DISPLAY	
CONTROLLER	Intel® UHD Graphics for 10th Gen Intel® Processors
LVDS/eDP	Dual-Channel 18/24-bit LVDS x 1, up to 1920 x 1080 eDP 1.3 x 1, up to 1920 x 1200 (Optional)
DISPLAY INTERFACE	HDMI 1.4 x 1, up to 3840 x 2160 @ 30Hz DP 1.4 x 1, up to 3840 x 2160 @ 120Hz
MULTIPLE DISPLAY	Up to 3 Simultaneous Displays
AUDIO	
CODEC	Realtek ALC897
AUDIO INTERFACE	Line-In / Line-Out / Mic
SPEAKER	—
EXTERNAL I/O	
ETHERNET	Realtek RTL8111H 1GbE, RJ-45 x 2
USB	USB 3.2 Gen2 x 2
SERIAL PORT	—
VIDEO	HDMI 1.4 x 1 DP 1.4 x 1
INTERNAL I/O	
USB	USB 2.0 x 4

## Features

- DDR4 3200MHz SODIMM x 1, up to 32GB
- HDMI 1.4 x 1, DP 1.4 x 1, LVDS/eDP x 1
- GbE x 2, SATA 6.0 Gb/s x 1, GPIO x 8-bit
- USB 3.2 Gen 2 x 2, USB 2.0 x 4, RS-232/422/485 x 1, RS-232 x 1
- Mini PCIe Card x 1, M.2 2230 E-Key x 1, M.2 2280 M-Key x 1



SERIAL PORT	COM1 (RS232/422/485, supports 5V/12V/RI) COM2 (RS232)
VIDEO	LVDS / eDP x 1 (Default: LVDS) Inverter x 1 (12V/2A)
SATA	SATA 6.0 Gb/s x 1 +5V SATA Power Connector x 1
AUDIO	Audio Header x 1
DIO/GPIO	GPIO 8-bits
SMBus/I2C	SMBus / I2C x 1 (Default: SMBus)
TOUCH	—
FAN	4pins Smart Fan x 1
SIM	—
FRONT PANEL	HDD LED, PWR LED, Power Button, Buzzer, Reset
OTHERS	—
EXPANSION	
Mini PCI-E/mSATA	Full-size mPCIe x 1
M.2	M.2 2230 E-Key x 1 (PCIe 3.0 [x1], USB2.0) M.2 2280 M-Key x 1 (PCIe 3.0 [x2] / SATA), SATA select by BOM
OTHERS	—
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP.	32°F ~ 140°F (0°C ~ 60°C)
STORAGE TEMP.	-40°F ~ 185°F (-40°C ~ 85°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	484,355
EMC	CE/FCC Class A

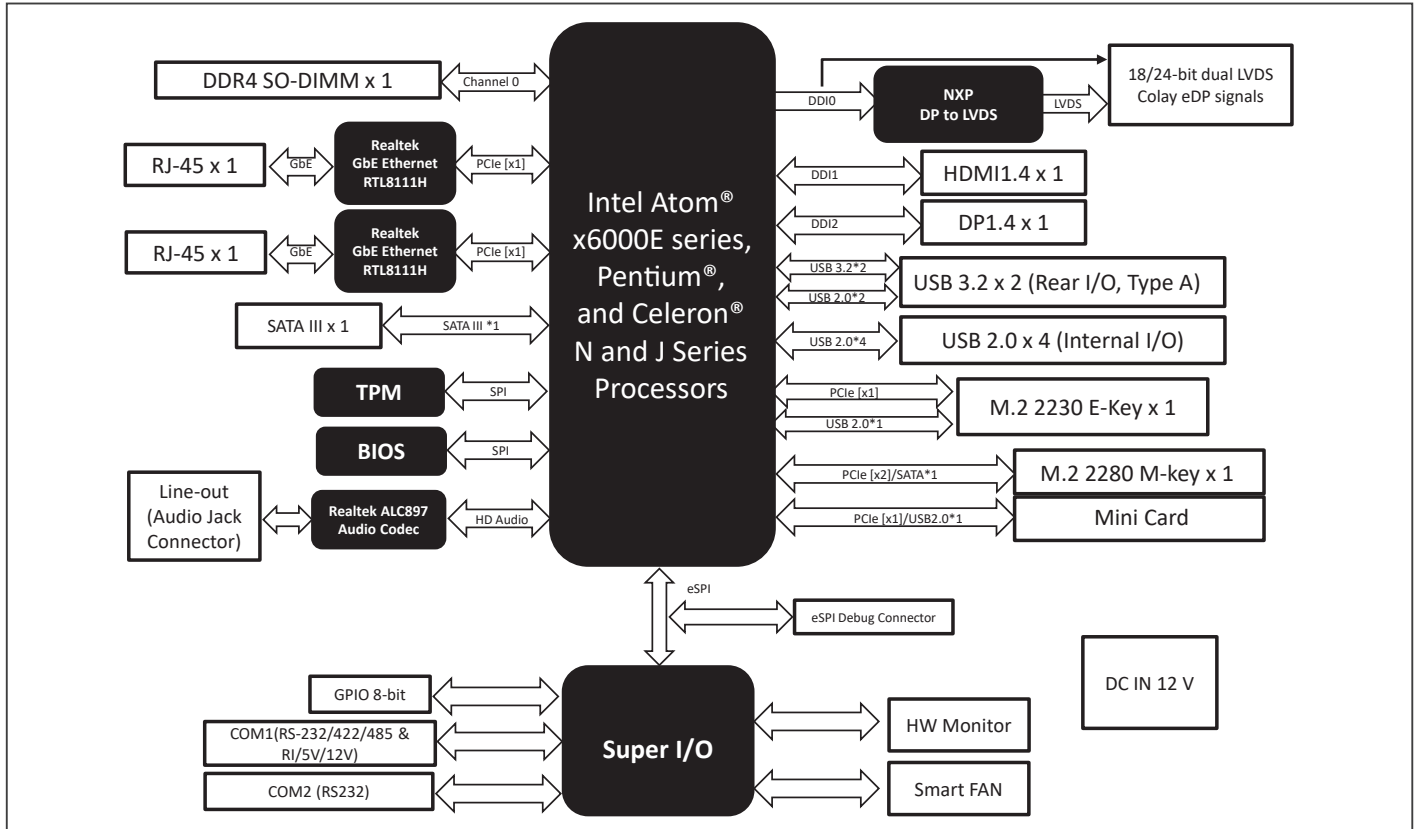
## Packing List

Description	QTY
GENE-EHL7 MB	1

## Optional Accessories

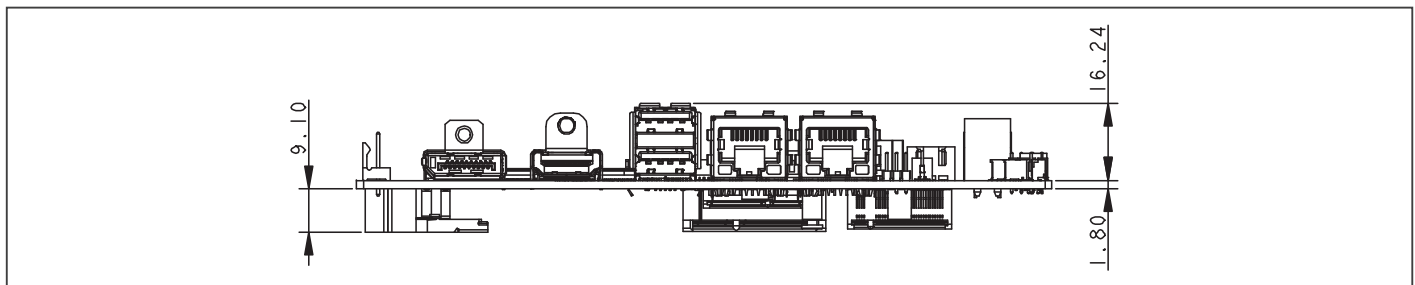
Part Number	Description	QTY
GENE-EHL7-HSK01	Heat Sink.60*60*25mm	1
1702150155	SATA HDD Power Cable, 15cm	1
170X000398	Power Cable, DC JACK, 30cm	1
170204010R	Power Cable, Double 4P, 10cm	1
170X000156	Audio Cable, 25cm	1
1701090150	COM Port Cable, 15cm	2
1700050207	USB 2.0 Cable, 20cm	4

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Display	LAN	USB	RS-232	RS-232/422/485	Storage	Expansion Slot	TPM	POWER	TEMP	Others
GENE-EHL7-A10-0001	N6210	DP x 1, HDMI x 1, LVDS x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 4	1	1	SATA x 1	M.2 2280 M-Key x 1, M.2 2230 E-Key x 1, mPCIe (Full size) x 1	2.0	12V	0°C ~ 60°C	Audio, DIO, SMBUS
GENE-EHL7-A10-0002	J6412	DP x 1, HDMI x 1, LVDS x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 4	1	1	SATA x 1	M.2 2280 M-Key x 1, M.2 2230 E-Key x 1, mPCIe (Full size) x 1	2.0	12V	0°C ~ 60°C	Audio, DIO, SMBUS
GENE-EHL7-A10-0003	x6413E	DP x 1, HDMI x 1, LVDS x 1	GbE x 2	USB 3.2 Gen 2 x 2 USB 2.0 x 4	1	1	SATA x 1	M.2 2280 M-Key x 1, M.2 2230 E-Key x 1, mPCIe (Full size) x 1	2.0	12V	0°C ~ 60°C	Audio, DIO, SMBUS