



TOUCHTHINK Intelligent Product Specification

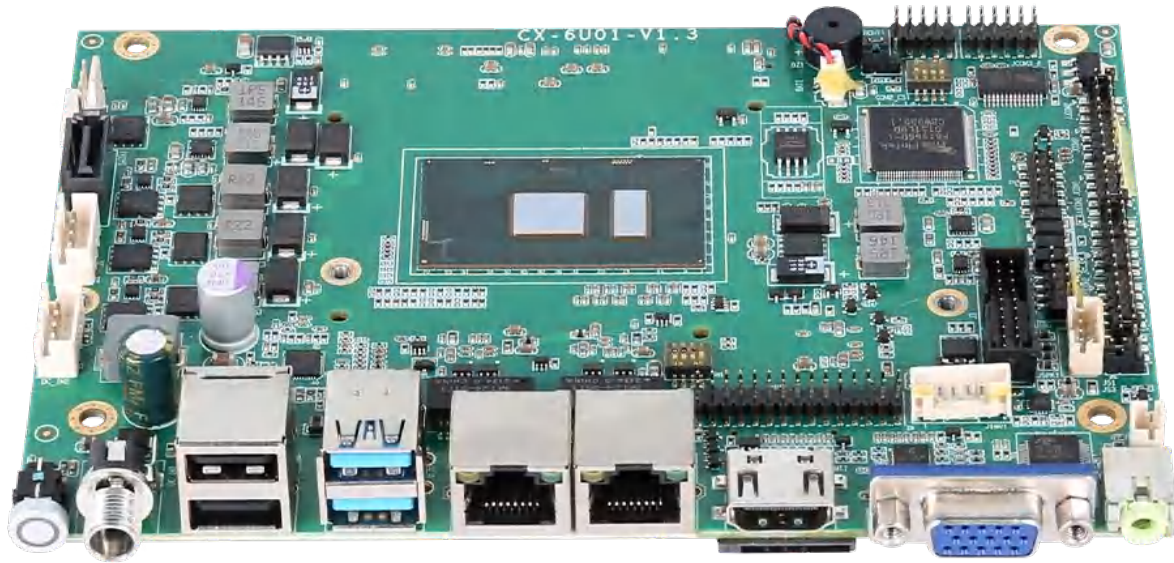
Motherboard series

CX-6U01

V1.6

www.touchthink.net

Shenzhen Touch Think Intelligence Co., Ltd.



Product Optional Parts Introduction:

1. CX-6U01 has two gigabit internet ports as standard.
2. CX-6U01 has two versions with different display type LVDS/EDP.
3. WIFI/4G module is optional.
4. LCD screen or touch screen and related cables are optional.
5. I/O interface cables are optional.

CATALOGUE

CONTENT	- 3 -
Chapter 1 Product Introduction	- 4 -
1.1 Motherboard Ports.....	- 6 -
1.2 Motherboard Front and back.....	- 7 -
1.3 Motherboard Drawing.....	- 8 -
Chapter 2. Pin Definition	- 9 -
2.1 Port Pin Definitions.....	- 9 -
2.1.1 MIC.....	- 9 -
2.1.2 Speaker.....	- 9 -
2.1.3 GPIO.....	- 9 -
2.1.4 GPIO Power Selection.....	- 9 -
2.1.5 AT/ATX Selection.....	- 10 -
2.1.6 RS232/RS422/RS485 Switchable Port.....	- 10 -
2.1.7 JCOM(Full Duplex RS232).....	- 11 -
2.1.8 JCOM3 RS232.....	- 11 -
2.1.9 FRONT Jumper.....	- 12 -
2.1.10 USB.....	- 12 -
2.1.11 FAN.....	- 12 -
2.1.12 LVDS Power Selection.....	- 13 -
2.1.13 LVDS Port.....	- 13 -
2.1.14 EDP.....	- 14 -
2.1.15 SATA POWER.....	- 15 -
2.1.16 Backlight.....	- 15 -
2.1.17 Power Supply.....	- 16 -
2.1.18 JJCOM1 (Jumper Cap Chooses JCOM1 Pin9 Functions).....	- 16 -
2.1.19 JJCOM3 (Jumper Cap Chooses JCOM3 Pin9 Functions).....	- 17 -
2.1.20 USB3.0.....	-17 -

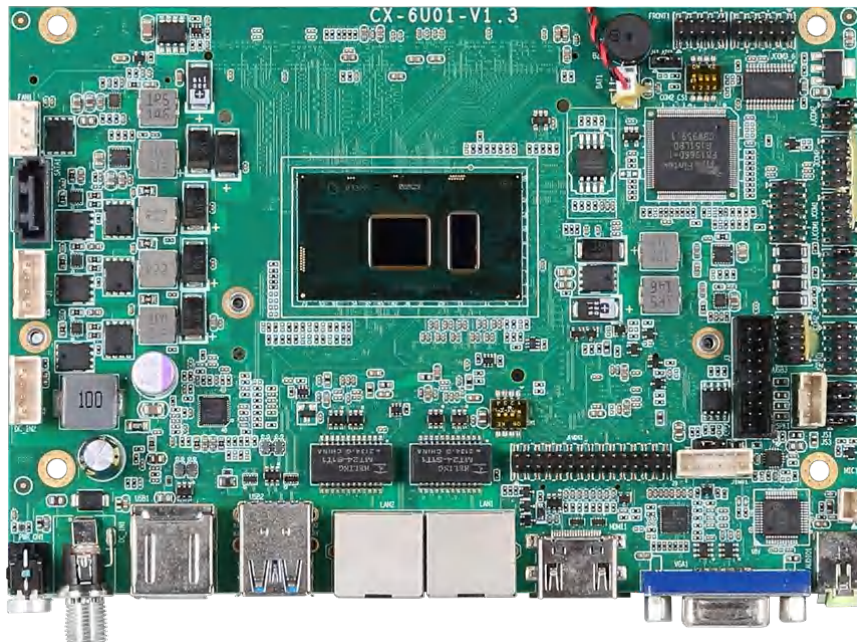
Chapter 1 Product Introduction

Components		Parameter/Specification
CPU		<ul style="list-style-type: none"> ◆CX-13 (6100U)Base frequency:2.3GHz,Burst frequency:2.3GHz,dual-core 4 threads, ◆CX-15 (6200U)Base frequency:2.3GHz,Burst frequency:2.8GHz,dual-core 4 threads, ◆CX-15 (7200U)Base frequency:2.5GHz,Burst frequency:3.1GHz,dual-core 4 threads, ◆CX-17 (6500U)Base frequency:2.5GHz,Burst frequency:3.1GHz,dual-core 4 threads, ◆CX-17 (7500U)Base frequency:2.7GHz,Burst frequency:3.5GHz,dual-core 4 threads,
Chipset		Intel Bay trail SOC
Memory		Support DDR4-2133, 1 * SO-DIMM Slot, Maximum 16GB
SATA		1 * SATA3.0 + 1 * mSATA + 1*M.2
FAN		Silent fan
OS Support		Windows7 Professional Edition/Windows7 Ultimate Edition/Windows10 Professional Edition/Windows10 Enterprise Edition/Windows10 Home Edition/Win11 Professional Edition
		Ubuntu16.04.7/Ubuntu18.04.5/Ubuntu20.04.3
		Centos7.6/Centos7.8
Display	LVDS	Supported
	EDP	Supported(diff-version)
	VGA	Resolution up to 1920*1200@60Hz
	HDMI	1080P@120Hz,4kx2k@60Hz
I/O	USB2.0	4*(External port*2,internal port*2)
	USB3.0	2*External port
	GPIO	Eight I/O Pins
	232	6*(a RS232/RS422/RS485 switchable port)

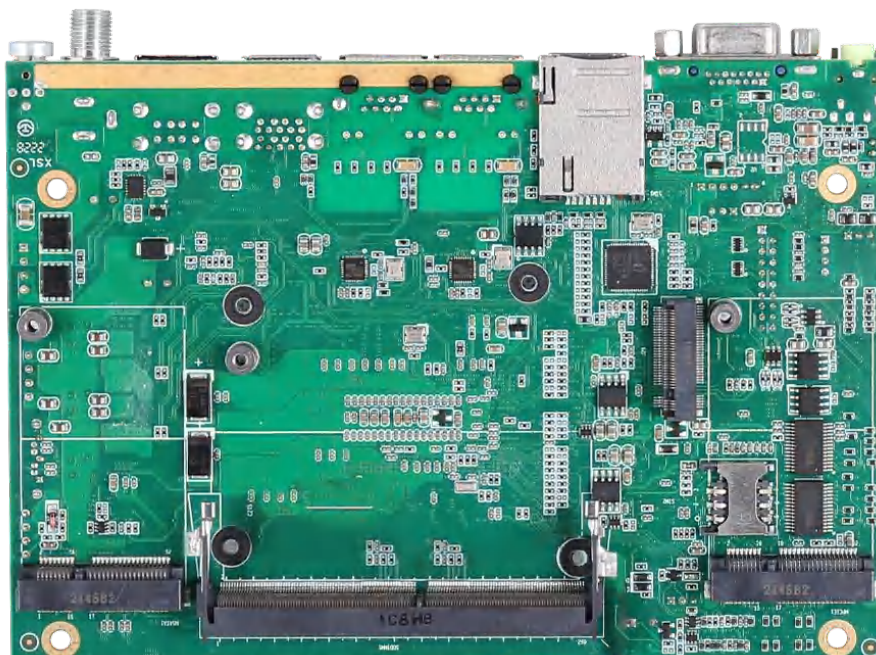
	422	1* RS232/RS422/RS485 switchable port
	485	1* RS232/RS422/RS485 switchable port
Internet	WIFI,BT	1*Mini-PCIE port,WiFi module optional
	3G/4G	1*Mini-PCIE port,4G module optional
	Ethernet	2 * Realtek PCI-E NIC RTL8111H for 1000Mbps(dual gigabit internet optional)
Audio		1*MIC MIC input supported
		1*SPK 8Ω5W dual-channel output
		1*AUDIO audio input/output supported
Timing Turn on/off		Supported (Automatic boot when power connected)
Power Supply		5525 screw with wild range power input(12V~36V)
ESD		8KV contacted,15KV air
Dimensions		160mm*110mm*27mm
Environment		Operating temperature:-20°C~60°C; Operating humidity:5%~95%

1.1 Front and back view of the motherboard

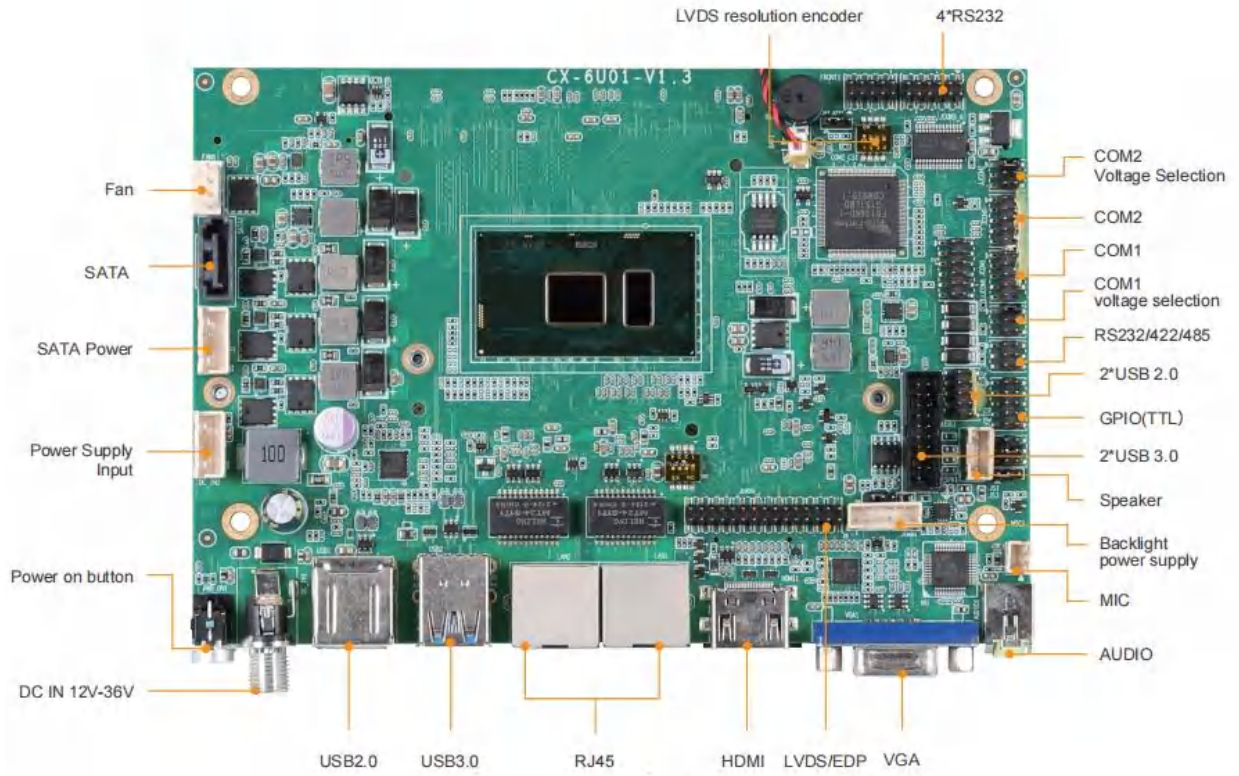
【Front】



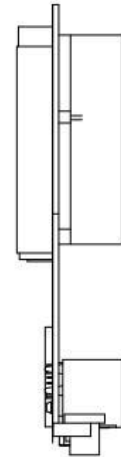
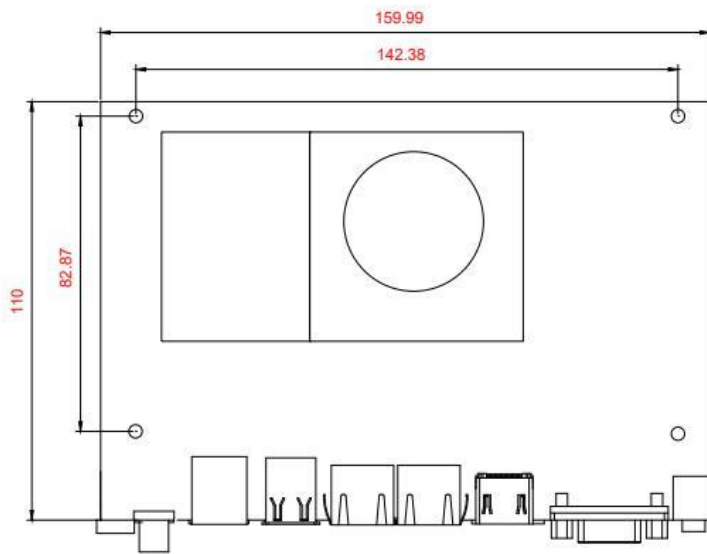
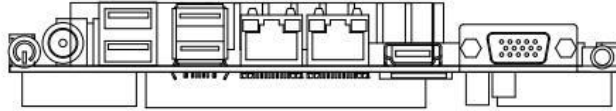
【Back】



1.2 Motherboard Ports(for reference only, subject to the actual sample)



1.3 Motherboard Drawing



Chapter 2. Pin Definition

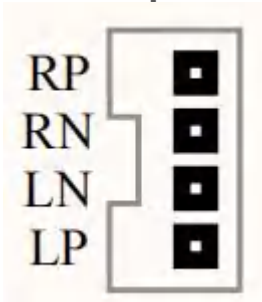
2.1 Port Pin Definitions

◆ 2.1.1 MIC



MIC: PH2.0 /2PIN	
PIN	DEFN
1	MIC-
2	MIC+

◆ 2.1.2 Speaker



SPK PH2.0/4PIN	
PIN	DEFN
1	RP
2	RN
3	LN
4	LP

◆ 2.1.3 GPIO



GPIO Dupont2.0/2*10PIN			
PIN	DEFN	PIN	DEFN
1	GPIO77	2	GPIO76
3	GPIO75	4	GPIO74
5	GPIO73	6	GPIO72
7	GPIO71	8	GPIO70
9	GPIO-VCC	10	GPIO-GND

◆ 2.1.4 GPIO Power Selectio

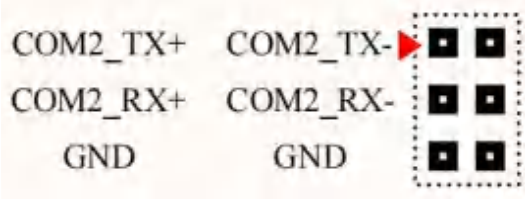


GPIO Dupont2.0/3PIN			
PIN	DEFN	PIN	DEFN
1	GPIO-5V	2	GND
3	GPIO-3.3V		

◆ 2.1.5 AT/ATX Selection

AT/ATX Dupont2.0/3PIN			
PIN	DEFN	PIN	DEFN
1	ATX	2	GND
3	ATX		

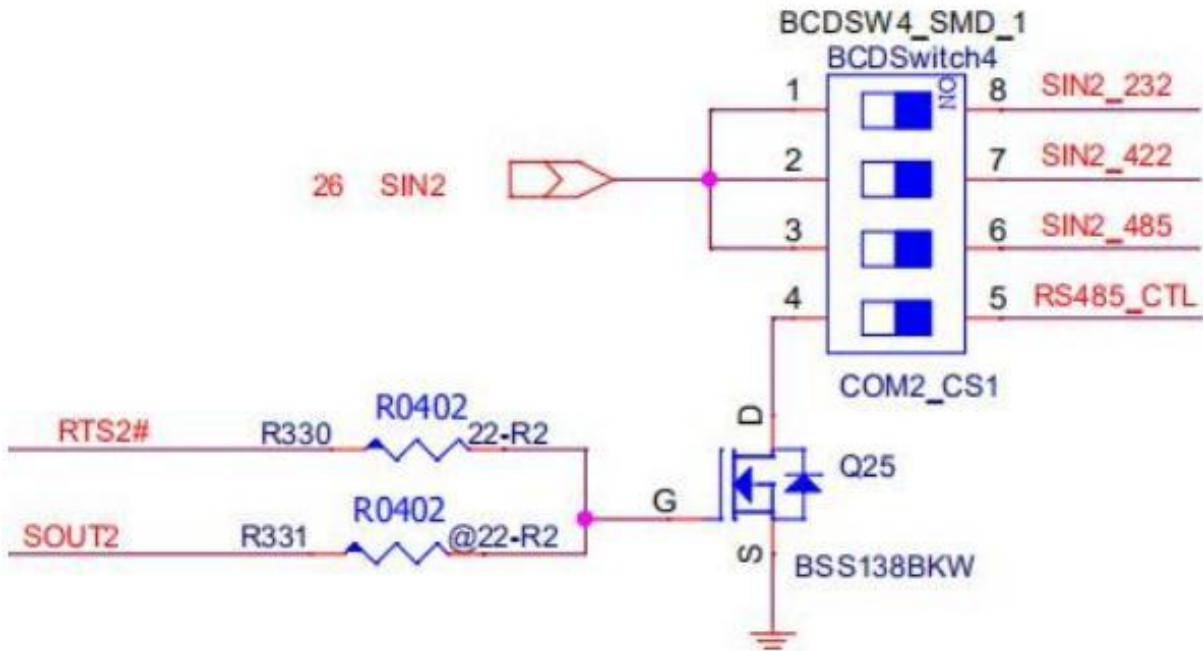
◆ 2.1.6 RS232/RS422/RS485 Switchable Port



JJCOM2 Dupont2.0/2*3PIN			
PIN	DEFN	PIN	DEFN
1	COM2 TX+	2	COM2 TX-
3	COM2 RX+	4	COM2 RX-
5	GND	6	GND

RS422 mode: COM2_TX+ ,COM2_TX- ,COM2_RX+ , COM2_RX-

RS485 mode: RS485+ = COM2_TX+,RS485- = COM2_TX-



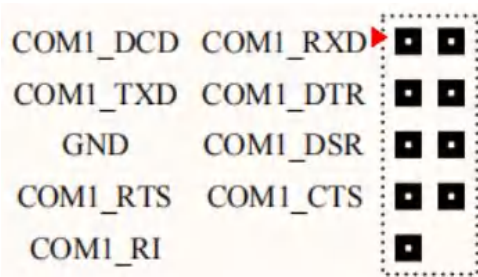
A. When 1/2 ON, 3/4 OFF and BIOS COM2 option select RS422, JCOM2

Worked as RS422, meanwhile JCOM2 is disable.

B. When 1/2 OFF, 3/4 ON and BIOS COM option select RS422, JCOM2 Worked as RS485, meanwhile JCOM2 is disable.

C. When 1 ON, 2/3/4 OFF and BIOS COM option select RS232, JCOM2 Worked as RS232, this is motherboard default status.

◆ 2.1.7 JCOM(Full Duplex RS232)



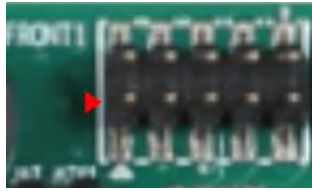
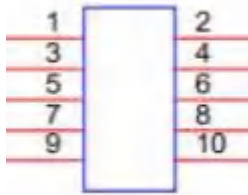
JCOM1 Dupont2.0/2*5PIN			
PIN	DEFN	PIN	DEFN
1	COM1-DCD	2	COM1-RXD
3	COM1-TXD	4	COM1-DTR
5	GND	6	COM1-DSR
7	COM1-RTS	8	COM1-CTS
9	COM1-R1	10	

◆ 2.1.8 JCOM3 RS232



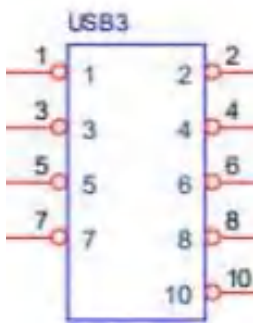
JCOM3-1 Dupont2.0/2*6PIN			
PIN	DEFN	PIN	DEFN
1	COM3-RX	2	COM4-RX
3	COM3-TX	4	COM4-TX
5	GND	6	GND
7	COM5-RX	8	COM6-RX
9	COM5-TX	10	COM6-TX
11	GND	12	GND

◆ 2.1.9 FRONT Jumper



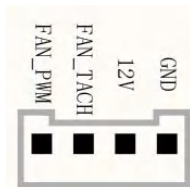
FRONT1 Dupont2.0/2*5PIN			
PIN	DEFN	PIN	DEFN
1	HDD-LED+	2	PWR-LED+
3	HDD-LED-	4	PWR-LED-
5	GND	6	PWRSW
7	SYSRST	8	GND
9	BLUP	10	BLDN

◆ 2.1.10 USB



USB 3/4 Dupont2.0/2*5PIN			
PIN	DEFN	PIN	DEFN
1	VCC	2	VCC
3	-	4	-
5	+	6	+
7	GND	8	GND
9	GND	10	

◆ 2.1.11 FAN



FAN Port							
PIN	DEFN	PIN	DEFN	PIN	DEFN	PIN	DEFN
1	GND	2	12V	3	FAN-TACH	4	FAN-PWM

◆ 2.1.12 LVDS Power Selection

JS1 Dupont2.0/2*3PIN			
PIN	DEFN	PIN	DEFN
1	12V	2	GND
3	5V	4	GND
5	3.3V	6	GND

◆ 2.1.13 LVDS Port

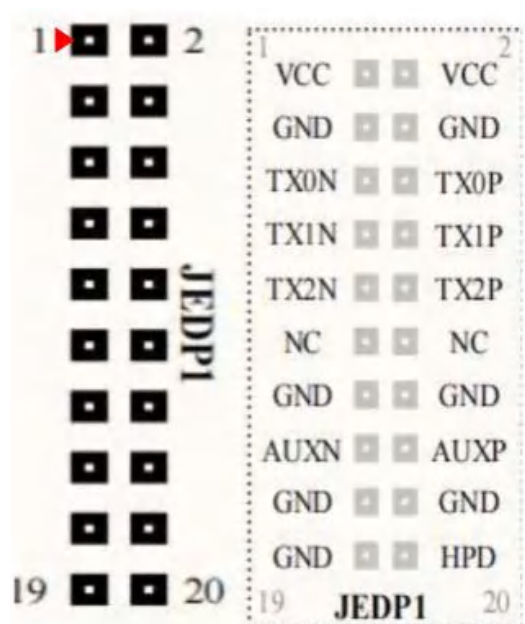


JLVDS1 Dupont2.0/2*15PIN			
PIN	DEFN	PIN	DEFN
1	VCC	2	VCC
3	VCC	4	LVDS-DETECT
5	GND	6	GND
7	D0N	8	D0P
9	D1N	10	D1P
11	D2N	12	D2P
13	GND	14	GND
15	CLK0N	16	CLK1N
17	D3N	18	D3P
19	D4N	20	D4P
21	D5N	22	D5P
23	D6N	24	D6P
25	GND	26	GND
27	CLK1N	28	CLK1P
29	D7N	30	D7P

LVDS Resolution DIP Switch DEFN

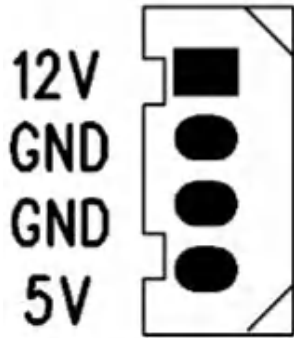
0000→1024x600	1ch/18bit
0001→1024x768	1ch/18bit
0010→800x600	1ch/18bit
0011→1280x800	1ch/18bit
0100→1920x1080	2ch/24bit Special Modalities
0101→1680x1050	2ch/24bit
0110→800x600	1ch/24bit
0111→1024x768	1ch/24bit
1000→1024x600	1ch/24bit
1001→1280x800	1ch/24bit
1010→1920x1080	2ch/18bit
1011→1366x768	1ch/24bit
1100→1920x1200	2ch/24bit
1101→1280x1024	2ch/24bit
1110→1440x900	2ch/24bit
1111→1920x1080	2ch/24bit

◆ 2.1.14 EDP Power Input



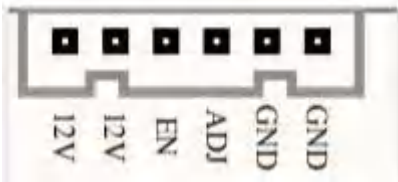
JEDP 1 Dupont2.0/2*10PIN			
PIN	DEFN	PIN	DEFN
1	VCC	2	VCC
3	GND	4	GND
5	TX0N	6	TX0P
7	TX1N	8	TX1P
9	TX2N	10	TX2P
11	NC	12	NC
13	GND	14	GND
15	AUXN	16	AUXP
17	GND	18	GND
19	GND	20	HPD

◆ 2.1.15 SATA POWER



J3 XH2.54/4PIN	
PIN	DEFN
1	5V
2	GND
3	GND
4	12V

◆ 2.1.16 Backlight



J1NV1 PH2.0/6PIN	
PIN	DEFN
1	GND
2	GND
3	ADJ
4	EN
5	12V
6	12V



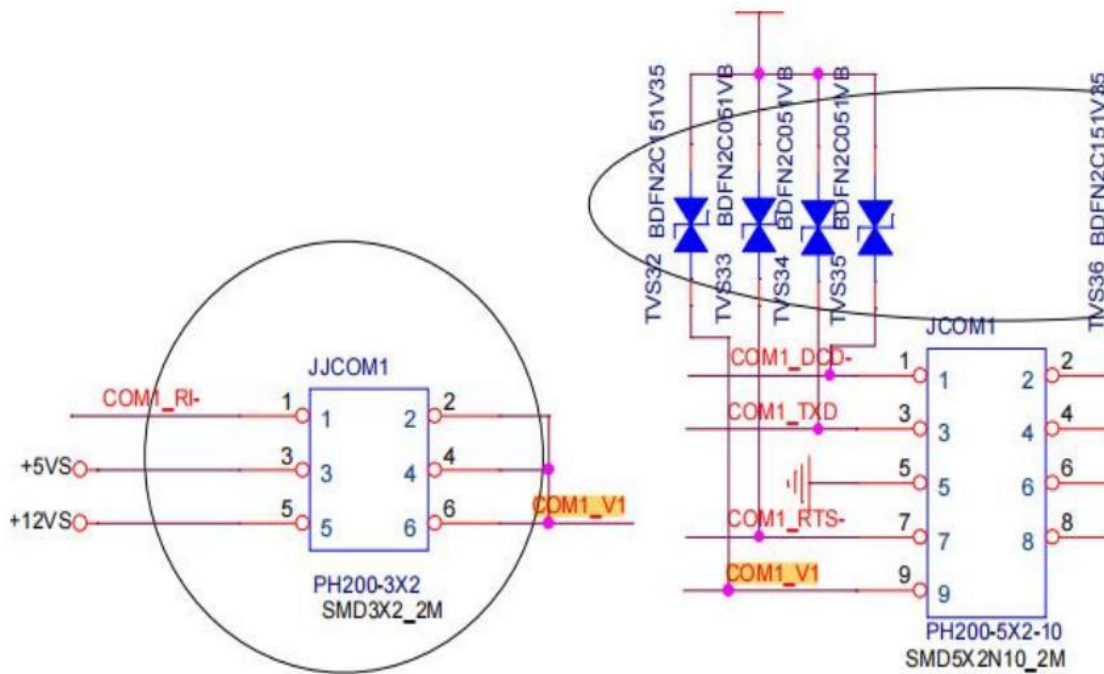
JS2 Dupont2.0/3PIN	
PIN	DEFN
1	PWM
2	GND
3	DC

◆ 2.1.17 Power Supply

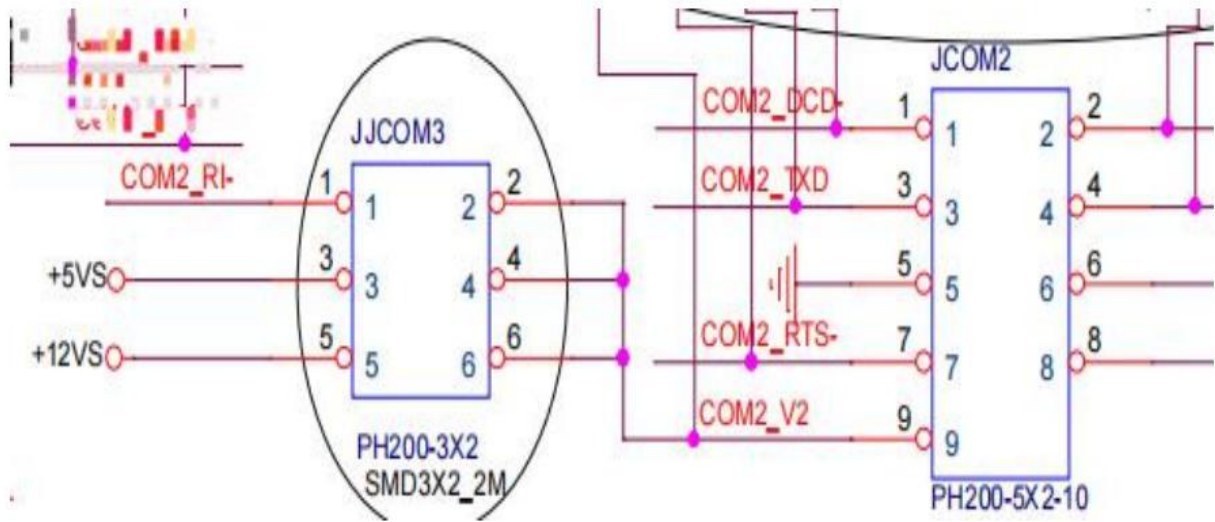


DC IN2 XH2.54/4PIN	
PIN	DEFN
1	GND
2	GND
3	VCC(12V-36V)
4	VCC(12V-36V)

◆ 2.1.18 JJCOM1 (Jumper Cap Chooses JCOM1 Pin9 Functions)



◆ 2.1.19 JJCOM3 (Jumper Cap Chooses JCOM3 Pin9 Functions)



◆ 2.1.20 USB3.0



PIN	DEFN	PIN	DEFN
20	NC	1	USB3.0_VCC
19	USB3.0_VCC	2	USB3_RX4N
18	USB3_RX3N	3	USB3_RX4P
17	USB3_RX3P	4	GND
16	GND	5	USB3_TX4N
15	USB3_TX3N	6	USB3_TX4P
14	USB3_TX3P	7	GND
13	GND	8	USB PN3
12	USB PN2	9	USB PP3
11	USB PP2	10	NC