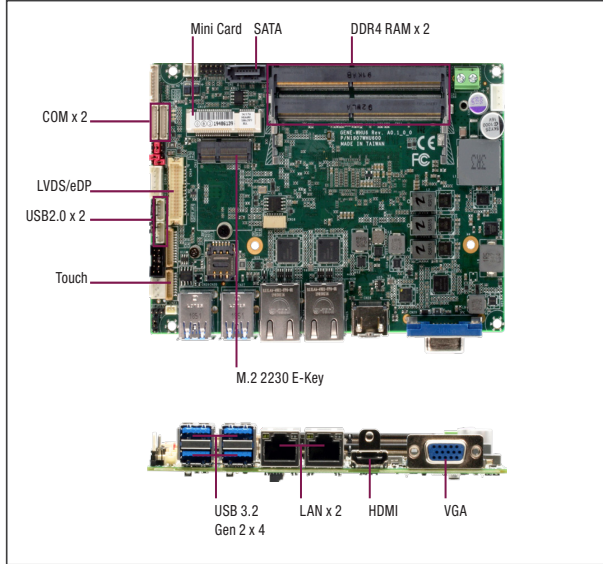


# GENE-WHU6

3.5" SubCompact Board with 8th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC

SubCompact Boards



## Features

- LVDS/eDP x 1 (Default: LVDS), VGA x 1, HDMI 2.0 x 1
- GbE x 2, SATA III x 1, DIO x 8bit
- USB 3.2 Gen 2 x 4 (Up to Gen 2), RS-232/422/485 x 2
- Full size mSATA/mPCIe Slot x 1 (With Nano-SIM)
- M.2 2280 B key x 1, M.2 2230 E key x 1
- Wide DC Input 9-36V (Optional: 12V Only)



## Specifications

SYSTEM	
FORM FACTOR	3.5" SubCompact Board
CPU	Intel® 8th Generation Core™ /Celeron Processor: Core i7-8665UE (4C/8T, 1.7GHz, up to 4.40GHz, TDP-up 25W) Core i5-8365UE (4C/8T, 1.6GHz, up to 4.10GHz, TDP-up 25W) Core i3-8145UE (2C/4T, 2.2GHz, up to 3.90GHz, TDP-up 25W) Celeron 4305UE (2C/2T, 2.00GHz, TDP-up 15W)
CHIPSET	Integrated with Intel® SoC
MEMORY TYPE	DDR4 up to 2400MHz Dual Channel, SODIMM x 2, up to 64GB, Non-ECC
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	+9-36V (Optional: +12V)
POWER SUPPLY TYPE	AT/ATX
CONNECTOR	Phoenix 2-pin Connector
POWER CONSUMPTION	Intel® i7-8665UE, DDR4 2400MHz 16GB x2, 4.83A@ +12V(TYPICAL) Intel® i7-8665UE, DDR4 2400MHz 16GB x2, 7.3A@ +12V(MAX)
DISPLAY	
CONTROLLER	Intel® UHD Graphics 610/620
LVDS/eDP	LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080 (Optional: eDP1.4, , up to 1920X1200)
DISPLAY INTERFACE	HDMI2.0a x 1, up to 3840 x 2160 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	—
EXTERNAL I/O	
ETHERNET	Intel® i210/i211 & i219, 10/100/1000Base, RJ-45 x2
USB	USB 3.2 Gen2 x4
SERIAL PORT	—
VIDEO	HDMI2.0a x 1, VGA x 1
INTERNAL I/O	
USB	USB 2.0 x 2

SERIAL PORT	COM1(RS232/422/485, supports RI) COM2 (RS232/422/485, supports 5V/12V/RI)
VIDEO	LVDS/eDP x 1 (Default: LVDS)
SATA	SATA III x 1 +5V SATA Power Connector x 1
AUDIO	Audio Header x 1
DIO/GPIO	8-bit
SMBus/I2C	I2C/ SMBus x 1 (Default: I2C)
TOUCH	4/5/8-wire Touch Controller x 1 (optional)
FAN	DC Fan x 1 (optional: Smart Fan)
SIM	Nano SIM x 1
FRONT PANEL	HDD LED, PWR LED, Power Button, Buzzer, Reset
OTHERS	—
EXPANSION	
Mini PCI-E/mSATA	Full-size mSATA/mPCIe x 1 (Default mSATA, select by BIOS)
M.2	B-Key 2280 x1 (PCIe x 2, SATA, USB2.0, selected by BIOS) E-Key 2230 x 1 (PCIe, USB2.0)
OTHERS	—
ENVIRONMENT & CERTIFICATION	
OPERATING TEMP.	32°F ~ 140°F (0°C ~ 60°C), WITAS2 -40°F ~ 185°F (-40°C ~ 85°C)
STORAGE TEMP.	-40°F ~ 185°F (-40°C ~ 85°C)
OPERATING HUMIDITY	0% ~ 90% relative humidity, non-condensing
MTBF (HOURS)	354,194
EMC	CE/FCC Class A

## Optional Accessories

Part Number	Description	QTY per Board
1702150155	SATA Power Cable, 15cm	1
1709070500	SATA CABLE, 50cm	1
170204010R	Power Cable, 10cm	1
1709100254	Audio JACK Cable, 25cm	1
170220020B	ATX Power Cable, 20cm	1
1701090150	COM Cable, 15cm	2
1700050207	USB CABLE, 20cm	2
GENE-WHU6-FAN01	CPU Cooler.146x78.6x23.5mm.3P.3600RPM	1
GENE-WHU6-FAN02	CPU Cooler.146x75.54x17.5mm.3P.4800RPM	1
GENE-WHU6-HSK01	Heatsink.146x101.6x32.5mm.Silver.for i3 & Celeron	1
GENE-WHU6-HSK02	Heat Sink.72x28x10mm.SODIMM DDR4	1
GENE-WHU6-HSK03	Heat sink.146x101.6x45.5mm	1

## Packing List

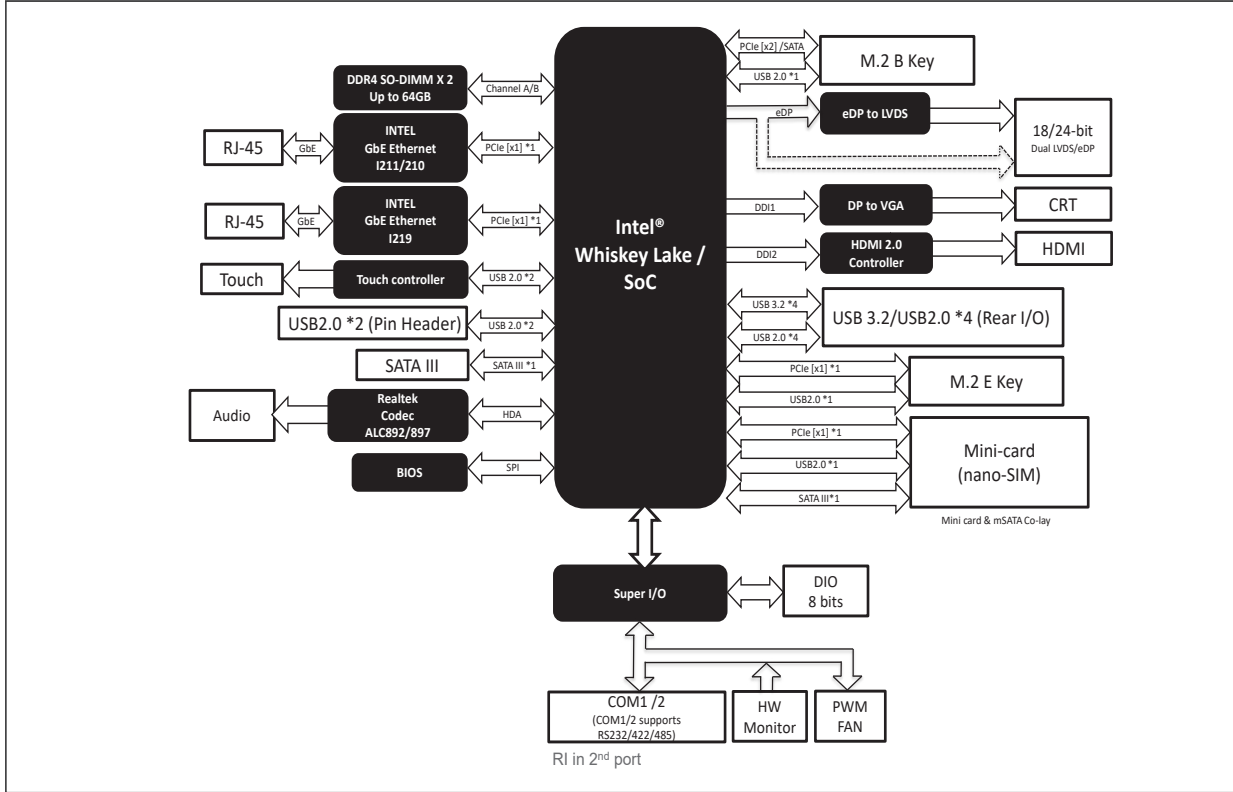
Part Number	Description	QTY
GENE-WHU6	GENE-WHU6 MB	1
M10WHU6000	Heat spreader	1

# GENE-WHU6

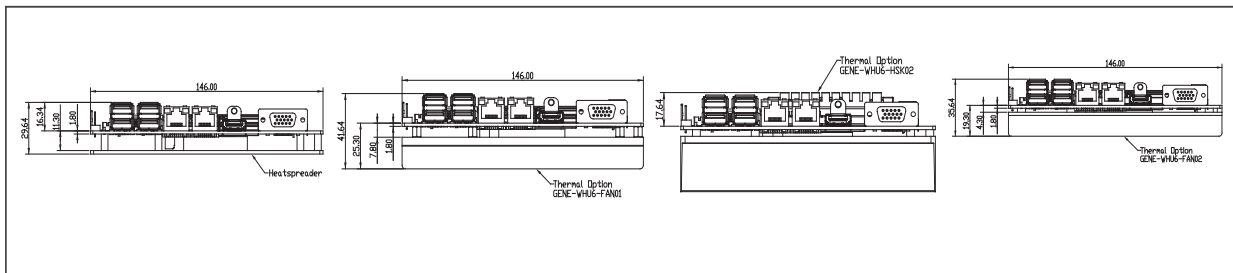
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SubCompact Boards

## Block Diagram



## Dimension Unit: mm



## Ordering Information

Part Number	CPU	Display	LAN	USB	RS-232/422/485	Storage	Expansion Slot	Power	Operating Temp	Others
GENE-WHU6-A11-0001	Intel® i7-8665UE	VGA+HDMI+LVDS	GbE x 2	USB 3.2 Gen 2 x 4	2	SATA x 1 mSATA (Full size)x 1	M.2 2280 B Key x1 M.2 2230 E Key x1	9-36V	0°C - 60°C	DIO x 8, nano SIM, Touch Controller
GENE-WHU6-A11-0002	Intel® i5-8365UE	VGA+HDMI+LVDS	GbE x 2	USB 3.2 Gen 2 x 4	2	SATA x 1 mSATA (Full size)x 1	M.2 2280 B Key x1 M.2 2230 E Key x1	9-36V	0°C - 60°C	DIO x 8, nano SIM, Touch Controller
GENE-WHU6-A11-0003	Intel® i3-8145UE	VGA+HDMI+LVDS	GbE x 2	USB 3.2 Gen 2 x 4	2	SATA x 1 mSATA (Full size)x 1	M.2 2280 B Key x1 M.2 2230 E Key x1	9-36V	0°C - 60°C	DIO x 8, nano SIM, Touch Controller
GENE-WHU6-A11-0004	Intel® Celeron 4305UE	VGA+HDMI+LVDS	GbE x 2	USB 3.2 Gen 2 x 4	2	SATA x 1 mSATA (Full size)x 1	M.2 2280 B Key x1 M.2 2230 E Key x1	9-36V	0°C - 60°C	DIO x 8, nano SIM, Touch Controller
GENE-WHU6W2-A11-0001	Intel® i7-8665UE	VGA+HDMI+LVDS	GbE x 2	USB 3.2 Gen 2 x 4	2	SATA x 1 mSATA (Full size)x 1	M.2 2280 B Key x1 M.2 2230 E Key x1	12V	WiTAS2 (-40-85°C)	DIO x 8, nano SIM, Touch Controller

Note: All specifications are subject to change without notice.

## Assured Systems

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