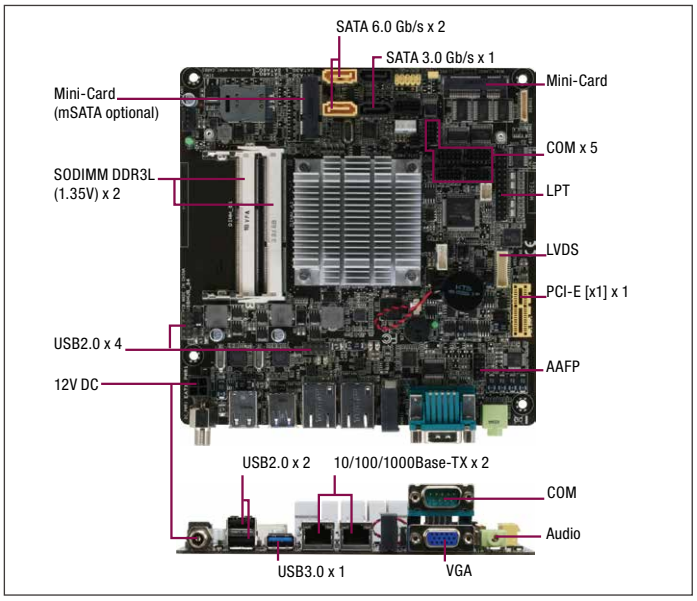
EMB-BT7

Thin Mini-ITX Embedded Motherboard with Intel® Atom™ E3845 Processor, SATA3 x 2, SATA2 x 1, USB x 8



Features

- **Intel® Atom™ E3845 Processor**
- **ECC SODIMM x 2, up to 8GB**
- **Dual Displays: LVDS x 1, VGA x 1, HDMI x 1,**
- **SATA 6.0 Gb/s x 1, SATA 3.0 Gb/s x 2**
- **USB 3.0 x 1, USB 2.0 x 7**
- **Full-size Mini-Card x 1 + SIM Card (mSATA default) x 1, Half-size Mini-Card (PCIe + USB)x 1**

PCI Express · Gigo LAN · DDR 3 · USB 2.0 · CE FC

Specifications

System	
Processor	Intel® Atom™ E3845/ E3825 Processor (4C @ 2GHz CPU, 688/750 (Turbo) GFX, ~10W TDP) [vNet needs E3845]
Chipset	—
Memory	SODIMM x 1, max. 8GB (64-bit BIOS), DDR3L 1066 MHz (E3825 /N2807), ECC, un-buffered memory, (Bay Trail-D/M/I Premium) horizontal type
Graphics	Intel® HD Graphics
I/O Chipset	Fintech 81866D
Ethernet	Realtek PCIe Gb LAN 8111G x 2
Audio	Realtek® ALC887 (colay ALC892/886)
TPM	Infineon SLB9635 TT 1.2 (default 不上件)
Expansion Slots	Full-size Mini-Card x 1 (PCIe + USB) + SIM Card => default, or Full-size Mini-Card x 1 (mSATA), Half-size Mini-Card x 1 (PCIe + USB), PCIe x 1
BIOS	64Mbit Flash ROM, AMI BIOS
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
WatchDog Timer	1~255 steps by software program
Smart Fan Control	Chassis Fan (fanless)
Wake On LAN/ PXE	Yes (WOL/ PXE)
Power State	S3, S4, S5
Graphics	
Graphics Chipset	Intel® HD Graphic
Graphics Multi Display	VGA + LVDS, VGA+HDMI, LVDS+HDMI
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 1920 x 1200 @60 Hz
Display Port	—
LVDS	Up to 1920 x 1080 @60Hz, Daul Channel 18/24-bit (via CH7511)
eDP	—
Backlight Control	Voltage/ PWM
Environement & Power & ME	
Battery	Lithium battery
Power Requirement	12V DC
Power Compliance	Compliant with EuP/ ErP
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Certificate	CE & FCC
Form Factor	Mini-ITX 6.7" x 6.7" (170mm x 170mm)
Weight	1.1 lb (0.5 Kg)
MTBF (Hours)	283,770
Back Panel I/O Ports	
USB	USB 3.0 /2.0 x 1, USB 2.0 x 2
Display I/O	HDMI x 1, VGA x 1
Audio I/O	Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	COM x 1 (RS-232), COM2 (optional)
PS/2 Port	—
Others	DC port (12V) Screw type x 1
Internal I/O Connectors	
Storage	SATA 3.0 connector x 2, SATA 2.0 connector x 2, SATA power connector x 1, Mini-Card slot (full size) x 1, Mini-Card slot (half size) x 1
USB	USB 2.0 connector x 2, support additional USB port (5-pin x 2) 2.54mm x 4, USB 2.0 connector x 1 support additional USB port (5-pin x 1) 2.0mm x 1
Display I/O	LVDS connector x 1, LVDS x 1 3V/5V jumper, LCD DC/ PWM mode jumper x 1, LCD backlight connector (inverter) x 1, LCD backlight 12V /5V jumper x 1
Audio I/O	AAFP x 1
Serial Port	Boxer header for COM (RS-232) x 4, boxer header for COM (RS-232/422/485) x 1
PS/2 Port	PS/2 Keyboard Mouse 6-pin connector x 1
Parallel Port	LPT pin header x 1
DIO	DIO (4-in/4-out) x 1
FAN	Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (optional) x 1, battery connector x 1
Others	SIM Card Socket x 1, Front Panel connector x 1, CMOS jumper x 1
OS	
OS Supported	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

Packing List

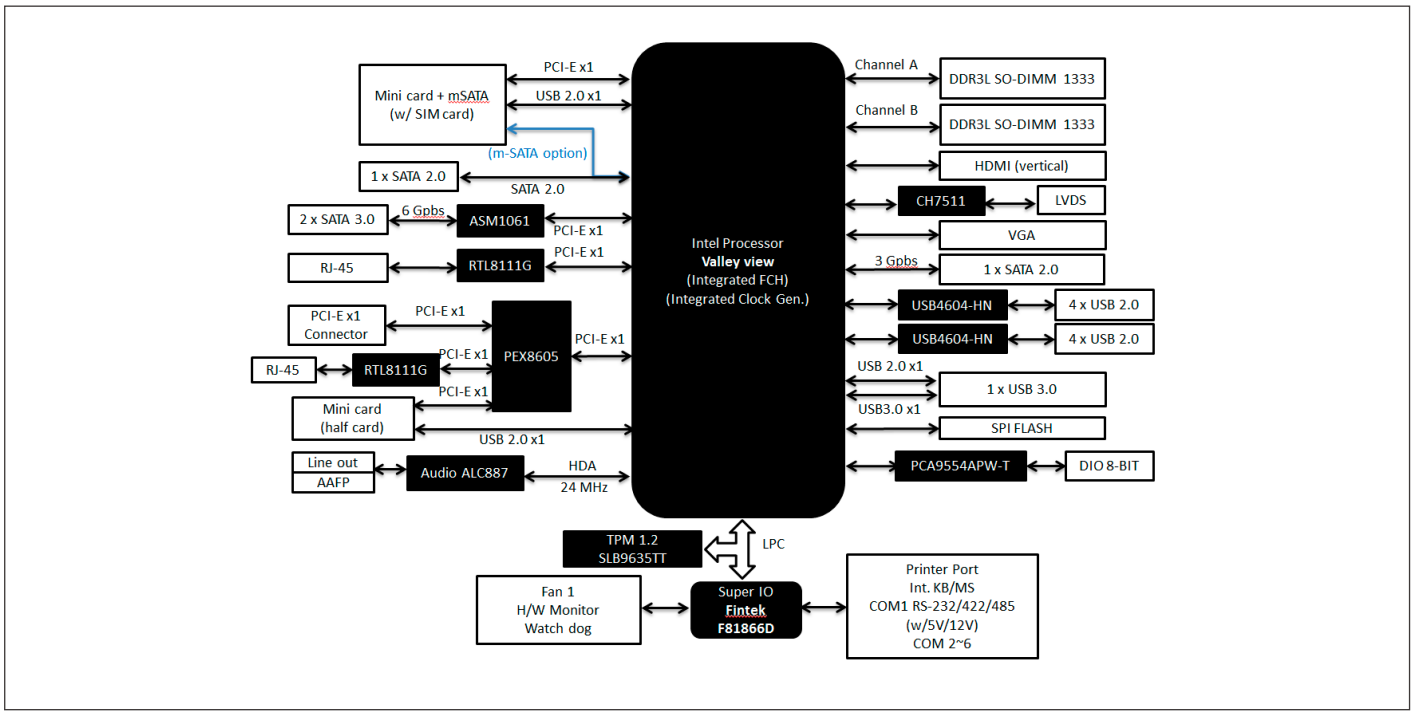
- **SATA 6G Cable**
- **SATA Power Cable**
- **I/O Shield**
- **Heatsink**
- **Product CD**
- **EMB-BT7**

Optional Accessories

Part Number	Description
1709100330	USB 2.0 cable (9P, 330MM, p=2.54mm, w/bracket)
1709050201	USB 2.0 Cable (5P, 220MM, p=2.00mm)
1701260305	LPT Cable (25P, 270MM)
1757306007	Lockable Adapter 60W
1757908403	Lockable Adapter 84W
1701100206	COM Port Cable
1700060152	PS/2 cable (6P, 150mm, p=2.00mm)
170910020K	USB 2.0 cable (9P, 200MM, p=2.54mm, w/o bracket)
1702150306	SATA Power Cable 4P, 2.54mm

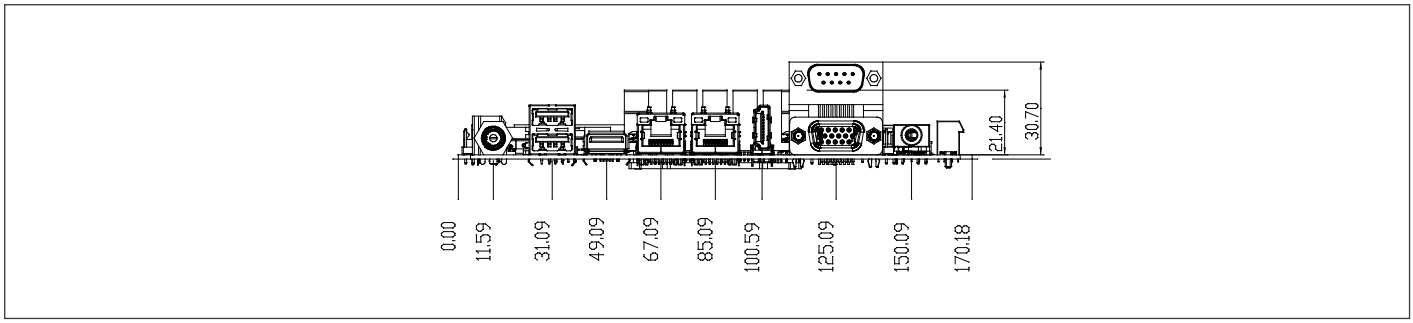
Note: All specifications are subject to change without notice.

Block Diagram



Dimension

Unit: mm



Order Information

Part Number	CPU	RAM	Fan/ Fanless	Display	Storage	LVDS	LAN	USB	RS-232	RS-232/422/485	Expansion Slot	Power	TPM	Temp.
EMB-BT7-A11-3845-MS	E3845 D0	DDR3L-1333 x 1 ECC Supported	Fanless	VGA, LVDS, HDMI	SATA2 x 1, SATA3 x 2, Full size, Mini-Card x 1 (mSATA)	Daul Channel 18/24-bit	GbE x 2	USB3.0 x 1, USB2.0 x 7	5	1	PCIe x 1, Half-size Mini-Card x 1 (PCIe x 1 & USB)	12V DC	No	32°F ~ 140°F (0°C ~ 60°C)