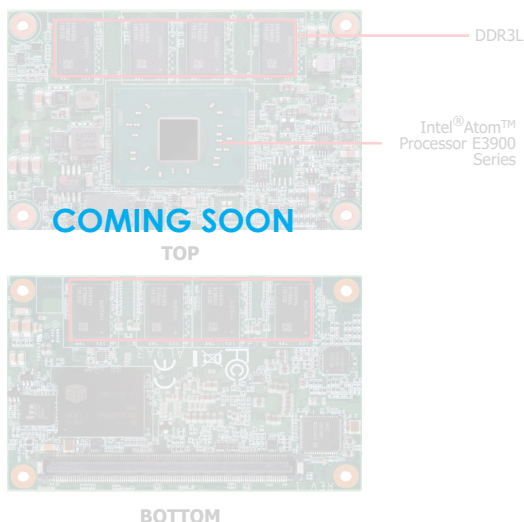


AL9A8

Atom

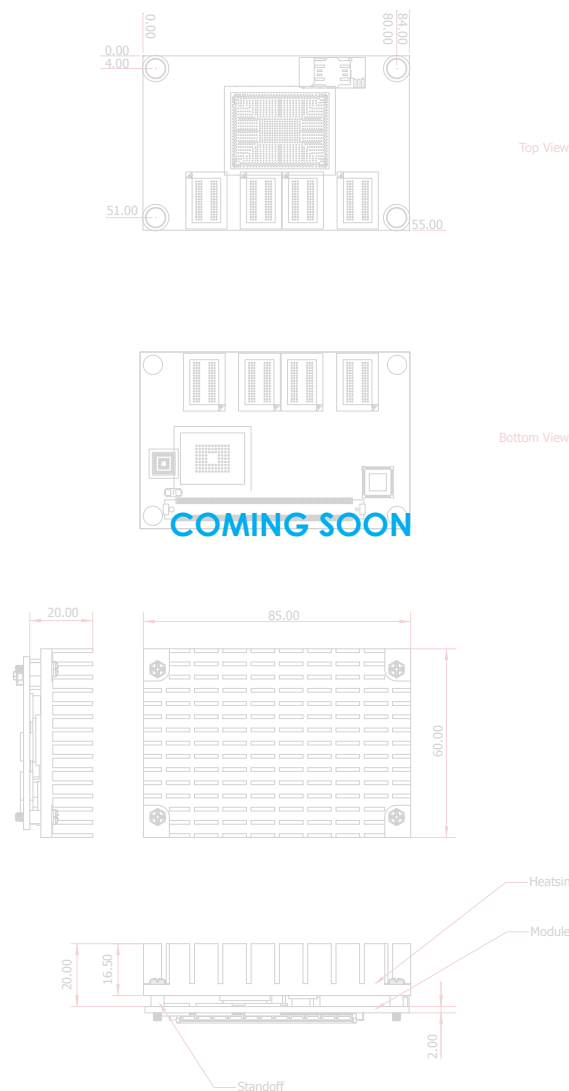


Features

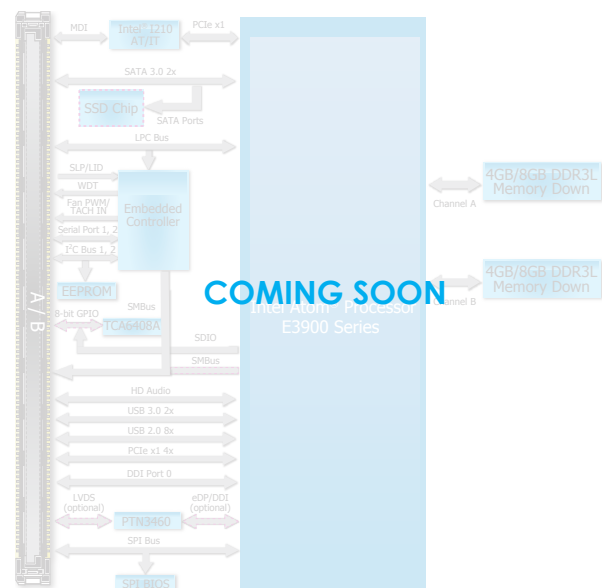
- Dual Channel LPDDR4 2400MHz Memory Down up to 8GB
- 1 LVDS/eDP, 1 DDI (HDMI/DP++)
Supports dual displays: DDI + LVDS/eDP
- DP++ resolution supports up to 4096x2304 @ 60Hz
- Multiple expansions: 4 PCIe x1
- Rich I/O: 1 Intel GbE, 2 USB 3.0, 8 USB 2.0



Mechanical Drawing



Block Diagram



Specifications

SYSTEM	Processor	Intel® Atom™ Processor E3900 Series, BGA 1296 Intel® Atom™, Dual/Quad Core, 2M Cache, 1.8~2.0GHz, 5.5~12W Intel® Pentium® Processor N4200, Quad Core, 2M Cache, 2.5GHz, 6W Intel® Celeron® Processor N3350, Dual Core, 2M Cache, 2.2GHz, 6W	
	Memory	4GB/8GB Memory Down	Dual Channel LPDDR4 2400MHz
	BIOS	SPI 128Mbit 8 pin	
GRAPHICS	Controller	Intel® HD Graphics	
	Feature	OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1, WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC	
	Display	1 x DDI (HDMI/DP++) 1 x LVDS/eDP	HDMI: resolution up to 4096x2160 @30Hz DP++: resolution up to 4096x2304 @ 60Hz/3840x2160 @ 60Hz eDP: resolution up to 4096x2304 @ 60Hz
	Dual Display	DDI + LVDS	DDI + eDP
EXPANSION	Interface	4 x PCIe x1 (Gen 2) 1 x SDIO (available upon request) 1 x LPC 1 x I ² C 1 x SMBus 1 x SPI 2 x UART (TX/RX)	
AUDIO	Interface	HD Audio	
ETHERNET	Controller	1 x Intel® I210AT (10/100/1000Mbps) (0°C to 60°C) 1 x Intel® I210IT (10/100/1000Mbps) (-40°C to 85°C)	
I/O	USB	2 x USB 3.0 8 x USB 2.0	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
	eMMC	1 x eMMC up to 128 GByte	
	GPIO	1 x 6-bit GPIO	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
POWER	Type	4.75V~20V, 5VSB, VCC_RTC (ATX mode)	4.75V~20V, VCC_RTC (AT mode)
	Consumption	Typical: E3940: 12V @ 0.34A (4.08W) Max.: E3940: 12V @ 1.62A (19.44W)	
SECURITY	TPM	BIOS default support FTPM, TPM2.0 by request.	
OS SUPPORT (UEFI ONLY)		Windows 10 IoT Enterprise 64-bit	Linux
ENVIRONMENT	Temperature	Operating: 0 to 60°C -40 to 85°C	Storage: -40 to 85°C
	Humidity	Operating: 5 to 90% RH	Storage: 5 to 90% RH
	MTBF	1,090,551 hrs @ 25°C; 509,776 hrs @ 45°C; 283,622 hrs @ 60°C Calculation model: Telcordia Issue 2 Environment: GB, GC – Ground Benign, Controlled	
MECHANICAL	Dimensions	COM Express® Mini	84mm (3.30") x 55mm (2.16")
	Compliance	PICMG COM Express® R2.1, Type 10	

Ordering Information

Model Name	P/N	Processor	Memory	DIO/SDIO	LVDS/eDP	eMMC	Temp.
AL9A8-B43-E3930	TBD	E3930	8 GB	SDIO	eDP	32 GB	0 to 60°C
AL9A8-T83-E3940	TBD	E3940	8 GB	DIO	LVDS	32 GB	-40 to 85°C
AL9A8-T83-E3950	TBD	E3950	8 GB	DIO	LVDS	32 GB	-40 to 85°C
AL9A8-B83-N4200	TBD	N4200	8 GB	DIO	LVDS	32 GB	0 to 60°C

Packing List

• 1 AL9A8 board	
• 1 Heat sink	A71-008114-000G (E Series) A71-008114-010G (N Series)

Optional Items

• COM100-B carrier board kit: 770-COM104-000G
• Heat spreader: A71-808304-000G (E Series) A71-808305-000G (N Series)