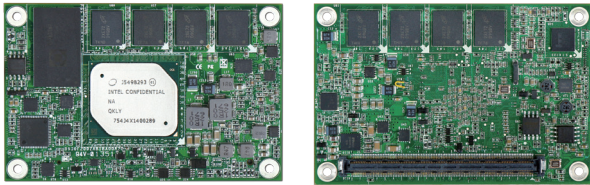


# PCOM-BA01

Intel® Atom® E3900 series SoC based on Type 10 Mini COM-Express® module with LPDDR4 SDRAM, NANDrive and USB 3.0



## FEATURES

- Intel® Atom® Processor E3900 Series (Apollo Lake)
- On Board LPDDR4 SDRAM up to 8GB, On Board eMMC up to 64GB
- Low Power Consumption (6 to 12W)
- Supports Wide Operating Temperature and Wide Voltage
- Support LVDS, eDP, DP, HDMI and Turbo mode up to 2.5GHz



PCOM-BA01, a Type 10 Mini COM Express® (84 x 55 mm) module which based on Intel® Apollo Lake Atom® E3900 series SoC. In this architecture, it could provide VGA, LVDS, and high quantity HDMI, eDP, DP with 4K resolution. And it also provide turbo mode up to 2.5GHz, with extending 4 x PCIe 2.0 x 1, 2 x USB 3.0, 8 x USB 2.0, and 2 x SATA III devices. With ultra low power consumption(6 to 12W), wide-temp support, it could provide very energy saving and high effective performance. Portwell want to promotes PCOM-BA01 as vertical solution to aim in the different versatile applications.

## General

Product	PCOM-BA01				
Form Factor	Type 10, Mini Form Factor COM-Express® ( 84 x 55 mm)				
Processor	Intel® Atom®			Intel® Pentium®	Intel® Celeron®
	E3950	E3940	E3930	N4200	N3350
Core	4	4	2	4	2
Freq.	1.60 GHz	1.60 GHz	1.30 GHz	1.10 GHz	1.10 GHz
Turbo	2.00 GHz	1.80 GHz	1.80 GHz	2.50 GHz	2.40 GHz
Cache	2MB	2MB	2MB	2MB	2MB
Processor Graphics	Intel® HD Graphics 505	Intel® HD Graphics 505	Intel® HD Graphics 500	Intel® HD Graphics 505	Intel® HD Graphics 500
Graphics Base Frequency	500 MHz	400 MHz	400 MHz	200 MHz	200 MHz
Graphics Max Dynamic Frequency	650 MHz	600 MHz	550 MHz	750 MHz	650 MHz
HW Encoding	HEVC/H.265, H.264, MVC, VPS, VP9, JPEGMJPEG				
HW Decoding	HEVC/H.265, H.264, MVC, VPS, MPEG2, VC-1, WMV9, JPEGMJPEG				
HW Acceleration	Gen9LP, DirectX 12, OpenGL 4.3, OpenCL 1.2, PAVP 2.0, OGL ES 3.0				
Processor TDP	12W	9.5W	6.5W	6W	6W
BIOS	AMI BIOS				
ECC Memory Supported	No				
Memory	On board LPDDR4 SDRAM up to 8GB 2133 MT/s				

## I/O Interface

SATA	2 x SATA III		
USB	2 x USB 3.0 8 x USB 2.0, (Option 1 x OTG)		
Ethernet	Intel® Ethernet Controller I210T		
Serial I/O	GPIO		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	4 x PCIe 2.0 x 1, or 1 x PCIe 2.0 x 4		
Display	Default	Options	Resolution
	DP	DP	up to 4096x 2160 @ 60Hz
		HDMI	up to 3840x 2160 @ 30Hz
	eDP	LVDS(24bit, dual channel)	up to 1920x 1200 @ 60Hz
eDP		up to 4096x 2160 @ 60Hz	
Security	Intel® AES		

## MECHANICAL & ENVIRONMENT

Dimension	84 x 55 mm
Power DC IN	+4.75VDC to +20VDC, AT/ATX Mode
Storage Temperature	-40°C to 80°C
Operation Temperature	-40°C to 80°C
Certification	Contact us
MTBF	Over 120,000 hours at 40°C
Vibration	Contact us
OS	Windows 7/10, WES7/8 Linux Fedora/Tizen/Yocto RTOS Windriver

## ORDERING GUIDE

Product	Ordering P/N	Status
PCOM-BA01-E3950-4G	AB1-3G73	Available
PCOM-BA01-E3940-4G	AB1-3G74	Available
PCOM-BA01-E3930-4G	AB1-3H32	Available
PCOM-BA01-N4200-4G	AB1-3H13	Available
PCOM-BA01-N3350-4G	AB1-3K20	Available
PCOM-BA01-E3950-8G	AB1-3F36	Available
PCOM-BA01-E3940-8G	AB1-3K21	Available
PCOM-BA01-E3930-8G	AB1-3G27	Available
PCOM-BA01-N4200-8G	AB1-3H91	Available
PCOM-BA01-N3350-8G	AB1-3K22	Available

Accessory	Ordering P/N	Status
Heat Sink (E-sku)	B8309590	Available
Heat Sink (N-sku)	B8309960	Available
PCOM-CA00 (uATX Carrier Board)	AB1-3917	Available

## BLOCK DIAGRAM

### PCOM-BA01

COM Express® Type 10 Mini Module 84x55mm    AT / ATX Mode    +4.75~+20VDC    -40°C ~ +80°C (E series only)

