

## Specifications

SYSTEM	
FORM FACTOR	3.5" SubCompact Board
CPU	Intel® Atom®/Celeron®/Pentium® Processor: Pentium N4200 (4C/4T,1.10GHz,up to 2.50GHz, 6W) Celeron N3350 (2C/2T,1.10GHz,up to 2.40GHz, 6W) Atom E3950 (4C/4T,1.60GHz,up to 2.00GHz, 9.5W) Atom E3940 (4C/4T,1.60GHz,up to 1.80GHz, 9.5W) Atom E3930 (2C/2T,1.30GHz,up to 1.80GHz, 6.5W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max. 8GB, up to 1600MHz)
BIOS	UEFI
WAKE ON LAN	Yes
WATCHDOG TIMER	255 Levels
SECURITY	—
RTC BATTERY	Lithium Battery 3V/240mAh
DIMENSION	5.75" x 4" (146mm x 101.7mm)
OS SUPPORT	Windows 10 (64bit) Linux Ubuntu 21.04.0/Kernel 5.10
POWER	
POWER REQUIREMENT	12V Only
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector
POWER CONSUMPTION	Intel® E3950,DDR3L 1866MHz 8GB,4.15A @+12V(TYPICAL) Intel® E3950,DDR3L 1866MHz 8GB,4.29A @+12V(MAX)
DISPLAY	
CONTROLLER	Intel® HD Graphics 500/505
LVDS/eDP	LVDS1 Dual Channel 18/24bit x 1(Optional: eDP1.3, up to 3840 x 2160) LVDS2 Dual Channel 18/24bit x 1, up to 1920 x 1080
DISPLAY INTERFACE	VGA x 1, up to 1920 x 1200
MULTIPLE DISPLAY	Up to 3 Simultaneous Displays
AUDIO	
CODEC	Realtek ALC897/892
AUDIO INTERFACE	Line-in/Line-out/MIC
SPEAKER	2W Amplifier(Optional)
EXTERNAL I/O	
ETHERNET	Realtek RTL8119-CG,10/100/1000Base, RJ-45 x 2
USB	USB 3.2 Gen1 x 2
SERIAL PORT	COM1 (RS232) COM2 (RS232/422/485, support 5V/12V/RI)
VIDEO	VGA x 1
INTERNAL I/O	

## Features

- Intel® Pentium® N4200/ Celeron® N3350 Processor SoC
- DDR3L 1866, Single Channel SODIMM x 1, Non-ECC (Max.8GB, up to 1600MHz)
- VGA/LVDS1/LVDS2 (LVDS1 Co-design with eDP)
- SATA 6.0 Gb/s x 1, GPIO x 8
- USB 3.2 Gen 1 x 2, USB 2.0 x 8, COM x 12
- mSATA x 1 (Full size), Mini Card x 1 (Full size) with uSIM
- DC 12V Only, AT/ATX Mode



USB	USB2.0 x 8
SERIAL PORT	COM3~COM6 (RS232, COM3~COM5 support 5V/12V/RI) Optional: COM3~COM12
VIDEO	LVDS1/eDP (Default: LVDS1) LVDS2
SATA	SATA III x 1 +5V SATA Power Connector x 1
AUDIO	Audio Header x 1 Speaker Header x 2 (optional)
DIO/GPIO	8-bit
SMBus/I2C	I2C/SMBus x1 (Default: SMBus)
TOUCH	—
FAN	DC Fan x 1 (optional: Smart Fan)
SIM	Micro SIM x 1 (Optional)
FRONT PANEL	HDD LED, PWR LED, Power Button, Buzzer, Reset
OTHERS	—
EXPANSION	
Mini PCI-E/mSATA	Full-size mPCIe x 1 Full-Size mSATA/mPCIe x 1 (Default mSATA, BOM Option: mPCIe)
M.2	—
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)	409,108
EMC	CE/FCC Class A

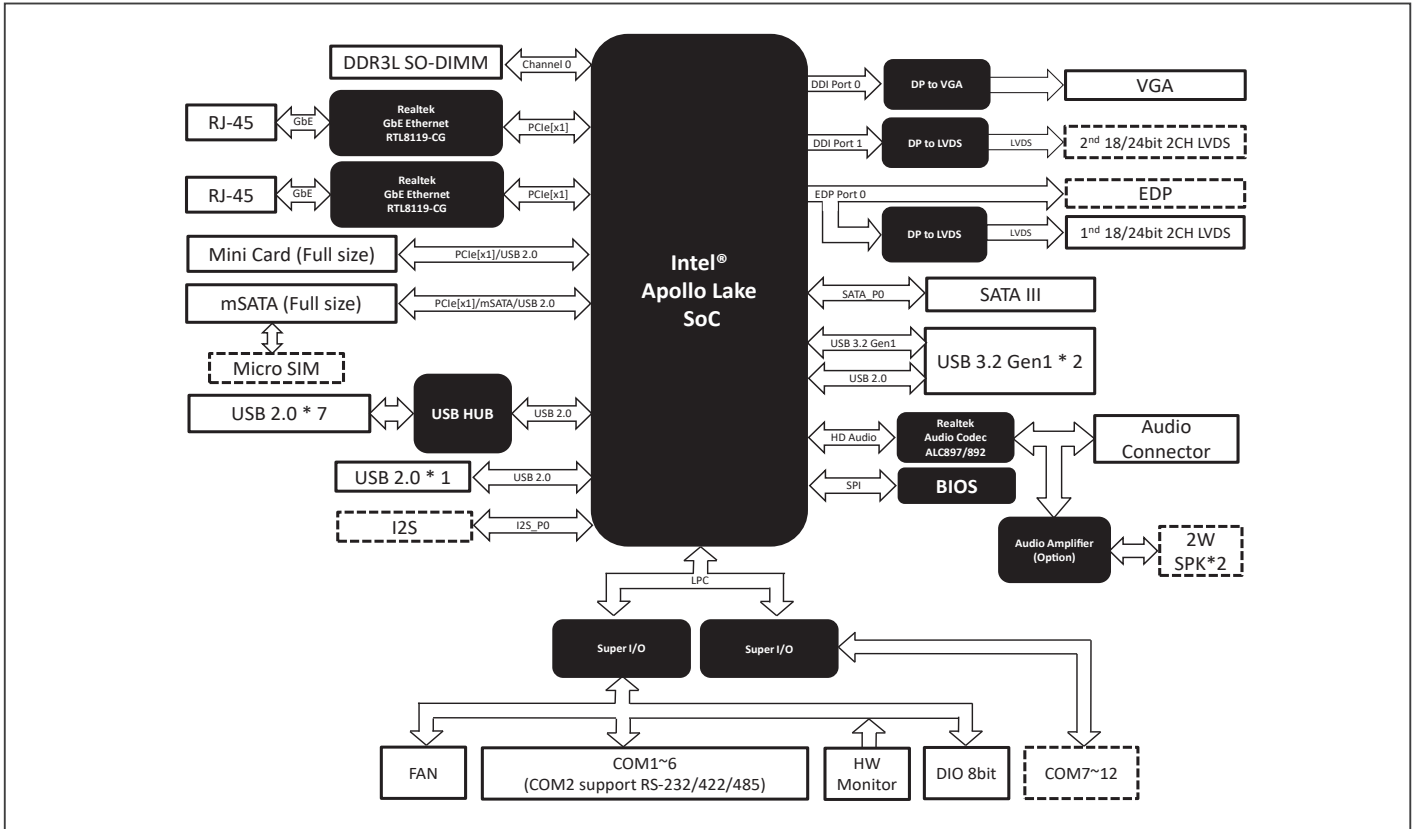
## Optional Accessories

Part Number	Description	QTY
1700050207	USB Cable, 20cm	8
1701090150	COM Cable, 15cm	10
1709100254	Audio Jack Cable, 25cm	1
1702150155	SATA Power Cable, 15cm	1
170204010R	Power Cable, 10cm	1
1709150151	CRT Cable, 15cm (VGA D-SUB connector co-layout with internal pin header by option)	1
GENE-APL7-HSK01	Heatsink	1

## Packing List

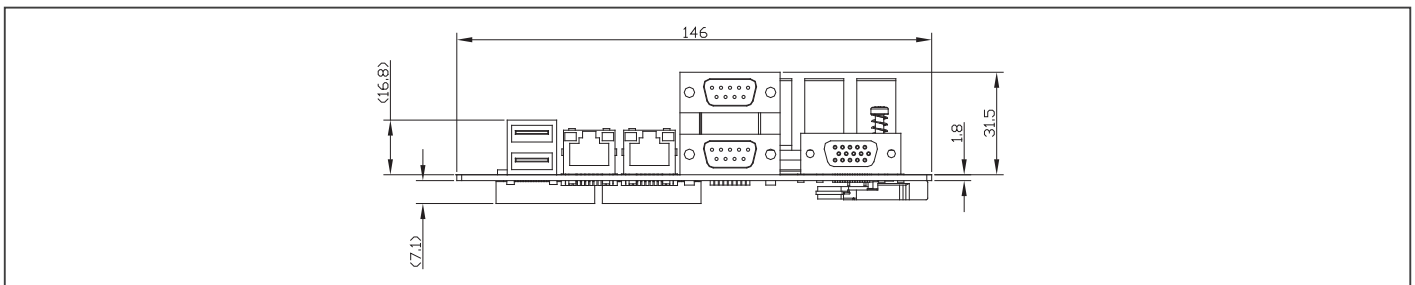
Part Number	Description	QTY
GENE-APL7	GENE-APL7 MB	1

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Display	LAN	USB	RS-232	RS-232/422/485	Storage	Expansion Slot	Power	Operating Temp	Others
GENE-APL7-A11-F001	N3350	VGA/LVDS	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 8	5	1	SATA x 1 mSATA x 1 (full size)	MiniCard x 1 (Full)	12V	0°C ~ 60°C	Audio, DIO x 8
GENE-APL7-A11-F002	N3350	VGA/LVDS/LVDS2	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 8	11	1	SATA x 1 mSATA x 1 (full size)	MiniCard x 1 (Full)	12V	0°C ~ 60°C	Micro SIM, DIO x 8, Audio, 2W AMP
GENE-APL7-A11-F003	N4200	VGA/LVDS/eDP	GbE x 2	USB 3.2 Gen 1 x 2 USB 2.0 x 8	11	1	SATA x 1 mSATA x 1 (full size)	MiniCard x 1 (Full)	12V	0°C ~ 60°C	Micro SIM, DIO x 8, Audio, 2W AMP