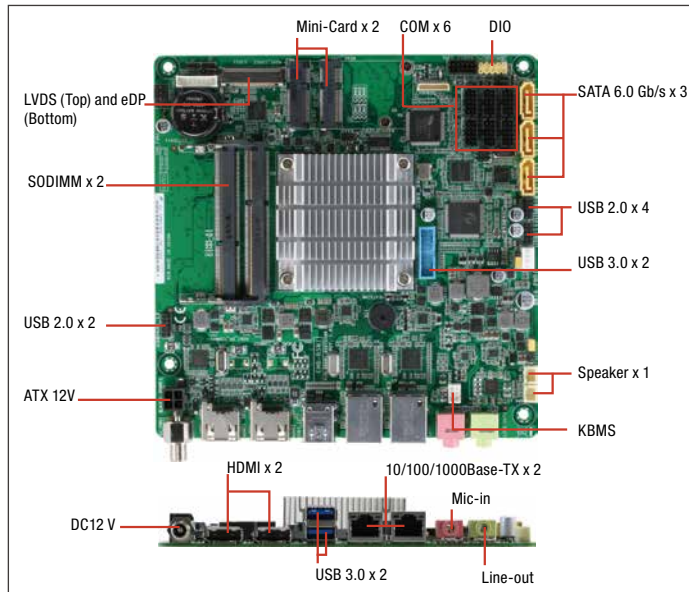


Thin Mini-ITX Embedded Motherboard with Intel® Atom™ N3710/N3060 Processor, SATA 6.0 Gb/s x 3, USB x 10



## Specifications

System	
Processor	Intel® Atom™ N3710 Processor, (4C @ 2.4GHz CPU (Burst Mode), 400/700 MHz GFX (Turbo), ~6W TDP), Intel® Atom™ N3060 Processor, (2C @ 2.08GHz CPU (Burst Mode), 20/600MHz GFX (Turbo), ~6W TDP)
Chipset	—
Memory	DDR3L 1600 MHz SODIMM x 2 up to 8 GB, Non-ECC, un-buffered memory, Dual-channel memory architecture flat type
Graphics	Intel® HD Graphics
I/O Chipset	F81866D
Ethernet	Intel® i211AT x 2
Audio	Realtek® ALC3236
TPM	Infineon SLB96XX TT 1.2/2.0 (default: No)
Expansion Slots	Full-size Mini-Card (mSATA default) (PCIe+USB optional) 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 Chassis
WatchDog Timer	1~255 step 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	2 HDMI + LVDS (Default), 2 HDMI + eDP (BOM Change)
VGA	—
DVI	—
HDMI	Up to 2560 x 1600 @60 Hz, 3840 x 2160 @30Hz
Display Port	—
LVDS	Up to 1920 x 1080 @60Hz, Dual Channel 18/24-bit (via CH7511)
eDP	Up to 2560 x 1440 @60Hz
Backlight Control	Voltage / PWM, use HW control
Environment & Power & ME	
Battery	Lithium battery
Power Requirement	12-24V DC (wide range: 12V-5% ~ 24V +10%)
Operating Temperature	32°F ~131°F (0°C ~55°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)	—

## Features

- Intel® Atom™ N3710/N3060 Processor
- DDR3L 1333/1600 MHz SODIMM x 2, Up to 8 GB
- Three Independent Display: LVDS x 1, HDMI x 2, eDP x 1
- SATA 6.0 Gb/s x 3
- USB 3.0 x 4, USB 2.0 x 6
- Half-size Mini-Card (PCIe + USB) x 1, Full-size Mini-Card (mSATA default) (PCIe + USB optional) x 1
- 12-24V DC
- Low Profile



### Rear Panel I/O Ports

USB	USB 3.0 x 2
Display I/O	HDMI x 2
Audio I/O	Mic-in x 1, Line-out x 1
LAN I/O	LAN (RJ-45) port x 2
Serial Port	—
PS/2 Port	—
Others	DC port (12V~24V) Screw type x 1

### Internal I/O Connectors

Storage	SATA3 (6.0Gb/s) x 3, SATA power connector x 1, Full Size Mini-Card (mSATA) x 1
USB	USB 3.0 (2x10PIN, 2.00mm) x 1 port supports additional 2 USB, USB 2.0 (2x5PIN, 2.00mm) x 3 ports support additional 6 USB
Display I/O	LVDS connector (40PIN, default) x 1, eDP connector (colay with LVDS, optional) 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	Speaker x 1
Serial Port	Boxer header for COM (RS-232) x 5, Boxer header for COM (RS-232/422/485) x 1
PS/2 Port	PS/2 Keyboard Mouse 6 PIN Connector x 1
Parallel Port	—
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
Others	Front Panel connector x 1, CMOS jumper x 1

### OS

OS Support	Windows® 7 32/64-bit, Windows® 8.1 32/64-bit, Windows® 10 32/64-bit, Linux Fedora
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## Packing List

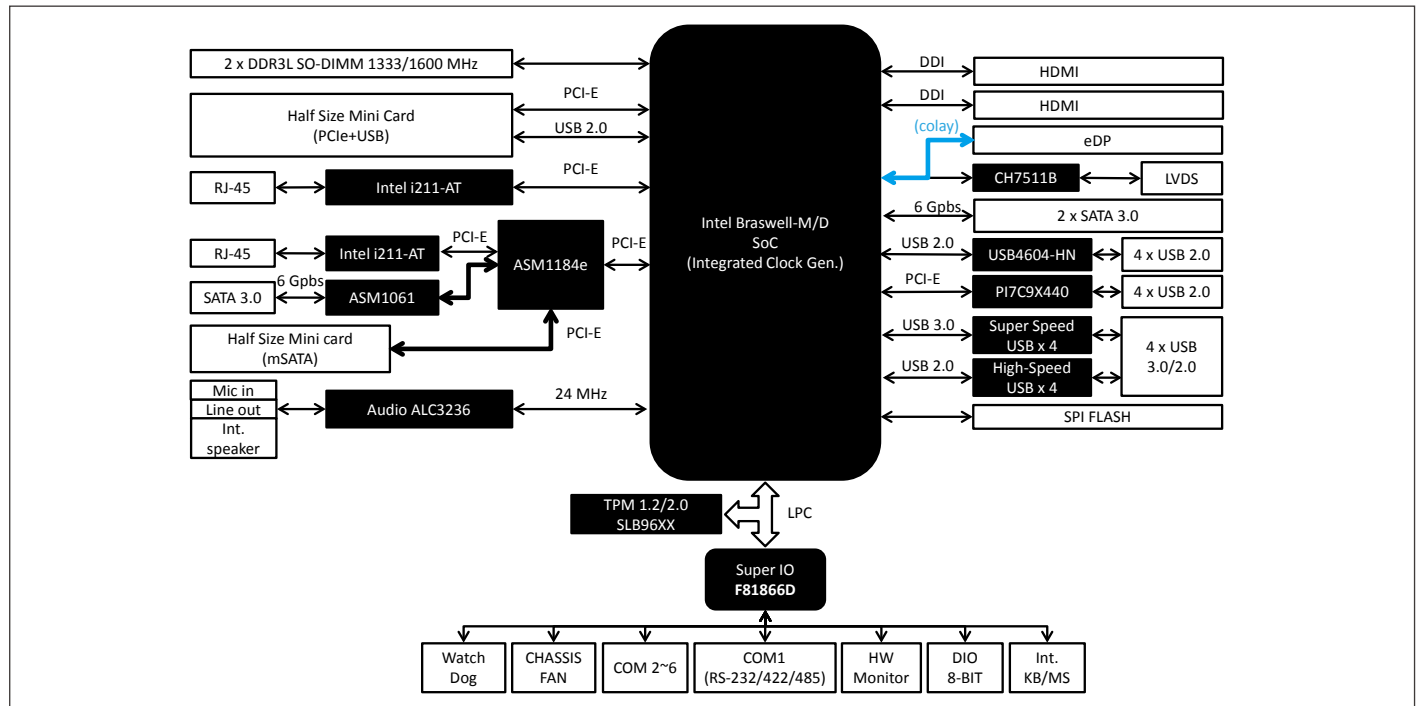
- SATA Cable
- SATA Power Cable
- I/O Shield
- Heatsink
- Product CD
- EMB-BSW1

## 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)
1702150300	SATA Power Cable 4P, 2.54mm

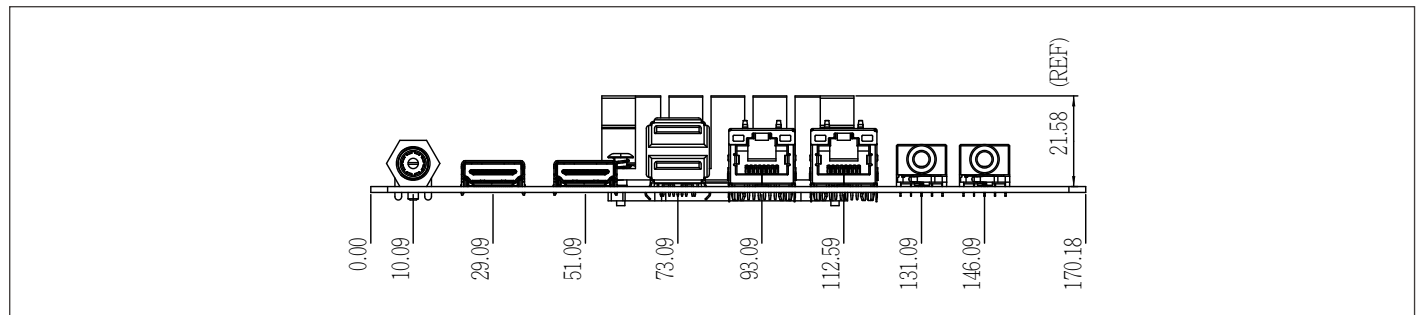
# EMB-BSW1

## 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-BSW1-A10-3710-HHL	N3710	SODIMM x 2	Fanless	LVDS, HDMI x 2	SATA3 x 3, Full size Mini-Card x 1 (mSATA)	Dual Channel 18/24-bit	GbE x 2	USB 3.0 x 4, USB 2.0 x 2	5	1	Full-size Mini-Card (mSATA default) x 1, Half-size Mini-Card (PCIe + USB) x 1	12-24VDC	No	0°C - 60°C
EMB-BSW1-A10-3060-HHL	N3060	SODIMM x 2	Fanless	LVDS, HDMI x 2	SATA3 x 3, Full size Mini-Card x 1 (mSATA)	Dual Channel 18/24-bit	GbE x 2	USB 3.0 x 4, USB 2.0 x 2	5	1	Full-size Mini-Card (mSATA default) x 1, Half-size Mini-Card (PCIe + USB) x 1	12-24VDC	No	0°C - 60°C