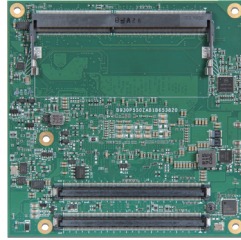
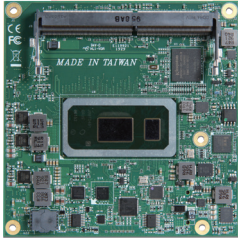


# PCOM-B653VGL

Intel® Whiskey Lake-U Core™ Processor based on Type VI COM Express module with dual DDR4 SO-DIMM, DDI, eDP, Gigabit Ethernet, SATA 3.0, and USB 3.1



## FEATURES

- Intel® Core™ i3/i5/i7/Celeron Processors 14nm process(Whiskey Lake U)
- Support 2xDDR4-2400 Non-ECC SO-DIMMs, up to 32G
- Support USB2.0/3.1, 2x SATAIII, 10x PCIe 3.0 LANES
- Support VGA, LVDS/eDP, and Display port



Portwell PCOM-B653VGL is designed with Intel® Whiskey Lake-U processor with Type 6 pin definition. It brings three important factors including DDR4 memory support, PCIe Gen3 support, and USB 3.1 Gen2 support. Extend PCIe Gen3 ports in PCOM-B653VGL can support high speed IO card for more applications. In the meantime, it's compatible with COMe 3.0 Type 6 carrier board.

## General

General				
Product	PCOM-B653VGL			
Form Factor	COM Express® Type 6 Compact Form Factor (95 x 95mm)			
Processor	Intel® Core™			Intel® Celeron®
	i7-8665UE	i5-8365UE	i3-8145UE	4305UE
Core	4	4	2	2
Freq.	1.70 GHz	1.60 GHz	2.20 GHz	2.00 GHz
Turbo	4.40 GHz	4.10 GHz	3.90 GHz	2.00 GHz
Cache	8MB	6MB	4MB	2MB
Processor Graphics	Intel® UHD Graphics 620	Intel® UHD Graphics 620	Intel® UHD Graphics 620	Intel® UHD Graphics 610
Graphics Base Frequency	300 MHz	300 MHz	300 MHz	300 MHz
Graphics Max Dynamic Frequency	1.15 GHz	1.05 GHz	1.00 GHz	1.00 GHz
HW Encoding	H.264 AVC, MPEG2, HEVC, VP8/9, JPEG			
HW Decoding	H.264 AVC, VC1, MPEG2, VP8/9, JPEG			
HW Acceleration	DX 11.3/12, OpenGL 4.5, OpenCL 2.1			
Processor TDP	15W	15W	15W	15W
BIOS	AMI BIOS			
ECC Memory Supported	NO			
Memory	2x SO-DIMM DDR4 up to 32GB 2400MHz			

## I/O Interface

SATA	2 x SATA III (Port 0/1)		
USB	4x USB 3.1 Gen2 (Port 0~3) 8x USB 2.0 (Port 0~7)		
Ethernet	Intel® I219LM		
Serial I/O	GPIO	8 bit GPIO	
	I <sup>2</sup> C	Baud Rate : 400KHz	
	SMBus	Baud Rate : 100KHz	
	UART	Only RX/TX signal	
PEG	1x PCIe Gen3 x4		
PCI Express	1x PCIe Gen3 x4 1x PCIe Gen3 x1 1x PCIe Gen3 x1 (Option)		
Display	Default	Options	Resolution
	VGA	VGA	Up to 1920x1200 @ 60Hz
	LVDS	DDI2	DP up to 4096x2160 @ 60Hz
		eDP	Up to 3840x2160 @ 60Hz
DDI-DP	24bit dual channel LVDS	Up to 1920x1200 @ 60Hz	
Security	TPM 2.0(Infinion SLB9670), Intel® AES		
	DP1.2		
			DP up to 4096x2160 @ 60Hz

## MECHANICAL & ENVIRONMENT

Dimension	95 x 95mm
Power DC IN	Normal: +12V DC Wide range: +6VDC~+18VDC AT/ATX mode
Storage Temperature	-20°C to 80°C
Operation Temperature	0°C to 60°C
Certification	Contact us
MTBF	Over 100,000 hours at 40°C
Vibration	Contact us
OS	Windows 10 Red Hat, Ubuntu, CentOS

## ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-B653VGL-8665UE	AB1-3J37	Available
PCOM-B653VGL-8365UE	AB1-3J34	Available
PCOM-B653VGL-8145UE	AB1-3J77	Available
PCOM-B653VGL-4305UE	AB1-3J78	Available

Accessory	Ordering P/N	Status
PCOM-C605 (Mini-ITX Carrier Board)	AB1-3998	Available
Cooler	B9971820	Available

## BLOCK DIAGRAM

### PCOM-B653VGL

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

