

WECX-E38451

Intel Atom E3845

Quick Installation Guide

Rev.01, Oct. 2014

Contents

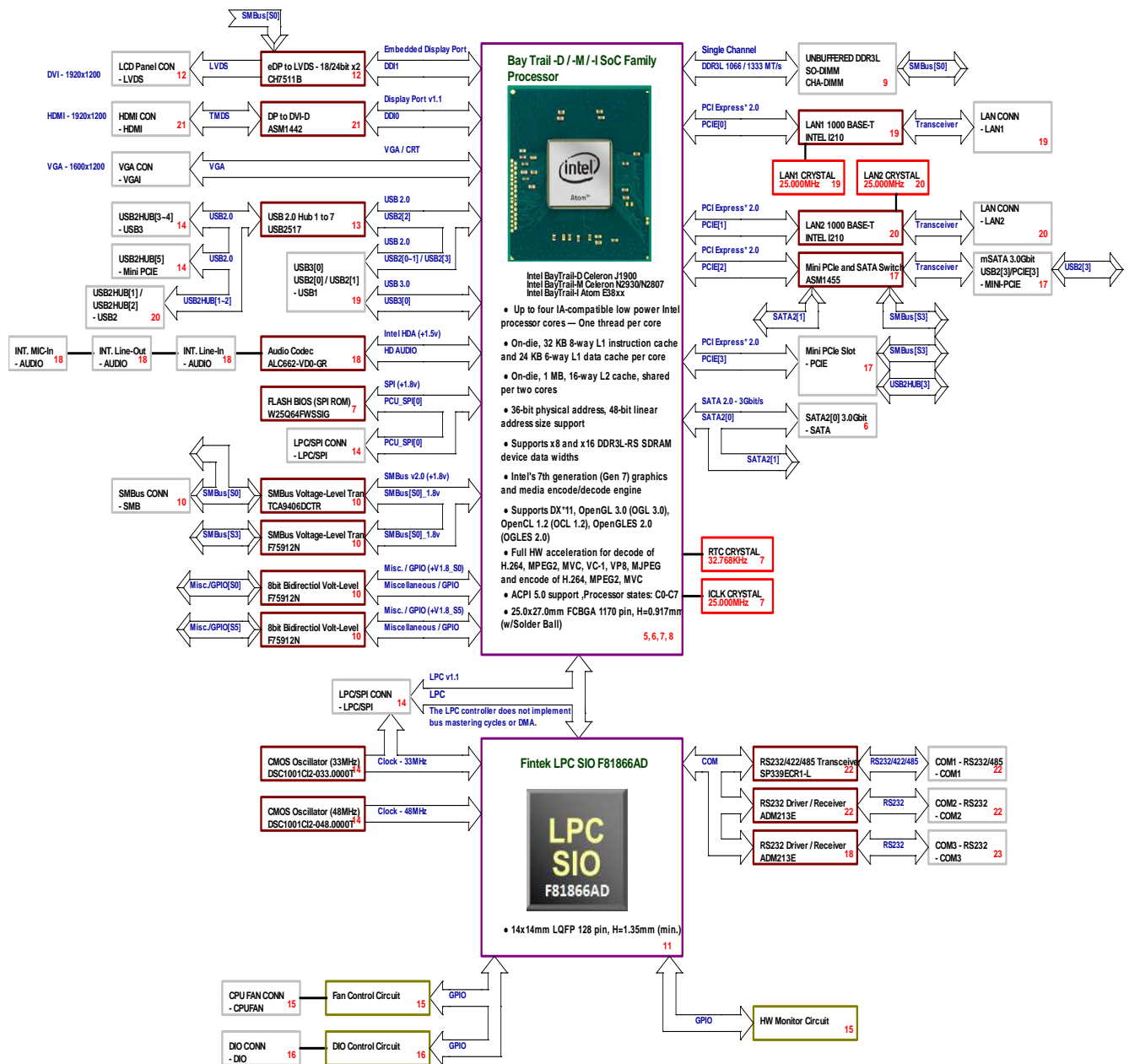
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Chapter Product Information

This chapter introduces the product features, jumper and connector information.

1. Block Diagram

WECX-E38451/E38xx0 PROJECT SYSTEM BLOCK DIAGRAM

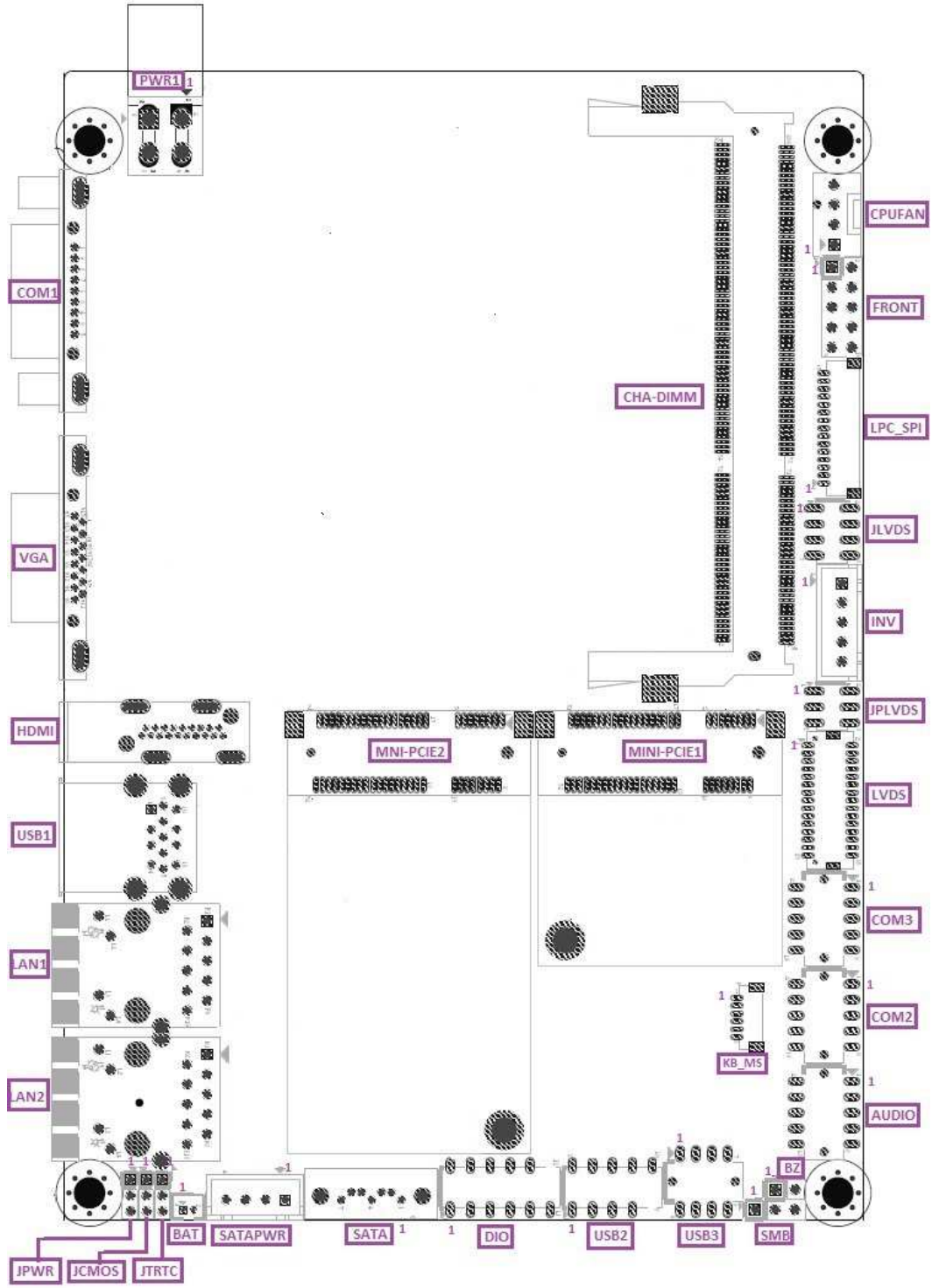


2. Features

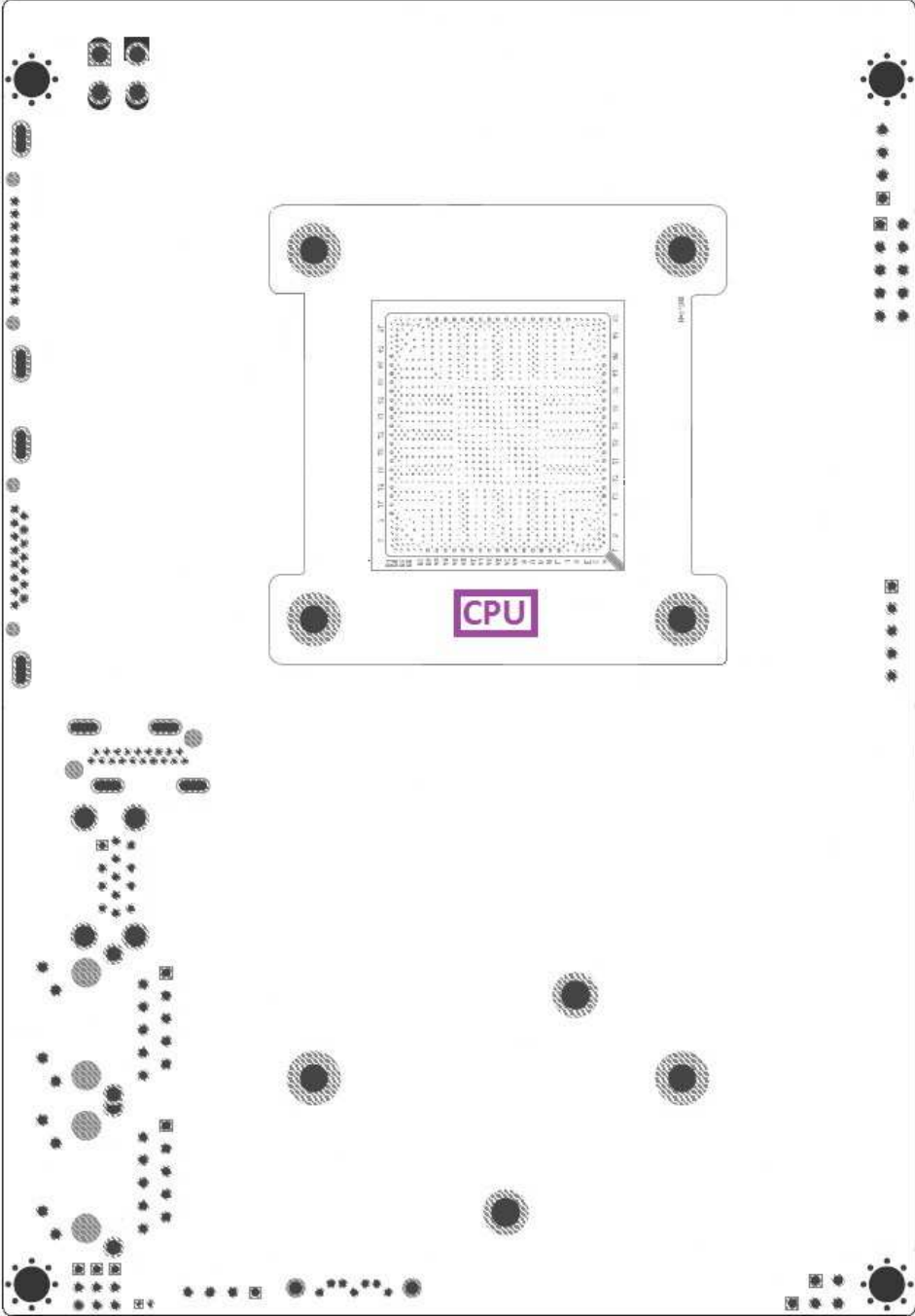
System Processor/ Chipsets	Processor	Intel® Atom™ Processor E3845 SoC
		FCBGA1170 Package 25.0 x 27.0 mm
	BIOS	AMI BIOS, 64Mbit SPI Low Power Flash ROM
Memory	Technology	DDR3L DRAM Device Technology(+1.35V) — Standard 1Gb/2Gb/4Gb technologies and addressing. — Read latency 5, 6, 7, 8, 9, 10, 11. — Write latency 5, 6, 7, 8.
	Max. Capacity	Up to 8GB DRAM
	Socket	1 x DDR3L SO-DIMM
Display	Chipset	Intel® 7th generation graphics and media encode/decode engine
	LVDS	18/24bit, Dual Channel max resolution up to 1920x1200 @ 60Hz
	VGA	Analog Display: max resolution up to 2560x1600 @ 60Hz
	HDMI	Digital Display: max resolution up to 1920x1200 @ 60Hz
	Any 2 Displays	(1) VGA + LVDS (2) HDMI + LVDS (3) HDMI + VGA
Ethernet	Controller	LAN1: INTEL i210AT LAN2: INTEL i210AT
	Interface	10/100/1000 Base-Tx compatible
Audio	Codec	Realtek® ALC662-VD0 HD CODEC
	Interface	Intel® High Definition Audio
SATA	Port	1 x SATA II 1 x mSATA (Share Mini-PCIe slot)

Expansion Slot	MINI-PCIE	1 x Full-size Mini PCIe with mSATA supported 1 x Half-size Mini PCIe
Rear I/O	VGA	1 x DB15
	HDMI	1 x HDMI
	LAN	2 x RJ45
	USB	1 x USB 3.0 1 x USB 2.0
	COM	1xRS232/RS422/RS485 ※1. COM1 RS-422/485 support Half/Full Duplex
Onboard Conn. and Pin-Header	USB	2 x USB 2.0
	COM	2 x RS-232
	PS/2	1 x K/B and Mouse
	HD Audio	1 x LINE IN-1/MIC-1/FRONT-OUT
	DIO	4 in/4 out (sink 6A x2)
	SM Bus	1
	LPC_SPI	1 (LPC does not implement bus mastering cycles or DMA)
	FRONT	1 (Power/HDD/Suspend-LED/PwrBTN/RstBTN)
Power	DC Input	12V~24V
	Connector	ATX 4P
Watchdog Timer	Interval	Programmable 1~255 sec./min.
	Output	System reset
Environment	Operating Temp.	0°C~60°C (32°F~140°F)
	Storage Temp.	-40°C ~ 85°C and 60°C @ 95% RH non-condensing
	Relative Humidity	0%~ 95% (non-condensing)
Form Factor	Dimension (L*W)	102mm x 146mm (4.02" x 5.75")

3. PCB Layout - Top

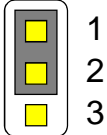
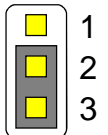


3. PCB Layout - Bottom

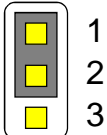
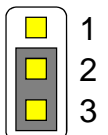


4. Jumper Setting

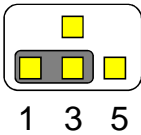
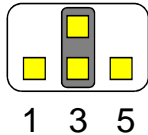
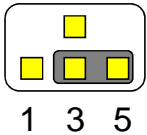
JCMOS: CMOS Clear Select

Pin No.	1-2	2-3
Function	Normal Operation (Default)	Clear CMOS Register Contents
Jumper Setting		

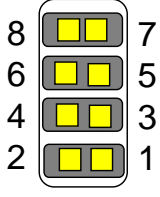
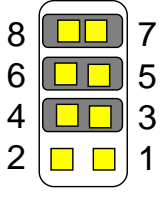
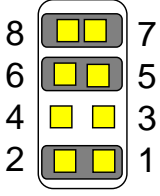
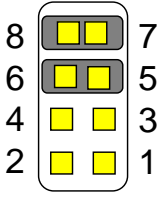
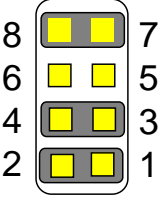
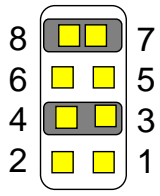
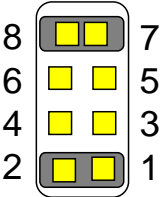
JTRTC: RTC Test Select

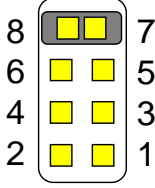
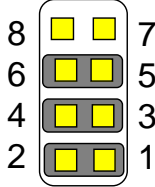
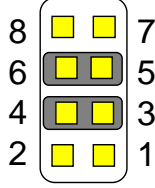
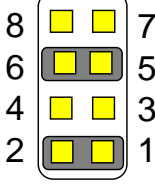
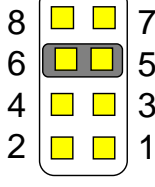
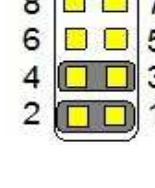
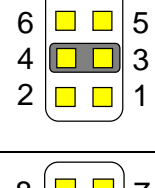
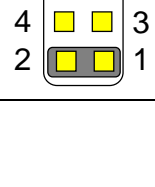
Pin No.	1-2	2-3
Function	Normal Operation (Default)	Clear CMOS RAM Contents
Jumper Setting		

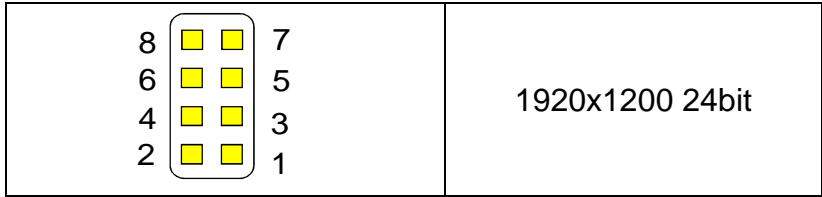
JPLVDS: LCD Panel Power (+3.3V/+5V/+12V) Select

Pin No.	1-3	3-4	3-5
Function	LCD Power +3.3V (Default)	12V	LCD Power +5V
Jumper Setting			

JLVDS: LCD Panel Type Select

Jumper Setting	LVDS Panel Type
	800x600 18bit
	1024x768 18bit
	1024x768 24bit
	1280x768 18bit
	1280x800 18bit
	1280x960 18bit
	1280x1024 24bit

	<p>1366x768 18bit</p>
	<p>1366x768 24bit</p>
	<p>1440x900 24bit</p>
	<p>1440x1050 24bit</p>
	<p>1600x900 24bit</p>
	<p>1680x1050 24bit</p>
	<p>1600x1200 24bit</p>
	<p>1920x1080 24bit</p>



Note: Open = High (1), Close = Low (0)

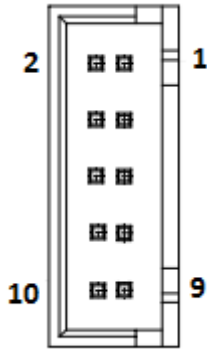
JPWR: AT/ATX Mode Select

Pin No.	1-2	2-3
Function	AT Mode	ATX Mode (Default)
Jumper Setting		

5. Connector Function List

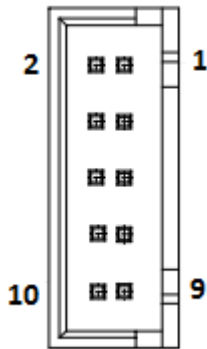
Connector	Function	Note
AUDIO	Line-In/MIC-In/Line-Out with Box-header	
BAT	CMOS BAT (CR2032) connector	
CHA-DIMM	DDR3L SO-DIMM connector	
COM1	Serial port connector	
COM2, COM3	Serial port (RS-232) with Box-header	
CPUFAN	CPUFAN 4-pin connector	
DIO	Digital Input/output with Pin-header	
HDMI	HDMI connector	
VGA	VGA (DB15) connector	
FRONT	Front Panel with Pin-header	
INV	LCD inverter with Box-header	
KB_MS	PS/2 Keyboard and Mouse with Box-header	
LPC_SPI	Low Pin Count with Box-header	
LVDS	LVDS 18/24bit panel connector	
MINI-PCIE1	Mini-PCle (Half)	
MINI-PCIE2	Mini-PCle (Full) or mSATA slot (share)	
PWR1	ATX 2x2 pin connector	
SATA	SATA 2.0 connector	
SATAPWR	SATA Power connector (+5V and +12V)	
SMB	SMBus with Pin-header	
LAN1	RJ45 connector	
LAN2	RJ45 connector	
USB1	USB3.0 x1 / USB2.0 x1	
USB2, USB3	USB2.0 with Pin-header	
BZ	Pin header 1X2 2.54mm for buzzer	

6. Internal Connector Pin Define



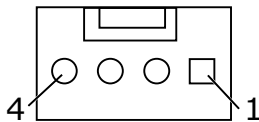
COM2: Serial Port (RS-232) with Box-header (2.0mm)

Pin No.	Signal	Pin No.	Signal
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI
9	Ground	10	+5V



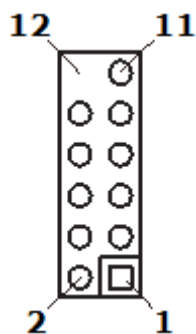
COM3: Serial Port (RS-232) with Box-header (2.0mm)

Pin No.	Signal	Pin No.	Signal
1	DCD	2	DSR
3	RXD	4	RTS
5	TXD	6	CTS
7	DTR	8	RI
9	Ground	10	+5V



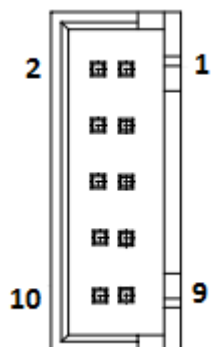
CPUFAN: CPU FAN 4pin connector

Pin No.	Signal
1	Ground
2	Fan Power (+12V)
3	Fan Speed Sense
4	Control



DIO: Digital I/O with Pin-header (2.54mm)

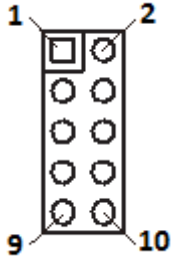
Pin No.	Signal	Pin No.	Signal
1	DIO-Out0 bit4	2	DIO-In0 bit0
3	DIO-Out1 bit5	4	DIO-In1 bit1
5	DIO-Out2 bit6	6	DIO-In2 bit2
7	DIO-Out3 bit7	8	DIO-In3 bit3
9	+12V	10	+5V
11	Ground		



AUDIO: Audio with Box-header (2.0mm)

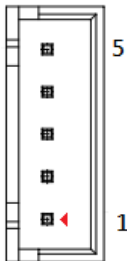
Pin No.	Signal	Pin No.	Signal
1	LINE-IN-R	2	LINE-IN-L
3	LINE-In Jack Detect	4	MIC-In Jack Detect
5	MIC-IN-R	6	MIC-IN-L
7	LINE-OUT Detect	8	AUDIO GND
9	LINE-OUT-R	10	LINE-OUT-L

FRONT: Front Panel with Pin-header (2.54mm)



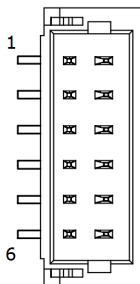
Pin No.	Signal	Pin No.	Signal
1	+5V (470 Ohm) (Power LED+)	2	Ground, (Power LED+)
3	+5V (470 Ohm) (SATA HDD LED+)	4	HDD LED# (SATA HDD LED-)
5	5VSB (470 Ohm) (Suspend LED+)	6	Suspend LED# (Suspend LED-)
7	RESET# (Reset Button Pin1)	8	Ground (Reset Button Pin2)
9	SW_PWR# (Power ON Button Pin1)	10	Ground (Power ON Button Pin2)

INV: Inverter with Box-header (2.54mm)



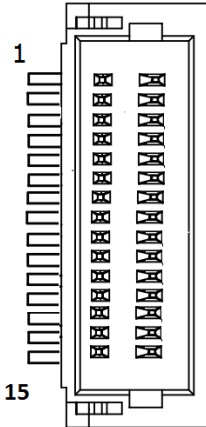
Pin No.	Signal
1	+12V
2	+12V
3	Ground
4	Inverter Brightness Adjust
5	Inverter Enable

KB MS: PS/2 Keyboard and Mouse connector (1.0mm)



Pin No.	Signal
1	PS/2 Keyboard Clock
2	PS/2 Keyboard Data
3	PS/2 Ground
4	PS/2 Power (+5V)
5	PS/2 Mouse Data
6	PS/2 Mouse Clock

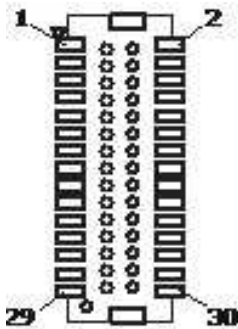
LPC SPI: Low Pin Count with SPI Pin-header (1.0mm)



Pin No.	Signal
1	LPC POWER (+3.3V)
2	LPC AD0
3	LPC RESET
4	LPC AD1
5	LPC FRAME
6	LPC AD2
7	LPC AD3
8	LPC CLOCK
9	SPI Power (+1.8V)
10	SPI CS0
11	SPI MISO
12	SPI HOLD
13	SPI CLOCK
14	SPI MOSI
15	GND

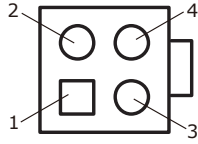
※Reserved for debug with Pin-header

LVDS: LVDS 18/24bit Panel Signal connector (1.0mm)



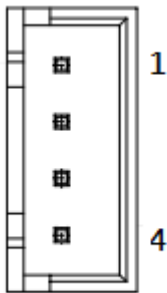
Pin No.	Signal	Pin No.	Signal
1	Ground	2	Ground
3	LVDSA_DATA3+	4	LVDSA_DATA3-
5	LVDSA_CLK+	6	LVDSA_CLK-
7	LVDSA_DATA2+	8	LVDSA_DATA2-
9	LVDSA_DATA1+	10	LVDSA_DATA1-
11	LVDSA_DATA0+	12	LVDSA_DATA0-
13	Ground	14	Ground
15	LVDSB_DATA3+	16	LVDSB_DATA3-
17	LVDSB_CLK+	18	LVDSB_CLK-
19	LVDSB_DATA2+	20	LVDSB_DATA2-
21	LVDSB_DATA1+	22	LVDSB_DATA1-
23	LVDSB_DATA0+	24	LVDSB_DATA0-
25	Ground	26	Ground
27	LVDS Power	28	LVDS Power
29	LVDS Power	30	LVDS Power

Note1 : LVDS Power = +12V, +5V or +3.3V (Default)



PWR1: ATX 2x2 pin connector

Pin No.	Signal	Pin No.	Signal
1	Ground	2	Ground
3	+12V ~ +24V	4	+12V ~ +24V



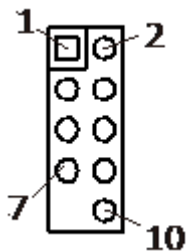
SATAPWR: SATA Power with Box-header (2.54mm)

Pin No.	Signal
1	+5V
2	Ground
3	Ground
4	+12V



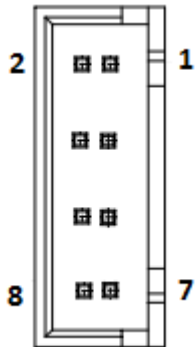
SMB: SMBus with Pin-header (2.54mm)

Pin No.	Signal
1	SMB_CLK
2	SMB_DATA
3	Ground



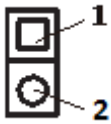
USB2: USB2.0 Ports with Pin-header (2.54mm)

Pin No.	Signal	Pin No.	Signal
1	USB-A Power (+5V)	2	USB-B Power (+5V)
3	USB-A Data-	4	USB-B Data-
5	USB-A Data+	6	USB-B Data+
7	USB-A Ground	8	USB-B Ground
		10	USB-A and USB-B Shield Ground



USB3: USB2.0 Ports with Box-header (2.0mm)

Pin No.	Signal	Pin No.	Signal
1	USB-A Power (+5V)	2	USB-B Power (+5V)
3	USB-A Data-	4	USB-B Data-
5	USB-A Data+	6	USB-B Data+
7	USB-A Ground	8	USB-B Ground



BZ: Buzzer with Pin-header (2.54mm)

Pin No.	Signal
1	+5V
2	BEEP