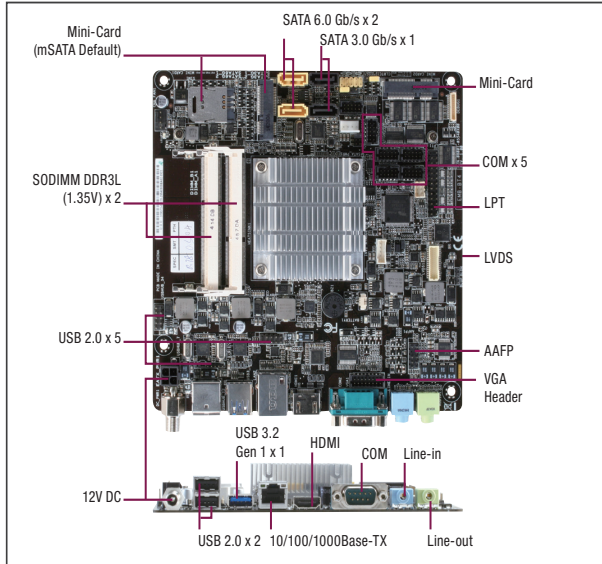


# EMB-BT4

Thin Mini-ITX Embedded Motherboard with Intel® Celeron® J1900 Processor, SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2, USB x 8

Industrial Motherboards



## Features

- Intel® Celeron® J1900/N2807 Processor
- DDR3L 1333 MHz SODIMM x 2, Up to 8 GB, (J1900)
- Dual Displays: LVDS x 1, VGA x 1, HDMI x 1,
- SATA 6.0 Gb/s x 2, SATA 3.0 Gb/s x 2
- USB 3.2 Gen 1 x 1, USB 2.0 x 7
- Full-size Mini-Card + SIM Card (mSATA Default) x 1, Half-size Mini-Card x 1
- 12V DC Power Input
- Low Profile



## Specifications

System	
Processor	Intel® Celeron® J1900 Processor (4C @ 2.00 GHz CPU, 688/854 MHz GFX, 10W TDP)
Chipset	—
Memory	DDR3L 1333 MHz SODIMM x 2 up to 8 GB (for J1900), Non-ECC, un-buffered memory, Dual-channel memory architecture flat type
I/O Chipset	Fintech 81866D
Ethernet	Realtek PCIe Gb LAN 8111Hx 1
Audio	Realtek® ALC897
TPM	Infineon SLB9635 TT 1.2 (default : No)
Expansion Slots	Full-size Mini-Card (mSATA default) (PCIe+USB optional) + SIM Card (default: No) x 1, Half-size Mini-Card (PCIe+USB) x 1
BIOS	64 M bit 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 Graphics
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, dual-channel 18/24-bit (via CH7511)
eDP	—
Backlight Control	Voltage/PWM
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12VDC
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Storage Temperature	-40°F ~ 185°F (-40°C ~ 85°C)
Operating Humidity	0% ~ 90% R/H, 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)	295,750
Rear Panel I/O Ports	
USB	USB 3.2 Gen 1/2.0 x 1, USB 2.0 x 2

Display I/O	HDMI x 1
Audio I/O	Line in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 1
Serial Port	COM (RS-232) x 1
PS/2 Port	—
Others	DC port (12V) Screw type x 1

Internal I/O Connectors	
Storage	SATA3 (6.0Gb/s) x 2, SATA2 (3.0Gb/s) x 2 (1 colay with mSATA), SATA power connector x 1, Full Size Mini-Card slot (mSATA) x 1
USB	USB 2.0 (2 x 5-pin, 2.54mm) x 2 ports support additional 4 USB, USB 2.0 (1x 5-pin, 2.0mm) x 1 port supports additional 1 USB
Display I/O	VGA pin header x 1, LVDS connector x 1, LVDS 3V/5V jumper x 1, 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	Box header for COM (RS-232) x 4, Box header for COM (RS-232/422/485) x 1
PS/2 Port	PS/2 Keyboard Mouse 6 PIN Connector x 1
Parallel Port	SPP/EPP Mode
DIO	DIO (4in/4out) x 1
FAN	Chassis Fan connector x 1
Power	12V AUX Power Connector x 1, AT/ATX mode select jumper (default : No) x 1
Others	Half-size Mini-Card (PCIe + USB) x 1, SIM Card Socket(default : No) x 1, LPT PIN header x 1, Front Panel connector x 1, CMOS jumper x 1
OS	
OS Support	Windows® 10 64-bit, Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Linux Fedora

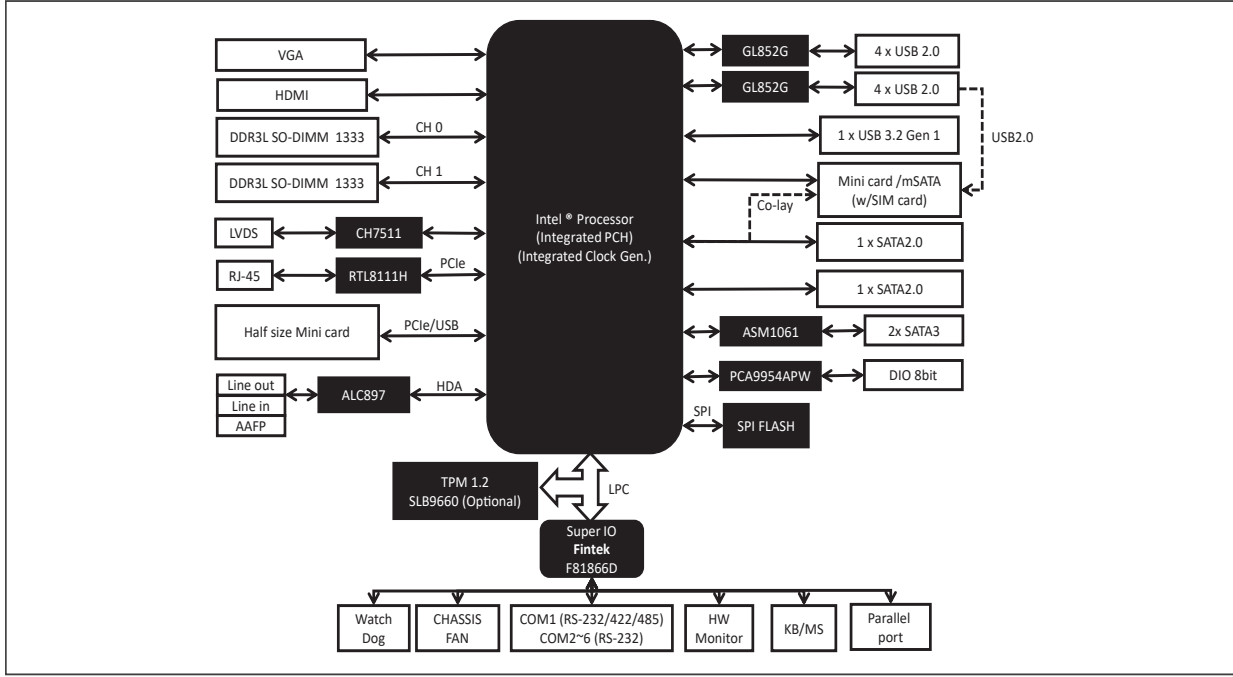
## Packing List

- SATA Cable
- SATA Power Cable
- I/O Shield
- Heatsink
- EMB-BT4

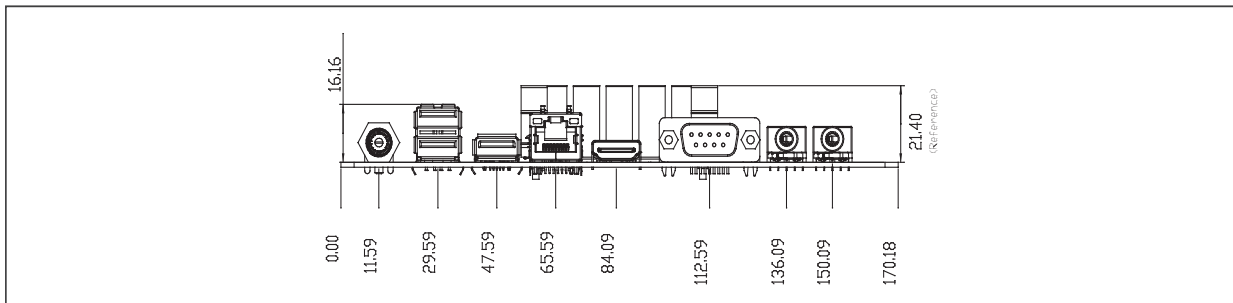
## Optional Accessories

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)
125590084A	Adapter 12V, 84W/N3
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)
1702150300	SATA Power Cable 4P, 2.54mm
125530060A	Lockable Adapter 60W, 12V, 5A, 60W
1701160201	VGA Cable

**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-BT4-A13-1900-D1-MS	J1900	SODIMM x 2	Fanless	VGA, HDMI, LVDS	SATA2 x 1, SATA3 x 2, Full-Size Mini-Card (mSATA) x 1	Dual Channel 18/24-bit x 2	6bE x 1	USB 3.2 Gen 1 x 1, USB 2.0 x 7	5	1	Half-size Mini-Card (PCIe + USB) x 1 w/o SIM slot	12V DC	—	32°F ~ 140°F (0°C ~ 60°C)

## 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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