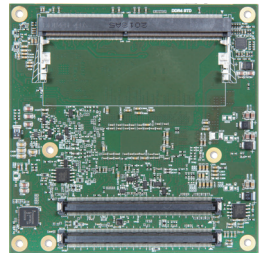
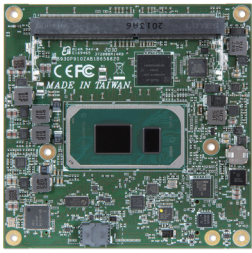


PCOM-B656VGL

Intel® Tiger Lake-UP3 Core™ Processor based on Type VI COM Express module with dual DDR4 SO-DIMM, DDI, eDP, Gigabit Ethernet, SATA 3.0, and USB 3.2



FEATURES

- Intel® Core™ i3/i5/i7/Celeron Processors 10nm process (Tiger Lake UP3)
- Support 2xDDR4-3200 Non-ECC SO-DIMMs, up to 32G per DIMM
- Support USB2.0/3.2, 2x SATAIII, 1x PCIe4.0 x4 and 5x PCIe 3.0 LANES
- Support Display Port, HDMI, VGA, and LVDS/eDP



Portwell PCOM-B656VGL is designed with Intel® Tiger Lake-UP3 processor with Type 6 pin definition. It brings three important factors including DDR4 memory, PCIe Gen4, and USB 3.2 Gen2 x1 support. Extend PCIe Gen3 ports in PCOM-B656VGL can support high speed I/O card for more applications. In the meantime, it's compatible with COMe 3.0 Type 6 carrier board.

General

General				
Product	PCOM-B656VGL			
Form Factor	Type 6, Compact Size Form Factor Express® (95 X 95mm)			
Processor	Intel® Core™			Intel® Celeron®
	i7-1185G7E i7-1185GRE	i5-1145G7E i5-1145GRE	i3-1115G4E i3-1115GRE	6305E
Core	4	4	2	2
Base Freq. @ TDP/cTDP	2.8/1.8/1.2 GHz	2.6/1.5/1.1 GHz	3.0/2.2/1.7 GHz	1.80 GHz
Turbo	4.4 GHz	4.1 GHz	3.9 GHz	N/A
Cache	12MB	8MB	6MB	4MB
Processor Graphics	Intel® Iris® Xe Graphics	Intel® Iris® Xe Graphics	Intel® Iris® Xe Graphics	Intel® UHD Graphics
Graphics Max Dynamic Frequency	1.35 GHz	1.30 GHz	1.25 GHz	1.25 GHz
HW Encoding	VP9 8/10 bit, H.265/HEVC 8/10 bit, H.264/AVC, MPEG2			
HW Decoding	AV1, VP9 8/10/12 bit, H.265/HEVC 8/10/12 bit, H.264/AVC, MPEG2			
Processor TDP/cTDP	28/15/12W	28/15/12W	28/15/12W	15W
BIOS	AMI BIOS			
ECC Memory Supported	NO			
Memory	2x SO-DIMM DDR4 up to 32GB 3200MHz per DIMM			

I/O Interface

SATA	2 x SATA III (Port 0~1)		
USB	4x USB 3.2 Gen2 (Port 1~4) 8x USB 2.0 (Port 0~7)		
Ethernet	Intel® I225LM 0°C to 60°C up to 2500BASE-T Intel® I225IT -40°C to 70°C up to 2500BASE-T Intel® I225IT -40°C to 85°C up to 1000BASE-T		
Serial I/O	GPIO	4x GPI & 4x GPO	
	I ² C	Baud Rate : 400KHz	
	SMBus	Baud Rate : 100KHz	
	UART	Only RX/TX signal	
PEG	1x PCIe Gen4 x4		
PCI Express	1x PCIe Gen3 x4 / 2x PCIe Gen3 x2 / 4x PCIe Gen3 x1 / 1x PCIe Gen3 x2 + 2x PCIe Gen3 x1 (Port 0~3) 1x PCIe Gen3 x1 (Port 4) with I225 LAN 1x PCIe Gen3 x2 / 2x PCIe Gen3 x1 (Port 6,7) w/o USB 3.2		
Display	Default	Options	Resolution
	DDI1	DP1.4	Up to 5120x3200 @ 60Hz 24 bpp
		HDMI	Up to 4096x2304 @ 60Hz 24 bpp
	DDI2	DP1.4	Up to 5120x3200 @ 60Hz 24 bpp
		HDMI	Up to 4096x2304 @ 60Hz 24 bpp
	LVDS	eDP	Up to 4096x2304 @ 60Hz 24 bpp
24bit dual channel LVDS		Up to 1920x1200 @ 60Hz	
VGA	VGA	Up to 1920x1200 @ 60Hz	
Security	TPM 2.0(Infinion SLB9670), Intel® AES		

PCOM-B656VGL

MECHANICAL & ENVIRONMENT

Dimension	95 x 95mm
Power DC IN	Normal: +12V DC, +5VSB DC AT/ATX mode
Storage Temperature	-40°C to 85°C
Operating Temperature	0°C to 60°C -40°C to 85°C (Selection Model)
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-B656VGL-1185G7E	AB1-3L45	Available
PCOM-B656VGL-1185GRE	AB1-3L28	Available
PCOM-B656VGL-1145G7E	AB1-3L47	Available
PCOM-B656VGL-1145GRE	AB1-3L48	Available
PCOM-B656VGL-1115G4E	AB1-3L49	Available
PCOM-B656VGL-1115GRE	AB1-3L46	Available
PCOM-B656VGL-6305E	AB1-3L50	Available
Accessory		Status
PCOM-C60B (ATX Carrier Board)	AB1-3G22	Available
Cooler	B9972040	Available
Heat Sink	B830B270	Available
Heat Spreader	B830B280	Available

BLOCK DIAGRAM

PCOM-B656VGL

COM Express® Type 6
Compact Module 95x95mm

AT / ATX Mode

+12VDC,
+5VSB

-40° C ~ +85° C
For Selection model

