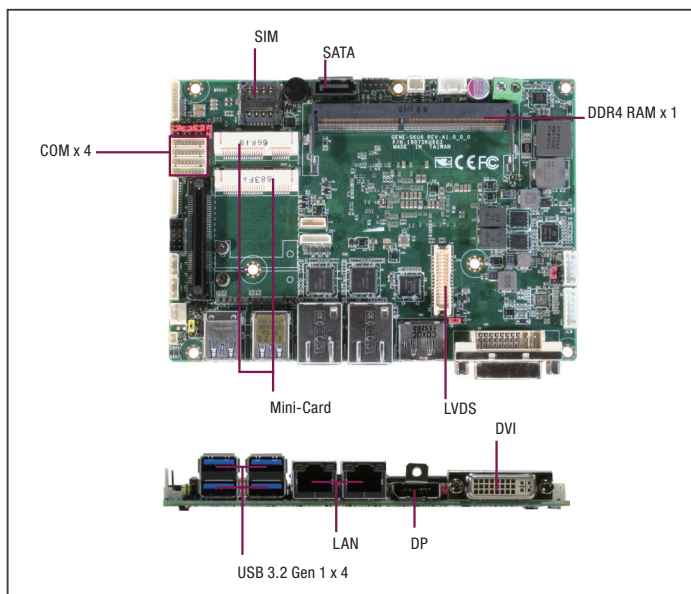


# GENE-KBU6

3.5" SubCompact Board with 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC



## Features

- DVI, 18/24-bit Dual-Channel LVDS
- SATA 6.0 Gb/s x 1 & mSATA (Share with Half-size Mini-Card and Selective by BIOS)
- Supports 8-bit Digital I/O, USB 2.0 x 2, USB 3.2 Gen 1 x 4
- Mini-Card Slot x 1 (Full size), TPM, SIM
- Wide DC Support 9~36V, +12V Only (Optional)
- BIO Connector for Daughter Board
- Solder Design for System Assembly and Thermal



Audio	Audio Header x 1(Audio function not available for WITAS SKU)
DIO/GPIO	8-bit
SMBus/I2C	SMBus x 1
Touch	4/5/8-wire Touch Controller x 1 (optional)
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	—
<b>Expansion</b>	
Mini PCIe/mSATA	Full-size mPCIe x 1 Half size mSATA/mPCIe x 1(Default mSATA, select by BIOS)
M.2	—
Others	BIO x 1
<b>Environment &amp; Certification</b>	
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)	375,577
EMC	CE/FCC Class A

## Specifications

<b>System</b>	
Form Factor	3.5" SubCompact Board
CPU	Intel® 7th Generation Core™ /Celeron Processor: Intel® i7-7600U (2C/4T, 2.80GHz, up to 3.90GHz, TDP-up 25W) Intel® i5-7300U (2C/4T, 2.60GHz, up to 3.50GHz, TDP-up 25W) Intel® i3-7100U (2C/4T, 2.40GHz, TDP-up 25W) Intel® Celeron 3965U (2C/2T, 2.20GHz, TDP-up 15W)
Chipset	Integrated with Intel® SoC
Memory Type	DDR4 up to 2133MHz, SODIMM x 1, up to 16GB, Non-ECC
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Security	TPM 2.0 (Optional)
RTC Battery	Lithium Battery 3V/240mAh
Dimensions	5.75" x 4" (146mm x 101.7mm)
OS Support	Windows 10 (64bit) Linux Ubuntu 21.04.0/Kernel 5.10
<b>Power</b>	
Power Requirement	+9-36V (Optional: +12V)
Power Supply Type	AT/ATX
Connector	Phoenix 2-pin Connector
Power Consumption	Intel® i7-7600U, DDR4 2666MHz 32GB, 3.26A@ +12V(TYPICAL) Intel® i7-7600U, DDR4 2666MHz 32GB, 4.22A@ +12V(MAX)
<b>Display</b>	
Controller	Intel® HD Graphics 610/620
LVDS/eDP	LVDS Dual Channel 18/24bit x 1, up to 1920 x 1080
Display Interface	Default: DP1.2 x 1 (up to 3840 x 2160) + DVI-D x 1 Optional: DVI-I x 1(with VGA signal)
Multiple Display	Up to 3 Simultaneous Displays
<b>Audio</b>	
Codec	Realtek ALC897/892
Audio Interface	Line-In / Line-Out / Mic (Audio function not available for WITAS SKU)
Speaker	—
<b>External I/O</b>	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2
USB	USB 3.2 Gen 1 x 4
Serial Port	—
Video	DP1.2 x 1, DVI-D x 1
<b>Internal I/O</b>	
USB	USB 2.0 x 2
Serial Port	COM1(RS232), COM2, COM3, COM4(RS232/422/485, support 5V/12V/RI)
Video	LVDS x 1
SATA	SATA III x 1, +5V SATA Power Connector x 1

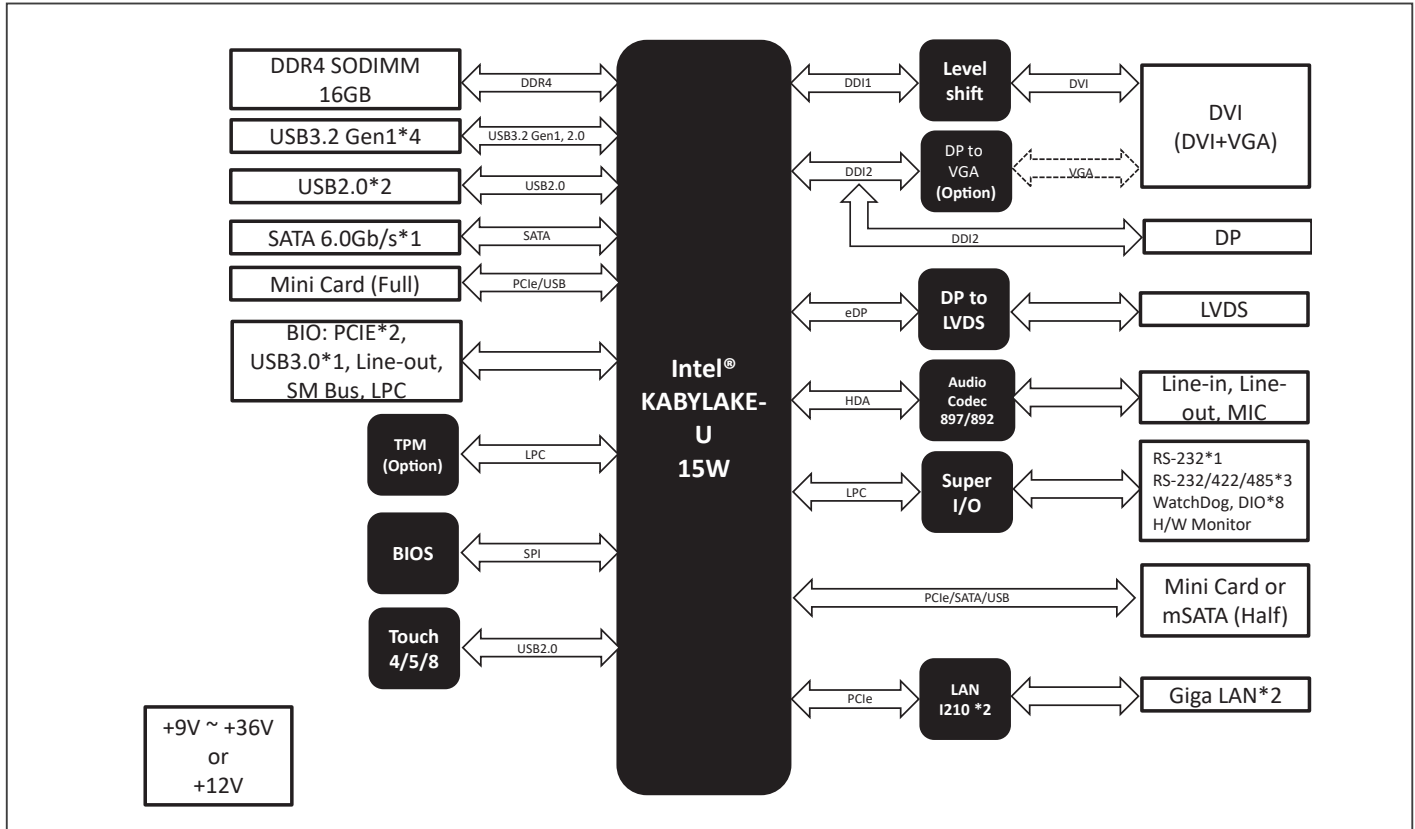
## Optional Accessories

Part Number	Description	QTY per Board
1700050207	USB Cable, 20cm	2
1701090150	Com Cable, 15cm	4
1709100254	PHONE JACK Cable, 25cm	1
1702150155	SATA Power Cable, 15cm	1
170220020B	ATX Power Cable, 20cm	1
170204010R	Power Cable, 10cm	1
GENE-KBU6-FAN01	CPU Cooler, 3P, 5000RPM	1
GENE-KBU6-HSK02	Heatsink, 146 x 101.6 x 29mm	1
GENE-KBU6-HSK03	Heatsink for DDR4 SO-DIMM.72 x 28 x 10mm.	1

## Packing List

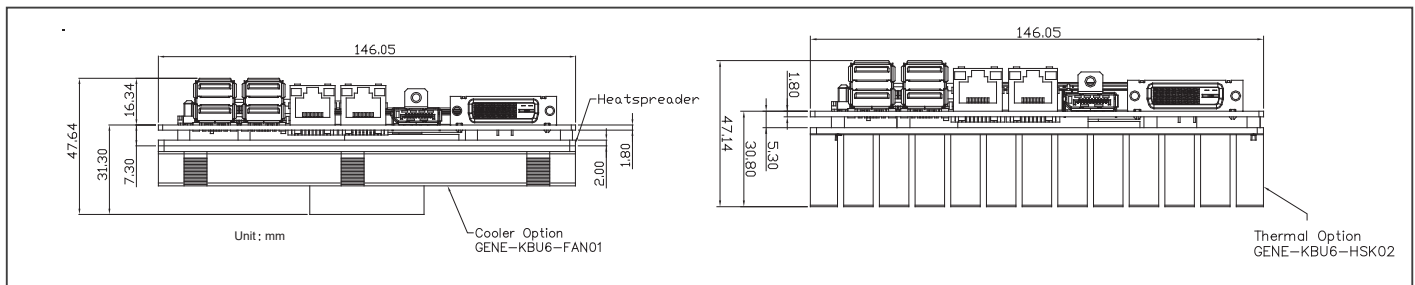
Part Number	Description	QTY
GENE-KBU6	GENE-KBU6 MB	1
M10SKU6000	Heat Spreader	1

## Block Diagram



## Dimension

Unit: mm



## Ordering Information

Part Number	CPU	Display	LAN	USB	RS-232	RS-232/422/485	Storage	Expansion Slot	TPM	Power	Operating Temp	Others
GENE-KBU6-A11-0001	Intel® Core™ i7-7600U	DP+LVDS+DVI-D	GbE x 2	USB3.0(Gen1) x 4 USB 2.0 x 2	1	3	SATA x 1 mSATA x 1 (half size)	MiniCard x 1 (Full)	2.0	9~36V	0°C ~ 60°C	Touch Controller, SIM, DIO x 8, SMBUS
GENE-KBU6-A11-0002	Intel® Core™ i5-7300U	DP+LVDS+DVI-D	GbE x 2	USB3.0(Gen1) x 4 USB 2.0 x 2	1	3	SATA x 1 mSATA x 1 (half size)	MiniCard x 1 (Full)	2.0	9~36V	0°C ~ 60°C	Touch Controller, SIM, DIO x 8, SMBUS
GENE-KBU6-A11-0003	Intel® Core™ i3-7100U	DP+LVDS+DVI-D	GbE x 2	USB3.0(Gen1) x 4 USB 2.0 x 2	1	3	SATA x 1 mSATA x 1 (half size)	MiniCard x 1 (Full)	2.0	9~36V	0°C ~ 60°C	Touch Controller, SIM, DIO x 8, SMBUS