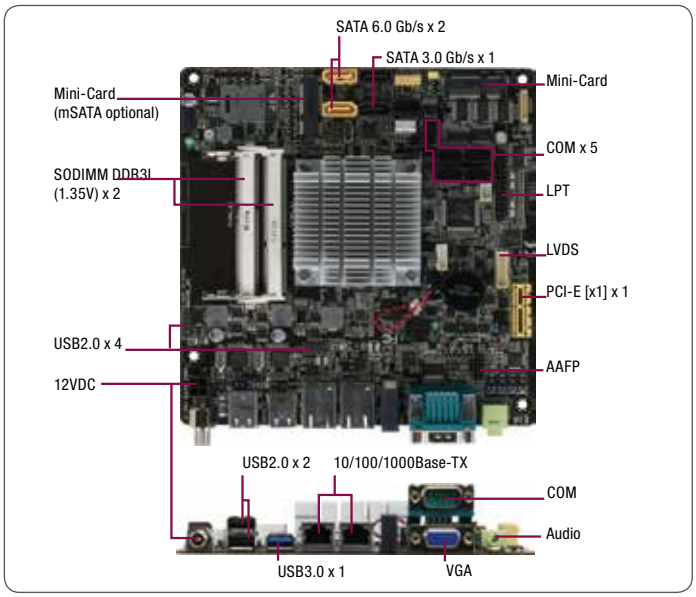
EMB-BT1

Thin Mini-ITX Embedded Motherboard with Intel® Atom™ J1900/N2807/E3845/E3825 Processor, SATA3 x 2, SATA2 x 1, USB x 8



Features

- **Intel® Atom™ J1900/N2807/E3845/E3825 Processor**
- **Dual Displays: VGA x 1, HDMI x 1, LVDS x 1**
- **Realtek 8111G, Gigabit Ethernet x 2**
- **SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 1**
- **USB 3.0 x 1, USB 2.0 x 7**
- **Full-size Mini-Card with mSATA x 1, Half-size Mini-Card x 1, PCI-E[x1] x 1**
- **12V DC Power**

Specifications

System	
Form Factor	Mini-ITX
Processor	Intel® Atom™ J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP) Intel® Atom™ N2807 Processor (2C @ 1.58 GHz CPU, 313/750 MHz GFX, 4.3W TDP) Intel® Atom™ E3845 Processor (4C @ 1.91 GHz CPU, 542/792 MHz GFX, 10W TDP) Intel® Atom™ E3825 Processor (2C @ 1.33 GHz CPU, 533 MHz GFX, 6W TDP)
Memory	DDR3L 1333 MHz SODIMM x 2 up to 8 GB (for J1900 / E3845), DDR3L 1333 MHz SODIMM x 1 up to 4 GB (for N2807), DDR3L 1066 GHz SODIMM x 1 up to 4 GB (for E3825), Non-ECC, un-buffered memory, Dual-channel memory architecture flat type
Chipset	—
I/O Chipset	Fintech 81866D
Ethernet	Realtek 8111G, Gigabit Ethernet x 2
Audio	Realtek® ALC887
BIOS	64Mb Flash ROM, AMI BIOS
Wake On LAN/PXE	Yes (WOL/PXE)
Watchdog Timer	1~255 steps programmable
TPM	Infineon SLB9635 TT 1.2 (optional)
H/W Monitor	Temperature Monitor on CPU/System, Voltage Monitor on Vcore/5V/3.3V/12V, Fan Monitor on CPU/Chassis
Expansion Slots	Full-size Mini-Card (mSATA default) (SIM Card or PCI-E optional) x 1, Half-size Mini-Card (PCI-E +USB) x 1, PCI-E[x1] x 1
Battery	Lithium battery
Power Requirement	12VDC
Power Consumption	—
Board Size	6.7" x 6.7" (170mm x 170mm)
Gross Weight	1.1 lb (0.5 kg)
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0% ~ 90% RH, non-condensing
Smart Fan Control	Chassis Fan (fanless)
Power State	S3, S4, S5
Power Requirement	12V DC
Power Compliance	Compliant with EuP / ErP
Certificate	CE & FCC
MTBF (Hours)	100,000
Mechanical	
Graphics Engine	Intel® HD Graphics
Display	LVDS x 1, VGA x 1, HDMI x 1
VGA	Up to 1920 x 1200 @60 Hz
DVI	—
HDMI	Up to 1920 x 1200 @60 Hz
LVDS	Up to 1920 x 1080 @60 Hz, Dual-Channel 18/24-bit (via CH7511)
eDP	—
DP	—
Backlight Control	Voltage/ PWM

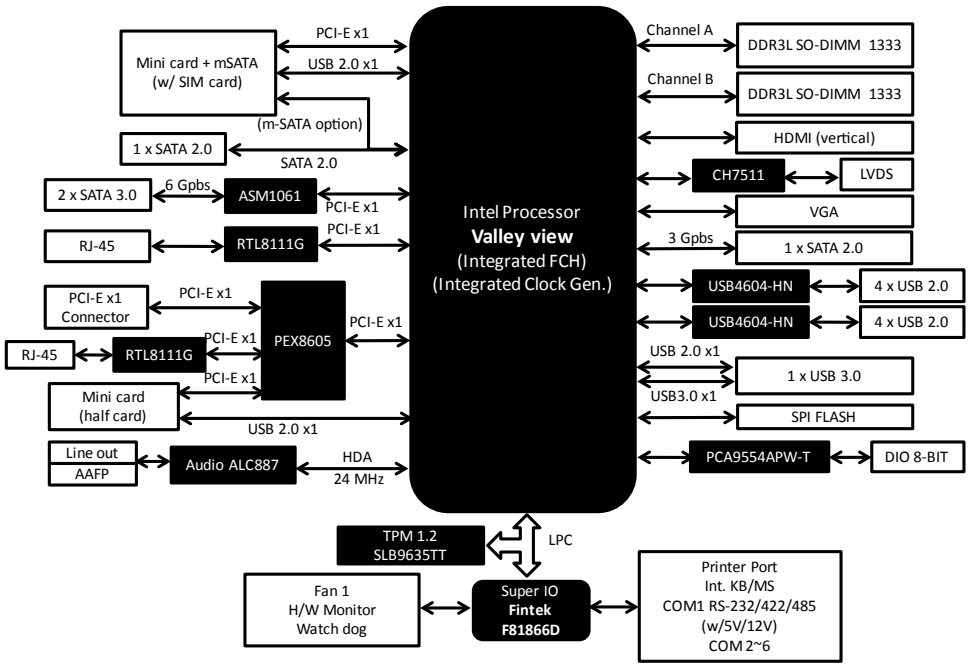
I/O	
Storage	SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 1, SATA power connector x 1
USB	USB 2.0 x 7 (2 ports on rear panel, 5 ports on mid-board), USB 3.0 x 1 (1 port on rear panel)
Audio I/O	Mic-in, Line-out
LAN I/O	RJ-45 x 2
Serial Port	RS-232 x 5, RS-232/422/485 x 1 support optional 5V/12V/RI (COM1)
Parallel Port	SPP/EPP Mode
PS/2 Port	PS/2 x 1 for keyboard / Mouse
DIO	8-bit Programmable Digital I/O interface (4-in/4-out)
FAN	Chassis Fan connector x 1 (4-pin)

Packing List

- **SATA Cable**
- **SATA Power Cable**
- **I/O Shield**
- **Heatsink**
- **Product CD**
- **EMB-BT1**

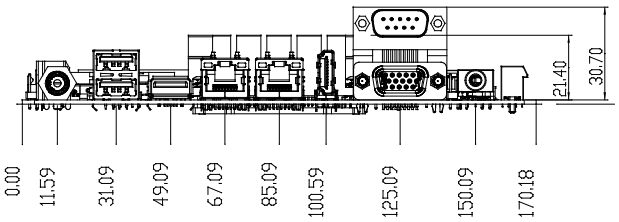
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Block Diagram



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-BT1-A10-1900-MS	J1900 C0	DDR3L-1333 x 2	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 x7	5	1	PCIe x 1, Half-size Mini-Card x 1 (PCIe x 1 & USB)	12VDC	No	0°C~60°C
EMB-BT1-A10-2807-MS	N2807 C0	DDR3L-1333 x 1	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)	12VDC	No	0°C~60°C
EMB-BT1-A30-3845-MS	E3845 D0	DDR3L-1333 x 2	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)	12VDC	No	0°C~60°C
EMB-BT1-A30-3825-MS	E3825 D0	DDR3L-1066 x 1	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)	12VDC	No	0°C~60°C
EMB-BT1-A30-3845	E3845 D0	DDR3L-1333 x 2	Fanless	VGA, LVDS, HDMI	SATA2 x 2, SATA3 x 2	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), Full-size Mini-Card x 1 (PCIe x 1 & USB)	12VDC	No	0°C~60°C

Optional Accessories

- **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)