

# PCOM-B638VG

Intel® Kaby Lake-U/Skylake-U Core™ i7/i5/i3 processor based on Type VI Compact-COM Express 2.0 module with DDR4 SDRAM on SO-DIMM slots, VGA, LVDS, Display-port, Gigabit Ethernet, PCIe, SATA, USB, and OTG



## FEATURES

- Kaby Lake-U / Skylake-U is the 7<sup>th</sup> / 6<sup>th</sup> Generation Intel® Core™ Processor with 14nm and brand new architecture provide more performance
- Support DDR4-2133 MT/S Non-ECC SDRAM on one SO-DIMM slots, up to 16 GB
- Two SO-DIMM slots, up to 32GB
- One VGA, two DDI(one default optional) and LVDS
- Wide voltage support, from 6V to 18V



PCOM-B638VG brings three important factors, DDR4 memory support, Gen3 PCIe support, and 30% faster graphic performance. The Gen3 PCIe support provides faster PCIe speed so that the performance of PCIe expansion card will be better. It is crucial for Networking and Medical related applications. The enhanced graphic performance brings 4K support. The OTG support gives customer more flexibilities on developing new applications in different usages.

## General

| General                        |  |                        |                        |                        |
|--------------------------------|--|------------------------|------------------------|------------------------|
| Product                        | PCOM-B638VG  |                        |                        |                        |
| Form Factor                    | Type 6, Compact Form Factor Com Express® (95 x 95mm) |                        |                        |                        |
| Processor                      | Intel® Celeron®                                      | Intel® Core™           |                        |                        |
|                                | 3955U  | i3-6100U               | i5-6300U               | i7-6600U               |
| Core                           | 2  | 2                      | 2                      | 2                      |
| Freq.                          | 2.00 GHz   | 2.30 GHz               | 2.40 GHz               | 2.60 GHz               |
| Turbo                          | NA   | NA                     | 3.00 GHz               | 3.4 GHz                |
| Cache                          | 2MB  | 3MB                    | 3MB                    | 4MB                    |
| Processor Graphics             | Intel® HD Graphics 510                               | Intel® HD Graphics 520 | Intel® HD Graphics 520 | Intel® HD Graphics 520 |
| Graphics Base Frequency        | 300 MHz  | 300 MHz                | 300 MHz                | 300 MHz                |
| Graphics Max Dynamic Frequency | 900 MHz  | 1.00 GHz               | 1.00 GHz               | 1.05 GHz               |
| HW Encoding                    |  |                        |                        |                        |
| HW Decoding                    | N/A  |                        |                        |                        |
| HW Acceleration                |  |                        |                        |                        |
| Processor TDP                  | 15W  | 15W                    | 15W                    | 15W                    |
| BIOS                           | AMI BIOS   |                        |                        |                        |
| ECC Memory Supported           | NO   |                        |                        |                        |
| Memory                         | 2 SO-DIMM DDR4 up to 32GB 2133MHz                    |                        |                        |                        |

## I/O Interface

| I/O Interface |   |      |                           |  |
|---------------|---|------|---------------------------|--|
| SATA          | 2 x SATA III (Port 0/1)<br>1 x SATA III (Port 2) (Optional)                       |      |                           |  |
| USB           | 8 x USB2.0 (Port 0~7)<br>USB OTG (Optional) (Port 7)<br>4 x USB3.0 (Port 0/1/2/3) |      |                           |  |
| Ethernet      | Intel® I219LM   |      |                           |  |
| Serial I/O    | GPIO  |      | 8 GPIO                    |  |
|               | I <sup>2</sup> C  |      | Baud Rate : 400KHz        |  |
|               | SMBus   |      | Baud Rate : 100KHz        |  |
|               | UART  |      | 2x UART                   |  |
| PEG           | 1x PCies x4 Gen3  |      |                           |  |
| PCI Express   | 1x PCIe x4 Gen2   |      |                           |  |
|               | 1x PCIe x1 Gen2   |      |                           |  |
| Display       | VGA   | VGA  | 1920x1200@60 Hz           |  |
|               | LVDS  | LVDS | 1920x1600@60Hz            |  |
|               | HDMI  | DP   | 4096x2160@60Hz            |  |
|               |   | HDMI | 3840x2160@30Hz (Optional) |  |
| Security      | TPM   |      |                           |  |

## MECHANICAL & ENVIRONMENT

|                       |   |
|-----------------------|---|
| Dimension             | 95 x 95mm   |
| Power DC IN           | Normal: +12V DC<br>Wide range: +8 VDC ~ +18 VDC<br>AT/ ATX mode   |
| Storage Temperature   | 0°C to 60°C   |
| Operation Temperature | 0°C to 60°C   |
| Certification         | Contact us  |
| MTBF                  | Over 100,000 hours at 40° C   |
| Vibration             | Random 5Hz to 2KHz, 7.7 grms, 10min in each of 3 axes   |
| OS                    | Windows 7/ 8/ 8.1/ 10/<br>Microsoft Windows 2008 R2 SP1/ 2012/ 2012 R2<br>Linux Fedora 22/ Ubuntu 15.04 |

## BLOCK DIAGRAM

## ORDERING GUIDE

| Product           | Ordering P/N | Status    |
|-------------------|--------------|-----------|
| PCOM-B638VG-6600U | AB1-3E39     | Available |
| PCOM-B638VG-6300U | AB1-3E38     | Available |
| PCOM-B638VG-6100U | AB1-3E32     | Available |
| PCOM-B638VG-3955U | AB1-3E77     | Available |
| PCOM-B638VG-7600U | AB1-3G88     | Available |
| PCOM-B638VG-7300U | AB1-3G87     | Available |
| PCOM-B638VG-7100U | AB1-3G86     | Available |
| PCOM-B638VG-3965U | AB1-3G85     | Available |

| Accessory               | Ordering P/N | Status    |
|-------------------------|--------------|-----------|
| PQ7-C605 carrier board  | AB1-3998     | Available |
| PCOM-B638VG Cooler      | B9971380     | Available |
| PCOM-B638VG Heat Sink   | B8308660     | Available |
| PCOM-B638 Heat Spreader | B8308500     | Available |

## PCOM-B638VG

COM Express® Type 6 Compact Module 95x95mm AT / ATX Mode 0° C ~ +60° C

