NANO785 V1.0

Hardware Interface Description

Revision History

Date	Version	Description	Author
2010.12.08	V1.0		MJW

◆

1 Jumper Settings

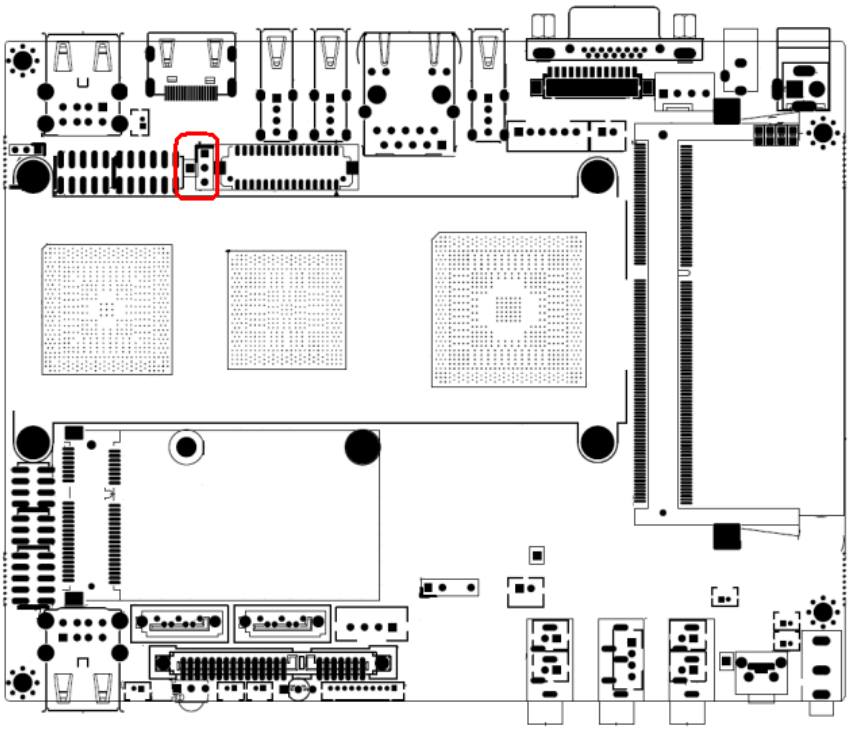
There are some jumpers on the motherboard, use the jumper to do a different connection to its corresponding configuration can be obtained, you can use jumper settings to match your need. In this manual, the description of the jumper settings are as follows:

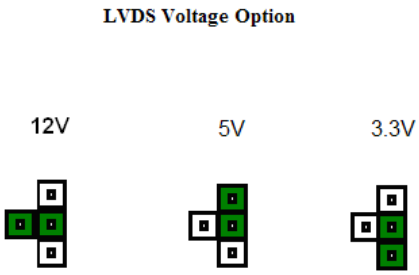
The following table briefly introduce the function of the jumper on the motherboard:

Grade	Function	Remarks
J2+J40	LVDS Voltage setting	Pin, 2.54mm pitch
J16	Serial Port 1st Pin Signal setting	Pin, 2.00mm pitch

1.1 LVDS Voltage setting (J2+J40)

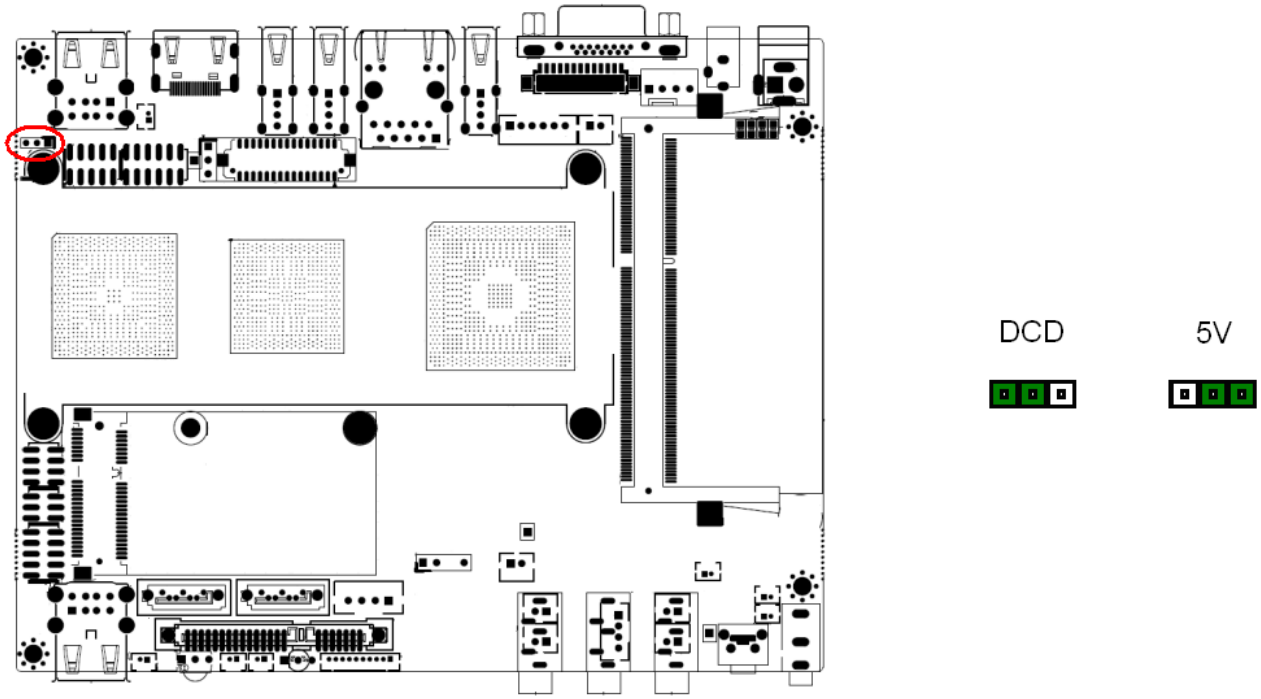
LVDS screen voltage can be selected, options are 3.3V, 5V and 12V.





1.2 Serial Port 1 ,1st Pin Signal Setting (J16)

Serial 1 (COM1) first pin selectable 5V or DCD, can be set according to demand. When set to DCD, the serial port 1 is the whole signal.



2 Functional Interface

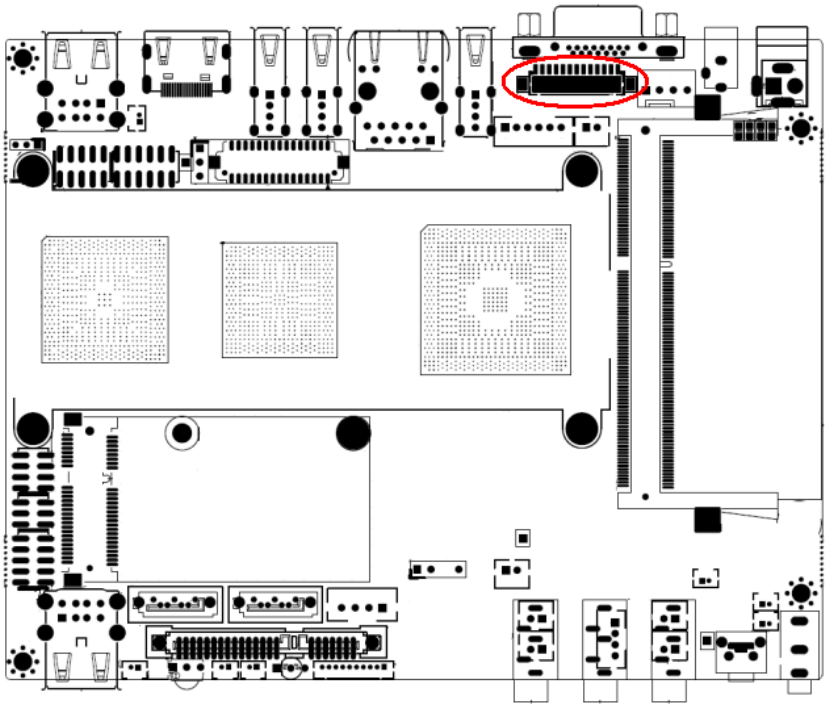
There are several functional interface on board, the following table briefly introduce the function of each interface on the motherboard.

Grade	Function	Remarks
Rear Ports		
J23	USB Interface	USB*2
J32，J33，J15	USB Interface	USB*1
T1	RJ45 Network Interface	
CN2	VGA Interface	D-sub 15 Pin，Female
CN1	HDMI Interface	
J20	DC Input-12V	Phone Jack
JDC1	DC Output-5V	Phone Jack
Front Ports		
J24	Audio Input Plug	Phone Jack，Light Blue
J7	Audio Output Plug	Phone Jack，Light Green
J6	Microphone Plug	Phone Jack，Pink
J13	USB Interface	USB*2
SW1	Power Button	Touch Switch
J21	Extended Power Switch Interface	Phone Jack

Internal Port		
WF13	Reset button connector pin block	2 x 1 pin block, 1.25mm pitch
WF12	Switch pin block	2 x 1 pin block, 1.25mm pitch
J18,J22	Serial ATA Slot	
CN3,CN4	MINI PCI-E Slot	
J31	DDR3 SODIMM Slot	
WF2	LVDS Interface	15 x 2 pin block, 1.25mm pitch
WF3	LCD Inverter Interface	6x 1pin block, 2.00mm pitch
J25	SPDIF OUT Digital audio output interface	4x 1 Pin，2.54mm pitch
WF17	GPIO Interface	10x 1 Pin, 1.00mm pitch
J28	CPU Fan Interface	3 x 1 pin block，2.54mm pitch
J17	Serial port expansion pin block	5 x 2 Pin，2.00mm pitch
J38	Serial port expansion pin block	6 x 2 Pin，2.00mm pitch
J14	USB expansion pin block	5 x 2 Pin，2.00mm pitch
J37	USB expansion pin block	4 x 2 Pin，2.00mm pitch
WF4	VGA pin block	13x 1pin block，1.25mm pitch
J10	SIM card connector extension pin block	3 x 2 Pin，2.00mm pitch
J30	12V input pin block	2 x 1pin block，3.96mm pitch
WF5	5V output pin block	2 x1pin block，2.00mm pitch
WF15	5V output	2x 1 pin block，1.25mm pitch
WF14	12V output	2 x1pin block，2.00mm pitch
WF1	12V/5V output	4 x1pin block，2.54mm pitch
WF11,WF16	Speaker pin block	2x 1pin block，1.25mm pitch
WF8,WF9	Microphone pin block	2 x1pin block，2.00mm pitch
WF10	Audio output connector pin block	4x1pin block，2.00mm pitch
WF6,WF7	Audio input connector pin block	2 x1 pin block，2.00mm pitch

2.1 VGA Connector Pin Block(WF4)

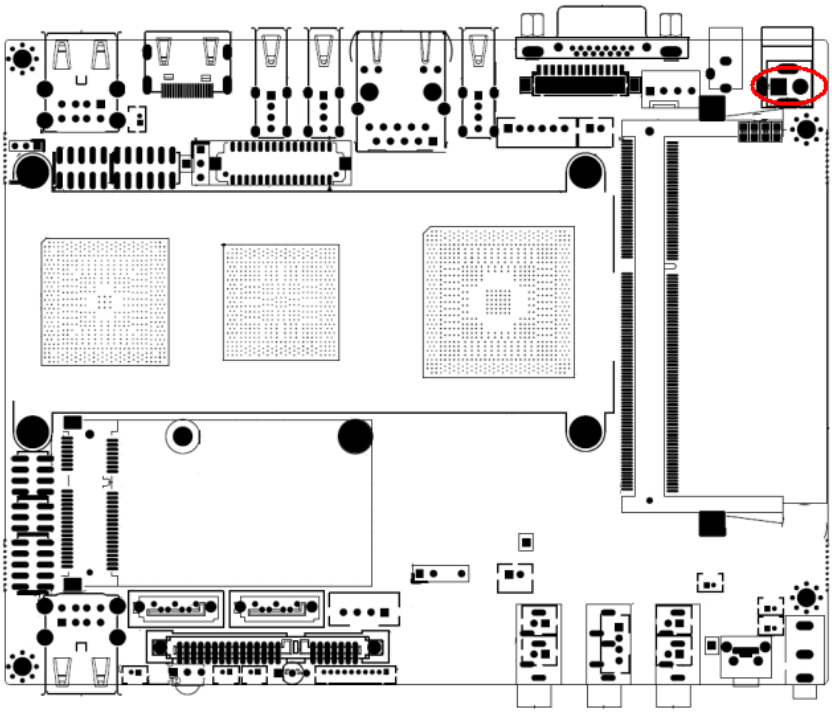
This socket with the back-panel CN2 interface connect to the same VGA signal, when you need to use this interface to connect VGA, please refer to the following definition:

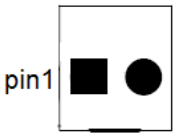


PIN	Signal
1	CRT_I2C_DAT
2	CRT_I2C_CK
3	GND
4	CRT_HSYNC
5	CRT_VSYNC
6	GND
7	CRT_RED
8	GND
9	CRT_GREEN
10	GND
11	CRT_BLUE
12	GND
14	VGA_5V_FB

2.2 12V Power Input Pin Block（J30）

The socket with the back-panel connectors J20 for 12V power input, the two can be selected according to needs welding. Defined as follows:

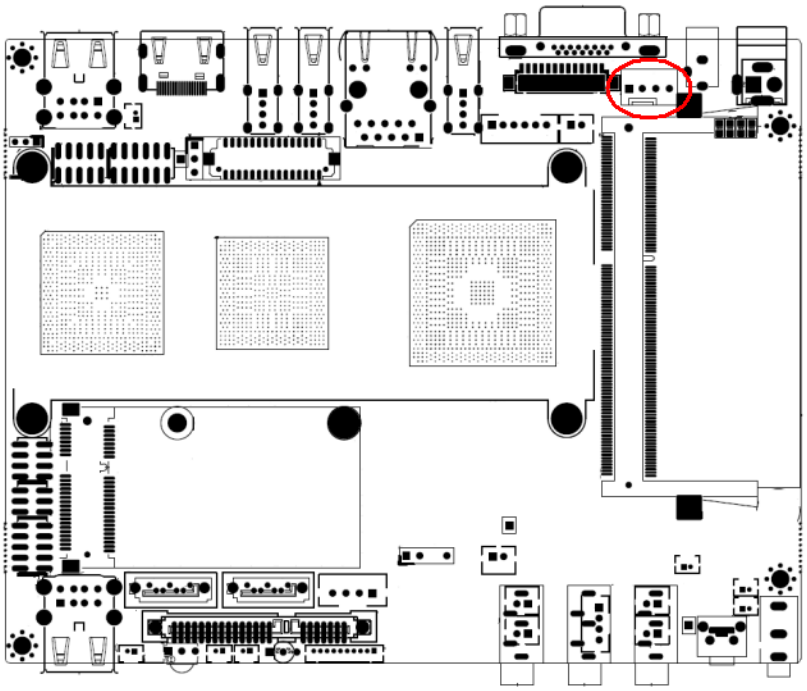




PIN	Signal
1	DCIN_12V
2	GND_DCIN

2.3 Fan Interface（J28）

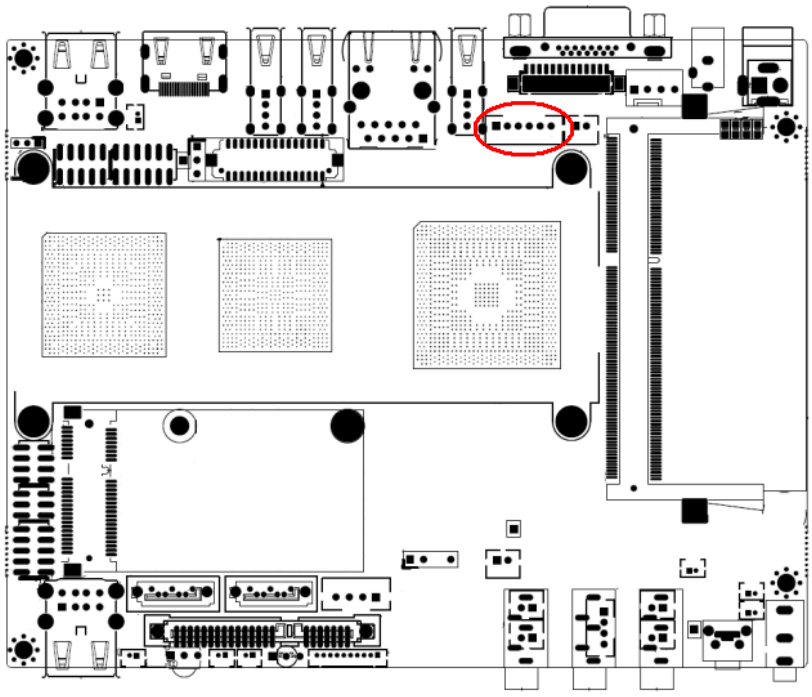
The socket used to connect the fan, can be welded 3P or 4P needle seat. Defined as follows:

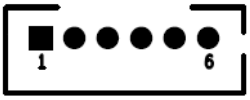


PIN	Signal
1	GND
2	FAN1_VCC_HDR
3	FAN1_TAC_HDR
4	FAN1_PWM

2.4 LCD Inverter Connection Interface (WF3)

This pin block for connecting LCD backlight Inverter.

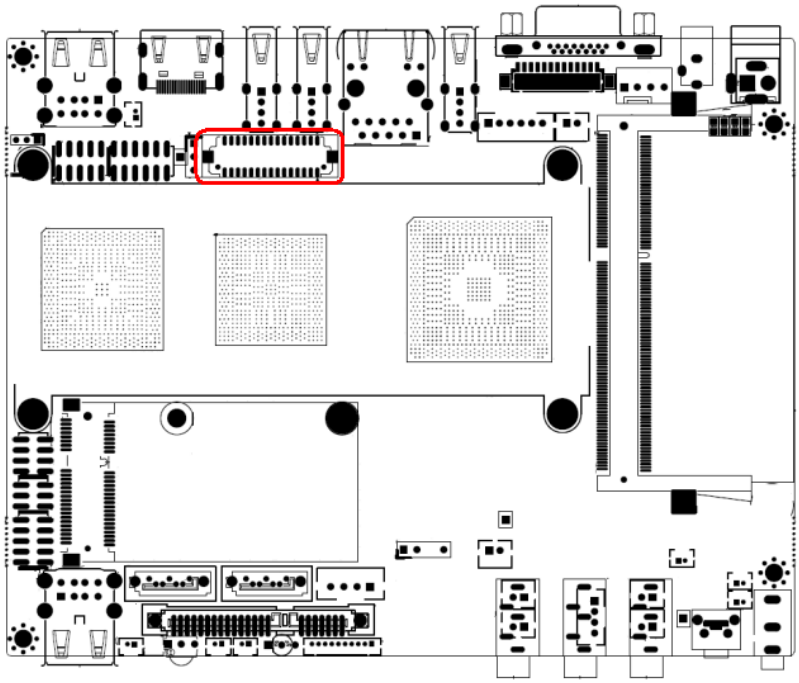




PIN	Signal
1	BACKLIGHT_5VOR12V
2	BACKLIGHT_5VOR12V
3	LVDS_BKL_EN
4	LVDS_BKL_PWM_V
5	GND
6	GND

2.5 LVDS Interface(WF2)

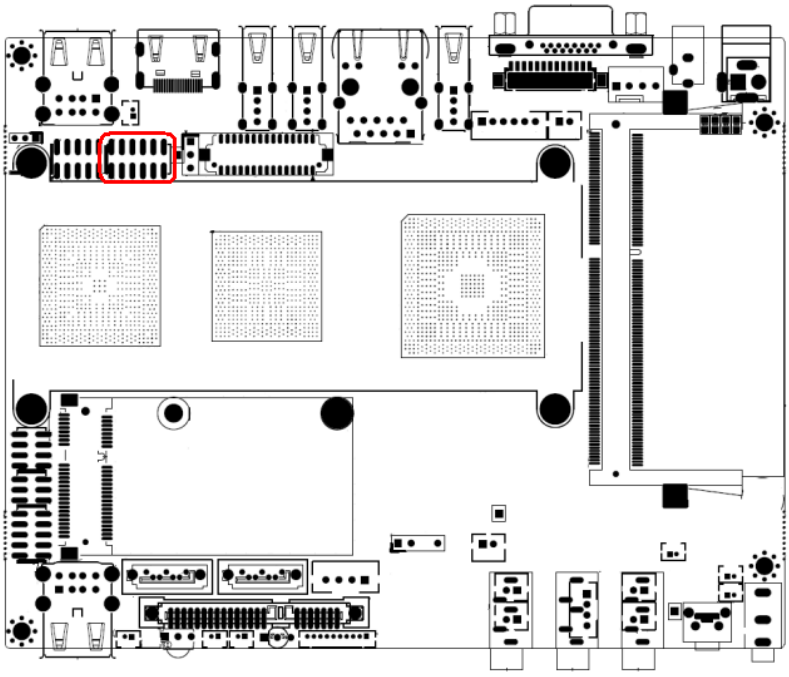
This interface for connecting LCD panel LVDS interface.

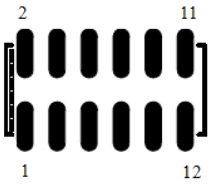


Signal	PIN	PIN	Signal
LCD_VDD	1	2	LCD_VDD
LCD_VDD	3	4	LCD_VDD
LVDS_A0-	5	6	LVDS_B0-
LVDS_A0+	7	8	LVDS_B0+
LVDS_A1-	9	10	LVDS_B1-
LVDS_A1+	11	12	LVDS_B1+
LVDS_A2-	13	14	GND
LVDS_A2+	15	16	LVDS_B2-
GND	17	18	LVDS_B2+
LVDS_A3-	19	20	LVDS_B3-
LVDS_A3+	21	22	LVDS_B3+
LVDS_A_CK-	23	24	GND
LVDS_A_CK+	25	26	LVDS_B_CK-
GND	27	28	LVDS_B_CK+
I2C_DAT	29	30	I2C_CLK

2.6 Serial Port Expansion Pin Block（J38）

This pin block can be extended out of three non-full-serial signal (COM2,COM3,COM4).

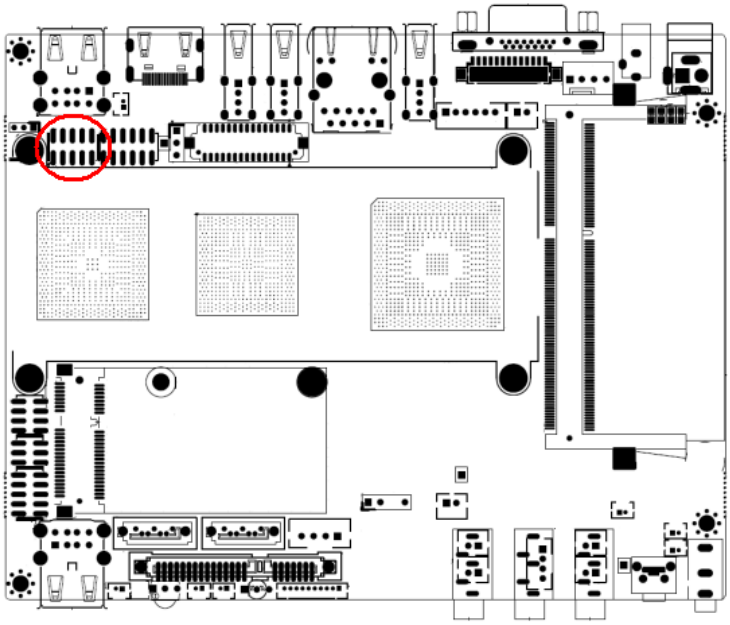


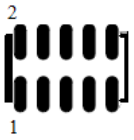


Signal	PIN	PIN	Signal
TXD2_232	1	2	RXD2_232
TXD3_232	3	4	RXD3_232
TXD4_HDR	5	6	RXD4_HDR
+5V	7	8	GND
+5V	9	10	GND
+5V	11	12	GND

2.7 Serial Port Expansion Pin Block（J17）

This pin block can be extended out of one full-serial signal (COM1).

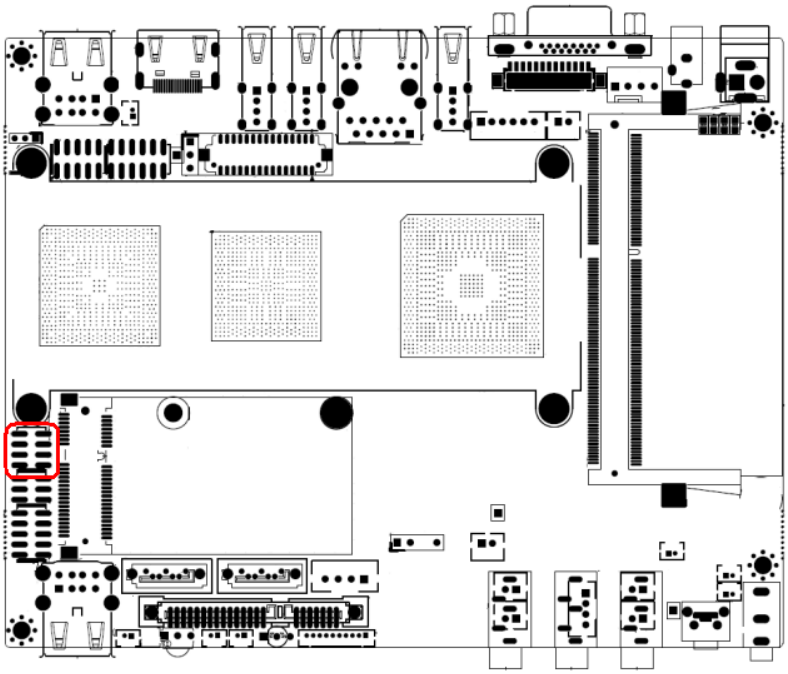




Signal	PIN	PIN	Signal
DCD1_232 OR 5V	1	2	RXD1_232
TXD1_232	3	4	DTR1_232
COM1_HDR_GND	5	6	DSR1_232
RTS1_232	7	8	CTS1_232
RI1_232	9	10	GND

2.8 USB Expansion Pin Block(J37)

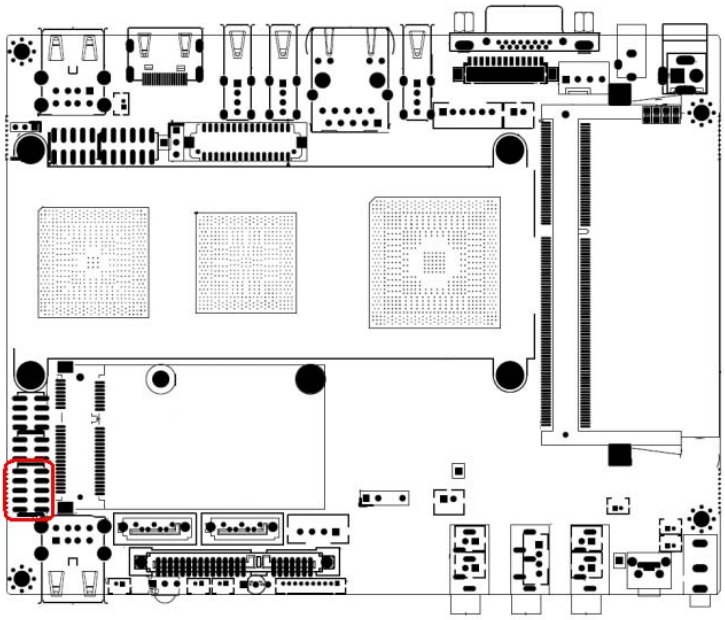
USB Expansion Pin, can lead to two USB.

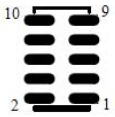


Signal	PIN	PIN	Signal
USB_VCC5-9	1	2	USB_VCC5-9
USB_D9-	3	4	USB_D5-
USB_D9+	5	6	USB_D5-
USB5-9_GND	7	8	USB5-9_GND

2.9 USB Expansion Pin Block(J24)

USB Expansion Pin，can lead to two USB.

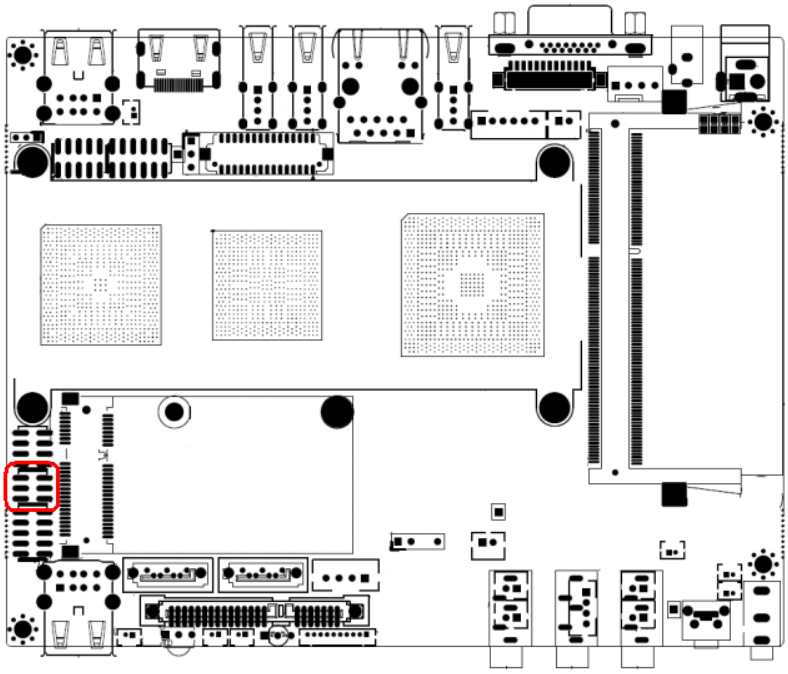




Signal	PIN	PIN	Signal
USB_VCC4-8	1	2	USB_VCC4-8
USB_D8-	3	4	USB_D4-
USB_D8+	5	6	USB_D4+
USB4-8_GND	7	8	USB4-8_GND
PWRBTN_IR#_USB	9	10	PWRBTN_IR#_USB

2.10 3G SIM Card Connector Expansion Pin Block(J10)

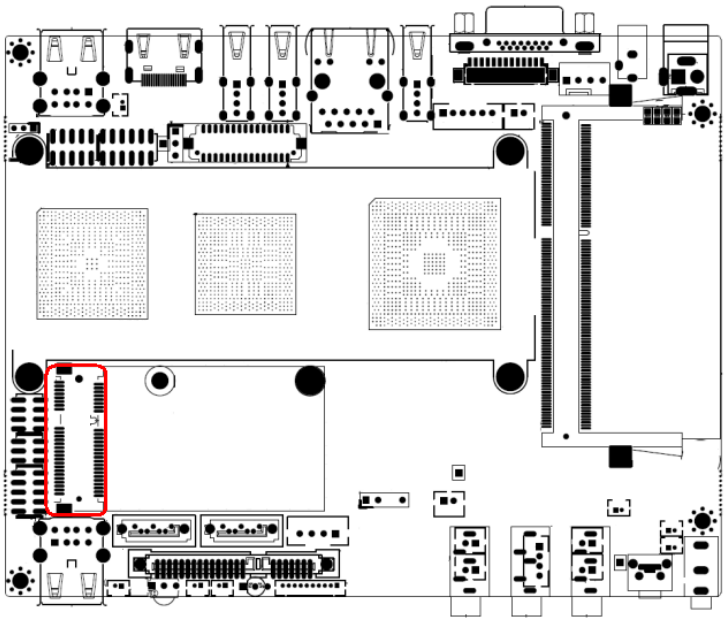
3G SIM card connector for expansion, with the use of CN3 (MINIPCIE slot) to use.

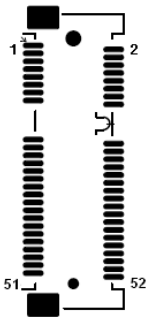


Signal	PIN	PIN	Signal
UIM_PWR	1	2	GND
UIM_RESET	3	4	UIM_VPP
UIM_CLK	5	6	UIM_DATA

2.11 MINI PCIE （CN3）

This slot can be connected with MINI PCIE interface modules. When connecting 3G module, with the use of 2.11.

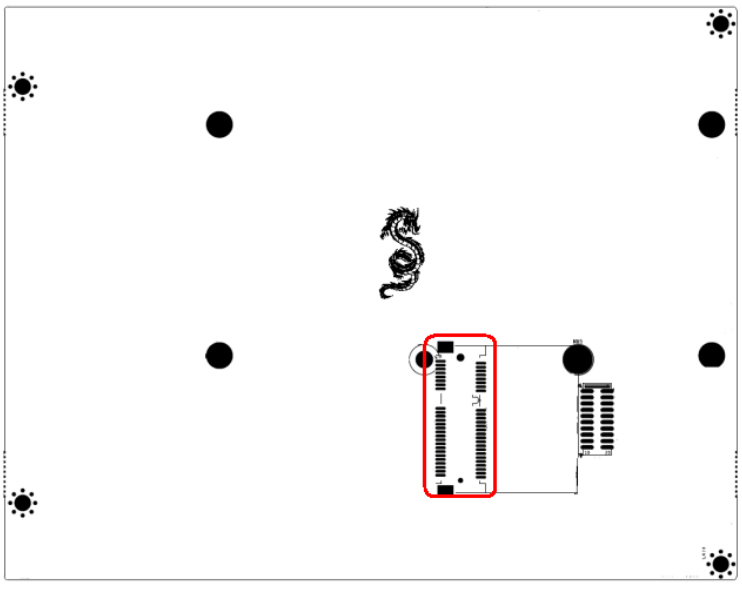


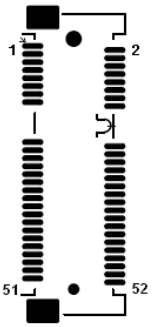


Signal	PIN	PIN	Signal
WAKE#	1	2	3.3Vaux
Reserved	3	4	GND
Reserved	5	6	1.5V
CLKREQ#	7	8	UIM_PWR
GND	9	10	UIM_DATA
REFCLK-	11	12	UIM_CLK
REFCLK+	13	14	UIM_RESET
GND	15	16	UIM_Vpp
Reserved	17	18	GND
Reserved	19	20	W_DISABLE#
GND	21	22	PERST#
PERn0	23	24	3.3Vaux
PERp0	25	26	GND
GND	27	28	1.5V
GND	29	30	SMB_CLK
PETn0	31	32	SMB_DATA
PETp0	33	34	GND
GND	35	36	USB_D-
GND	37	38	USB_D+
3.3Vaux	39	40	GND
3.3Vaux	41	42	LED_WWAN#
GND	43	44	LED_WLAN#
Reserved	45	46	LED_WPAN#
Reserved	47	48	1.5V
Reserved	49	50	GND
Reserved	51	52	3.3Vaux

2.12 MINI PCIE(CN4，located in the back plate)

This slot can be connected with MINIPCIE interface modules (3G module excluded).

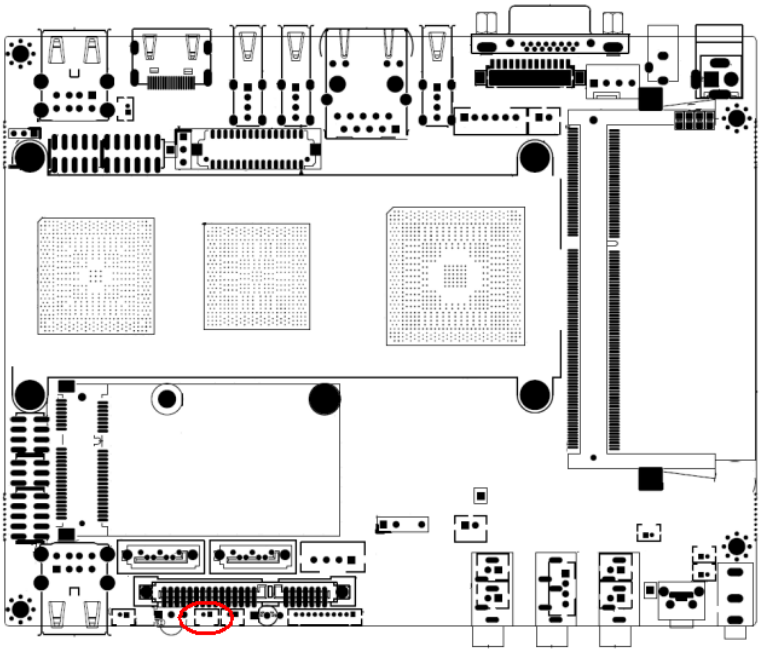


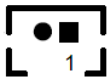


Signal	PIN	PIN	Signal
WAKE#	1	2	3.3Vaux
NC	3	4	GND
NC	5	6	1.5V
CLKREQ#	7	8	NC
GND	9	10	NC
REFCLK-	11	12	NC
REFCLK+	13	14	NC
GND	15	16	NC
NC	17	18	GND
NC	19	20	W_DISABLE#
GND	21	22	PERST#
PERn0	23	24	3.3Vaux
PERp0	25	26	GND
GND	27	28	1.5V
GND	29	30	SMB_CLK
PETn0	31	32	SMB_DATA
PETp0	33	34	GND
GND	35	36	USB_D-
GND	37	38	USB_D+
3.3Vaux	39	40	GND
3.3Vaux	41	42	LED_WWAN#
GND	43	44	LED_WLAN#
NC	45	46	LED_WPAN#
NC	47	48	1.5V
NC	49	50	GND
NC	51	52	3.3Vaux

2.13 Switch Signal Pin Block(WF12)

Switch Signal

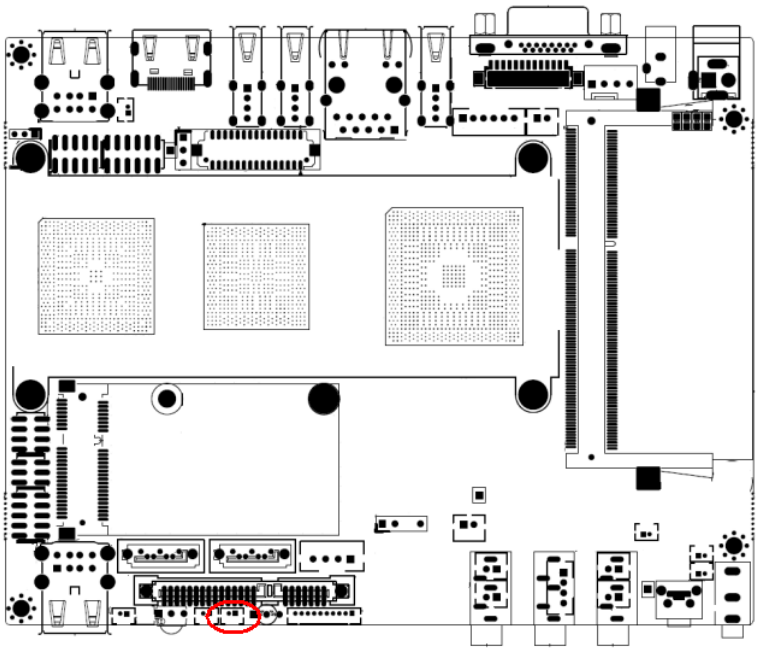


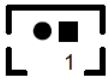


PIN	Signal
1	PWRBTN
2	GND

2.14 Reset Signal Pin Block（WF13）

Reset Signal

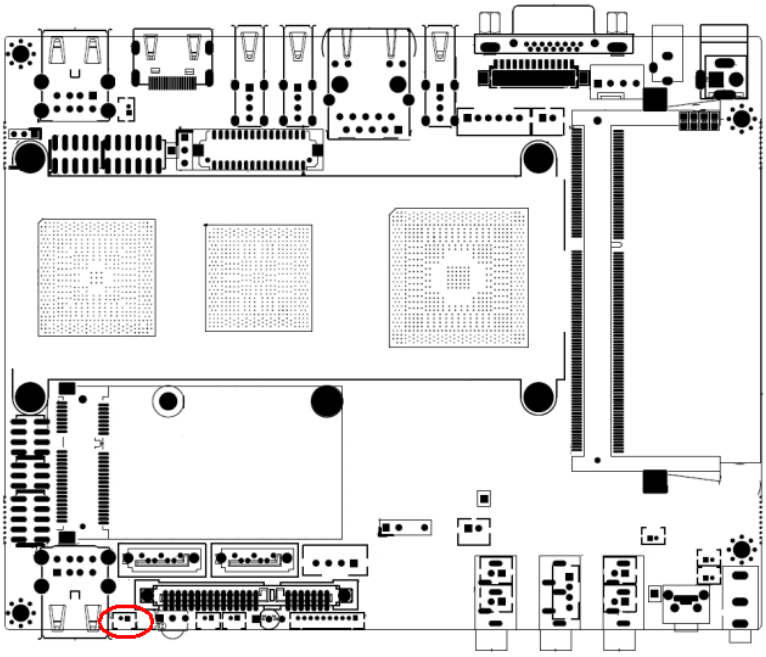


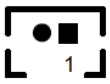


PIN	Signal
1	RST
2	GND

2.15　5V Output Pin Block（WF15）

This pin block provides 5V output.

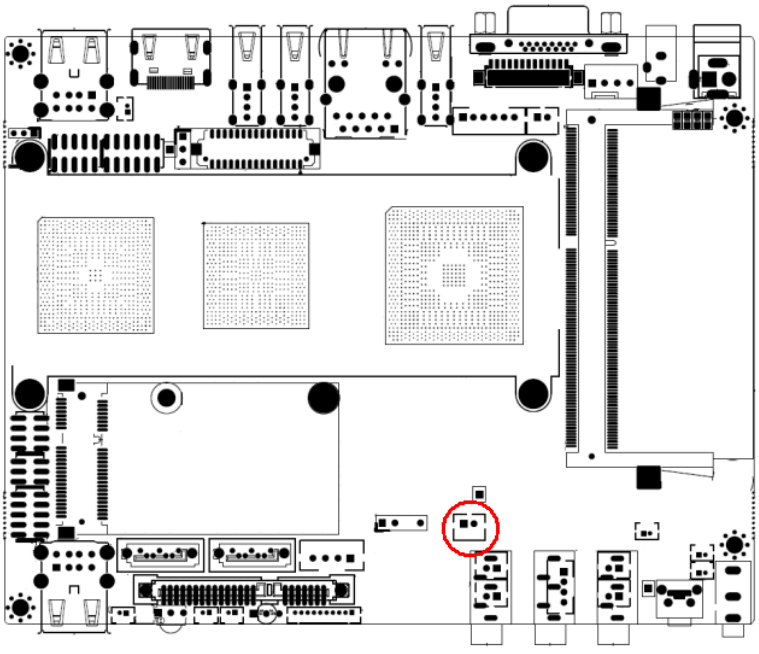


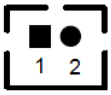


PIN	Signal
1	VCC5V
2	GND

2.16　5V Output Pin Block(WF5)

This pin block provides 5V output.

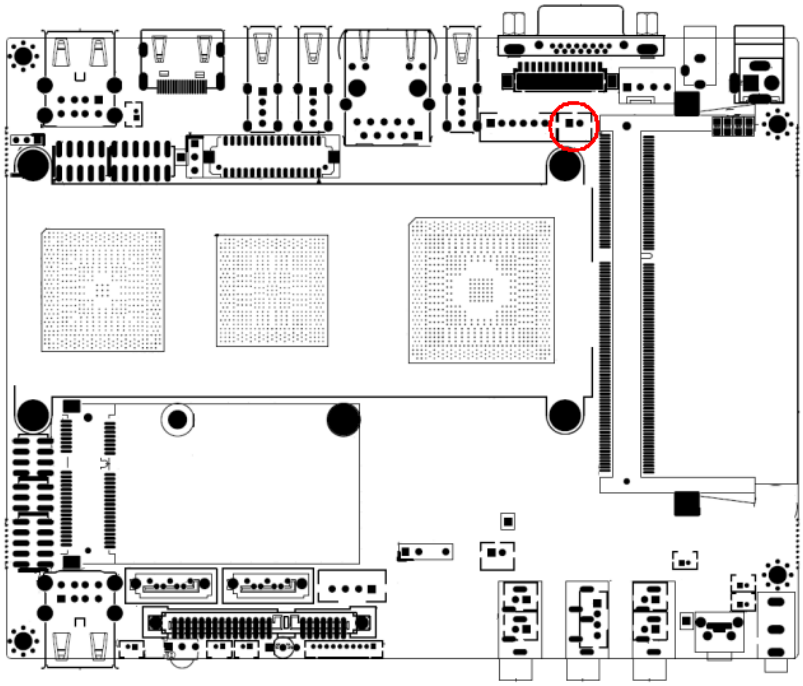


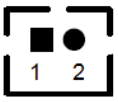


PIN	Signal
1	VCC5V
2	GND

2.17　12V Output Pin Block(WF14)

This pin block provides 12V output.

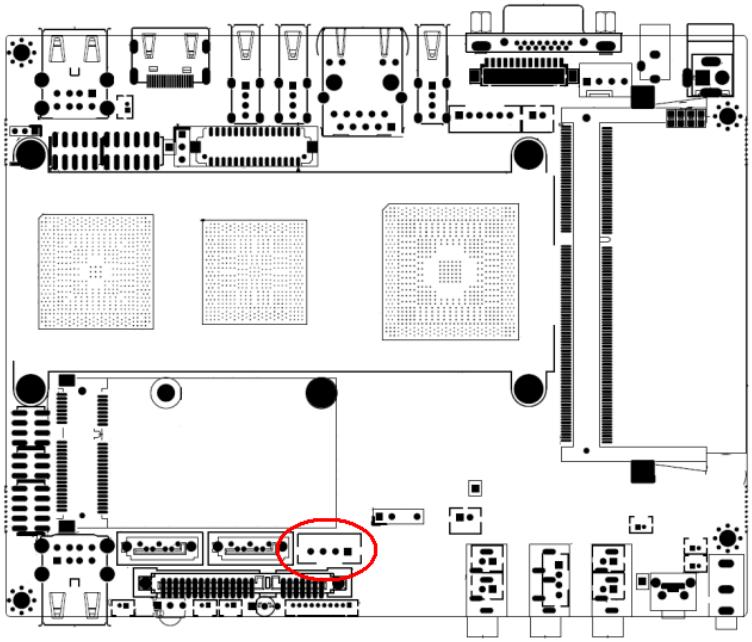


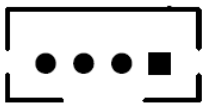


PIN	Signal
1	12V_WF14
2	GND

2.18　12V，5V Output (WF1)

This pin block provides 5V and 12V output.

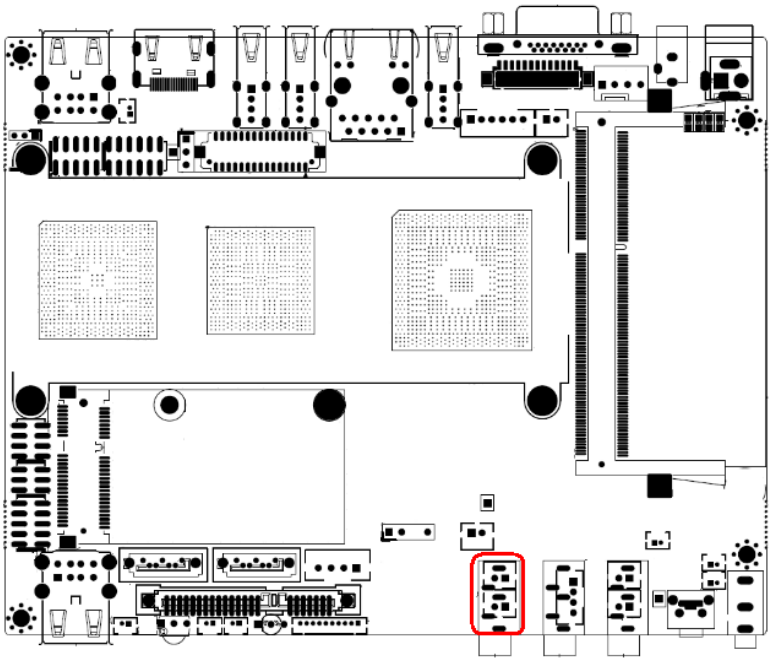


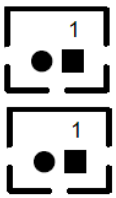


PIN	Signal
1	VCC5V
2	GND
3	GND
4	12V

2.19 Audio Input Signal Pin Block (WF6.WF7)

Audio signal input pin block，here is a select welding relation with the J24.



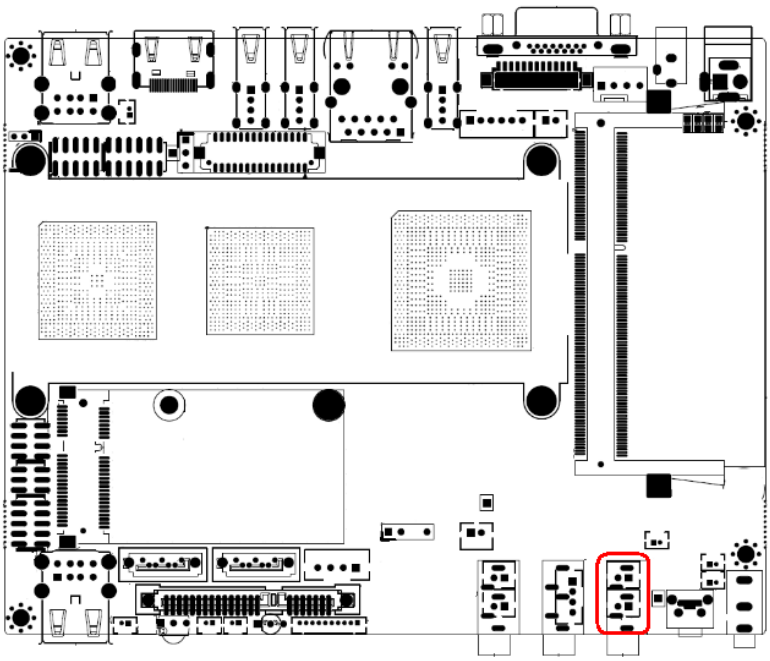


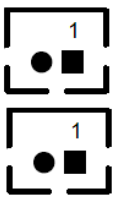
PIN	Signal
1	LINE1_R
2	AVSS_AUD

PIN	Signal
1	LINE1_L
2	AVSS_AUD

2.20 Microphone Signal Pin Block（WF8,WF9）

Microphone signal pin block, here is a select welding relation with the J6.



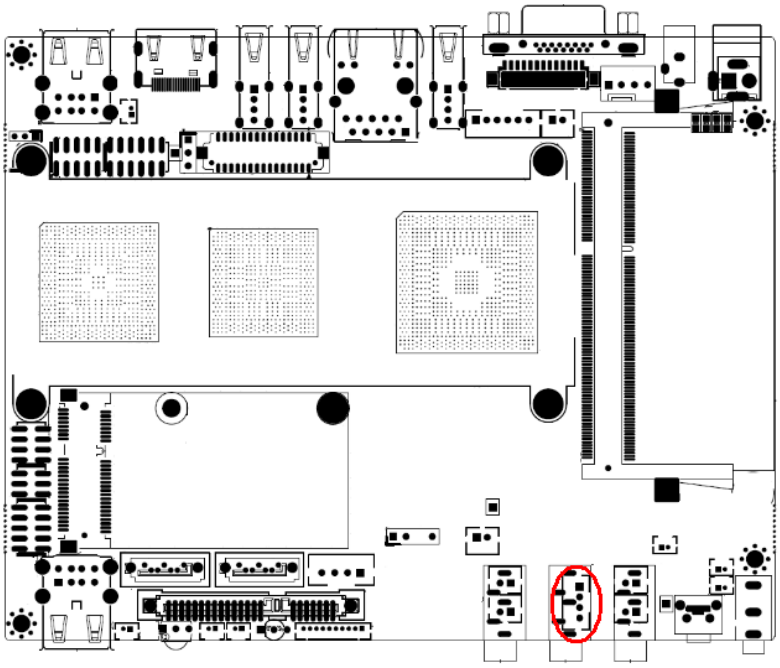


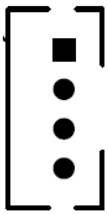
PIN	Signal
1	MIC1_R
2	AVSS_AUD

PIN	Signal
1	MIC1_L
2	AVSS_AUD

2.21 Audio Output Signal Pin Block（WF10）

Audio output signal pin block，here is a select welding relation with the J7.

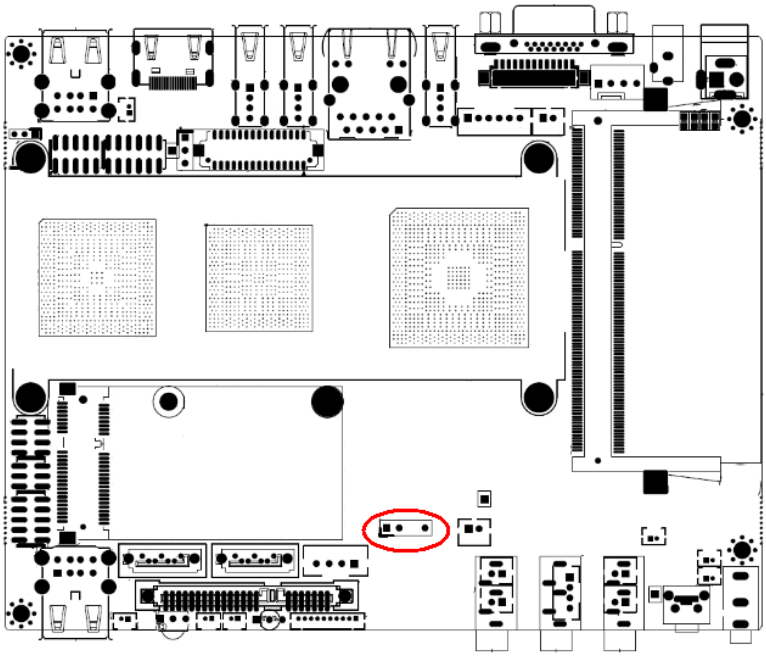


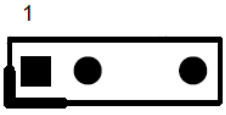


PIN	Signal
1	HP_OUT_R
2	LINE2_JD
3	AVSS_AUD
4	HP_OUT_L

2.22 SPDIF OUT Digital Audio Output Interface（J25）

This pin is the SPDIF OUT digital audio output interface.

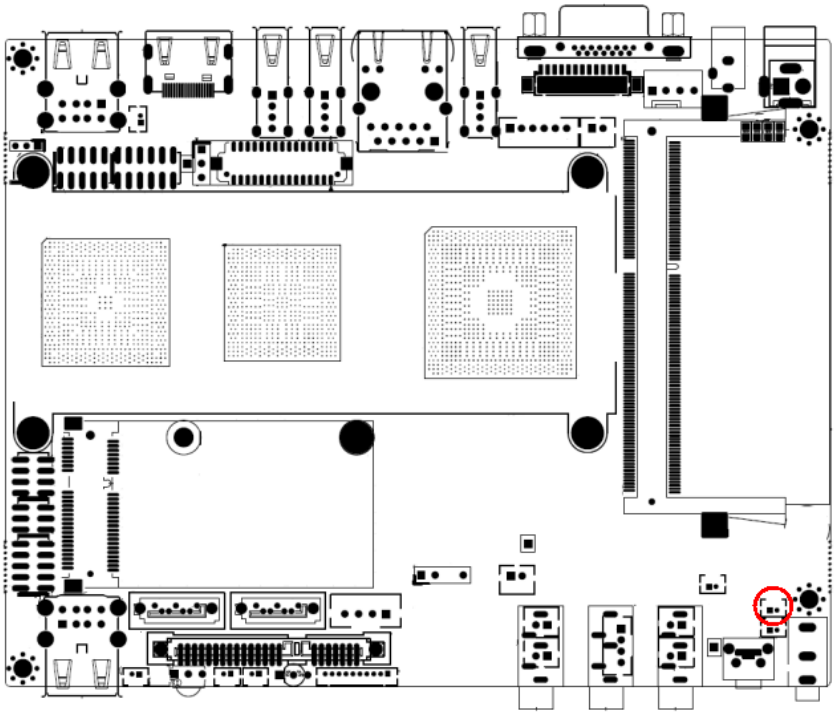




PIN	Signal
1	SPDIFO
2	5V
3	NC
4	GND

2.23 Left Speaker Socket

This socket for connecting the left speaker.

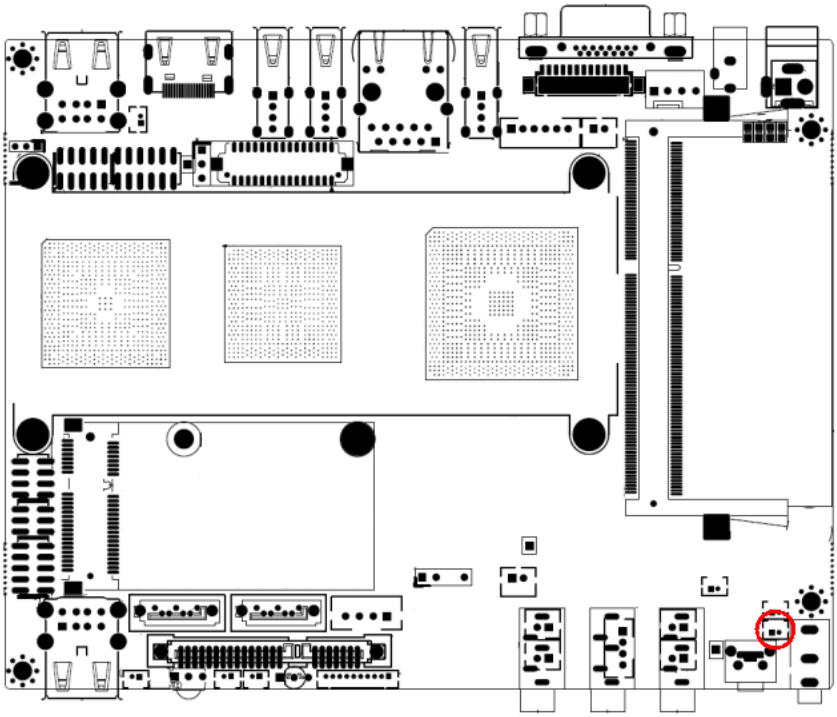


PIN 1

PIN	Signal
1	AMP_WF_OUTL+
2	AMP_WF_OUTL-

2.24 Right Speaker Socket

This socket for connecting the right speaker.

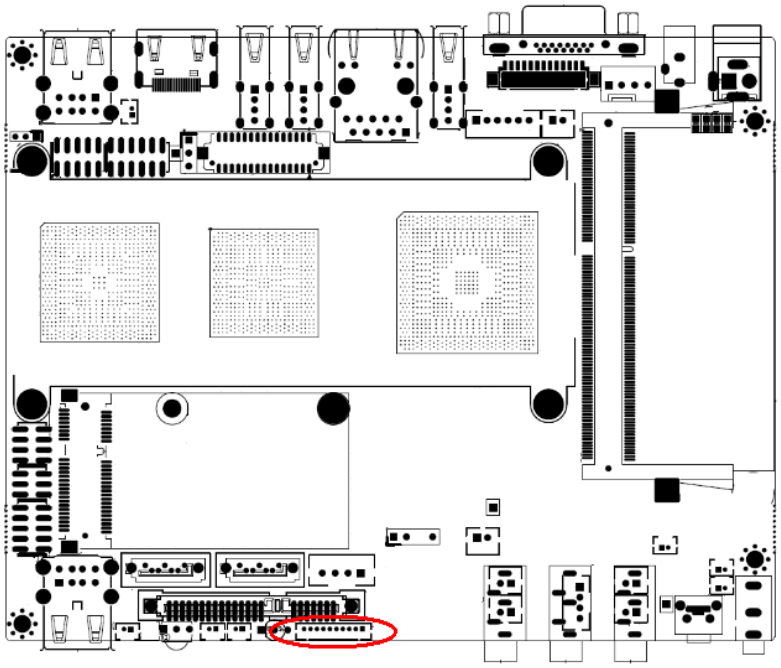


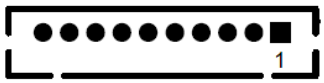
PIN 1

PIN	Signal
1	AMP_WF_OUTR+
2	AMP_WF_OUTR-

2.25 GPIO（WF17）

GPIO。





PIN	Signal
1	5V
2	3.3V
3	GEVENT18#
4	SDA2/GPIO194
5	SCL2/GPIO193
6	GND
7	GPIO32
8	GPIO33
9	GPIO34
10	GPIO35