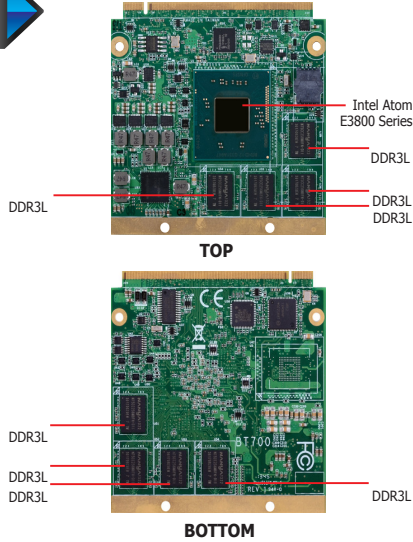


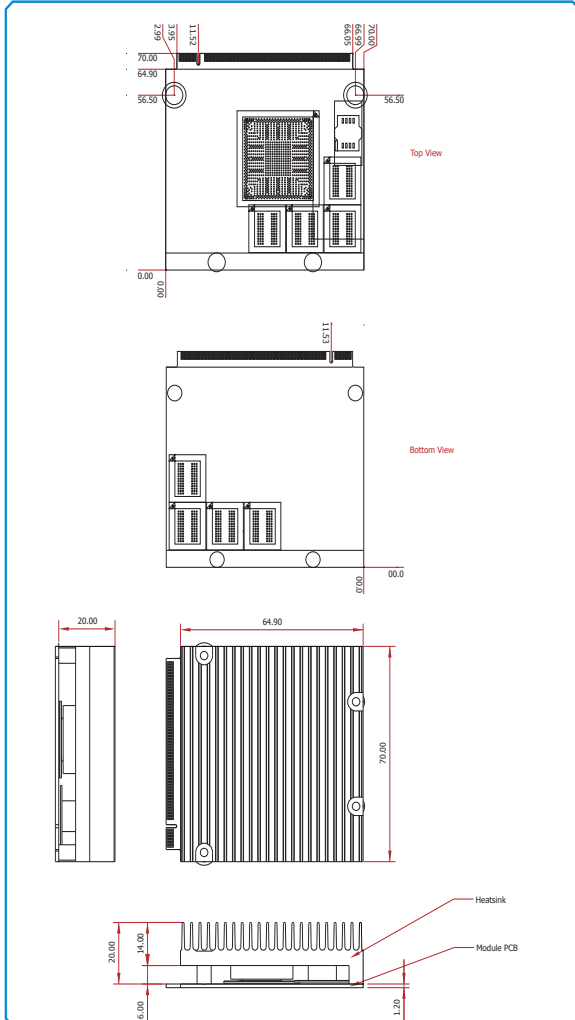


**Intel® Atom™ E3800 Series  
Qseven**

**BT700**



**Mechanical Drawing**

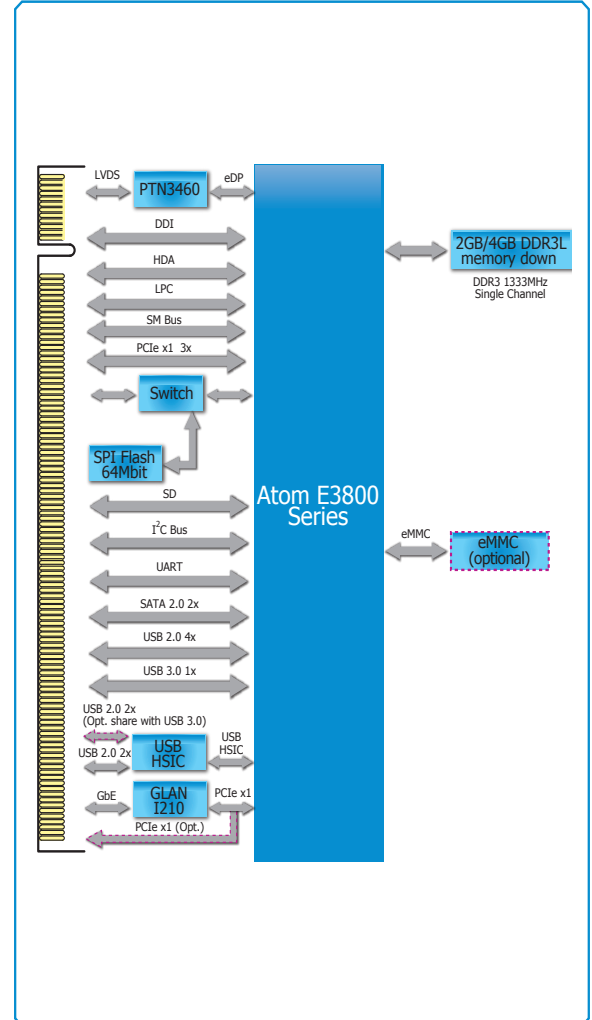


**Features**

MEMORY	2GB/4GB DDR3L memory down (single channel)
EXPANSION	3 PCIe x1 1 LPC, 1 SMBus, 1 I <sup>2</sup> C, 1 UART 1 LVDS, 1 DDI (HDMI/DVI/DP) 1 HDA 7 USB: 1 USB 3.0, 6 USB 2.0 2 SATA 2.0 eMMC (optional) 1 SD
LAN	1 LAN
DIMENSIONS	Qseven R2.0 70mm x 70mm (2.76" x 2.76")



**Block Diagram**





# BT700

**Specifications** \* Optional and is not supported in standard model. Please contact your sales representative for more information.

**PROCESSOR**

- Intel® Atom™ processors
- BGA 1170 packaging technology
- 22nm process technology
- Please refer to the Ordering Information below*

**SYSTEM MEMORY**

- 2GB/4GB DDR3L memory down
- Supports DDR3L 1333MHz (-E45)
- Supports DDR3L 1066MHz (-E26/-E15)
- Supports single channel memory interface

**ONBOARD GRAPHICS FEATURES**

- Intel® HD Graphics
- Supports LVDS and DDI interfaces
- LVDS: NXP PTN3460, 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz
- Digital Display Interface: HDMI, DVI and DP
- HDMI, DVI: resolution up to 1920x1080 @ 60Hz
- DP: resolution up to 2560x1600 @ 60Hz
- Supports hardware acceleration for DirectX 11, OCL 1.2, OGL 4.0, H.264, MPEG2, MVC, VC-1, WMV9 and VP8 (supported version dependent on OS)

**ONBOARD AUDIO FEATURES**

- Supports High Definition Audio interface

**ONBOARD LAN FEATURES**

- Intel® I210AT/IT Gigabit Ethernet Controller
  - Intel® I210IT supports wide temperature (-40°C to 85°C)
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

**SERIAL ATA (SATA) INTERFACE**

- Supports 2 Serial ATA interfaces
- SATA 2.0 with data transfer rate up to 3Gb/s
- Integrated Advanced Host Controller Interface (AHCI) controller

**eMMC\***

- Supports 4GB, 8GB, 16GB and 32GB eMMC onboard
- Supports Windows 8.1 only

**SD INTERFACE**

- Supports 1 SD interface
- Supports SDIO specification Ver. 3.0, HC Standard specification Ver. 3.0, physical layer specification Ver. 3.0, security specification Ver. 1.01

**TRUSTED PLATFORM MODULE (TPM)\***

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

**WATCHDOG TIMER**

- Watchdog timeout programmable via software from 1 to 255 seconds

**EXPANSION INTERFACES**

- Supports 1 USB 3.0 port and 1 USB HSIC for 2 USB 2.0 (default); or 4 USB 2.0 ports\* (BOM option)
- Supports 4 USB 2.0 ports
- Supports 3 PCIe x1 (default); or 1 PCIe x4 (PCIe port 3, by default, is shared with the onboard LAN)\*
- Supports LPC interface
- Supports I<sup>2</sup>C interface
- Supports SMBus interface
- Supports 1 UART interface (TX/RX/CTS/RTS)

**DAMAGE FREE INTELLIGENCE**

- Monitors CPU temperature
- Monitors system fan speed
- Monitors Vcore/VGFX/VSM voltages
- Watchdog timer function

**BIOS**

- AMI BIOS
- 64Mbit SPI BIOS

**POWER**

- Input: VCC\_RTC, 5V standby, 5V

**POWER CONSUMPTION**

- BT700-T44-E45: 12.72W with E3845 at 1.91GHz and 4GB DDR3L memory down

**OS SUPPORT**

- Windows 7 Ultimate x86 & SP1 (32-bit)
  - Windows 7 Ultimate x64 & SP1 (64-bit)
  - Windows 8 Enterprise x86 (32-bit)
  - Windows 8 Enterprise x64 (64-bit)
  - Windows 8.1 Enterprise x86 (32-bit)
  - Windows 8.1 Enterprise x64 (64-bit)
- Note: Windows 10 will be available upon request. Please contact DFI for more information.

**TEMPERATURE**

- Operating
  - : 0°C to 60°C - Atom (Fanless)
  - : -20°C to 70°C - Atom (Fanless with air flow)
  - : -40°C to 85°C - Atom (Fanless with air flow)
- Storage: -40°C to 85°C

**HUMIDITY**

- 5% to 90%

**MTBF**

- 1,076,859 hrs @ 25°C; 638,931 hrs @ 45°C
- Calculation model: Telcordia Issue 2, Method I Case 3
- Environment: GB, GC – Ground Benign, Controlled

**PCB**

- Dimensions
  - Qseven form factor
  - 70mm (2.76") x 70mm (2.76")
- Compliance
  - Qseven specification revision 2.0

**CERTIFICATION**

- CE, FCC Class B, RoHS

**Ordering Information**

Model Name	Processor	Memory	eMMC	Power	Thermal	Temperature
<b>BT700-B40-E45</b>	Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W	4GB Bundle	None	ATX/AT	Fanless	0°C to 60°C
<b>BT700-B40-E26</b>	Intel® Atom™ E3826, Dual Core, 1M Cache, 1.46GHz, 7W	4GB Bundle	None	ATX/AT	Fanless	0°C to 60°C
<b>BT700-E40-E15</b>	Intel® Atom™ E3815, Single Core, 0.5M Cache, 1.46GHz, 5W	4GB Bundle	None	ATX/AT	Fanless	-20°C to 70°C
<b>BT700-T44-E45</b>	Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W	4GB Bundle	4GB	ATX/AT	Fanless	-40°C to 85°C
<b>BT700-T40-E45</b>	Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W	4GB Bundle	None	ATX/AT	Fanless	-40°C to 85°C

The following specifications will be available upon request. Please contact your sales representative for more information.

Model Name	Temperature	Memory Down	eMMC	Processors
<b>BT700</b>	- <b>B</b>	<b>2</b>	<b>0</b>	<b>E45</b>
	B: 0°C to 60°C E: -20°C to 70°C T: -40°C to 85°C	2: 2GB 4: 4GB	0: None 4: 4GB 8: 8GB 1: 16GB 3: 32GB	E45: Intel® Atom™ E3845, Quad Core, 2M Cache, 1.91GHz, 10W E26: Intel® Atom™ E3826, Dual Core, 1M Cache, 1.46GHz, 7W E15: Intel® Atom™ E3815, Single Core, 0.5M Cache, 1.46GHz, 5W

**Packing List**

- 1 BT700 board
- 1 DVD
- 1 Heat sink: A71-012004-000G

**Optional Items**

- Q7X-151 carrier board kit: 770-Q7X151-000G
- Heat spreader: A71-012005-000G
- Heat spreader with heat sink: 761-BT7000-000G
- Bracket: A31-028001-200G

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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