

EMX-CDT

Intel® Atom™ Cedar Trail Mini ITX Motherboard

With Intel® D2550 Processor + NM10 Chipset

Quick Installation Guide

2nd Ed – 6 July 2012

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Part No. E2017XCDT01R

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1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

Always note that improper disassembling action could cause damage to the motherboard. We suggest not removing the heatsink without correct instructions in any circumstance. If you really have to do this, please contact us for further support.

1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- Rear I/O bracket X 1
- Quick Installation Guide X 1
- Driver/Utility CD X 1
- Serial ATA Signal Cable X 1
- COM Cable X 1
- Motherboard X 1

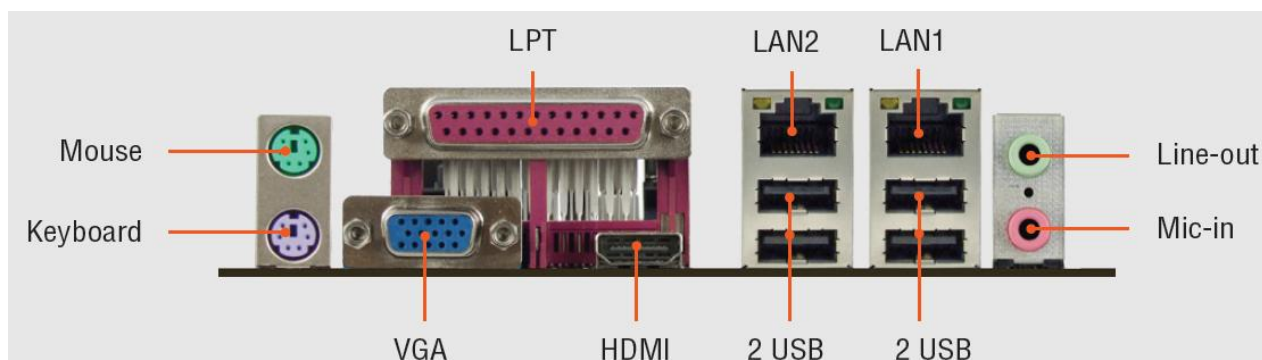
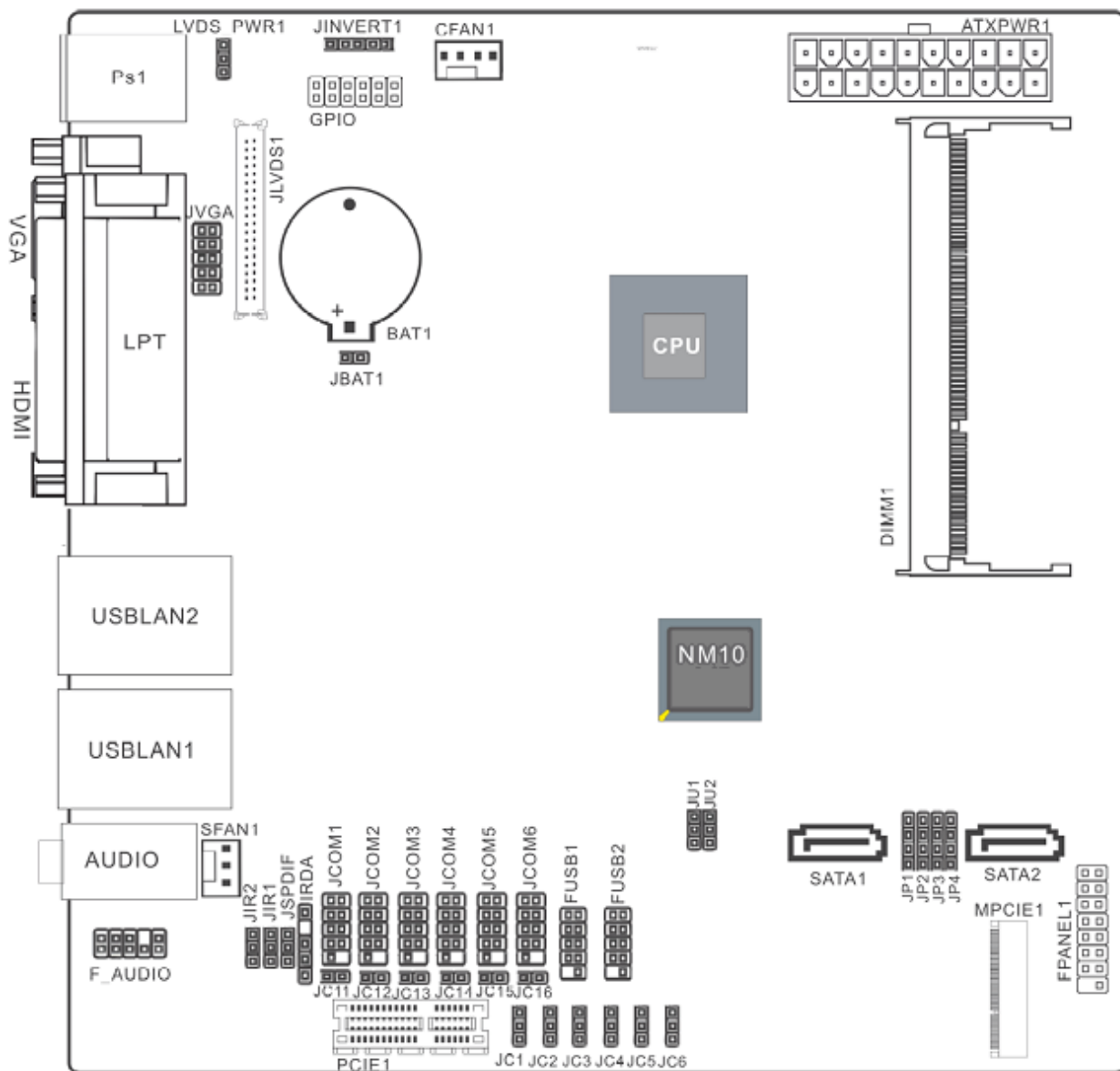
1.3 Specifications

Title	EMX-CDT
	Intel® Atom™ Cedar Trail Mini ITX Motherboard
	With Intel® D2550 Processor + NM10 Chipset
Features	Mini-ITX
	Onboard Intel® Atom™ processor Cedar Trail
	IOH: NM10
	One 204-pin DDR3 1066/1033MHZ SO-DIMM socket, supports up to 4GB Max
	1x VGA 1x HDMI 1x 18/24 bit single-channel LVDS
	2x Realtek RT8111E PCIe Gigabit Ethernet
	1x Mini PCI-e socket *Mini PCI-e and M-SATA SSD switch through Jumper
	1x PCIE x1
Specifications	
System	
CPU	Onboard Intel® Atom™ Processor D2550 Cedar Trail (1M Cache, 1.86 GHz)
BIOS	AMI 16MBit SPI BIOS
System Chipset	Intel® NM10
I/O Chip	Winbond W83627UHG
System Memory	One 204-pin DDR3 1066/1333MHZ SO-DIMM socket, supports up to 4GB Max
SSD	NA
Watchdog Timer	Reset : 1 to 255 sec/min per step
H/W Status Monitor	Monitoring temperature, voltage, and cooling fan status. Auto throttling control when CPU overheats
Expansion	1x Mini PCI-e socket *Mini PCI-e and m-SATA SSD switch through Jumper 1x PCIE x1
I/O	
MIO	Serial port x 6 internal RS-232 ports with 5V/12V power 2x SATAII Connector(3Gb/s) 1 x 10 pin-headers for VGA output port (The I/O VGA DB15 connector &

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	1 x 10 pin-headers can't use in the same time)
USB	8 x USB 2.0/1.1 4 x internal USB port (pin-header) ,4x rear I/O connectors
Parallel Port	1 x LPT port rear I/O connectors
PS2 KB/MS	1 x PS2 keyboard , 1 x PS2 Mouse
DIO	supports 8-bit General Purpose I/O for DI and DO
Display	
Chipset	Integrated Intel® Graphics Media Accelerator 3650 (Gfx freq @ 640Mhz) support DX9
Resolution	VGA /HDMI Display: 1920 x 1200 Internal LVDS 1440 x 900
Dual Display	Yes , LVDS+VGA, VGA+HDMI, HDMI+LVDS
Audio	
Audio Codec	Realtek ALC661 HD Audio Decoding controller
Audio Interface	Mic-in ,Line out Support On-board S/PDIF input/output
Ethernet	
LAN Chip	2 x Realtek RT8111E PCIe Gigabit Ethernet
Ethernet Interface	10 /100 /1000 Base-Tx Gigabit Ethernet
Mechanical & Environmental	
Power Requirement	+12V/+5V/5Vsb/+3.3V
Power Type	ATX
Operating Temp.	0 ~ 60°C (32 ~ 140°F)
Storage Temp	-40 ~ 75°C (-40 ~ 167°F)
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Size (L x W)	6.69" x 6.6" (170mm x 170mm)
Weight	1.058lbs (0.48kg)

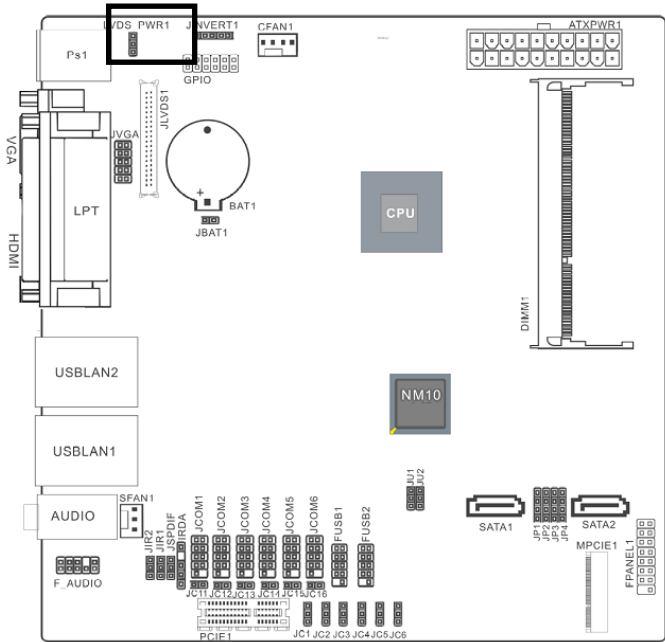
2 Hardware Configuration



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2.2 Setting Jumpers & Connectors

2.2.1 LVDS_PWR1

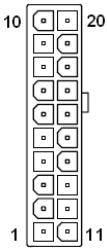
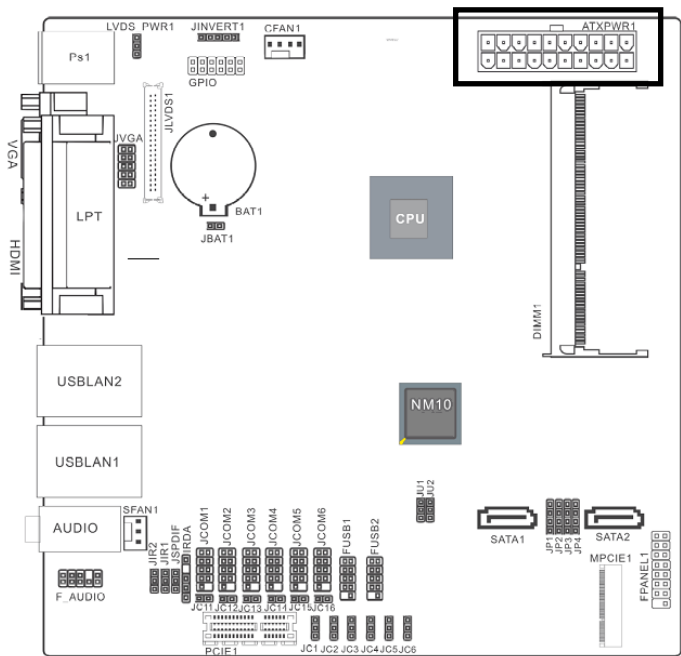


Pin No.	Definition
1-2	5V
2-3	3.3V

1-2, Set JLVDS1 Pin1,2,5,6 VDDSAFE as 5V

2-3, Set JLVDS1 Pin1,2,5,6 VDDSAFE as 3.3V

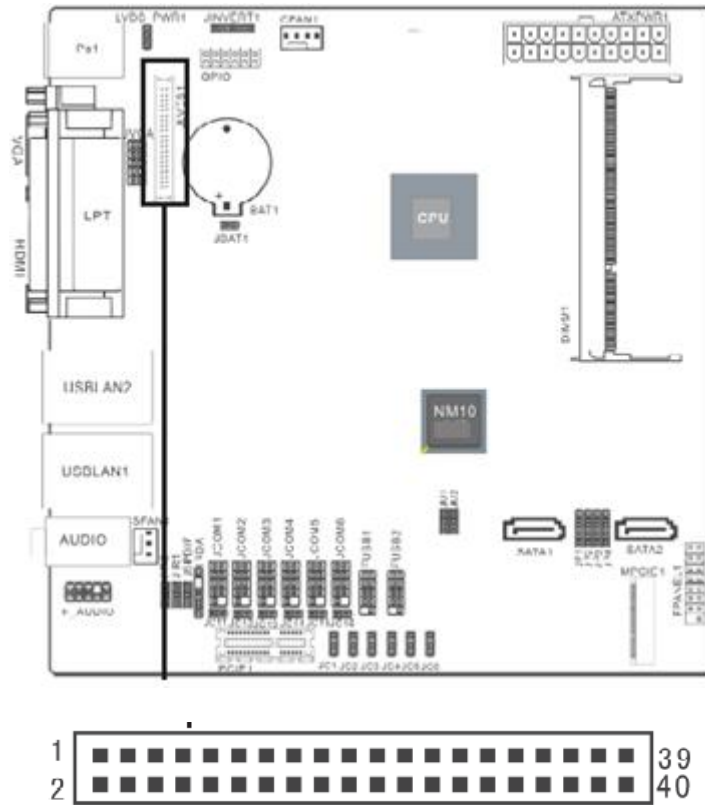
2.2.2 20PIN ATXPWR



Pin No.	Definition	Pin No.	Definition
1	+3.3V	2	+3.3V
3	GND	4	+5V
5	GND	6	+5V
7	GND	8	PWR OK
9	+5VSB	10	+12V
11	+3.3V	12	-12V
13	GND	14	PS-ON
15	GND	16	GND
17	GND	18	-5V
19	+5V	20	+5V

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2.2.3 JLVDS1

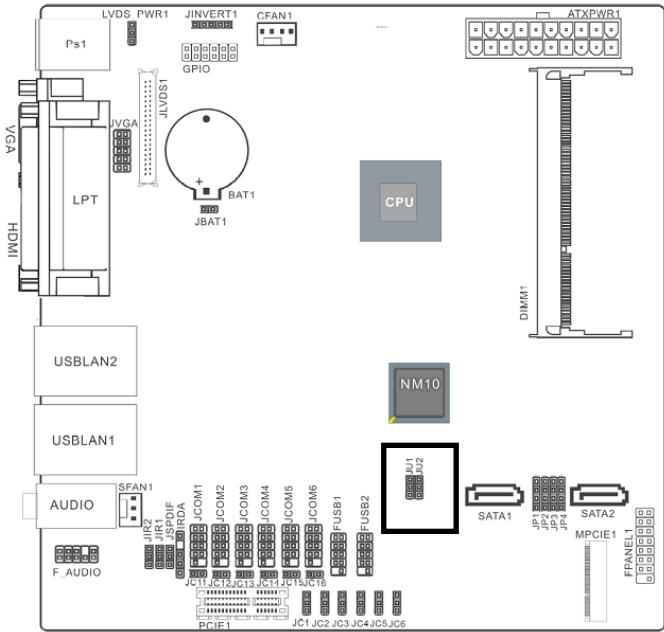


Pin No.	Definition	Pin No.	Definition
1	VDDSAFE	2	VDDSAFE
3	GND	4	GND
5	VDDSAFE	6	VDDSAFE
7	LVDS0_N0	8	NC
9	LVDS0_P0	10	NC
11	GND	12	GND
13	LVDS0_N1	14	NC
15	LVDS0_P1	16	NC
17	GND	18	GND
19	LVDS0_N2	20	NC

Pin No.	Definition	Pin No.	Definition
21	LVDS0_P2	22	NC
23	GND	24	GND
25	LVDS0_CLKN	26	NC
27	LVDS0_CLKP	28	NC
29	GND	30	GND
31	LVDS_DDCCLK	32	LVDS_DDCPDATA
33	GND	34	GND
35	LVDS0_N3	36	NC
37	LVDS0_P3	38	NC
39	NC	40	LVDS_VCON

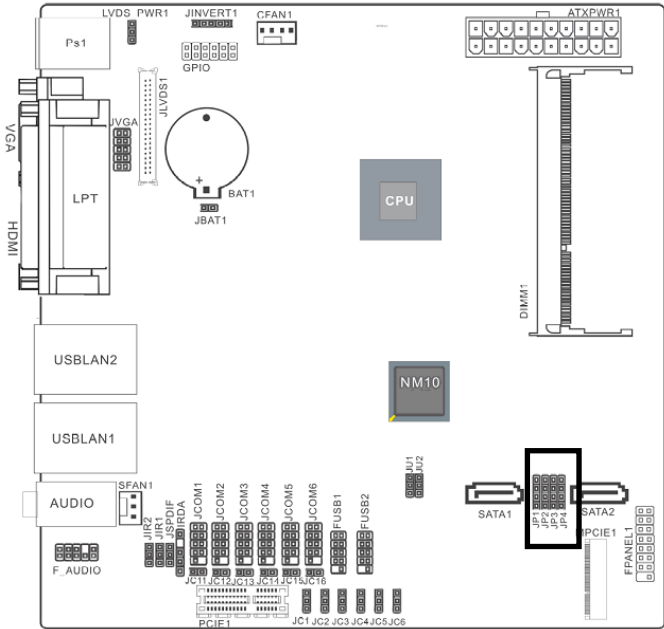
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2.3.4 JU1/ JU2



Pin No.	Definition	FUSB2 (USB7)	Mini PCI-e WiFi Card (USB interface)	Mini PCI-e Card
1-2	FUSB2	Enabled	Don't use USB interface Mini PCI-e card in the Mini PCI-e slot	Enabled
2-3	MINIPCIE	Disabled	Enabled	Enabled

2.2.5 JP1-JP4



Pin No.	Definition
1-2	MINIPCIE
2-3	M-SATA
3-4	SATA2

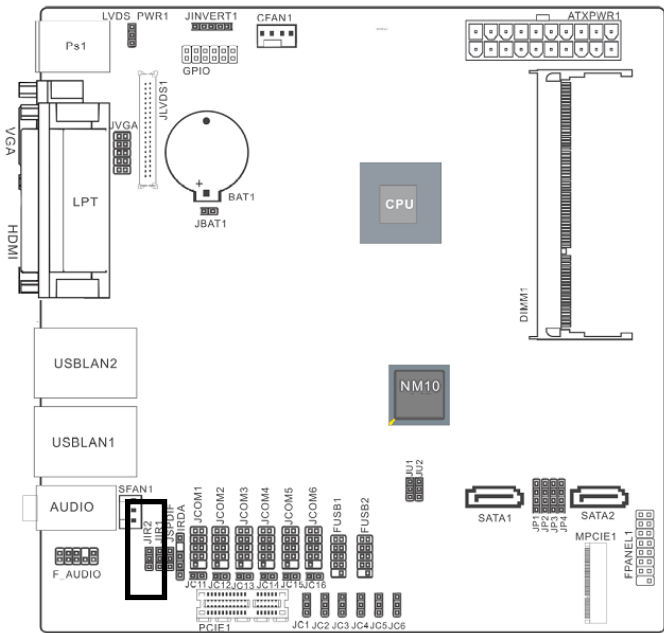
When you want to use Wifi on MINIPCIE1 slot, please set up JP1-JP4 as 1-2.

When you want to use M-SATA on MINIPCIE1 slot, please set up JP1-JP4 as 2-3.

When you use SATA2 connect, please set up JP1-JP4 as 3-4.

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2.2.6 JIR1/ JIR2

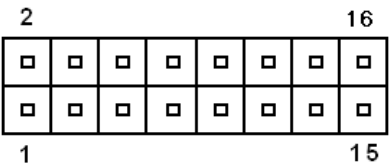
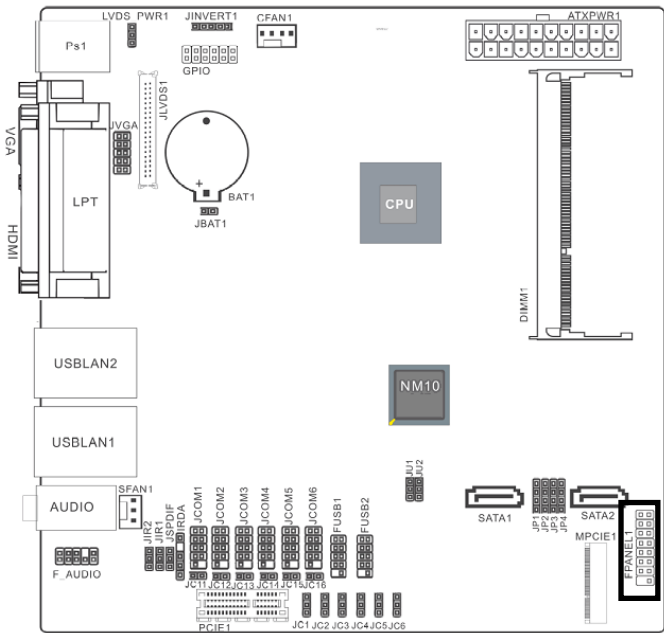


Pin No.	Definition
1-2	COM2
2-3	IR

For COM2, please set up JIR1/ JIR2 as 1-2.

For IR, please set up JIR1/ JIR2 as 2-3.

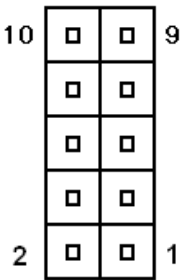
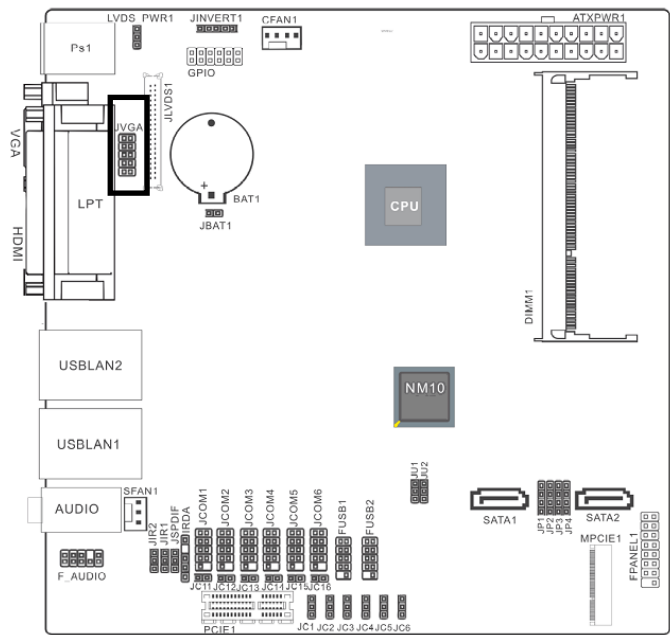
2.2.7 FPANEL1



Pin No.	Definition	Pin No.	Definition
1	5VSB	2	+HD_LED
3	+P_LED	4	-HD_LED
5	-P_LED	6	PS_ON
7	+SPEAK	8	-PS_ON
9	NC	10	RESET
11	NC	12	-RESET
13	-SPEAK	14	+SLEEP_LED
15	KEY	16	-SLEEP_LED

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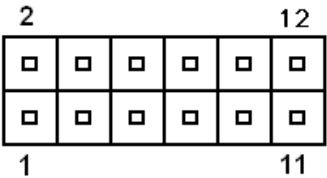
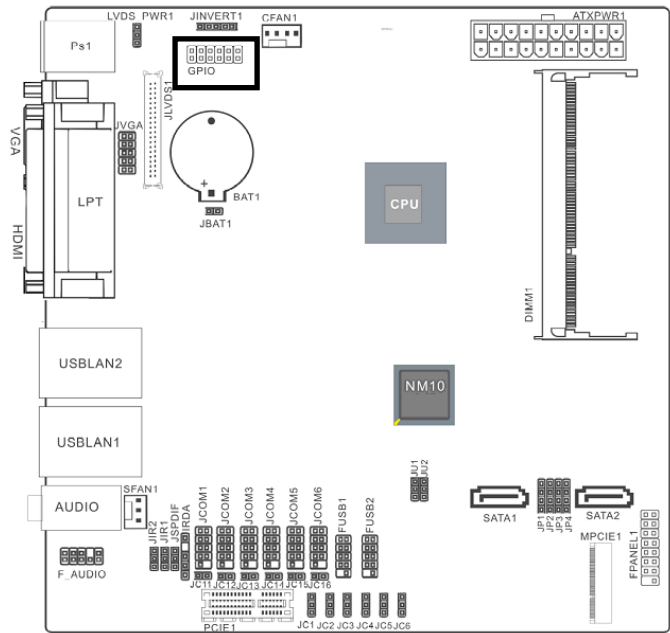
2.2.8 JVGA



(The I/O VGA DB15 connector & 2 x 5 pin-headers can't use in the same time)

Pin No.	Definition	Pin No.	Definition
1	GND	2	R
3	GND	4	G
5	GND	6	B
7	HSYNC	8	VSYNC
9	DDC_DATA	10	DDC_CLK

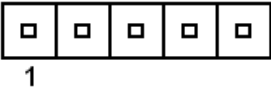
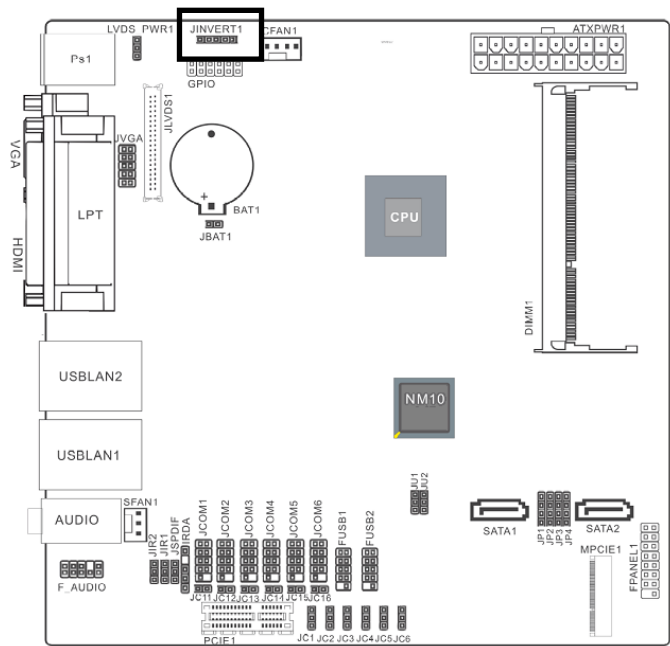
2.2.9 GPIO



Pin No.	Definition	Pin No.	Definition
1	+5V	2	+12V
3	GPIO	4	GPIO
5	GPIO	6	GPIO
7	GPIO	8	GPIO
9	GPIO	10	GPIO
11	GND	12	GND

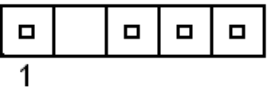
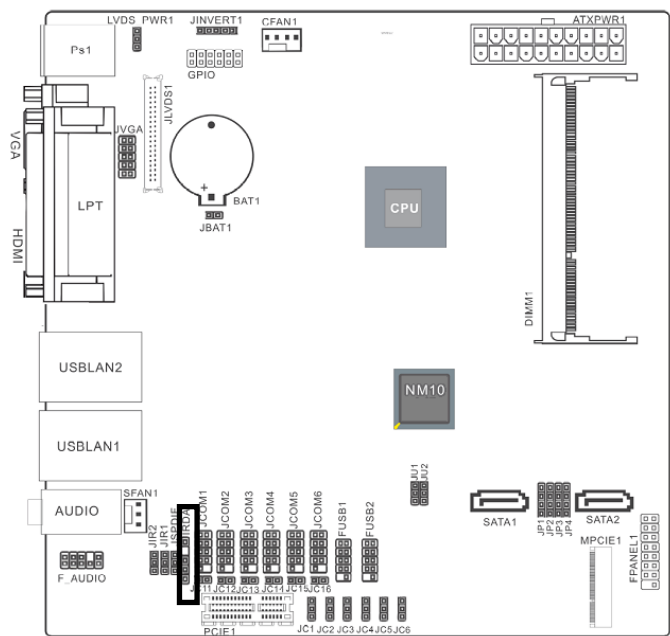
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2.2.10 JINVERT1



Pin No.	Definition	Pin No.	Definition
1	12V	2	GND
3	BLEN	4	PWM
5	5V		

2.2.11 IRDA

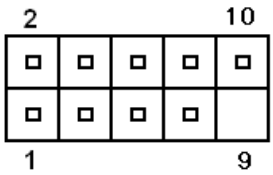
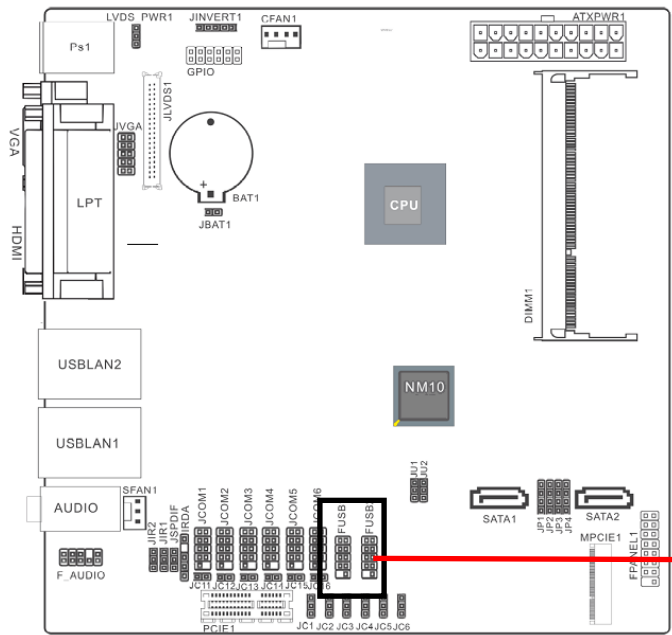


Only for specially used (Can't send data)

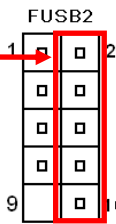
Pin No.	Definition	Pin No.	Definition
1	VCC	2	
3	IRRX	4	GND
5	IRTX		

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2.2.12 FUSB1/FUSB2



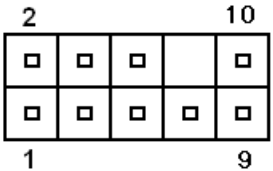
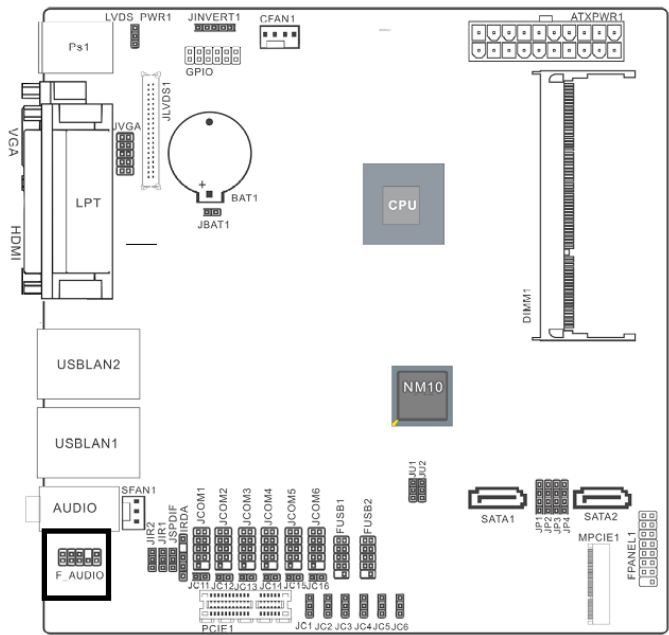
Pin No.	Definition	Pin No.	Definition
1	VCC	2	VCC
3	Data 0-	4	Data 1-
5	Data 0+	6	Data 1+
7	GND	8	GND
9	NC(CUT)	10	GND



When JU1/JU2 jumpers are set to 2-3,
FUSB2 (USB7) will be disabled.

(Please refer to P.15 2.3.4 for more information.)

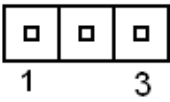
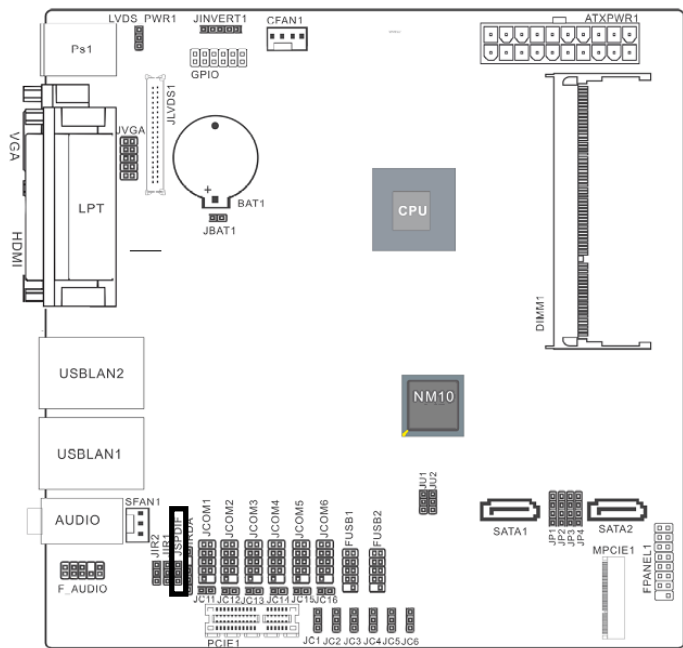
2.2.13 F_AUDIO



Pin No.	Definition
1	FRONT_MIC
2	GND
3	VREF_OUT
4	5V
5	FRONT_OUT_R
6	AUD_RET_R
7	GND
8	NC(CUT)
9	FRONT_OUT_L
10	AUD_RET_L

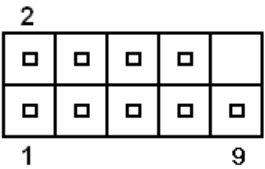
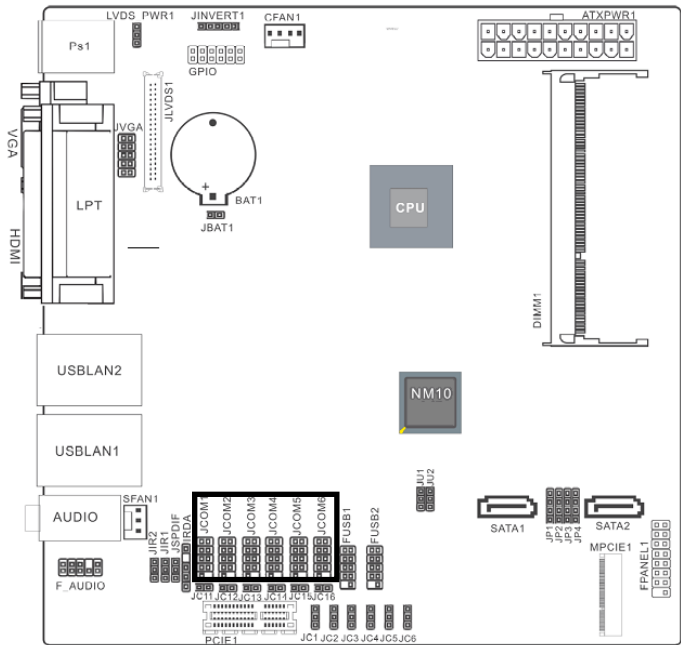
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2.2.14 JSPDIF1



Pin No.	Definition
1	NC
2	GND
3	OUT

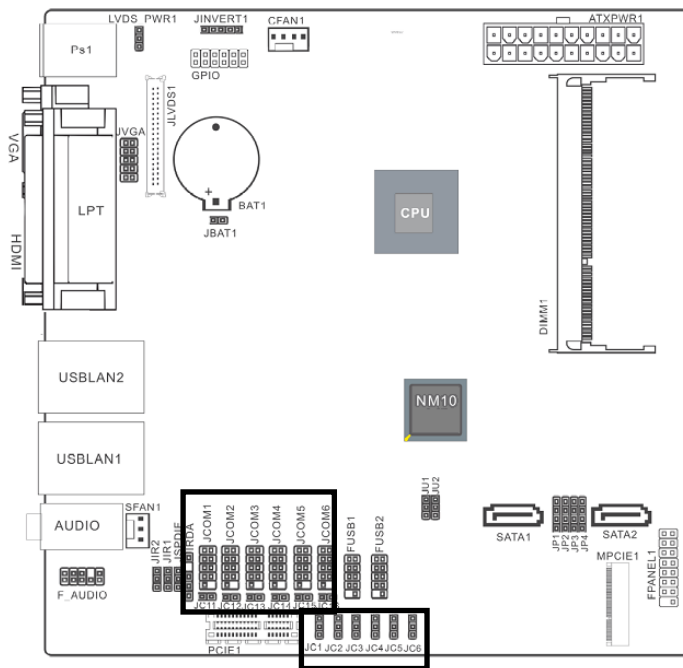
2.2.15 JCOM1-6



Pin No.	Definition	Pin No.	Definition
1	DCD	2	RXD
3	TXD	4	RTD
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC(CUT)

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2.2.16 JCOM1-6 (9th Pin definition)



COM1 to COM6 9th Pin definition

Pin No.	Pin	Definition
JC11/12/13	CLOSE	RI
JC14/15/16	OPEN	USE JC1-JC6
JC1/2/3	1-2	+5V
JC4/5/6	2-3	+12V

