

### Specifications

System	
Form Factor	3.5" SubCompact Board
CPU	7th Generation Intel® Core™ i7-7600U Processor SoC
CPU Frequency	Up to 3.9GHz
Chipset	7th Generation Intel® Processor SoC
Memory Type	DDR4 1866/2133, SODIMM x 1
Max. Memory Capacity	Up to 16GB
BIOS	UEFI
Wake on LAN	Yes
Watchdog Timer	255 Levels
Power Requirement	+9 ~ 36V or +12V
Power Supply Type	AT/ ATX
Power Consumption (Typical)	Intel® i7-7600U, DDR4 2400MHz 16GB, 1.85A@ +12V
Dimension (L x W)	5.75" x 4" (146 mm x 101.7 mm)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 176°F (-40°C ~ 81°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF (Hours)	123,000
Certification	CE/FCC
Display	
VGA/LCD Controller	7th Generation Intel® Processor SoC
Video Output	DVI-D, LVDS, DP (Default) DVI-I, LVDS (include VGA signal)
Backlight inverter supply	Yes
I/O	
Ethernet	Intel® i210/i211, 10/100/1000Base-TX, RJ-45 x 2
Audio	High Definition Audio Interface
USB Port	USB 3.2 Gen 1 x 4, USB 2.0 x 2
Serial Port	RS-232 x 1, RS-232/422/485 x 3
Parallel Port	—
HDD Interface	SATA 3.0 x 1, +5V SATA power connector x 1
FDD Interface	—
SSD	mSATA (Shared with half-size MiniCard and Selected by BIOS)
Expansion Slot	BIO x 1 Mini-Card x 2 and default is mSATA x 1 (Half-size), Mini-Card x 1 (Full-size)
DIO	8-bit
SIM	x 1
TPM	TPM 2.0 x 1
Touch	x 1

### Features

- 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC
- DDR4 1866/2133, SODIMM x 1
- DVI, 18/24-bit Dual-Channel LVDS
- 2 CH Audio
- 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
- COM x 4 (RS-232 x 1, RS-232/422/485 x 3)
- Mini-Card Slot x 1 (Full size), TPM, SIM
- Wide DC Support 9~36V, +12V Only (Optional)
- 4/5/8-wire Resistive Touch Screen Controller
- BIO Connector for Daughter Board
- Solder Design for System Assembly and Thermal



### Packing List

- GENE-KBU6 with Heatspreader

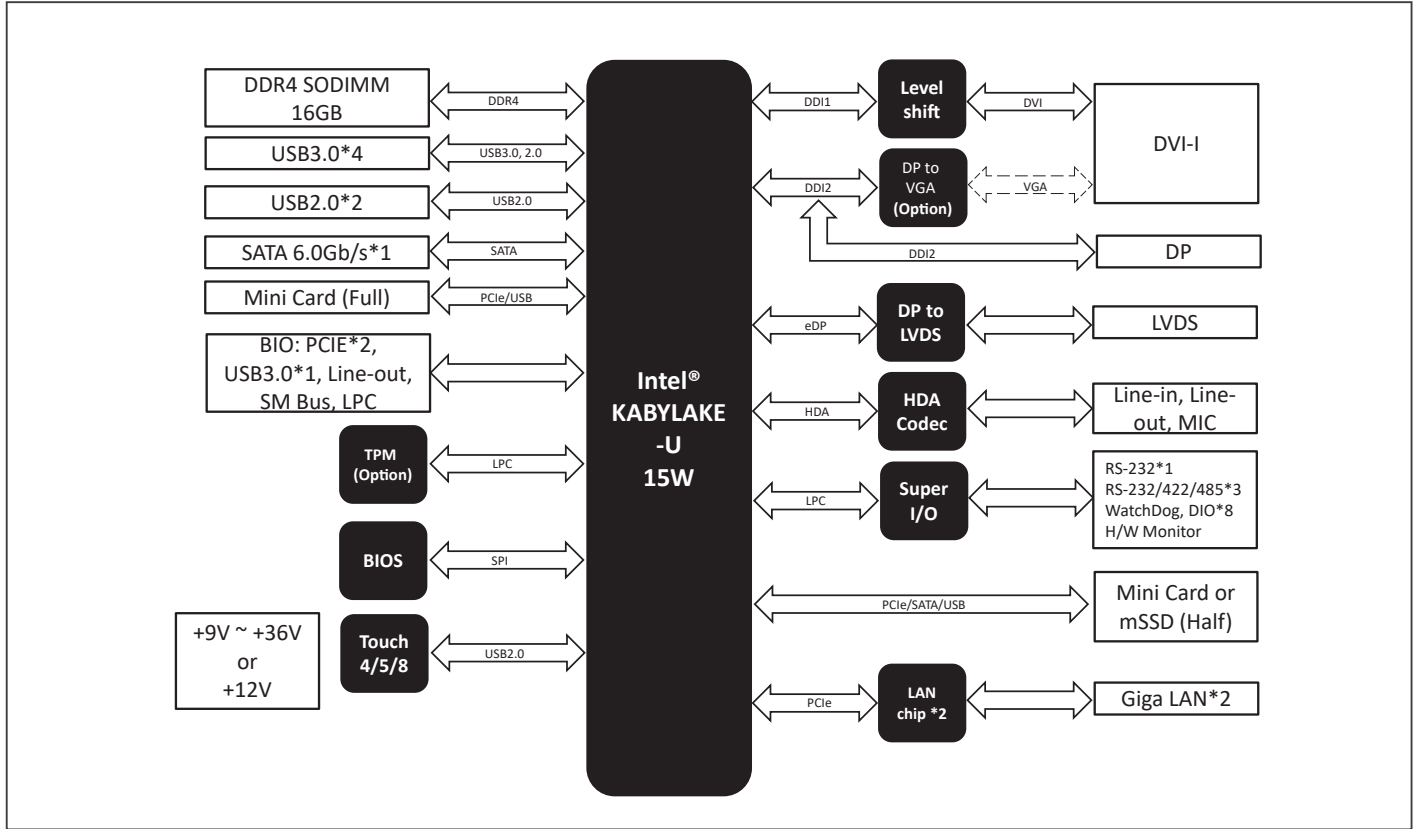
### Optional Accessories

Part Number	Description	QTY
1700050207	(TF)USB CABLE, 1 x 5P Pitch=1.25mm Housinh, 20cm, for PFM-945C	2
1701090150	(TF)Flat Cable, D-Sub 9(M), 9P Housing, 9P 1.25mm pitch Housing, 15cm	4
1709100254	(TF)PHONE JACK Cable, 3P AUDIO JACK, 1 x 10P 1.25mm HOUSING(F), 25cm	1
1702150155	(TF)Power Cable, 15P SATA(F), 2P 2.0mm Housing(PH), 15cm	1
170220020B	(TF)Power Cable, 20P ATX(M), 4P 5.08mm Housing(F), +3P 2.5mm Housing (XH), 20cm	1
1702002010	(TF)Power CABLE, 1 x 2P Pitch=5.0mm Housing, 10cm, for PFM-945C, (12V only)	1
GENE-KBU6-FAN01	CPU Cooler, 3P, 5000RPM, A1.0, REV. A1.0	1
GENE-KBU6-HSK02	Heatsink, 146 x 101.6 x 29mm, Silver, for GENE-KBU6	1
GENE-KBU6-HSK03	Heatsink for DDR4 SO-DIMM	1

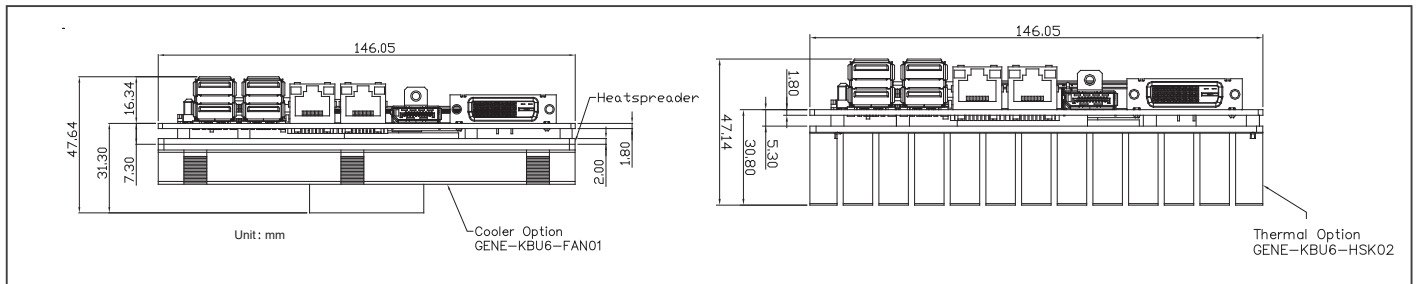
### CPU Support Chart

CPU	Base Frequency/ Turbo Boost GHz	Core/ Thread	Last Level Cache	TDP	Graphic
i7-7600U	2.8/3.9	2/4	4M	15W	GT2 - 620
i5-7300U	2.6/3.5	2/4	3M	15W	GT2 - 620
i3-7100U	2.4	2/4	3M	15W	GT2 - 620
C-3965U	2.2	2/2	2M	15W	GT1 - 610

### Block Diagram



### Dimension Unit: mm



### Ordering Information

Part Number	CPU	Fan/Fanless	Display	LVDS	Storage	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	Power Temp	Others
GENE-KBU6-A10-0001	Intel® i7-7600U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM
GENE-KBU6-A10-0002	Intel® i5-7300U	Fanless	DVI-D+LVDS+DP	18/24-bit, 2CH	SATA x 1, mSATA x 1	GbE x 2	USB 3.2 Gen 1 x 4, USB 2.0 x 2	1	3	MiniCard x 1 (Full-size)	9~36V	0°C ~ 60°C	DIO x 8, SIM, Touch Controller, TPM