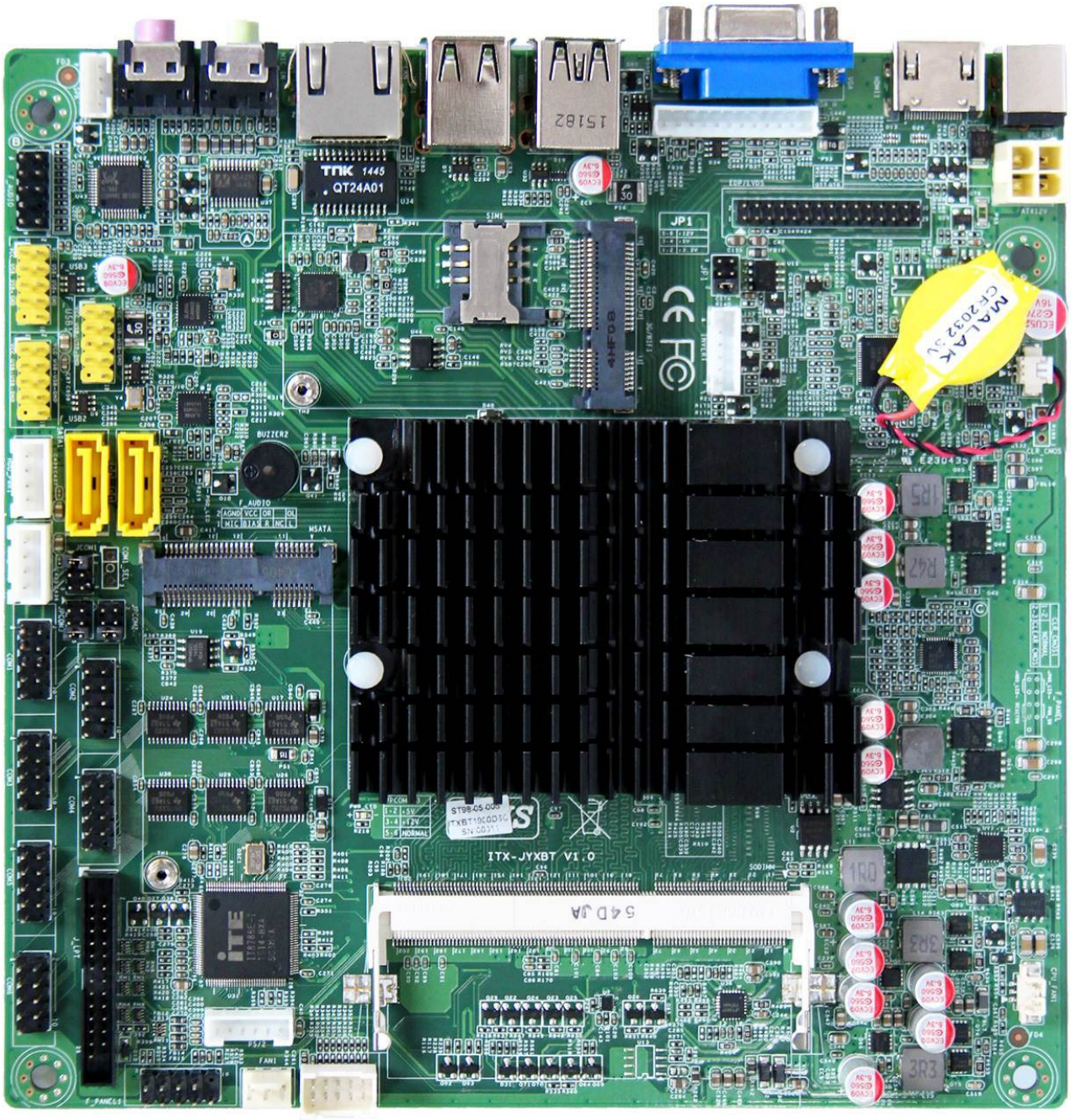
ITX-JYXBT Motherboard

User Guide

VER 1.1



Copyright Information

This manual is related to several limited standards and intended to provide a reasonable installation protection against harmful interference during installation and use. This product will emit radio frequency radiation during use. If it is not installed in accordance with the installation manual or under specific circumstance, it may cause interference to the wireless communication equipment.

Disclaimer

Our company reserves the right to make further improvement to the content of the installation manual due to the update of the product, without the obligation to prior notice to any party.

Catalogue

Part 1: Introduction

1.1 Before Using

Thanks for choosing our product. Before you start installing the motherboard, please make sure you follow the instructions below:

- Operate in the well-lighted, dry and stable working environment
- Ensure that the plug of power supply is always disconnected
- Ensure you eliminate static electricity by touching any safety device or using an electrostatic ring before taking out the motherboard from the antistatic bag
- Unless necessary, please try to avoid touching any components on the motherboard or circuit boards and hold the edge of the motherboard without bending or pressing it during installation
- After the motherboard is installed, clean any components inside the case, or it may cause short circuit or even damage the related equipment
- Ensure that the system is kept away from the area of high temperature, high humidity and water
- Please turn of/turn off the machine normally, namely not directly remove the plug of power supply from the motherboard, otherwise it may cause system damage

1.2 Packing List

◆ITX-JYXBT MINI-ITX Industrial Motherboard×1

◆Drive CD×1

◆I/O Baffle×1

◆COM Extension Path×1

◆SATA Data Calble×1

◆SATA Power Supply Cable×

1.3 Specifications of Motherboard

System	
CPU/GPU	Board affixed Intel® Bay Trail J1900 Quad-cores2.0GHz CPU, core frequency to 2.42GHz
Memory	1×Notebook memory slots, support DDR3L 1333/1600MHz Maximum 8GB
Storage	2×SATA, 1× mSATA Solid-state hard drive interface

Sound Card	Realtek ALC662, support 5.1channel
Ethernet	1×Realtek RTL8111F network card chip (optional dual-network) 1×MINI PCI-E interface，support wireless network (WIFI) or 3G
LVDS	Dual-channel 24-bit LVDS, support the maximum resolution: 1920×1200
Dual Display	VGA+LVDS (EDP), VGA+HDMI,LVDS (EDP)+HDMI sync, asynchronous dual display
COM	6×COM RS-232(COM2,3,可选带电 5V/12V)，COM3 兼容 RS-485
USB	9× USB 2.0,1xUSB3.0 (4 个在背板 IO(其中一个 3.0), 6 个板载插针)
Rear Panel I / O	DC, HDMI, VGA, USB, USB, LAN, Mic-in+Line-out
On-Board I / O	1×LVDS(EDP)Pin,1×VGA Pin, 1×front audio pin，1×amplifier pin(5 watts，8 Euro)，6×COM pin，3× USB 2.0 Pin can be expanded 6 USB 2.0 interface, 1×8bit GPIO pin, 1×SIM card slot，1×4-pin DC 12V power supply output interface，1× CPU fan power socket，1× system fan power socket，2×SATA power supply pin，1× front panel pin,1×buzzer
Special Function	Diskless start, magic packet, electricity boot, regular boot

Mechanical & Environmental

Power Supply	DC 12V	**Cooling Method**	Non-fan	**Size(L×W)**	170mm×170mm
Operating Temperature	0~50℃	**Storage Temperature**	-40~75℃	**Environment Humidity**	0~90% air humidity, non-condensing
Packing List	ITX-JYXBT motherboard		×1	COM Extension Path	×1
	Drive CD		×1	SATA Data Cable	×1

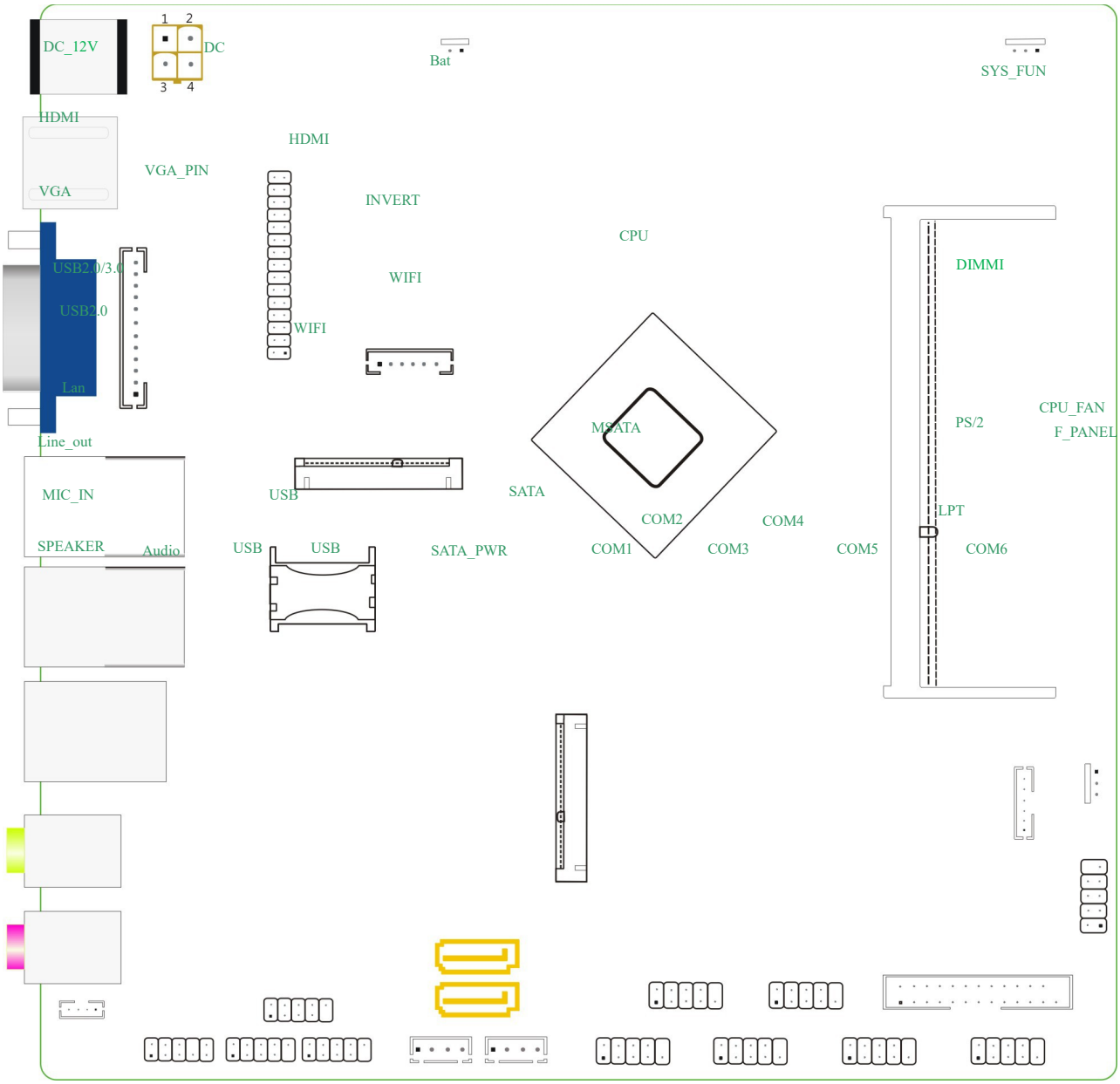
Application Fields IPC, industrial panel computer, self-service terminal, car pc, medical treatment, digital sign, POS cash register etc.

1.4 Rear Panel Connectors

DC-12V HDMI VGA USB2.0/3.0 USB2.0 LAN Line_out MIC_in

◆DC-12V DC 12V power input connector
◆HDMI high-definition multimedia digital signal interface which can transmit audio and video signals
◆VGA Stimulate video signal display interface
◆USB2.0/3.0 USB3.0/USB 2.0 interface, backwards compatibility with USB 1.1
◆USB2.0 USBUSB 2.0 interface
◆LAN RJ-45 gigabit network interface
◆Line_out Audio output interface
◆MIC in Audio input interface

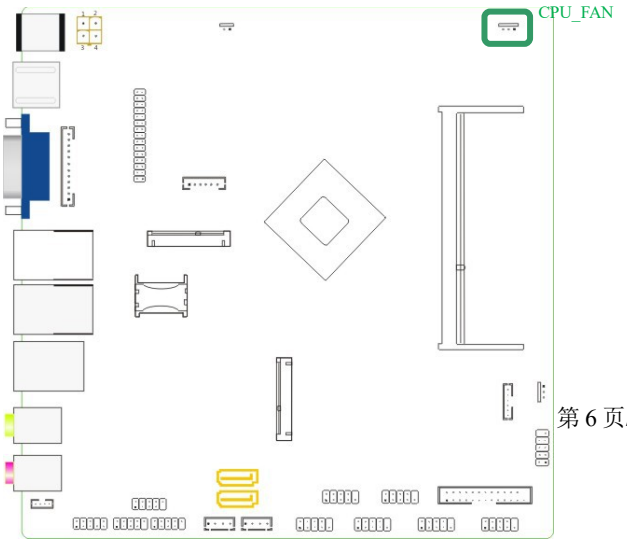
1.5 Motherboard Placement Diagram



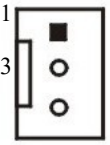
The fan supports connecting the fan and CPU fan for cooling system. The fan power cable and connector may be different for different manufacturers.

CPU_FAN: CPU Fan Pin

SYS_FAN: System Fan Pin



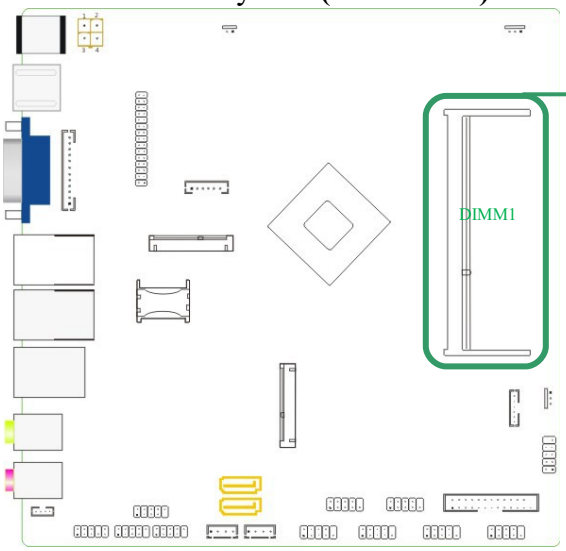
Pin	定义
1	GND
2	+12V
3	Fan Speed Detection

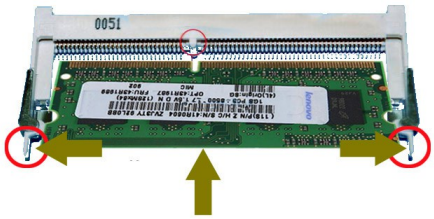


SYS_FAN

2.3 System Memory

DIMM1: Memory Slot **(SO-DIMM)**





Slot Position	PIN	Voltage	Support Memory Frequency	Maximum Capacity
DIMM1	204	1.35V	1333/1600MHz	8GB

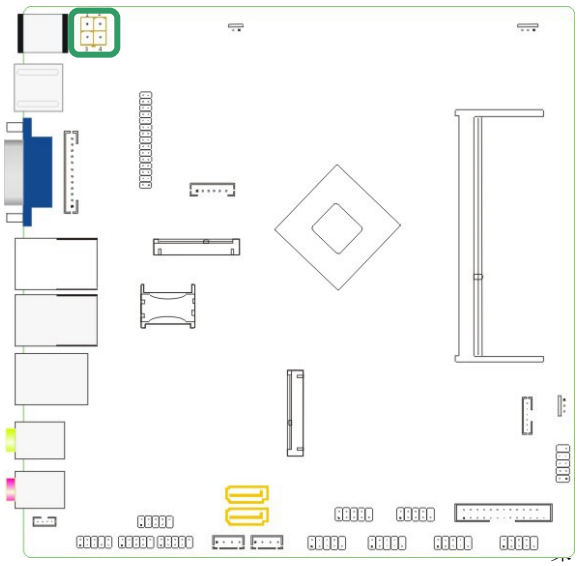
Memory Installation and Removal:

2.3.1 When install the memory, please use thumb and forefinger gently grab the memory at both ends, align memory socket and slot on the point of slot, push gently at the oblique angel of 30 degrees after the insertion until you hear the sound “pop” and the memory is set well.

2.3.2 remove the memory with two fingers by pushing out the card at both ends of the slot after the memory bounces

2.4 Power Supply

DC 12V DC Input/Out put 接口(4Pin)



DC_PWR1

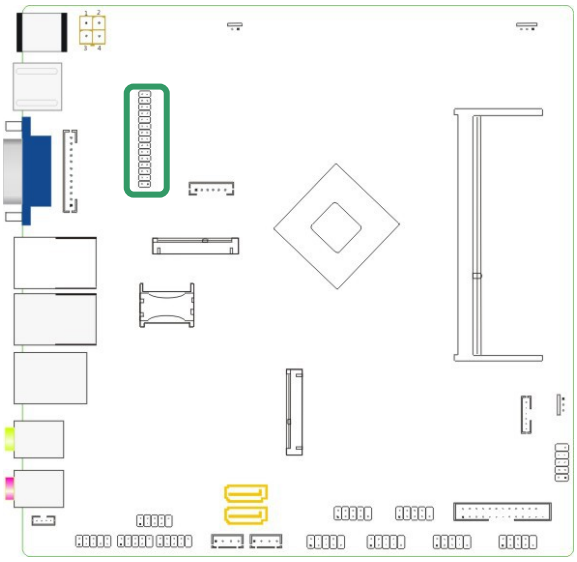
Pin	Definition
1	GND
2	GND
3	12V
4	12V

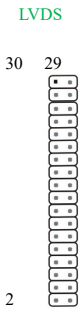
2.5 Onboard Slots/Connectors/Pins/Jumpers

2.5.1 Display Port Pin Definitions: LVDS, INVERT

LVDS1: LVDS 连接器

The motherboard provides DuPont LVDS connector package to support dual channel 24bit LVDS display port output which can be connected to a single 6 double 6, single 8 double 8 LVDS LCD screen

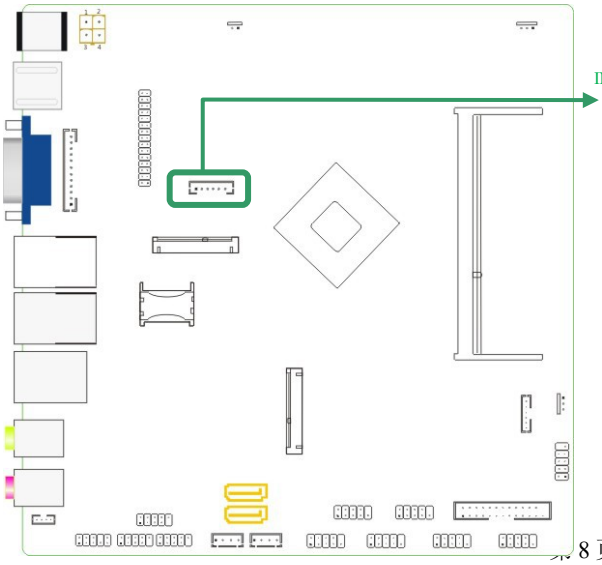


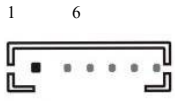


PIN	定义	PIN	定义
1	VCC	2	VCC
3	CLK	4	DATA
5	GND	6	GND
7	ADO0-	8	ADO0+
9	ADO1-	10	ADO1+
11	ADO2-	12	ADO2+
13	GND	14	GND
15	ACLK-	16	ACLK+
17	AD03-	18	AD03+
19	BDO0-	20	BDO0+
21	BDO1-	22	BDO1+
23	BDO2-	24	BDO2+
25	GND	26	GND
27	BCLK-	28	BCLK+
29	BDO3-	30	BDO3+

INVERT1: LVDS backlight connector

The motherboard provides a 6pin INVERT pin for driving the LVDS LCD backlight board

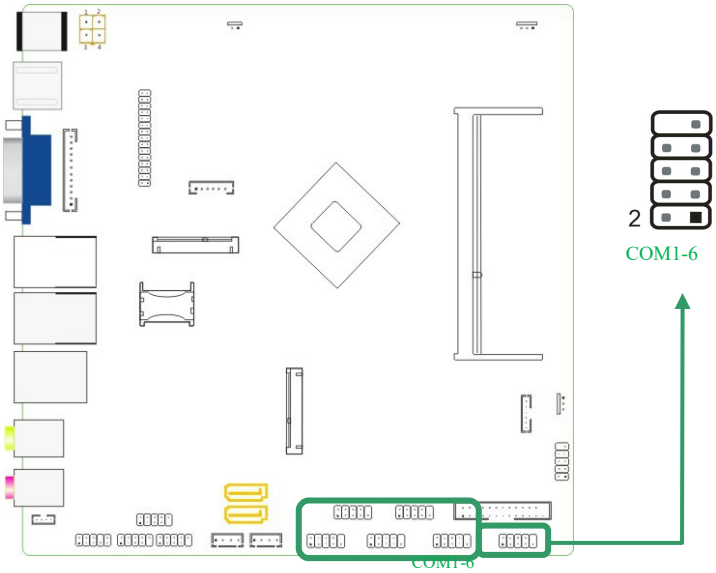




Pin	Definiton
1	+12V
2	+12V
3	ENABLE
4	PWM
5	GND
6	GND

2.5.2 Common Function Port Pin Definition: COM, AUDIO, LPT, PS/2

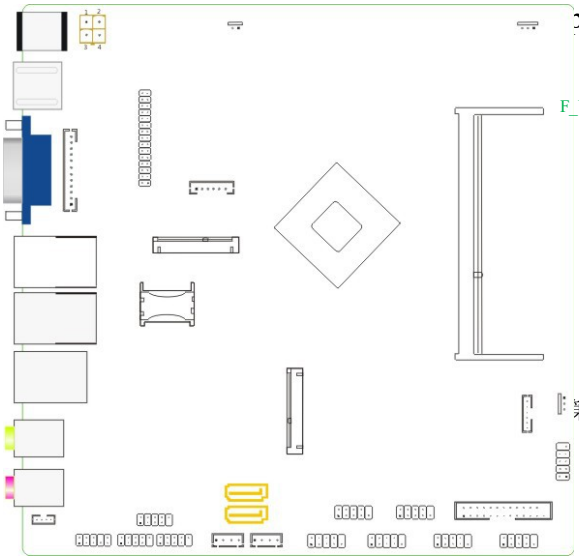
COM 口



PIN	Definition	PIN	Definition
1	DCD#	2	RXD
3	TXD	4	DTR#
5	GND	6	DSR#
7	RTS#	8	CTS#
9	RI#/(electrically compatible)	10	NC

F_USB1,F_USB2 Expansion Pins

The standard USB port can be extended by USB extension cable. The motherboard provides two set of USD 2.0 pins, which can be extended to 4 USD 2.0 port with the theoretical transfer rate of up to 480 Mbps; and provides one set of USV3.0 pin, which can extend one USB 3.0 ports with the

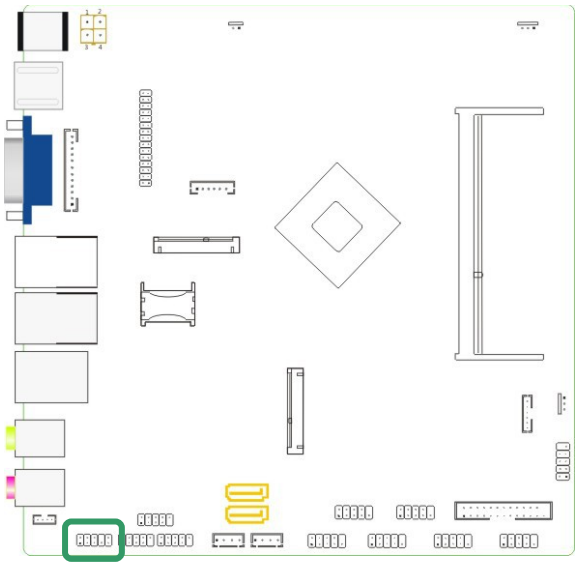


PIN	定义	PIN	定义
1	+5V	2	+5V
3	USB1_Data-	4	USB2_Data-
5	USB1_Data+	6	USB2_Data+
7	GND	8	GND
9	空	10	GND_CHASSIS

Needle

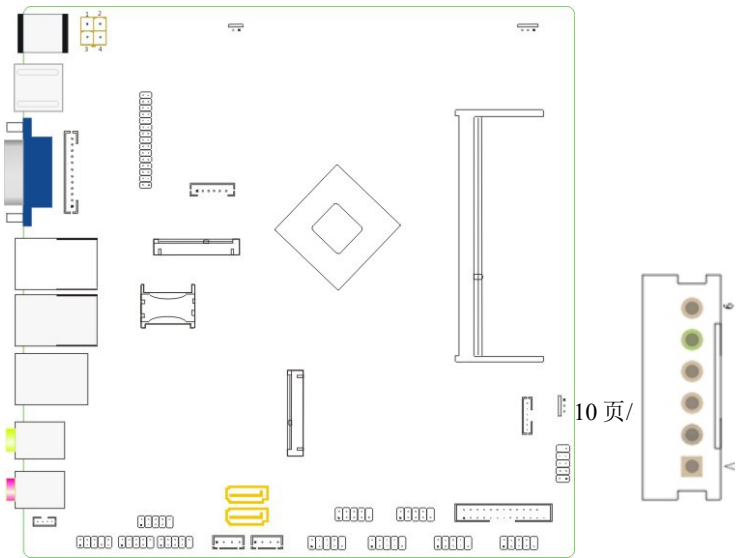
Audio Pin **AUDIO1**
F_AUDIO1 Front Audio Pin

Through the audio expansion cable, the audio input and output port can be expanded.



PIN	Definition	PIN	Definition
1	MIC-L	2	GND
3	MIC-R	4	PRESENCE
5	LINEOUT-R	6	MIC SENSE
7	SENSE_SEND	8	空
9	LINEOUT-L	10	LINEOUT SENSE

PS/2: Keyboard, Mouse Input Interface



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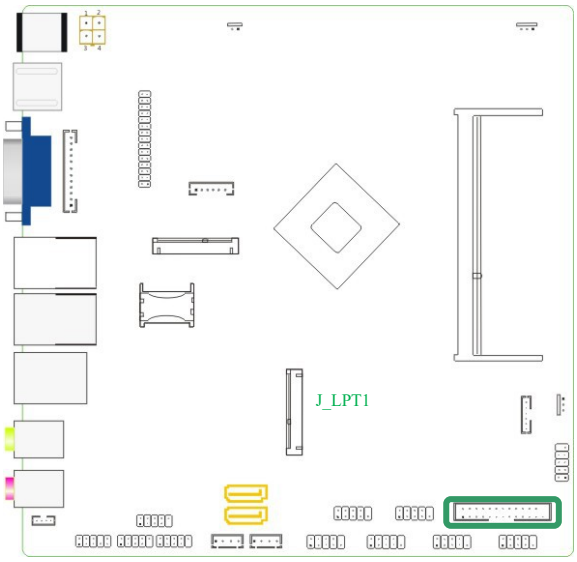
PIN	Definition
1	KB_CLK
2	GND
3	KB_DATAGND
4	MS_DATA
5	+5V
6	MS_CLK

EXTKB

LPT: Print Port Expansion Pins

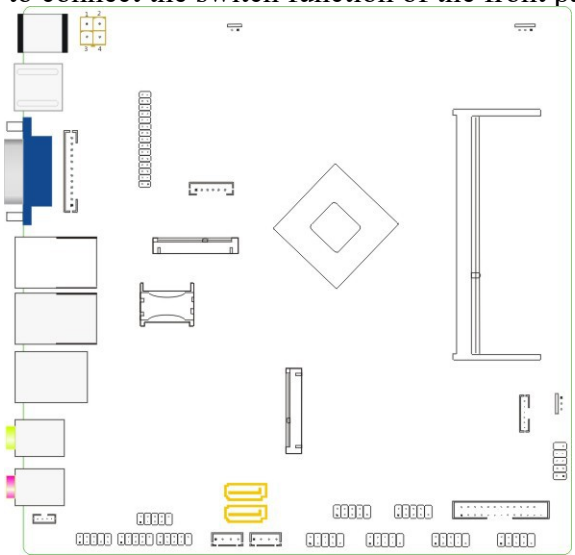


PIN	Definition	PIN	Definition
1	GPO0	2	GPI0
3	GPO1	4	GPI1
5	GPO2	6	GPI2
7	GPO3	8	GPI3
9	5V	10	NC
11	12V	12	GND

2.5.3 Other Pin Definitions: F_PANEL，SPK

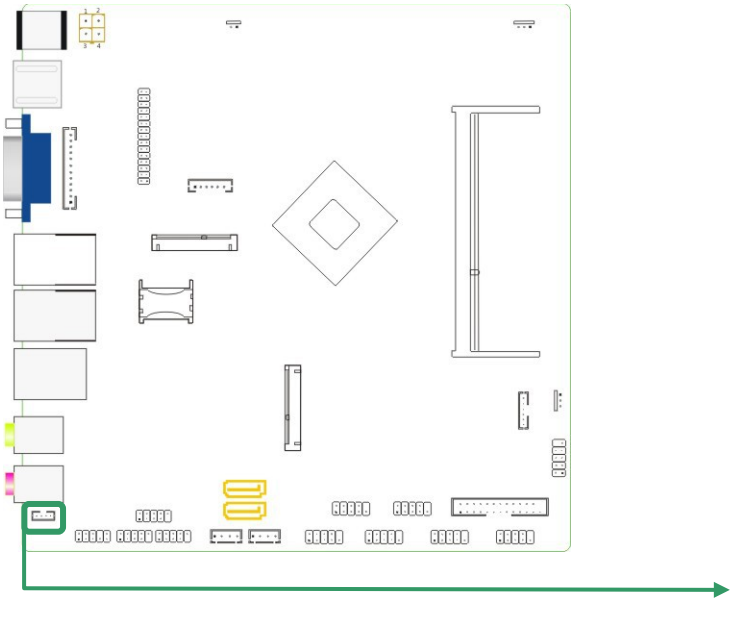
F_PANEL: Front Panel Pin

The 10PIN includes power-up, reset, hard disk indicator and power indicator and allows the user to connect the switch function of the front panel of the system.



PIN	Definition	PIN	Definition
1	HDD_LED+	2	PWR_LED+
3	HDD_LED-	4	GND
5	RESET GND	6	PWR_ON GND
7	RESET	8	PWR_ON
9	GND	10	空

SPK1: Audio Interface

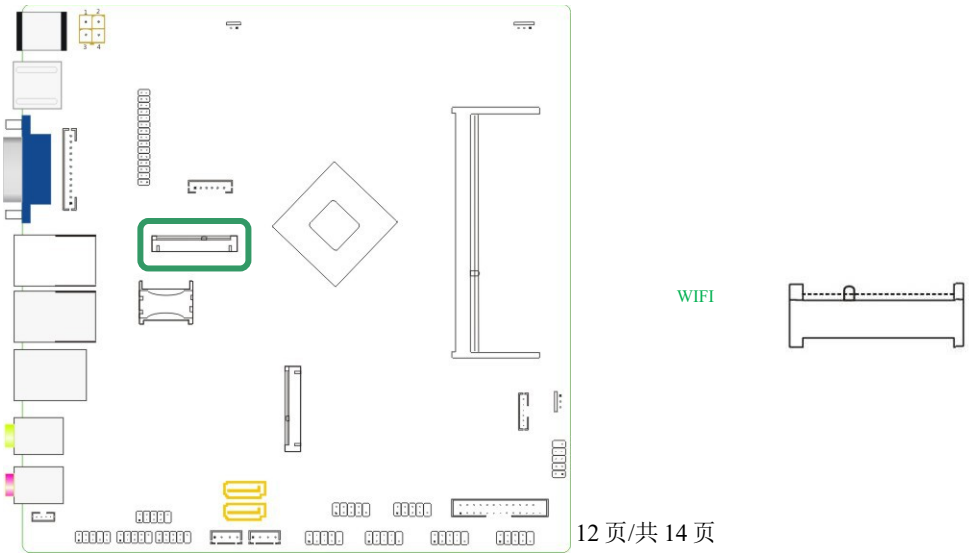


Pin	Definition
1	Speaker Left Channel+
2	Speaker Left Channel-
3	Speaker Right Channel-
4	Speaker Right Channel+

2.5.4 Slots and Connectors: MINI-PCIE1, MSATA, SIM1, SATA1~2, SATA_PWR1~2

WIFI: Mini PCI-E Slot

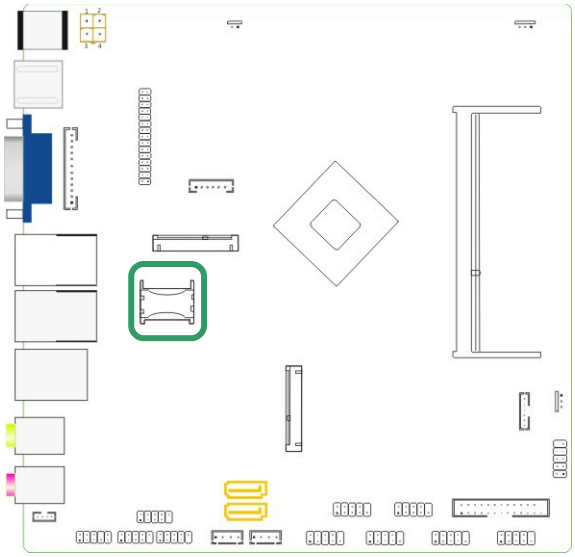
The slot supports full length WIFI module installation

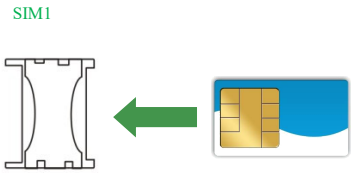


IFI/3G module installed, pay attention to tighten the screws

SIM1: SIM Card Slot

The motherboard provides one SIM card slot for installing a 3G SIM card

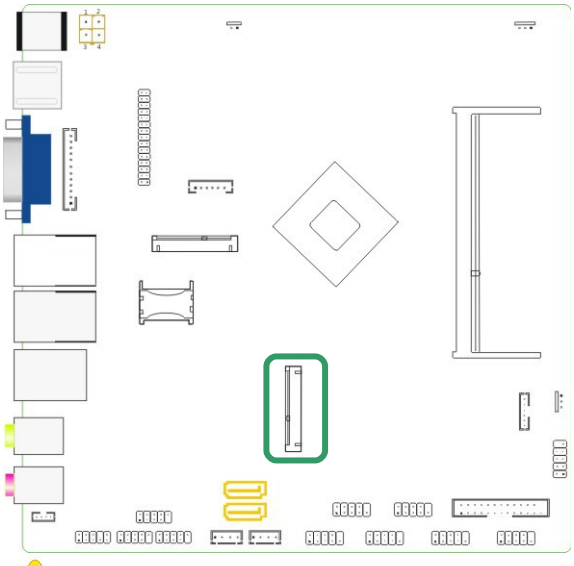


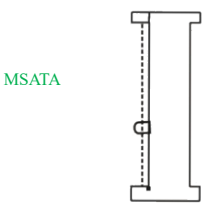


The 3G SIM is inserted with the chip facing down

MSATA: mSATA Slot

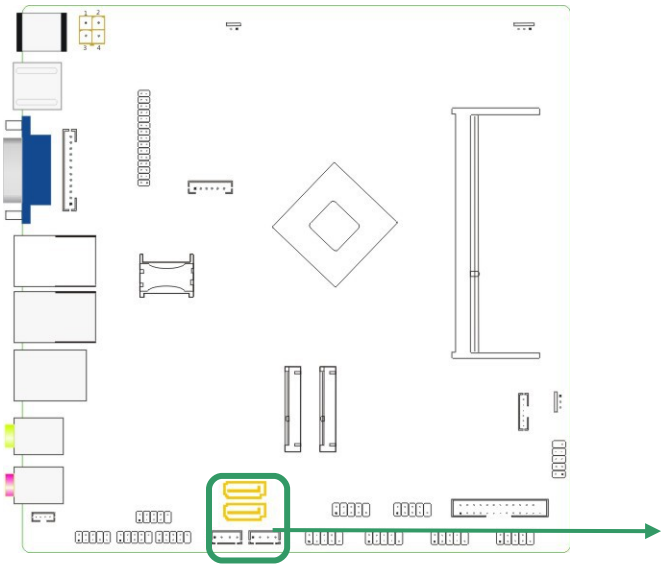
This slot supports mSATA standard solid-state drive (SSD) installation



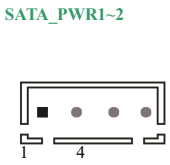


After SSD solid state hard drive is installed, pay attention to tighten the fixed screws

SATA1/SATA2: 1×SATA2.0 interface，**1×SATA 3.0** interface
SATA power supply SATA_PWR1、SATA_PWR2,SATA3.0（yellow）supports 6Gb/s transfer rate



Pin	Definition
1	VCC12
2	GND
3	GND
4	+V5S



*How to set jumper
The following figures show how to set jumper: when the jumper cap is placed on the pin, the jumper is “closed”, which indicates 2 pins are connected; on the contrary, it indicates “open”.