

# PCOM-B639VG

Intel® Core™ Kaby Lake-H/Skylake-H Processor based on Type VI COM Express® module with DDR4 SDRAM, VGA, LVDS, Gigabit Ethernet, SATA 3.0 and USB



## FEATURES

- Kaby Lake-H / Skylake-H 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 ECC/Non-ECC SDRAM on two SO-DIMM slots, up to 16 GB
- Support faster I/O interfaces on 8x PCIe Gen3 lanes (four x 1 can be configured to on x4 lane)
- One VGA, three DDI(one default optional)
- and one embedded display port wide voltage support, from 6V to 18V



PCOM-B639VG brings three important factors, DDR 4 memory support, Gen 3 PCIe support, and 30% faster graphic performance. The DDR4 is trend and it supports both ECC and Non-ECC with the same pin definition. In other words, customer can use both ECC and Non-ECC memories depending their application and demand. In order to achieve that, all the PCH SKUs are considered in development stage to make sure that customer has various models to meet different requirements in cost, performance, and memory type. The Gen 3 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.

## General

PCOM-B639VG														
Product	PCOM-B639VG													
Form Factor	Type 6, Basic Form Factor Com Express® (125 x 95mm)													
Processor	Intel® Celeron®		Intel® Core™											
	G3902E	G3900E	i3-6100E	i3-6102E	i5-6442EQ	i5-6440EQ	i7-6820EQ	i7-6822EQ	7100E	7102E	7440EQ	7442EQ	7820EQ	
Core	2	2	2	2	4	4	4	4	2	2	4	4	4	
Freq.	1.60 GHz	2.40 GHz	2.70 GHz	1.90 GHz	1.90 GHz	2.70 GHz	3.40 GHz	3.50 GHz	2.80 GHz	2.90 GHz	2.10 GHz	2.90 GHz	2.10 GHz	3.00 GHz
Turbo	NA	NA	NA	NA	2.70 GHz	3.40 GHz	3.50 GHz	2.80 GHz	NA	NA	3.60 GHz	2.90 GHz	3.70 GHz	
Cache	2MB	2MB	3MB	3MB	6MB	6MB	8MB	8MB	3MB	3MB	6MB	6MB	8MB	
Processor Graphics	Intel® HD Graphics 510	Intel® HD Graphics 510	Intel® HD Graphics 530	Intel® HD Graphics 530	Intel® HD Graphics 530	Intel® HD Graphics 530	Intel® HD Graphics 530	Intel® HD Graphics 530	Intel® HD Graphics 630	Intel® HD Graphics 630	Intel® HD Graphics 630	Intel® HD Graphics 630	Intel® HD Graphics 630	
Graphics Base Frequency	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	350 MHz	
Graphics Max Dynamic Frequency	950 MHz	950 MHz	950 MHz	950 MHz	1.00 GHz	1.00 GHz	1.00 GHz	1.00 GHz	950 MHz	950 MHz	1.00 GHz	1.00 GHz	1.00 GHz	
HW Encoding														
HW Decoding	N/A													
HW Acceleration														
Processor TDP	25W	35W	35W	25W	25W	45W	45W	25W	35W	25W	45W	25W	45W	
BIOS	AMI BIOS													
ECC Memory Supported	YES	YES	YES	YES	NO	NO	NO	NO	YES	YES	NO	NO	NO	
Memory	2 SO-DIMM DDR4 ECC / Non-ECC up to 32GB 2133MHz													

## I/O Interface

SATA	4 x SATA III		
USB	8 x USB2.0 4 x USB3.0		
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 x16 Gen3		
PCI Express	8 x PCIe x1 Gen3		
Display	VGA	VGA	1920 x 1200@60Hz
	LVDS	LVDS	1920 x 1200@60Hz
	HDMI	DP	3840x2160@60Hz
		HDMI	3840x2160@60Hz
Security	TPM		

## MECHANICAL & ENVIRONMENT

Dimension	125 x 95mm
Power DC IN	Normal: +12V DC Wide range: +8 VDC ~ +18 VDC 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/ Microsoft Windows 2008 R2 SP1/ 2012/ 2012 R2 Linux Fedora 22/ Ubuntu 15.04

Accessory	Ordering P/N	Status
PQ7-C605 carrier board	AB1-3998	Available
Cooler	B9971391	Available
Heat Sink	B8308670	Available
Heat Spreader	B8308510	Available

## ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-B639VG-6822EQ	AB1-3E06	Available
PCOM-B639VG-6820EQ	AB1-3E31	Available
PCOM-B639VG-6442EQ	AB1-3E28	Available
PCOM-B639VG-6440EQ	AB1-3E29	Available
PCOM-B639VG-6102EQ	AB1-3E26	Available
PCOM-B639VG-6100EQ	AB1-3E27	Available
PCOM-B639VG-G3902E	AB1-3E35	Available
PCOM-B639VG-G3902E	AB1-3E25	Available
PCOM-B639VG-G3900E	AB1-3G48	Available
PCOM-B639VG-7820EQ	AB1-3G46	Available
PCOM-B639VG-7442EQ	AB1-3G47	Available
PCOM-B639VG-7440EQ	AB1-3G44	Available
PCOM-B639VG-7102E	AB1-3G45	Available
PCOM-B639VG-7100EZ	AB1-3E38	Available

## BLOCK DIAGRAM

### PCOM-B639VG

COM Express® Type 6 Basic Module 125x95mm    AT / ATX Mode    +8 ~ +18VDC    0 ~ +60° C

