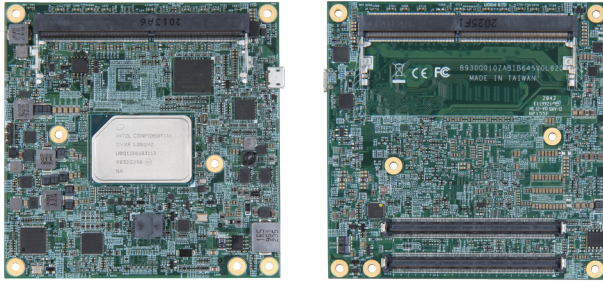


# PCOM-B645VGL

Intel Atom® x6000E series SoC based on Type 6 Compact COM-Express® module with DDR4 SDRAM



## FEATURES

- Intel Atom® Processor x6000E Series (Formerly Elkhart Lake)
- DDR4 SDRAM up to 32GB with IB ECC
- Optional for Industrial temperature range from -40°C to 85°C
- Multiple Displays VGA, LVDS, eDP/DP, HDMI
- Support Intel® TCC/TSN with 2.5GbE



PCOM-B645VGL, a Type 6 compact COM Express® (95 x 95 mm) module which based on Intel Atom® x6000E and Pentium® N and J Series Processors. In this architecture, it supports three independent displays including VGA, LVDS, and high quality HDMI, eDP, DP with 4K resolution. It also supports turbo mode up to 3.0GHz, and extending 6 x PCIe 3.0 x1, 2 x USB 3.1, 8 x USB 2.0, and 2 x SATA III devices. With ultra low power consumption (4.5 to 12W), wide-temp feature, it enables energy saving and high effective performance. Portwell's PCOM-B645VGL as vertical solution aims in different versatile applications, such as industrial automation, healthcare, smart retail, transportation and much more.

## General

Product	PCOM-B645VGL				
Form Factor	Type 6, Compact Form Factor COM-Express® ( 95 x 95 mm)				
Processor	Intel® Pentium®	Intel Atom®			
	J6426	x6211E	x6413E	x6425E	x6425RE
Core	4	2	4	4	4
Freq.	1.8 GHz	1.2 GHz	1.5 GHz	1.8 GHz	1.9 GHz
Turbo	3.0 GHz	3.0 GHz	3.0 GHz	3.0 GHz	N/A
Cache	1.5MB	1.5MB	1.5MB	1.5MB	1.5MB
Processor Graphics	Intel® UHD Graphics for 10 <sup>th</sup> Gen Intel® Processors				
Graphics Base Frequency	400 MHz	350 MHz	500 MHz	500 MHz	400 MHz
Graphics Max Dynamic Frequency	850 MHz	750 MHz	750 MHz	750 MHz	N/A
HW Encoding	H.264, H.265/HEVC, VP9, JPEG/MPEG				
HW Decoding	H.264, MPEG2, V1-1/WMV9, H.265/HEVC, VP8/9, JPEG/MPEG				
HW Acceleration	Gen 11 LP, DirectX 12, OpenGL4.5, OpenGL ES 3.2, Vulkan				
Processor TDP	10W	6W	9W	12W	12W
BIOS	AMI BIOS				
In-Band ECC	N/A	Yes	Yes	Yes	Yes
Memory	DDR4 SDRAM up to 32GB 3200 MT/s				

## I/O Interface

SATA	2 x SATA III		
USB	2 x USB 3.1, 8 x USB 2.0		
Ethernet	2.5 GbE via GPY215 PHY		
Serial I/O	GPIIO	8 GPIO	
	I <sup>2</sup> C	Baud Rate: 400KHz	
	SMBus	Baud Rate: 100KHz	
	UART	2 Serial Port (Tx/Rx)	
PEG	N/A		
PCI Express	6 x PCIe 3.0 x 1		
Display	Default	Options	Resolution
	LVDS	LVDS (24bit, dual channel)	up to 2560x 1600 @ 60Hz
		eDP	up to 4096x 2160 @ 60Hz
	VGA	VGA	up to 2560x 1600 @ 60Hz
		DP	up to 4096x 2160 @ 60Hz
	DDI2	HDMI	up to 4096x 2160 @ 60Hz
DP		up to 4096x 2160 @ 60Hz	
Security	HDMI	up to 4096x 2160 @ 60Hz	
	TPM 2.0, Intel®AES		

# PCOM-B645VGL

## MECHANICAL & ENVIRONMENT

Dimension	95 x 95 mm
Power DC IN	Normal : +12V Wide range : +9VDC - +18VDC AT/ATX Mode
Storage Temperature	-40°C to 85°C
Operation Temperature	-40°C to 85°C
Certification	Contact us
MTBF	TBD
Vibration	TBD
OS	Windows 10, Android 10 Linux Wind River7/Ubuntu/Yocto RTOS Windriver

## ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-B645VGL-J6426	TBD	Contact us
PCOM-B645VGL-x6211E	TBD	Contact us
PCOM-B645VGL-x6413E	TBD	Contact us
PCOM-B645VGL-x6425E	AB1-3K43Z	Contact us
PCOM-B645VGL-x6425RE	TBD	Contact us

Accessory	Ordering P/N	Status
Heat Sink (J/N-sku)	TBD	Contact us
Heat Sink (X-sku)	TBD	Contact us
PCOM-C605(Min-ITX Carrier board)	AB1-3998	Available
PCOM-C60B(ATX Carrier board)	AB1-3G22Z	Available
PCOM-C615(PICMG1.3)	AB1-3J53	Available

## BLOCK DIAGRAM

### PCOM-B645VGL

COM Express® Type 6 Compact Module 95x95mm    ATX Mode    12 VDC    -40 ~ +85° C

