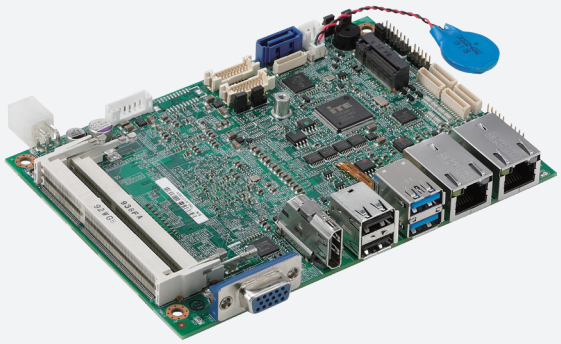
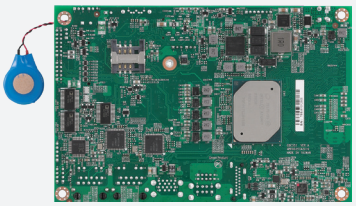
EBC 357

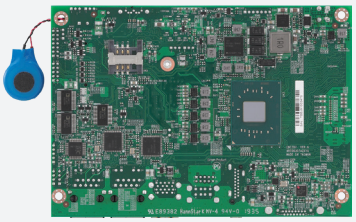
Fanless Embedded Computer

Intel Atom® Processor E39XX & J3455E Product Family





E39xx processor



J3455E processor

Main Features

- On-board Intel Atom® processor E39xx and J3455E processor family CPU upside down design
- CPU upside down design
- 2 x 204-pin SO-DIMM DDR3L
- Triplex display: HDMI/VGA/LVDS (or eDP)
- 1 x M.2 (2242) B key
- 2 x Intel® i210-IT PCI express Gigabit Ethernet
- 4 x SATA 2.0
- 2 x USB 3.0, 4 x USB 2.0, 4-in/4-out GPIO, Mic-in, Speak-out
- Serial port: 3 x RS232, 1 x RS232/422/485 port
- Support AT/ATX mode and single +12VDC input

Product Overview

EBC 357 is under the 3.5" SBC series which is based on multi-core SoC Intel Atom® processor (formerly codenamed "Apollo Lake"). EBC 357 series operates at wide temperature range with low power consumption. This series of 3.5-inch board is aimed at embedded applications. It supports a maximum memory of 16GB DDR3L SDRAM. Also, it offers three display outputs of VGA, HDMI and LVDS in order to provide the flexibility of supporting a range of peripherals and triplex display. The EBC 357 series is ideal for battery-powered portable devices, multimedia HMI panels, outdoor systems installed in harsh environments, home automation and thin clients.

Specifications

CPU Support

- Intel Atom® processor E39xx processor family, 14nm core, Quad/Dual Core, 1.8/2.0GHz, 2 x L2-Cache 1MB 16-way shared per 2 cores, TDP: 6.5W/12W
- Intel Atom® processor J3455E processor, 14nm core, Quad Core, 1.5 Up to 2.3GHz, 2 x L2-Cache 1MB 16-way shared per 2 cores, TDP: 10WTDP: 10W

Main Memory

- Dual DDR3L/SO-DIMMs, up to 8GB

Display

- 1 x HDMI connector (resolution up to 3840 x 2160@30Hz)
- 1 x VGA connector (resolution up to 1920 x 1200)
- LVDS interface: 1 x dual (18/24 bit) LVDS panel (resolution up to 1920 x 1080)

Storage device

- 1 x SATA III
- 1 x M.2 (2242) B key

Audio

- Realtek ALC888s HD codec
- 1 x 4 2.0 pitch pin header for Mic-in
- 1 x 4 2.0 pitch pin header for Line-out
- 1 x 5 2.0 pitch pin-header for Speak-out

On-board LAN

- 2 x Intel® I210-IT GbE controller
- Support PXE boot from LAN, wake on LAN function

Expansion

- 1 x M.2 slot M key support PCIe (default) & SATA interface

Power Requirements

- AT/ATX mode (by jumper setting default-AT)
- 4-Pin power connector (right angle) for DC power input
- Single power 12V DC input

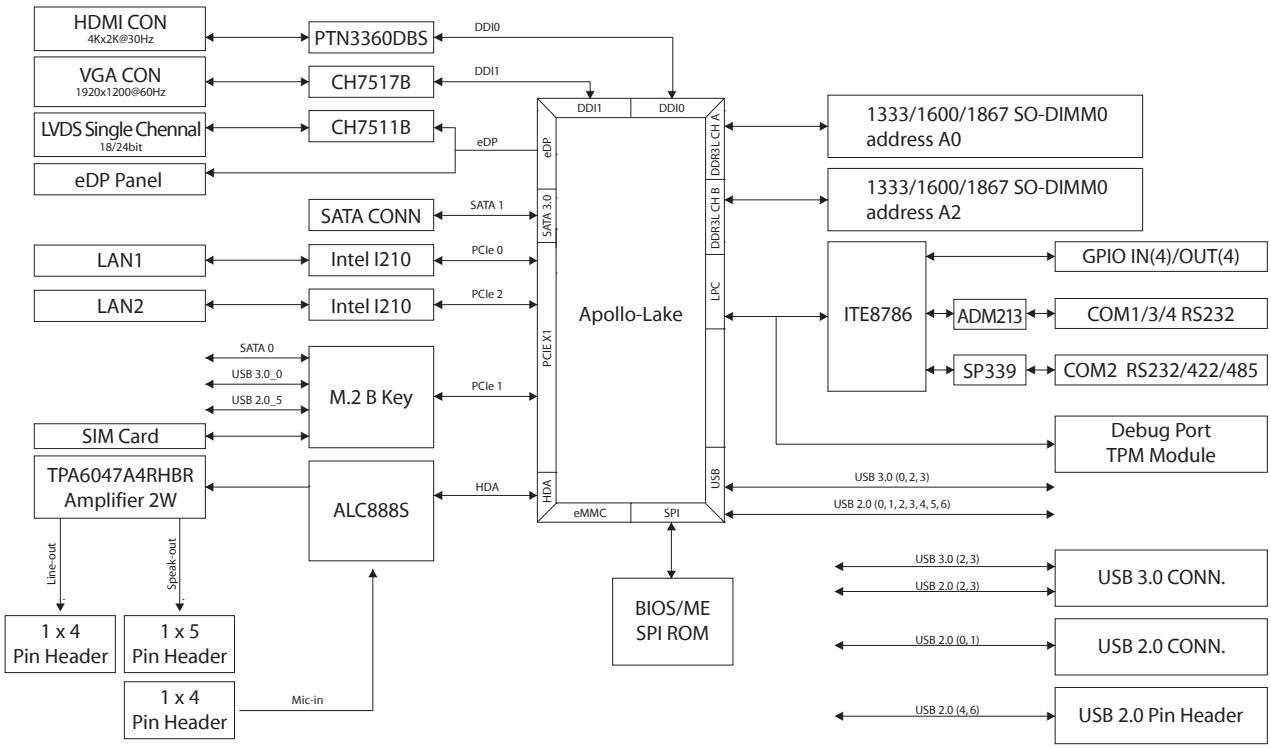
I/O

- Serial port x 4
  - COM1/3/4: RS232 1 x 10-pin 1.0mm JST connector. (COM3/4 optional)
  - COM2: RS232/422/485, 1 x 10-pin 1.0mm JST connector
- 4-in/4-out GPIO
- One 2 x 7 2.0mm pin header with SMBus/power on-off/system reset/ power/storage LED
- One 4-pin fan connector support PWM fan

Rear I/O

- 1 x VGA & 1 x HDMI display output
- 2 x GbE controller
- 2 x USB 3.0 & 2 x USB 2.0

Block Diagram



Optional Function
- TPM module (EBK-TPM)

Mechanical & Environment
- Operating temperature : 0C~60°C for J3455E CPU SKU
- Operating temperature : -20C~60°C for E3950 & E3930 CPU SKU
- Storage temperature : -20°C~80°C
- Relative humidity : operating 10%~90%, non-condensing

Dimension
- Display Head: 3.5" SBC form factor (148mm * 102mm)

Operating System
- Windows 7/8.1/10
- Linux

Certificate
- EMC & Safety & RCM
- CE/FCC Class A

Optional Accessories
- 7P+15P SATA cable (P/N: 60233AT136X00)
- COM port cable (P/N: 60233SIO62X00)
- EBC357 serial heat sprder (P/N: TBD)

* Notice
Heat spreader: The heatspreader acts as a thermal coupling device to the module and is thermally coupled to the CPU via a thermal gap filler. On some modules, it may also be thermally coupled to other heat generating components with the use of additional thermal gap fillers. Although the heatspreader is the thermal interface where most of the heat generated by the module is dissipated, it is not to be considered as a heatsink. It has been designed as a thermal interface between the module and the application specific thermal solution.

Ordering Information

- **EBC 357-E3950L (P/N: 10E00035703X0) RoHS Compliant**
  Low power embedded board with Intel Atom® processor E3950 and extended -20˚C~60˚C, , with HDMI/VGA/LVDS, 2 x USB 3.0, 4 x USB 2.0, 2 x COMs, 1 x M.2 B key, 2 x Gigabit LAN, 1 x SATA
- **EBC 357-E3930L (P/N: 10E00035704X0) RoHS Compliant**
  Low power embedded board with Intel Atom® processor E3930 and extended -20˚C~60˚C, , with HDMI/VGA/LVDS, 2 x USB 3.0, 4 x USB 2.0, 2 x COMs, 1 x M.2 B key, 2 x Gigabit LAN, 1 x SATA
- **EBC 357-E3950E (P/N: 10E00035705X0) RoHS Compliant**
  Low power embedded board with Intel Atom® processor E3950 and extended -20˚C~60˚C, with HDMI/VGA/eDP, 2 x USB 3.0, 4 x USB 2.0, 2 x COMs, 1 x M.2 B key, 2 x Gigabit LAN, 1 x SATA
- **EBC 357-E3930E (P/N: 10E00035706X0) RoHS Compliant**
  Low power embedded board with Intel Atom® processor E3930 and extended -20˚C~60˚C, , with HDMI/VGA/eDP, 2 x USB 3.0, 4 x USB 2.0, 2 x COMs, 1 x M.2 B key, 2 x Gigabit LAN, 1 x SATA
- **EBC 357-J3455L (P/N: 10E00035709X0) RoHS Compliant**
  Low power embedded board with Intel Atom® processor J3455 and extended 0˚C~60˚C, with HDMI/VGA/LVDS, 2 x USB 3.0, 4 x USB 2.0, 2 x COMs, 1 x M.2 B key, 2 x Gigabit LAN, 1 x SATA
- **EBC 357-J3455E (P/N: 10E00035708X0) RoHS Compliant**
  Low power embedded board with Intel Atom® processor J3455 and extended 0˚C~60˚C, with HDMI/VGA/eDP, 2 x USB 3.0, 4 x USB 2.0, 2 x COMs, 1 x M.2 B key, 2 x Gigabit LAN, 1 x SATA

We reserve the right to change specifications and product descriptions at any time without prior notice.