

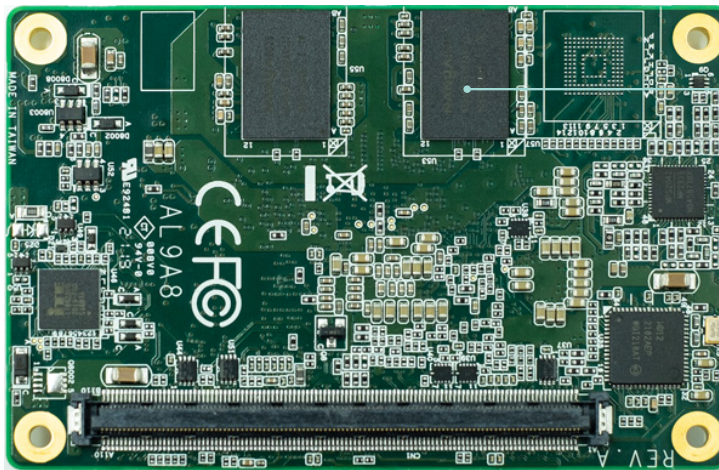
AL9A8

Intel® Atom® Processor E3900 Series
COM Express® Mini



Intel® Atom® Processor
E3900 Series

LPDDR4 Memory



LPDDR4 Memory

Bottom View

KEY FEATURES



DDR4

LPDDR4-2400 up to 8GB



4K High Resolution

Supports 4K resolution



High Speed Ethernet

Supports 100M/1000M/2.5Gbps



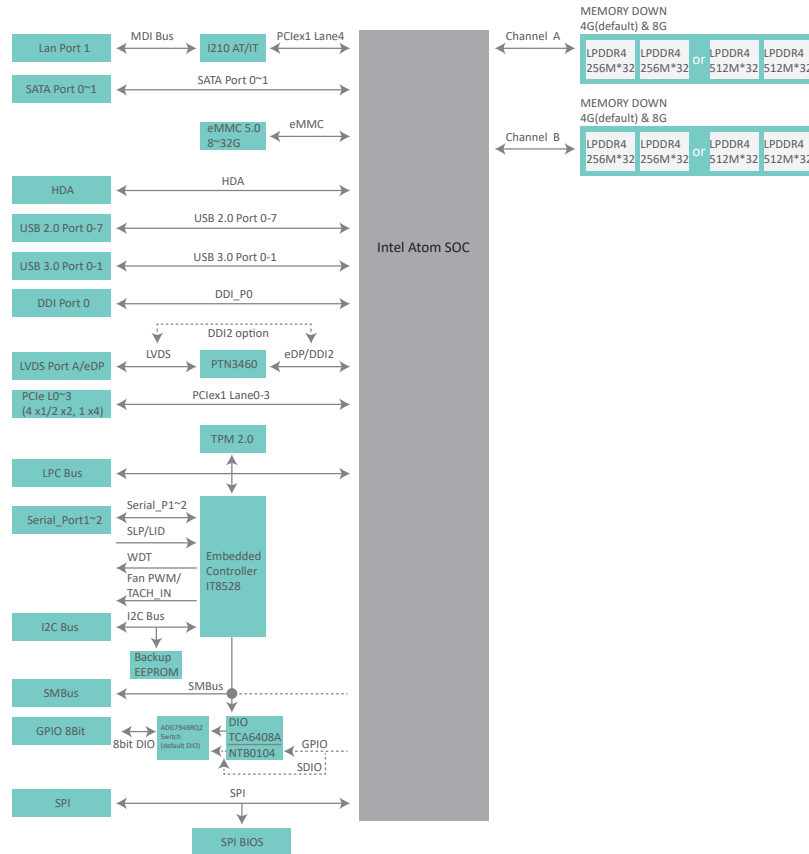
4 PCIe x1, 1 SMBus, 1 I²C, 1 SPI, 1 CANbus



Rich I/O

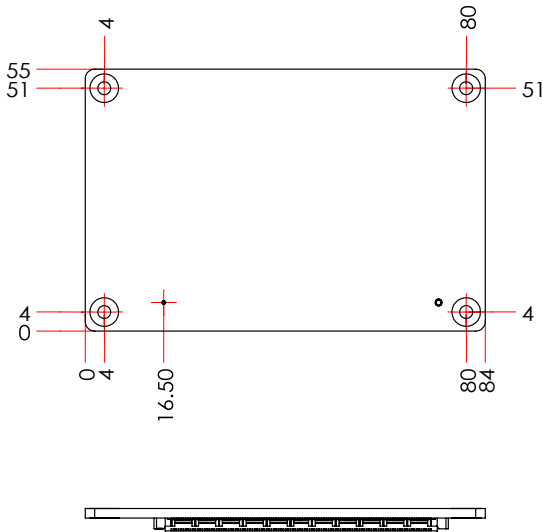
2 USB 3.0
8 USB 2.0

BLOCK DIAGRAM

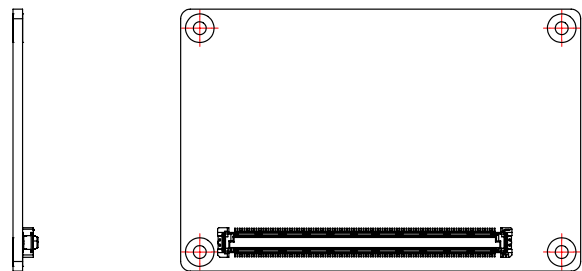


MECHANICAL DRAWING

TOP
Limit H=7mm



BOTTOM
Limit H=3.5mm



SPECIFICATION

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 eDP: resolution up to 4096x2304 @ 60Hz HDMI: resolution up to 4096x2160 @30Hz DP++: resolution up to 4096x2304 @ 60Hz/3840x2160 @ 60Hz Dual Display: DDI+ LVDS/eDP
	Interface	4 x PCIe x1 (Gen 2) 1 x SDIO (available upon request) 1 x LPC 1 x I2C 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)
OS SUPPORT	OS Support (UEFI Only)	Windows: Windows 10 IoT Enterprise 64-bit Linux
ENVIRONMENT	Temperature	Operating: -5 to 65°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
MECHANISM	Dimensions	COM Express® Mini 84mm (3.3") x 55mm (2.16")
	Compliance	PICMG COM Express® R3.0, Type 10
STANDARDS AND CERTIFICATIONS	Certifications	CE, FCC, UKCA

ORDERING INFORMATION

Model Name	P/N	Processor	Memory	Display	Temp.
AL9A8-B40-E3930	770-AL9A81-000G	E3930	4GB LPDDR4	LVDS	-5 to 65°C
AL9A8-T80-E3940	770-AL9A81-100G	E3940	8GB LPDDR4	LVDS	-40 to 85°C
AL9A8-T80-E3950	770-AL9A81-200G	E3950	8GB LPDDR4	LVDS	-40 to 85°C
AL9A8-B80-N4200	770-AL9A81-300G	N4200	8GB LPDDR4	LVDS	-5 to 65°C

PACKING LIST

1 AL9A8 board	
1 Heat sink	A71-008160-000G (E Series) A71-008160-010G (N Series)

OPTIONAL ITEMS

COM100-B carrier board kit	770-COM104-000G
Heat Spreader	A71-808350-000G