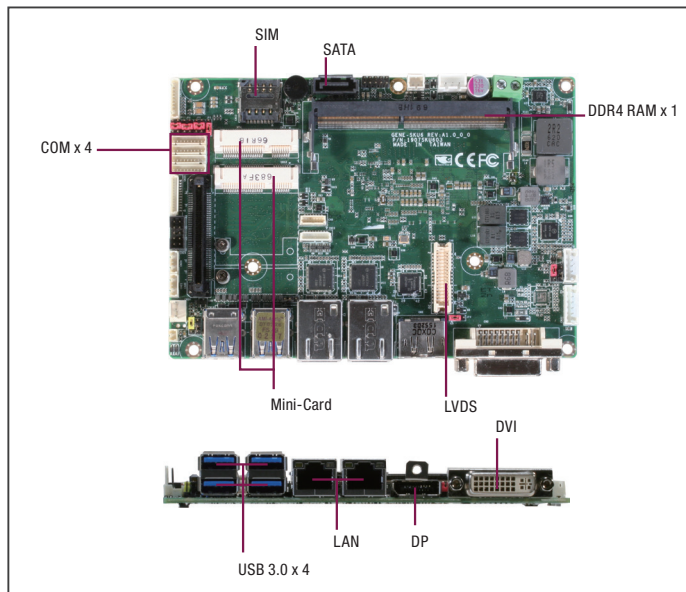


## 3.5" SubCompact Board with 7th Generation Intel® Core™ i7/i5/i3/Celeron® Processor SoC

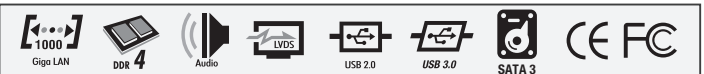


## Features

- 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 3.0 x 4
- COM x 4 (RS-232 x 1, RS-232/422/485 x 3)
- Mini-Card Slot x 1 (Full size), TPM (Optional), 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

## 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" (146mm x 101.7mm)                                                             |
| 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-I, DP, LVDS (CRT is shared with DP, and default is DP)                               |
| 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 3.0 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<br>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 (optional)                                                                   |
| Touch                       | x 1                                                                                      |



## Packing List

- Product DVD
- GENE-KBU6 with Heatspreader

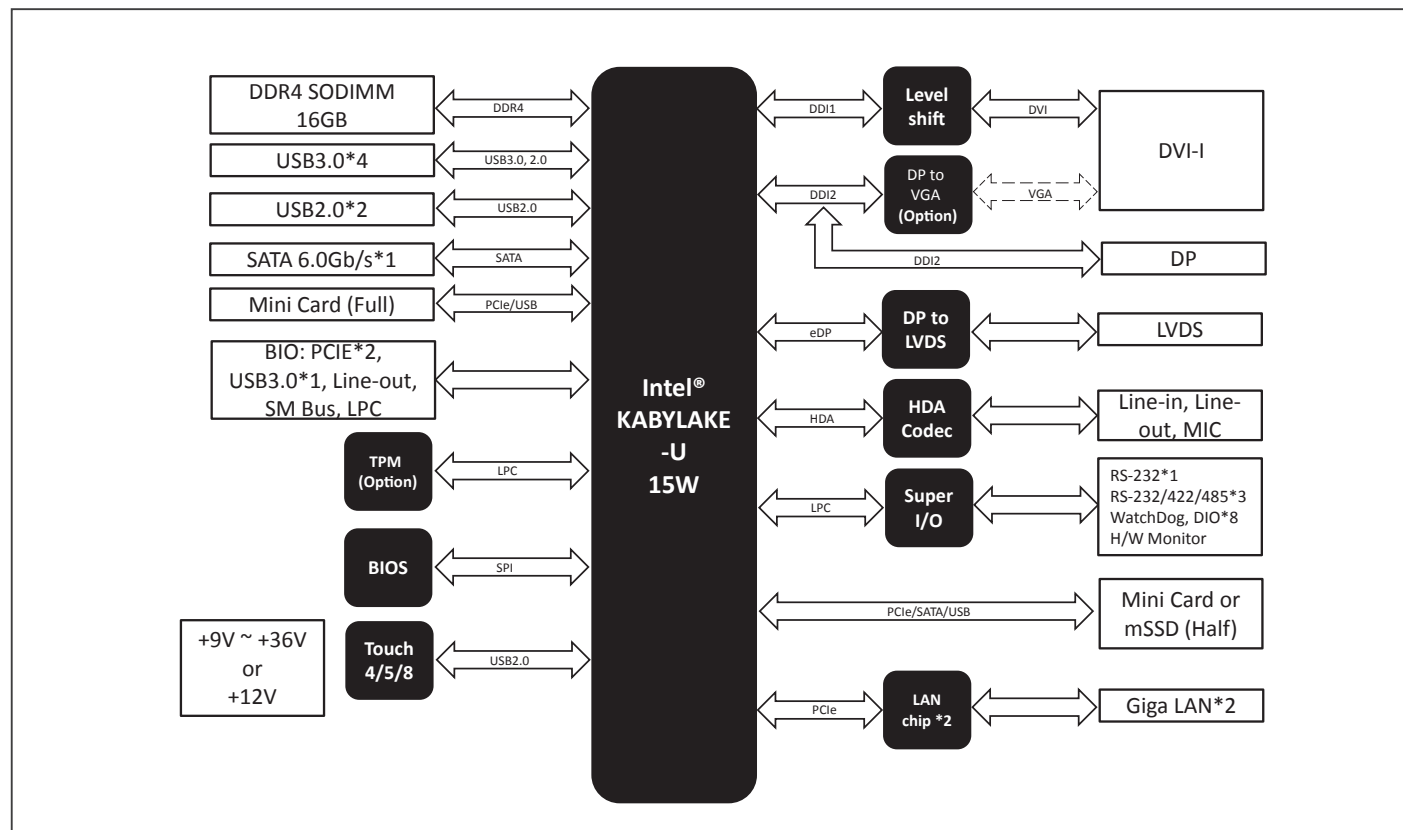
## Optional Accessories

| 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   |
| 1702200208      | (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   |

## CPU Support Chart

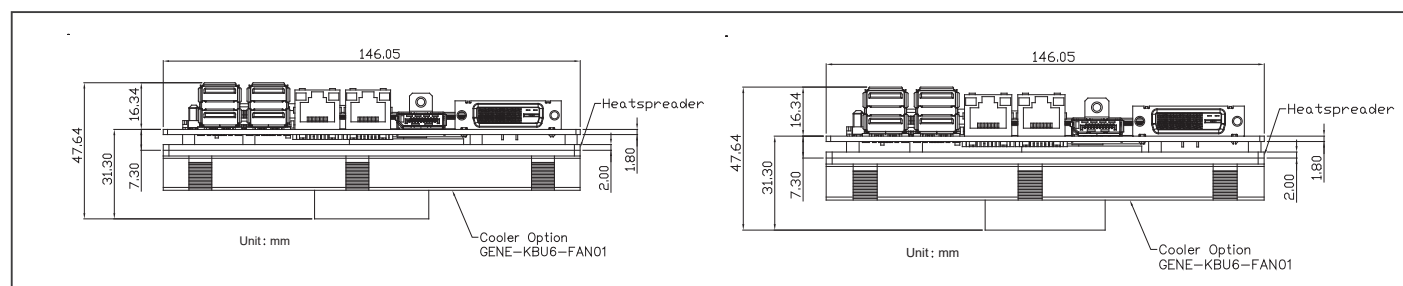
| CPU      | Base Frequency/<br>Turbo Boost GHz | Core/<br>Thread | Last Level<br>Cache | TDP | Graphic   |
|----------|------------------------------------|-----------------|---------------------|-----|-----------|
| i7-7600U | 2.8/3.9                            | 2/4             | 4M                  | 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+LVDS+DP | 18/24-bit, 2CH | SATA x 1, mSATA x 1 | GbE x 2 | USB 3.0 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 |