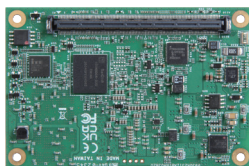
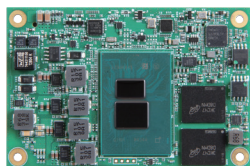


PCOM-BA03GL

Intel Atom® processors x7000RE/x7000E series based Type 10 COM-Express® Mini module with LPDDR5 SDRAM



FEATURES

- Intel Atom® processors x7000RE series (formerly Amston Lake), Intel Atom® processors x7000E series
- On board LPDDR5 SDRAM up to 16GB
- On board eMMC 32GB (up to 256GB)
- Low Power Consumption (6W to 12W), 4K Display resolution
- Support wide temperature -40°C ~ 85°C (Selected SKU)
- Support Intel® TCC/TSN with 2.5GbE (Selected SKU)



Portwell's PCOM-BA03GL, a COM Express® Type 10 Mini (84 x 55mm) module, is based on Intel Atom® processors x7000E and x7000RE series up to 8 cores and integrated GPU for AI inference and media processing, featuring LPDDR5-4800 MT/s onboard memory, turbo mode up to 3.6GHz, 2.5GbE, 4x PCIe 3.0 x1, 2x USB 3.2 Gen2, 8x USB 2.0 and 2x SATA III interfaces. It also provides LVDS support, and HDMI, eDP and DP interfaces with 4K resolution support (up to dual 4K displays). With low power consumption (6W to 12W), as well as support for wide voltage input from 4.75V to 20V and extended temperature from -40°C to 85°C, it delivers highly effective performance with energy efficiency. The Portwell PCOM-BA03GL enables versatile embedded computing solutions ideal for diverse applications across the industry, such as automation, military, transportation, edge AI and more..

CPU and General

Product	PCOM-BA03GL				
Form Factor	Type 10, Mini Form Factor COM-Express® (84 x 55 mm)				
Processor	Intel® Atom				
	x7425E	x7211RE	x7213RE	x7433RE	x7835RE
Core	4	2	2	4	8
Freq.	1.5 GHz	1.0 GHz	2.0 GHz	1.5 GHz	1.3 GHz
Turbo	3.4 GHz	3.2 GHz	3.4 GHz	3.4 GHz	3.6 GHz
Cache	6MB	6MB	6MB	TBC	TBC
Processor Graphics	Intel® UHD Graphics for 12 th Gen Intel® Processors				
Graphics Base Frequency	800 MHz	400 MHz	600 MHz	600 MHz	800 MHz
Graphics Max Dynamic Frequency	1.0 GHz	800 MHz	800 MHz	800 MHz	1.0 GHz
HW Encoding	TBC				
HW Decoding	TBC				
HW Acceleration	Gen 11 LP, DirectX 12, OpenGL4.6, Vulkan				
Processor TDP	12W	6W	9W	9W	12W
BIOS	AMI BIOS				
In-Band ECC	Yes	Yes	Yes	Yes	Yes
Memory (on board LPDDR5)	16GB 4800 MT/s	16GB 4800 MT/s	16GB 4800 MT/s	16GB 4800 MT/s	16GB 4800 MT/s
Storage (on board eMMC)	TBC	TBC	TBC	TBC	TBC
Temperature Range	0 ~ 60 °C	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C	-40 ~ 85 °C

I/O Interface

SATA	2 x SATA III		
USB	2 x USB 3.2 Gen2 8 x USB 2.0		
Ethernet	2.5 GbE		
Serial I/O	GPIO		8 GPIO
	I ² C		Baud Rate: 3.2MHz
	SMBus		Baud Rate: 1MHz
	UART		2 Serial Port (Tx/Rx)
PEG	N/A		
PCI Express	4x PCIe 3.0 x1		
Display	Default	Options	Resolution
	DDI	DP	up to 4096x 2160 @ 60Hz
		HDMI	up to 4096x 2160 @ 60Hz
	LVDS / eDP	LVDS(24bit, dual channel) eDP	up to 2560x 1600 @ 60Hz up to 4096x 2160 @ 60Hz
Security	TPM 2.0, Intel® AES		

MECHANICAL & ENVIRONMENT

Dimension	84 x 55 mm
Power DC IN	4.75V to 20V, AT/ATX Mode
Storage Temperature	-40°C to 85°C
Operating Temperature	-40°C to 85°C
Certification	TBD
MTBF	TBD
Vibration	TBD
OS	Win 11, Ubuntu , Yocto

ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-BA03GL-x7425E-16G-32G	AB1-3S29Z	Available
PCOM-BA03GL-x7211RE-16G-32G	AB1-3S41Z	Available
PCOM-BA03GL-x7213RE-16G-32G	AB1-3S43Z	Available
PCOM-BA03GL-x7433RE-16G-32G	AB1-3S44Z	Available
PCOM-BA03GL-x7835RE-16G-32G	AB1-3S42Z	Available

Accessory	Ordering P/N	Status
Heatsink (Atom)	In Process	TBC
Heatsink (i3)	In Process	TBC
Heatspreader (Atom)	In Process	TBC
Heatspreader (i3)	In Process	TBC
PCOM-CA00 (Micro-ATX Carrier board)	AB1-3917	Available

BLOCK DIAGRAM

PCOM-BA03GL

