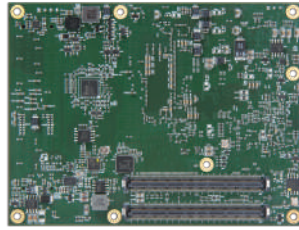
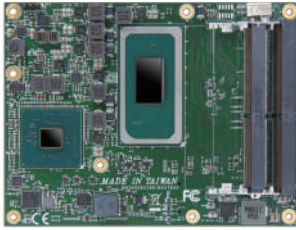


# PCOM-B657VGL

COM Express Type-VI Basic module with Intel® 11<sup>th</sup> Gen H Processor DDR4 SO-DIMM, DDI, PCIe Gen 4.0, USB 3.2 Gen2x1, 2.5 Gigabit TSN Ethernet, discrete TPM 2.0, eDP/LVDS, SATA III and VGA



## FEATURES

- 11 Gen Intel® Core™, Celeron®, and Xeon® W-11000E Series processors in 10nm Super Fin Process technology
- AI/DL Instruction sets (Intel® VNNI, AVX-512, INT8, FP16), Up to 8C/16T@45W and 25W with wide temperature SKUs support
- 2x DDR4-3200 ECC/Non-ECC SO-DIMMs, up to 2x 32GB and 1x PCIe Gen 4.0 x16, and 8x PCIe Gen 3.0 x1
- 4x USB2.0/3.2 Gen 2x1, 4x USB2.0, 4x SATAIII, 3x DDI, eDP/LVDS, and VGA Support



PCOM-B657VGL is COM Express module based on Intel® 11<sup>th</sup> Gen H Processor. It is compatible with COMe 3.0 standard. The platform adopt 10nm++ process and VNNI instruction set, offers advance computing power with 45~25W thermal and industrial use condition for wide range applications. PCOM-B657VGL supports PCIe Gen 4.0 x16, and both ECC and Non-ECC DDR4 by different SKUs, which is best for mission critical use conditions and AI edge computing with TSN enabled. This module provides 8x PCIe x1 (Option to 2x PCIe x4 and support PCIe storage), four USB 3.2 Gen2 x1, and four SATA III. The fully integrated and flexible I/O capacity also mapped to wide range of industrial applications.

## General

Product	PCOM-B657VGL Series (Embedded / Industrial SKUs)									
Form Factor	COM Express Type 6 Basic Module (125 X 95mm)									
SKU Type	General Embedded (0°C to 60°C)				Industrial 45W/35W (-40°C to 85°C)			Industrial 25W (0°C to 60°C)		
	i7-11850HE	i5-11500HE	i3-11100HE	Celeron 6600HE	W-11865MRE	W-11555MRE	W-11155MRE	W-11865MLE	W-11555MLE	W-11155MLE
Cores/Threads	8C/16T	6C/12T	4C/8T	2C/2T	8C/16T	6C/12T	4C/8T	8C/16T	6C/12T	4C/8T
Freq.	2.6 GHz	2.6 GHz	2.4 GHz	2.6 GHz	2.6 GHz	2.6 GHz	2.4 GHz	1.5 GHz	1.9 GHz	1.8 GHz
Turbo/1C	4.70 GHz	4.50 GHz	4.40 GHz	N/A	4.70 GHz	4.50 GHz	4.40 GHz	4.50 GHz	4.40 GHz	3.1 GHz
Intel® Smart Cache	24 MB	12 MB	8 MB	8 MB	24 MB	12 MB	8 MB	24 MB	12 MB	8 MB
Intel® UHD Gfx EU	32 EU	32 EU	16 EU	16 EU	32 EU	32 EU	16 EU	32 EU	32 EU	16 EU
Graphics Base Freq.	350 MHz									
Graphics Max Freq.	1350 MHz		1250 MHz	1100 MHz	1350 MHz		1250 MHz	1350 MHz		1250 MHz
HW Encoding	One VEDBox:H.264/AVC, H.265/HEVC, JPEG, VP9									
HW Decoding	Two VEDBoxes:H.264/AVC, VP9, H.265/HEVC, AV1, VC1, MPEG2, JPEG/MPEG, MPEG2									
HW Acceleration	DirectX 11/12, Open GL 4.5, OpenCL 2.1									
Processor TDP	45W / 35W			35W	45W / 35W			25W		
PCH	QM580E					RM590E				
Ethernet	Intel® I225LM					Intel® I225IT			Intel® I225LM	
ECC Memory Support	No					Yes				
BIOS	AMI BIOS									
Memory Type/Speed	DDR 4 SO-DIMM up to 64GB 3200MT/s									

## I/O Interface

SATA	4 x SATA III (Port 0~3)		
USB	4x USB 3.2 Gen 2 x1 (Port 0~3) 8x USB 2.0 (Port 0~7)		
Serial I/O	GPIO		8 bit GPIO (default 4 input/4 output)
	I <sup>2</sup> C		Baud Rate: 400KHz
	SMBus		Baud Rate: 100KHz
	UART		TX/RX signal only
PEG	1x PCIe Gen 4.0 x16 (can be configured to 1 x16, 2 x8 or 1 x8 + 2 x4)		
PCI Express	8x PCIe Gen 3.0 x1 (can be configured to 8 x1, 4 x1 + 1 x4, or 2 x4) Support Intel® RST for PCIe Storage for both x4 Link		
Display	Default	Options	Resolution
	LVDS / eDP (Default LVDS)	LVDS (24bit, dual channel )	1920 x 1200 @60Hz
		eDP 1.4b HBR3	2880 x 1800 @60Hz
	DDI	DP 1.4 HBR3	7680 x 4320 @30Hz
HDMI 2.0b		3840 x 2160 @60Hz	
VGA	VGA	1920 x 1200 @60Hz	
Security	TPM 2.0 (Infineon SLB9670), Intel® AES-NI, Intel® SHA Extensions, Intel® DAL		

# PCOM-B657VGL

## MECHANICAL & ENVIRONMENT

Dimension	125 x 95mm
Power DC IN	Normal: +12V DC AT/ATX mode
Storage Temperature	-20°C to 80°C
Operation Temperature	0°C to 60°C (General Embedded SKU) 0°C to 60°C (Industrial 25W SKU) -40°C to +85°C (Industrial 45W/35W SKU)
Certification	Contact us
MTBF	TBD
Vibration	TBD
OS	Windows 10 Ubuntu, CentOS, Yacto

## ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-B657VGL-11850HE	AB1-3L58Z	In Development
PCOM-B657VGL-11500HE	AB1-3L67Z	In Development
PCOM-B657VGL-11100HE	AB1-3L65Z	In Development
PCOM-B657VGL-6600HE	AB1-3L66Z	In Development
PCOM-B657VGL-11865MRE	AB1-3L57Z	In Development
PCOM-B657VGL-11555MRE	AB1-3L64Z	In Development
PCOM-B657VGL-11155MRE	AB1-3L63Z	In Development
PCOM-B657VGL-11865MLE	AB1-3L59Z	In Development
PCOM-B657VGL-11555MLE	AB1-3L62Z	In Development
PCOM-B657VGL-11155MLE	AB1-3L61Z	In Development

Accessory	Ordering P/N	Status
PCOM-C60B (ATX carrier board)	AB1-3G22Z	Contact us
Cooler	TBD	In Development
Heat Spreader	TBD	In Development

## BLOCK DIAGRAM

### PCOM-B657VGL

COM Express® Type 6 Basic  
Module 125x95mm

AT / ATX  
Mode

+12VDC  
+5VSB

-40°C ~ +85°C

