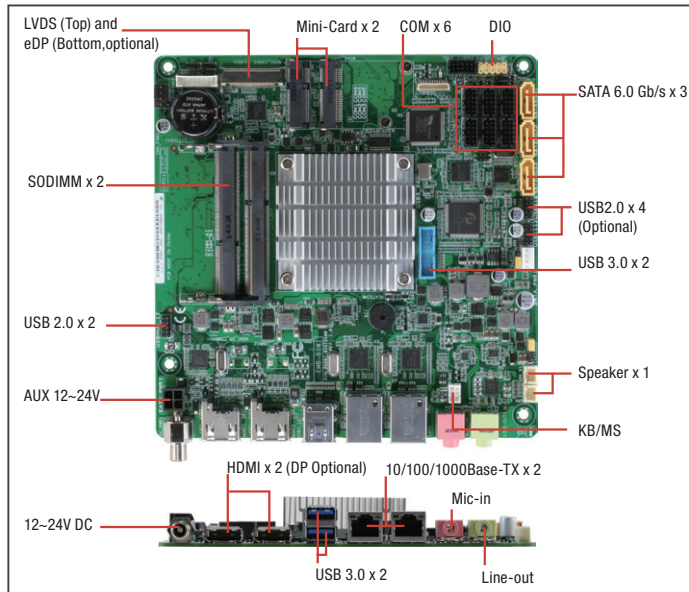


Thin Mini-ITX Embedded Motherboard with Intel® N3710/N3060 Processor, SATA 6.0 Gb/s x 3, USB x 6 (up to 10)



## Specifications

System	
Processor	Intel® Pentium N3710 Processor, (4C @ 2.56GHz CPU (Burst Mode), 400/700 MHz GFX (Turbo), ~6W TDP), Intel® Celeron N3060 Processor, (2C @ 2.48GHz CPU (Burst Mode), 320/600 MHz 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 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	Three independent displays
VGA	—
DVI	—
HDMI	Up to 2560 x 1600 @60 Hz, 3840 x 2160 @30Hz
Display Port	Up to 2560 x 1600 @60 Hz, 3840 x 2160 @30Hz, 3840 x 2160 @30 Hz
LVDS	Up to 1920 x 1200 @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% 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)	229,000

## Features

- Intel® N3710/N3060 Processor
- DDR3L 1333/1600 MHz SODIMM x 2, Up to 8 GB
- Three Independent Display: HDMI/DP x 2 (Default:HDMI), LVDS/eDP x 1 (Default: LVDS)
- SATA 6.0 Gb/s x 3
- USB 3.0 x 4, USB 2.0 x 2 (up to 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 (DP optional)
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 (2 x 5-pin, 2.00mm) x 1 port supports additional 2 USB 2.0 (optional up to 3 ports supporting total 6 USB 2.0)
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 64-bit, Ubuntu16.04.02/Kernel4.8.0

## Packing List

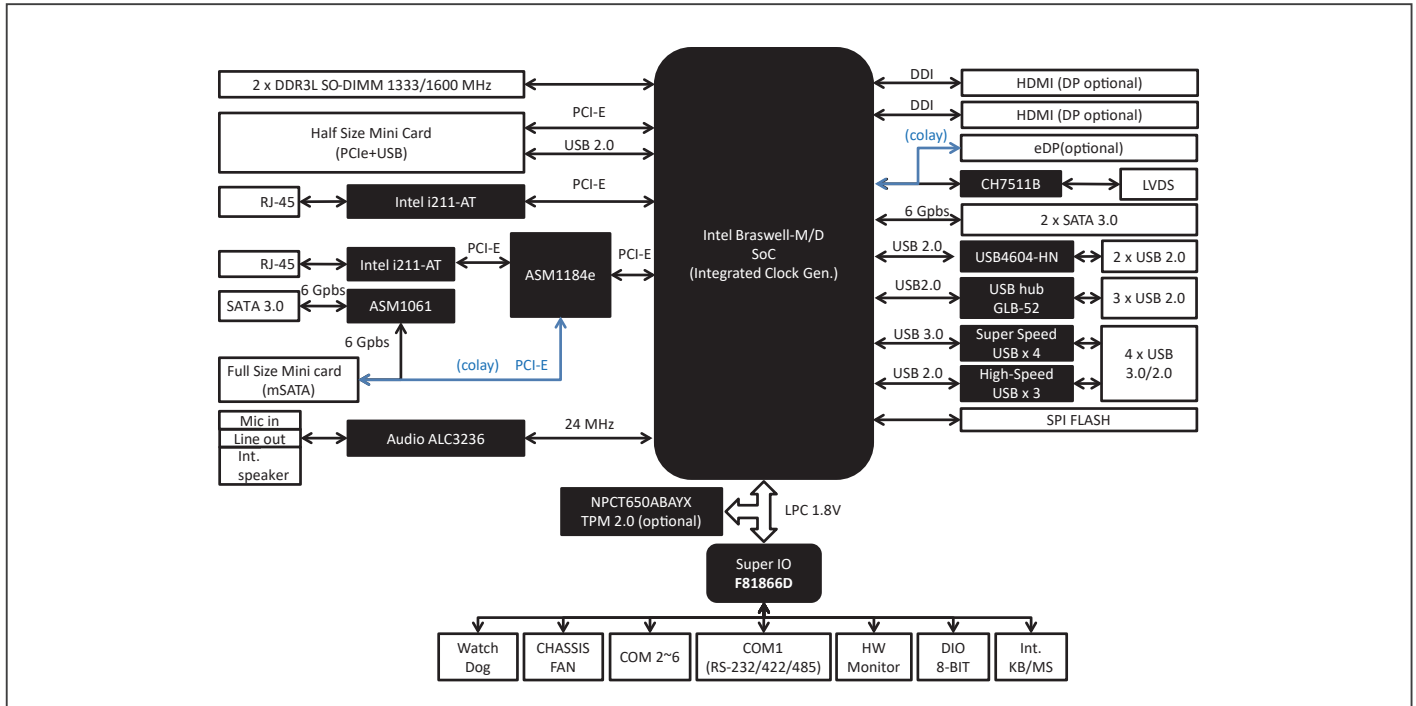
- SATA Cable
- SATA Power Cable
- I/O Shield
- Heatsink
- Product CD
- EMB-BSW1

## Optional Accessories

Part Number	Description
1709050201	USB 2.0 Cable (5P, 220MM, p=2.00mm)
1701260305	LPT Cable (25P, 270MM)
1757908403	Lockable Adapter 84W
1701100206	COM Port Cable
1700060152	PS/2 cable (6P, 150mm, p=2.00mm)
1702150300	SATA Power Cable 4P, 2.54mm
125530060A	Lockable Adapter 60W, 12V, 5A, 60W
1700100491	USB 2.0 Cable (2 x 5P, 490mm, p=2.00mm)
1709100201	USB 2.0 Cable (10P, 200mm, p=2.00mm w/ bracket)
1700190450	(TF)USB 3.0 Cable.2 PORTS USB 3.0.to 19P.w/ bracket.450mm.ASUS

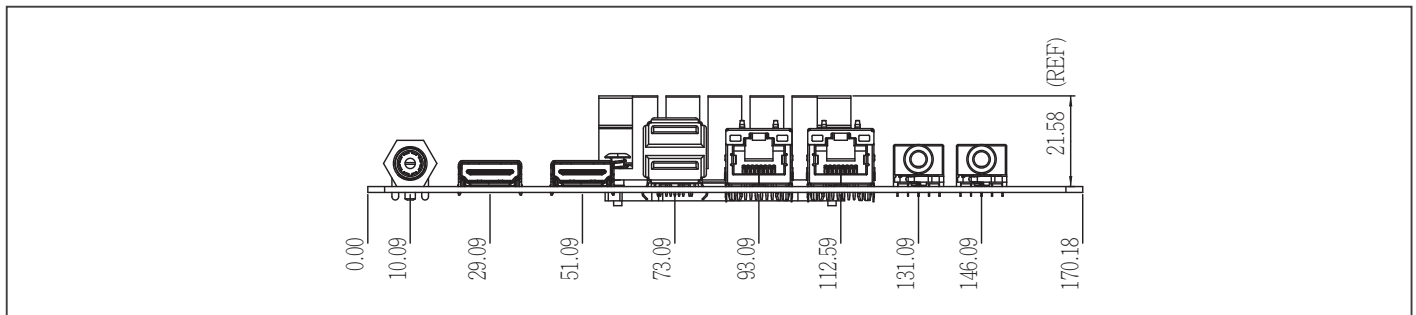
# EMB-BSW1

## 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	32°F ~140°F (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	32°F ~140°F (0°C ~ 60°C)