

# AL701

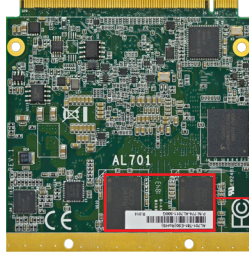
Atom



Intel Atom® Processor E3900 Series

LPDDR4

TOP

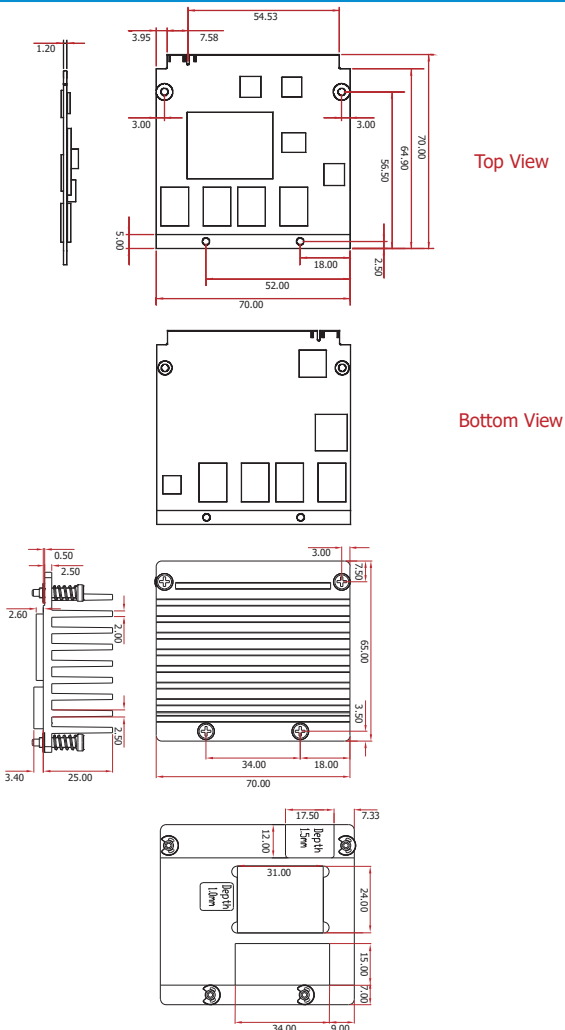


LPDDR4

BOTTOM



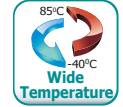
## Mechanical Drawing



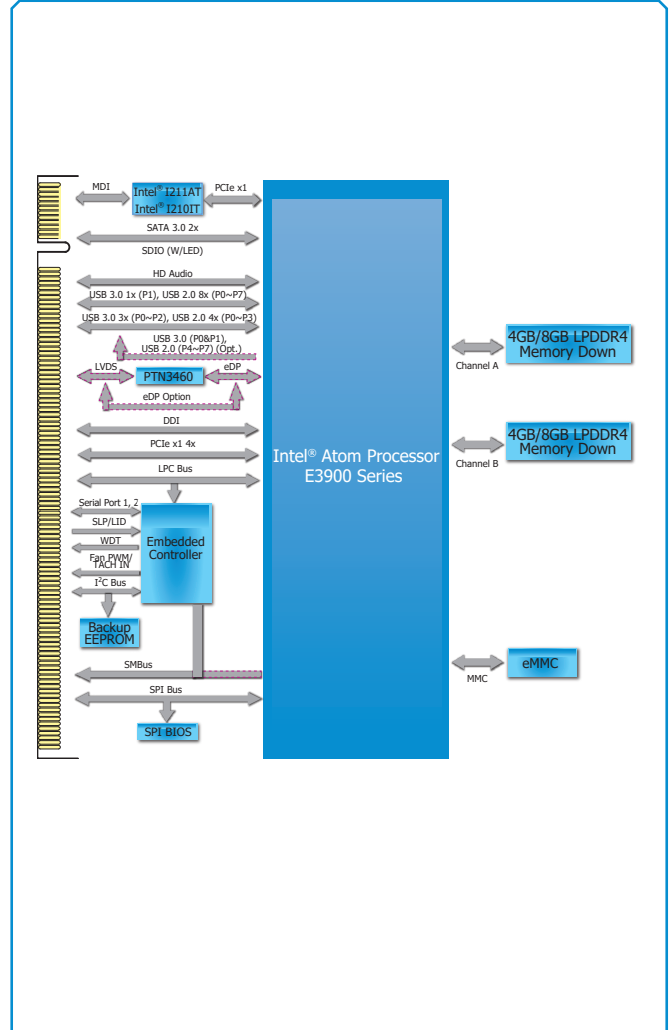
## Features

- 4GB/8GB LPDDR4 Dual Channel Memory Down
- 1 DDI\*, 1 LVDS\*/(eDP + DDI)
- Supports triple displays: eDP+2DDI
- DP++ resolution supports up to 4096x2160 @ 60Hz
- Multiple expansions: 4 PCIe x1
- Rich I/O: 1 Intel GbE, 1 USB 3.0, 8 USB 2.0

\* Populated by default



## Block Diagram



# AL701

## ► 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>	4GB/8GB LPDDR4 Memory Down	Dual Channel LPDDR4 3200MHz
	<b>BIOS</b>	AMI SPI 128Mbit (supports UEFI boot only)	
<b>GRAPHICS</b>	<b>Controller</b>	Intel® HD Graphics Gen9LP Series	
	<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 DDI (HDMI/DVI/DP++) 1 x LVDS/(eDP+DDI) (DDI available upon request)	LVDS: NXP PTN3460, 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz HDMI: resolution up to 3840x2160 @ 30 Hz DP++: resolution up to 4096x2160@60Hz eDP: resolution up to 3840x2160 @ 60Hz
	<b>Dual/Triple Display</b>	LVDS + DDI (Dual) eDP + DDI (Dual)	eDP+2DDI (Triple) (available upon request)
<b>EXPANSION</b>	<b>Interface</b>	4 x PCIe x1 (Gen 2) 1 x SDIO (with LED) 1 x LPC 1 x I <sup>2</sup> C 1 x SMBus 1 x SPI 1 x UART (TX/RX)	
<b>AUDIO</b>	<b>Interface</b>	HD Audio	
<b>ETHERNET</b>	<b>Controller</b>	1 x Intel® I211AT (10/100/1000Mbps) (0~60°C) 1 x Intel® I210IT (10/100/1000Mbps) (-40 to 85°C)	
<b>I/O</b>	<b>USB</b>	1 x USB 3.0 + 8 x USB 2.0 3 x USB 3.0 + 4 x USB 2.0 (option)	
	<b>SATA</b>	2 x SATA 3.0 (up to 6Gb/s)	
	<b>eMMC</b>	Supports up to 32GB eMMC eMMC 5.0, BGA-153 Ball 8~32G(MLC mode)	
	<b>GPIO</b>	1 x 4-bit GPIO	
	<b>CAN Bus</b>	CAN Bus Function (available upon request)	
<b>WATCHDOG TIMER</b>	<b>Output &amp; Interval</b>	System Reset, Programmable via Software from 1 to 255 Seconds	
<b>SECURITY</b>	<b>FTPM</b>	Enables or Disables the BIOS support for the security device	
<b>POWER</b>	<b>Type</b>	5V, 5VSB, VCC_RTC	
	<b>Consumption</b>	TBD	
<b>OS SUPPORT (UEFI ONLY)</b>		Windows 10 IoT Enterprise 64-bit	Linux (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: 5 to 90% RH	Storage: 5 to 90% RH
	<b>MTBF</b>	TBD	
<b>MECHANICAL</b>	<b>Dimensions</b>	Qseven form factor	70mm (2.76") x 70mm (2.76")
	<b>Compliance</b>	Qseven specification revision 2.1	
<b>CERTIFICATIONS</b>		CE, FCC Class B, RoHS, UKCA	

## ► Ordering Information

Model Name	P/N	Processor	Memory	eMMC	LVDS/eDP	GbE	USB 3.0	USB 2.0	Power	Thermal	Temp.
AL701-B40-E30	770-AL7011-100G	x5-E3930	4 GB	N/A	LVDS	1	1	8	ATX/AT	Fanless	0 to 60°C
AL701-B40-E40	770-AL7011-200G	x5-E3940	4 GB	N/A	LVDS	1	1	8	ATX/AT	Fanless	0 to 60°C
AL701-T80-E50	770-AL7011-300G	x7-E3950	8 GB	N/A	LVDS	1	3	4	ATX/AT	Fanless	-40 to 85°C

Note: N4200 and N3350 are supported upon request with MOQ requirement.

## ► Packing List

• 1 AL701 board	
• 1 Heat sink	A71-008123-000G

## ► Optional Items

• Qseven Carrier Board	770-Q7X154-000G
• Heat spreader	A71-808321-000G