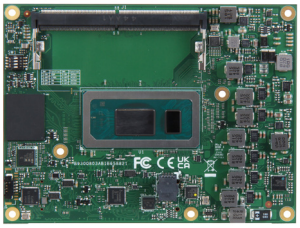
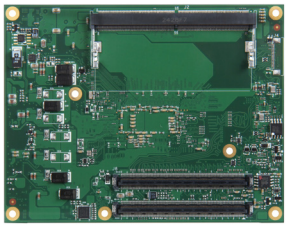
PCOM-B658VGL

COM Express Type6 Basic size module with Intel® 13th Gen H Processor DDR5 SO-DIMM, DDI, PCIe Gen 4, USB 3.2 Gen2, 2.5Gb Ethernet, discrete TPM 2.0, eDP, SATA





FEATURES

- 13th Gen Intel® Core™ ,Series processors in Intel® 7 lithography
- Up to 6x performance core +8x efficient core, and up to 96x graphic execution units
- 2x DDR5-4800 non-ECC SO-DIMMs up to 64GB, 1x PCIe Gen4 x8(H series), 2x Gen4 x4
- 4x USB3.2 Gen2, 2x SATA, 3x DDI, VGA, eDP/LVDS
- Options for Industrial Temperature Range -40°C up to +85°C Options for onboard PCIe NVMe SSD

RoHS

PCOM-B658VGL is COM Express module based on Intel® 13th Gen H platform. It is compatible with COM Express Rev3.1 standard. The platform adopts Intel 7 lithography and VNNI instruction set, offers advance computing power with 15~45W thermal and embedded use condition for wide range application. PCOM-B658VGL supports PCIe Gen4 lanes, and 2x Non-ECC DDR5 SO-DIMM, which is suit for mission critical use conditions and AI edge computing. This module also provides (up to) 8x PCIe Gen3 x1 lanes, 2x optional USB4(alternative with DDI), 4x USB 3.2 Gen 2, and 2x SATA III. The complete and flexible I/O capacity also mapped to wide range of embedded/industrial applications.

General

Product	PCOM-B658VGL					
Form Factor	COM Express Type6 Basic Size (125 X 95mm)					
SKU Type	H series Embedded			H series Industrial		
	i7-13800HE	i5-13600HE	i3-13300HE	i7-13800HRE	i5-13600HRE	i3-13300HRE
Cores P+E/Threads	6P + 8E/20T	4P + 8E/16T	4P + 4E/12T	6P + 8E/20T	4P + 8E/16T	4P + 4E/12T
Frequency	2.5 GHz	2.7 GHz	2.1 GHz	2.5 GHz	2.7 GHz	2.1 GHz
Turbo Frequency	5.0 GHz	4.8 GHz	4.6 GHz	5.0 GHz	4.8 GHz	4.6 GHz
Intel® Smart Cache	24 MB	18 MB	12 MB	24 MB	18 MB	12 MB
Intel® Gfx EU	96 EU	80 EU	48 EU	96 EU	80 EU	48 EU
Graphics Max Freq.	1.40 GHz	1.40 GHz	1.30 GHz	1.40 GHz	1.40 GHz	1.30 GHz
Video Decode Boxes	2	2	1	2	2	1
Processor TDP	65W / 45 W / 35 W					
PCH	SoC					
ECC Memory Support	No					
BIOS	AMI BIOS					
Memory Type/ Speed	DDR5 SO-DIMM up to 96GB 5200MT/s					

I/O Interface

SATA	2x SATA III share with PCIe lane		
USB	2x USB4 (option) 4x USB 3.2 Gen2 8x USB 2.0		
Ethernet	Intel® I226 series (optional support TSN/TCC on selected SKU)		
Serial I/O	GPIO	8 bit GPIO (default 4 input/4 output)	
	I²C	Baud Rate: 400KHz	
	SMBus	Baud Rate: 100KHz	
	UART	TX/RX signal only	
PCI Express Gen4	1x Gen4 x8 (selected SKU), 2x Gen4 x4		
PCI Express Gen3	8x Gen 3.0 x1 (2 lanes share with SATA)		
Storage	Up to 1TB onboard NVMe SSD (share with PCIe Gen4 x4 lanes)		
Display	Default	Options	Resolution
	eDP	eDP up to HBR3	7680 x 4320@60Hz
	DDI	DP up to HBR3	7680 x 4320@60Hz
		DP up to HBR3	7680 x 4320@60Hz
		DP up to HBR3	7680 x 4320@60Hz
Security	TPM 2.0		

PCOM-B658VGL

MECHANICAL & ENVIRONMENT

Dimension	125 x 95mm
Power DC IN	Normal: +12V DC AT / ATX mode
Storage Temperature	-40°C to 85°C
Operation Temperature	0°C to 60°C -40°C to 85°C(selected SKU)
Certification	Contact us
MTBF	TBD
Vibration	TBD
OS	Windows 10/11 Ubuntu

ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-B658VGL-13800HE	AB1-3R24	Available
PCOM-B658VGL-13600HE	AB1-3R52	Available
PCOM-B658VGL-13300HE	AB1-3R51	Available
PCOM-B658-13800HRE	AB1-3R74	Available
PCOM-B658-13600HRE	AB1-3S19	Available
PCOM-B658-13300HRE	AB1-3S20	Available

Accessory	Ordering P/N	Status
Cooler	B9972161	Available
Heatsink	B830B941	Available
Heatspreader	B830B951	Available
PCOM-C605R Mini-ITX Carrier	AB1-3P78	Available
PCOM-C60B ATX Evaluation Carrier	AB1-3G22	Available

BLOCK DIAGRAM

