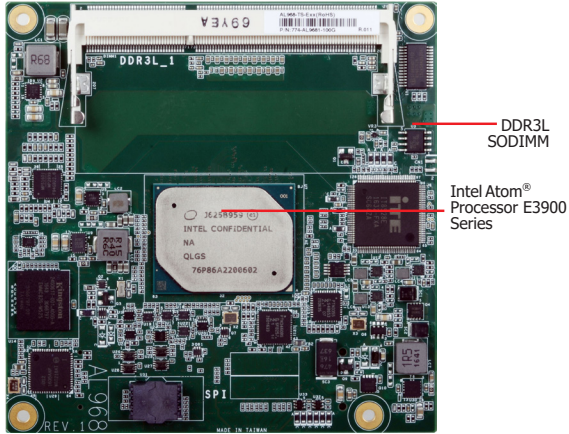


# AL968

Atom



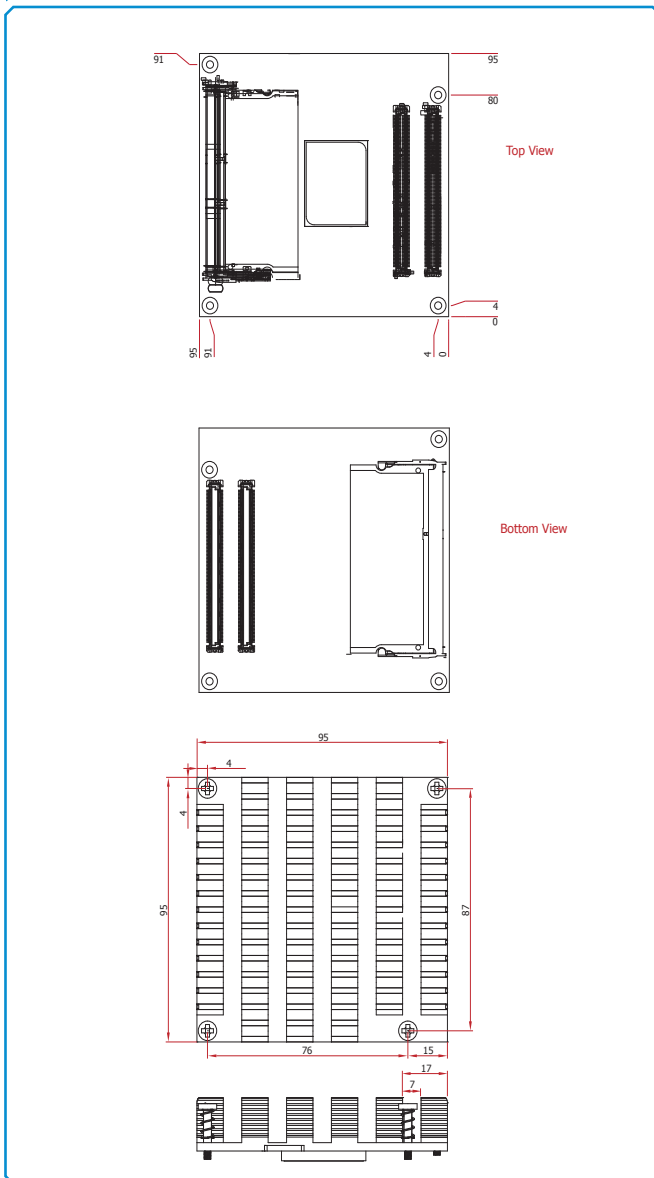
## Features

- Dual channel DDR3L 1600MHz SODIMM up to 8GB
- Three independent displays: VGA\*/DDI + LVDS\*/eDP + DDI
- DP++ resolution supports up to 4096x2160 @ 60Hz
- Multiple expansion: 4 PCIe x1, 1 LPC, 1 I<sup>2</sup>C, 1 SMBus, eMMC
- Rich I/O: 1 Intel GbE, 4 USB 3.0, 8 USB 2.0, 2 SATA 3.0

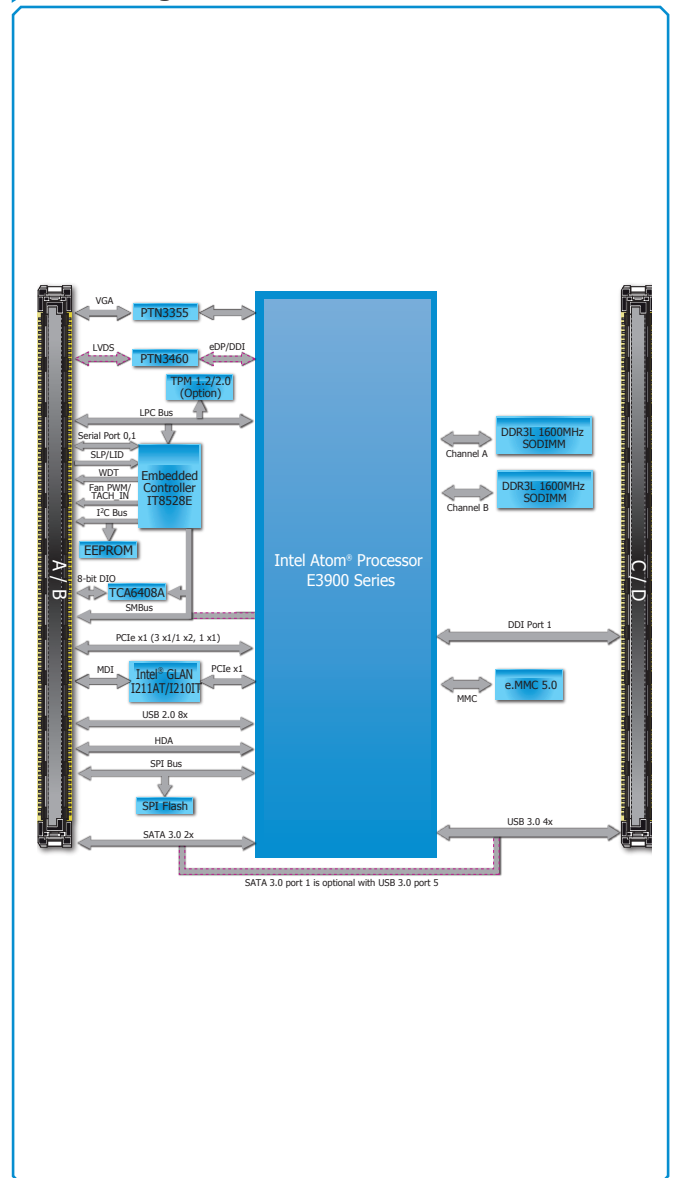
\* Populated by default



## Mechanical Drawing



## Block Diagram



## Specifications

<b>SYSTEM</b>	<b>Processor</b>	Intel Atom® Processor E3900 Series, BGA 1296 Intel Atom® x7-E3950 Processor, Quad Core, 2M Cache, 1.6GHz (2.0GHz), 12W Intel Atom® x5-E3940 Processor, Quad Core, 2M Cache, 1.6GHz (1.8GHz), 9.5W Intel Atom® x5-E3930 Processor, Dual Core, 2M Cache, 1.3GHz (1.8GHz), 6.5W Intel® Pentium® Processor N4200, Quad Core, 2M Cache, 1.1GHz (2.5GHz), 6W Intel® Celeron® Processor N3350, Dual Core, 2M Cache, 1.1GHz (2.4GHz), 6W	
	<b>Memory</b>	Two 204-pin SODIMM up to 8GB	Dual Channel DDR3L 1600MHz
	<b>BIOS</b>	Insyde SPI 128Mbit (supports UEFI boot only)	
<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics	
	<b>Feature</b>	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	
	<b>Display</b>	1 x VGA/DDI (DDI available upon request) 1 x LVDS/eDP (eDP available upon request) 1 x DDI	VGA: resolution up to 1920x1200 @ 60Hz LVDS: dual channel 24-bit, resolution up to 1920x1200 @ 60Hz eDP: resolution up to 3840x2160 @ 60Hz HDMI: resolution up to 3840x2160 @ 30Hz DP++: resolution up to 4096x2160 @ 60Hz
	<b>Triple Displays</b>	VGA + LVDS + DDI	DDI + eDP + DDI (available upon request)
<b>EXPANSION</b>	<b>Interface</b>	4 x PCIe x1 (Gen 2) 1 x SDIO (available upon request) 1 x LPC 1 x I <sup>2</sup> C 1 x SMBus 1 x SPI 2 x UART (TX/RX)	
	<b>eMMC</b>	1 x 8GB/16GB/32GB eMMC (available upon request)	
<b>AUDIO</b>	<b>Interface</b>	HD Audio	
<b>ETHERNET</b>	<b>Controller</b>	1 x Intel® I211AT (10/100/1000Mbps) (0°C to 60°C) or 1 x Intel® I210IT (10/100/1000Mbps) (-40°C to 85°C)	
<b>I/O</b>	<b>USB</b>	4 x USB 3.0 8 x USB 2.0	
	<b>SATA</b>	2 x SATA 3.0 (up to 6Gb/s)	
	<b>DIO</b>	1 x 8-bit DIO	
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>SECURITY</b>	<b>TPM</b>	Available Upon Request	
<b>POWER</b>	<b>Type</b>	12V, 5VSB, VCC_RTC (ATX mode)	12V, VCC_RTC (AT mode)
	<b>Consumption</b>	TBD	
<b>OS SUPPORT (UEFI ONLY)</b>		Windows: Windows 10 IoT Enterprise 64-bit	Linux: Ubuntu 15.10 (Intel® graphic driver available)
<b>ENVIRONMENT</b>	<b>Temperature</b>	Operating: 0 to 60°C -40 to 85°C	Storage: -40 to 85°C
	<b>Humidity</b>	Operating: 10 to 90% RH	Storage: 10 to 90% RH
	<b>MTBF</b>	TBD	
<b>MECHANICAL</b>	<b>Dimensions</b>	COM Express® Compact	95mm (3.74") x 95mm (3.74")
	<b>Compliance</b>	PICMG COM Express® R2.1, Type 6	
<b>STANDARDS AND CERTIFICATIONS</b>	<b>Certification</b>	CE, FCC	

## Ordering Information

Model Name	P/N	Processor	Memory	VGA/DVI	LVDS/eDP	GbE	USB 3.0	USB 2.0	Power	Thermal	Temp.
AL968-BS0-E3950	770-AL9681-500G	x7-E3950	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C
AL968-TS0-E3940	770-AL9681-600G	x7-E3940	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	-40 to 85°C
AL968-BS0-E3940	770-AL9681-700G	x7-E3940	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C
AL968-BS0-E3930	770-AL9681-800G	x7-E3930	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C
AL968-BS0-N4200	770-AL9681-900G	N4200	2 SODIMM	VGA	LVDS	1	4	8	ATX/AT	Fanless	0 to 60°C

## Packing List

• 1 AL968 board	
• 1 DVD	
• 1 Heat sink (Height: 22.6mm)	500G~800G: A71-008104-000G 900G: A71-008104-010G

## Optional Items

• COM332-B carrier board kit	770-CM3321-000G
• Heat spreader (Height: 11mm)	A71-808306-000G