

IPCTECH Motherboard User's Manual 用户手册

QY-ZX6780B-XB

Ver 0.0

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1. Models and Attentions

1.1 Models

This manual is applied to following models:

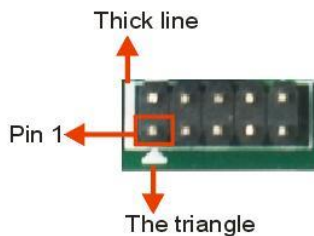
Model	CPU	IOE	COM	LAN	USB	PCIE	HDMI	VGA	Mini-PCle	SATA3.0
QY-ZX 6780B-XB	KX- U6780A	ZX-200	6	2	10	1*8X	1	1	2	2

with daughterboard:

Model	COM	USB	WIFI+Bluetooth
Z6826C + SV-M5-CU	12	17	1
Z6826C + EXCU	12	18	0

1.2 Attentions

- 1) Notes under a table or figure indicate the difference of models, or alternative definition of specific pin of the header (jumper/connector).
- 2) How to identify the first pin of a header or jumper
 - Usually, there is a thick line or a triangle near the header's or jumper's pin 1.



- Square pad, which you can find on the back of the motherboard, is usually used for pin 1.



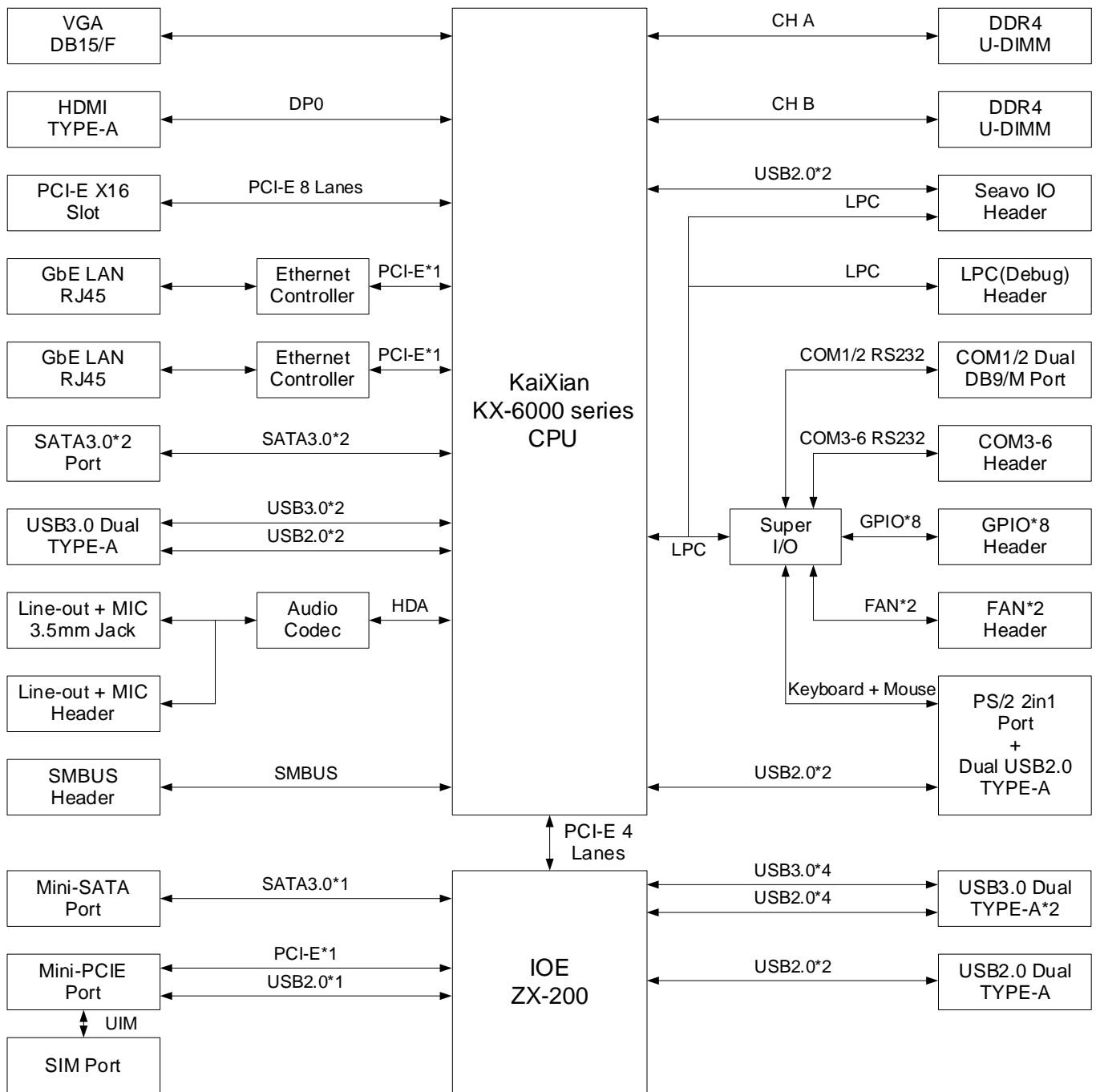
2. Specification

Model	QY-ZX6780B-XB
CPU	Supports KX-U6780A, Octa-Core, clock speed 2.7G, TDP 70W Also supports other KaiXian KX-6000 series CPU, include: KX-U6780, Octa-Core, clock speed 2.7G, TDP 70W KX-U6580, Octa-Core, clock speed 2.5G, TDP 70W KX-6740A, Quad-core, clock speed 2.7G, TDP 55W KX-6640A, Quad-core, clock speed 2.6G, TDP 35W KX-6640MA, Quad-core, clock speed 2.2G, TDP 25W
IOE	ZX-200 6W
Display	1 * VGA (DB15/F): Support max resolution up to 1920x1200@60Hz 1 * HDMI(TYPE-A): Support max resolution up to 4096*2160@60Hz
Memory	Support DDR4-2666 MHz, 2 * non-ECC U-DIMM Slot, Up to 32GB
Storage	2 * SATA3.0 7P Connector 1 * Mini PCI-E Slot (mSATA)
Ethernet	2 * Realtek GBE LAN Chip (10/100/1000 Mbps, RJ45)
Audio	Realtek ALC662 5.1 Channel HDA Codec, 1 * Front Audio Header (Line-Out + MIC) 1 * Line-Out 3.5mm Jack 1 * MIC 3.5mm Jack
Expansion Slots	1 * PCI-E 16x Slot (PCI-E 3.0) 1 * Mini PCI-E Slot (WIFI+4G/3G, with 1 * Full-Size SIM Card Slot)
COM	2 * RS232 (COM1/2, DB9/M) 4 * RS232 (COM3/4/5/6, Header) [2]
USB	6 * USB3.0 (TYPE-A, Rear IO) 4 * USB2.0 (TYPE-A, Rear IO)
Other Ports	8 * GPIO 1 * PS/2 Connector (Keyboard & Mouse) 1 * Seavo IO Header [1] 1 * CPU FAN Header 1 * Front Panel Header 1 * System FAN Header 1 * Port80 Debug Header 1 * SMBUS Header 1 * AT or ATX Select Jumper
System	Support Windows 7/8.1/10 and Domestic/General Linux OS
Temperature	Storage: -20~75°C Operating: 0~60°C
BIOS	Byosoft BIOS (Support Watchdog Timer)
Power Supply	ATX Standard (20P + 4P) 1 * ATX 4P CPU Power Input Connector 1 * ATX 20P Power Input Connector
Factor	ITX Standard (170mm * 170mm)

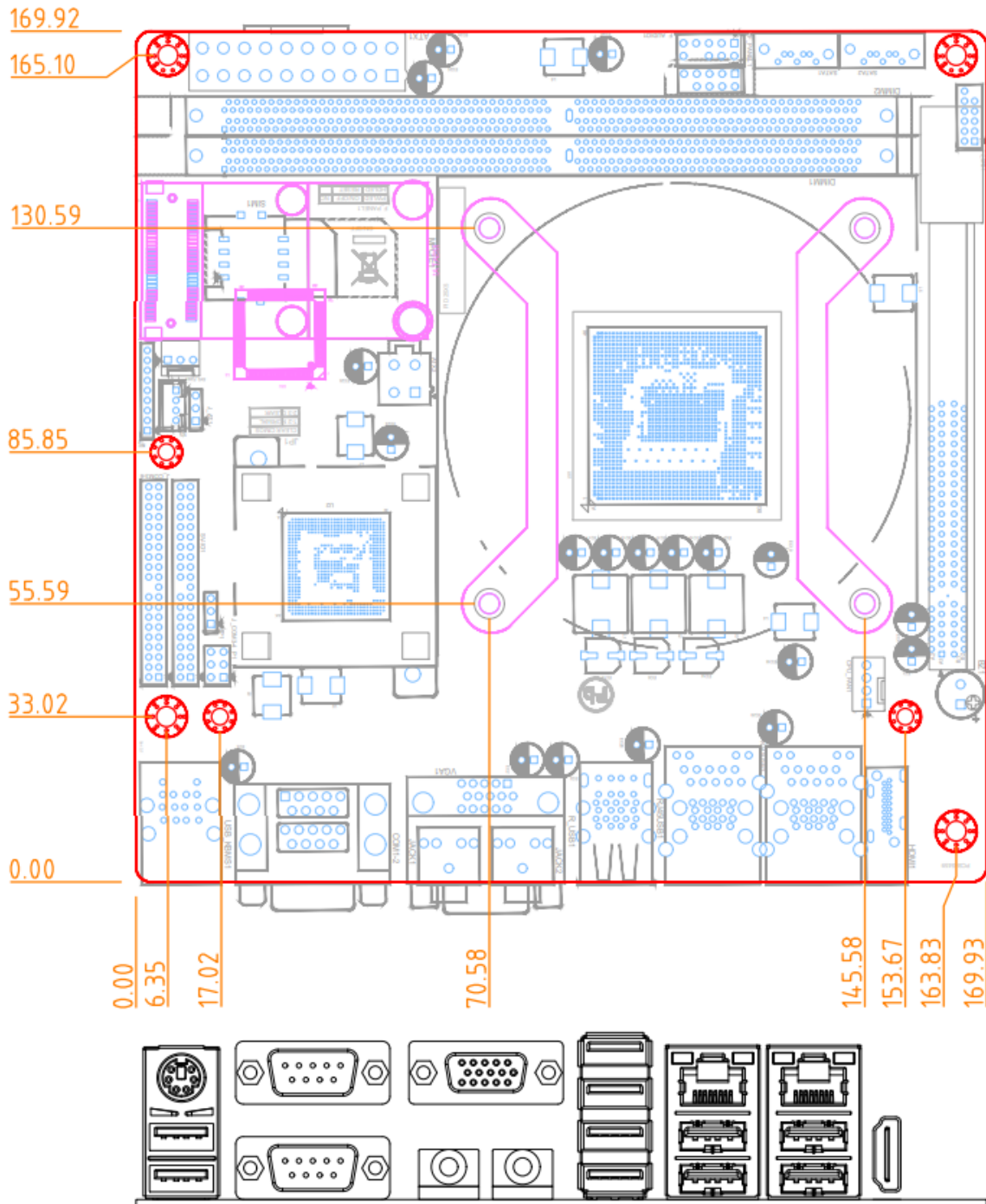
Notes:

[1]: When used in combination with the SV-M5-CU daughter card, it can expand 1*WIFI&BT, 4*USB2.0 Ports, 3*USB2.0 Headers, 8*COM Ports and 2*COM Headers. And when used in combination with the EXCU daughter card, it can expand 4*USB2.0 Ports, 4*USB2.0 Headers, 8*COM Ports and 2*COM Headers.

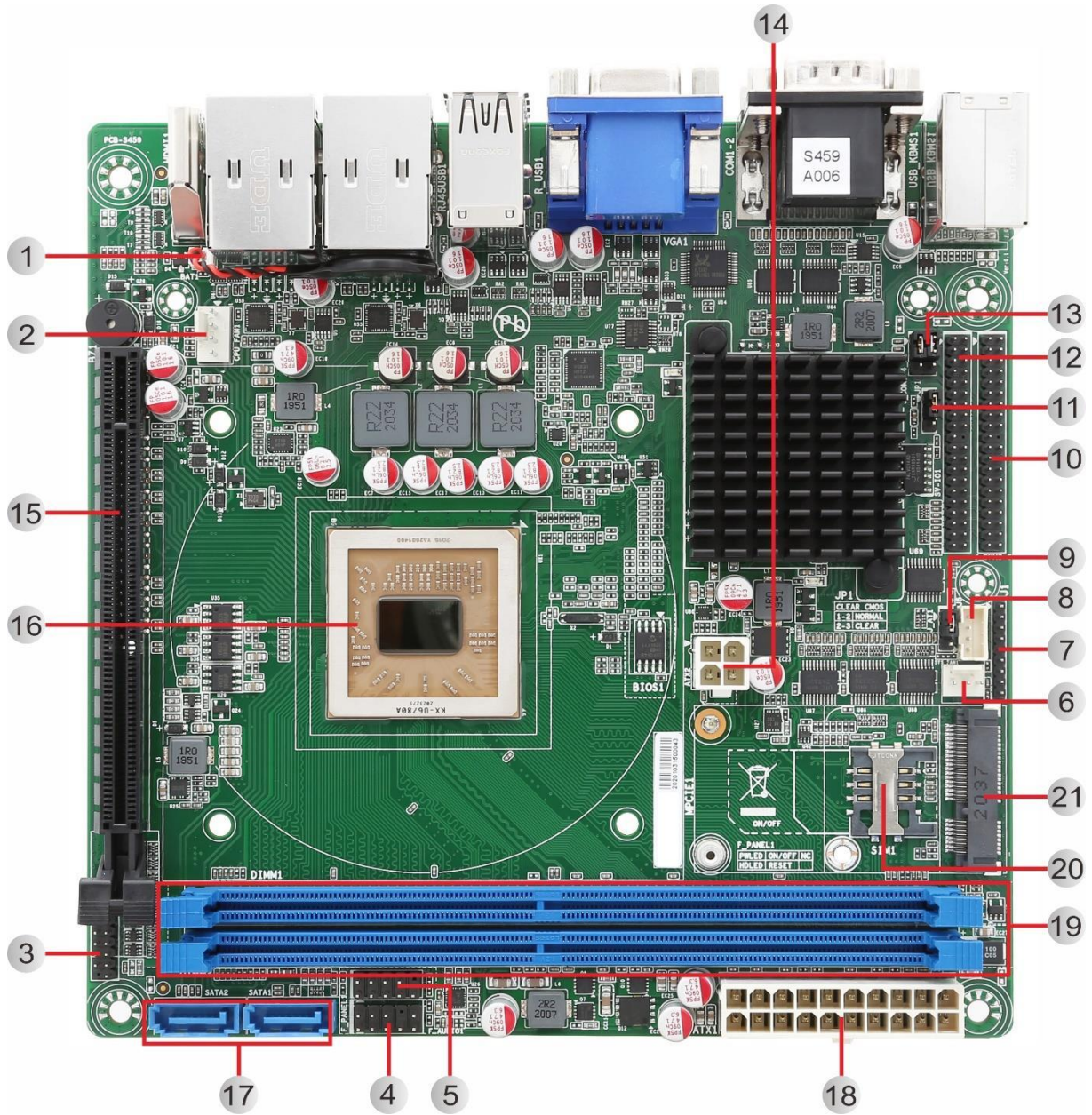
3. Functional Block Diagram

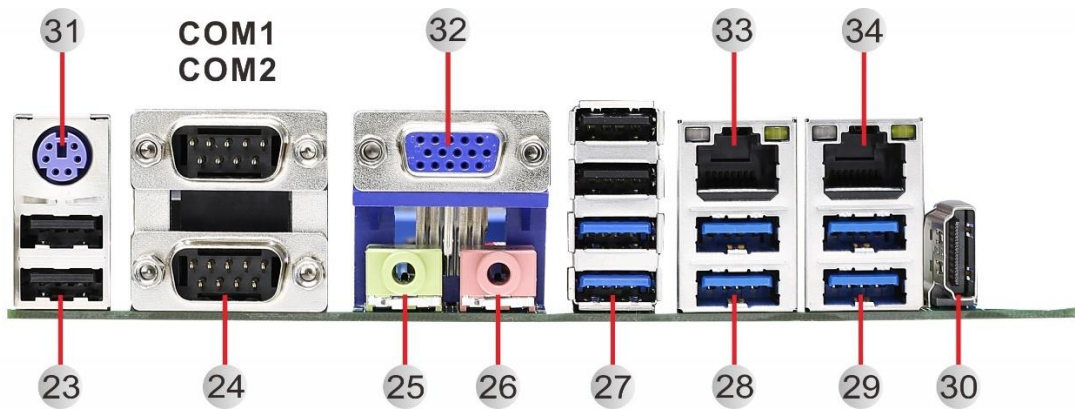
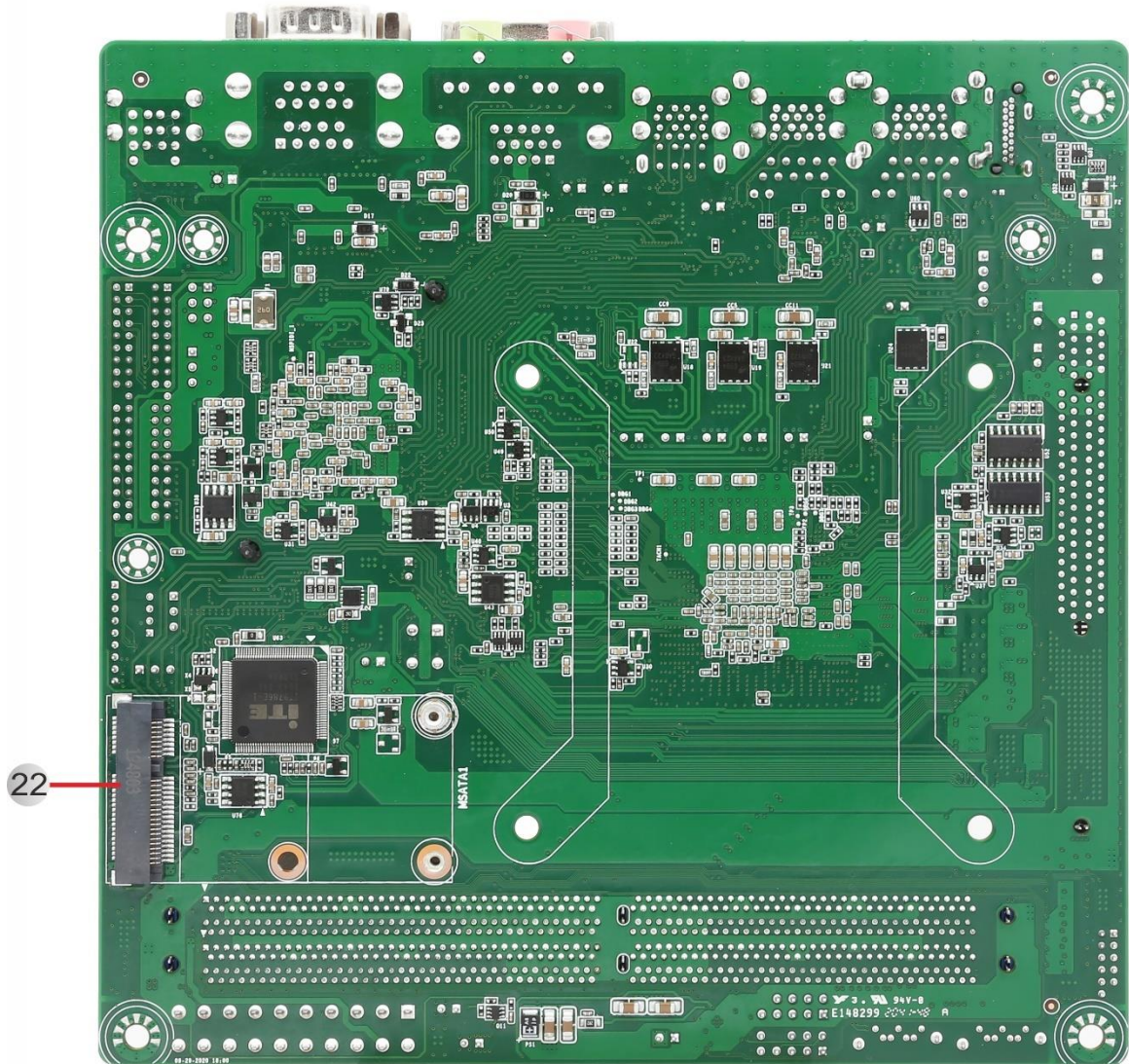


4. Mechanical Drawing

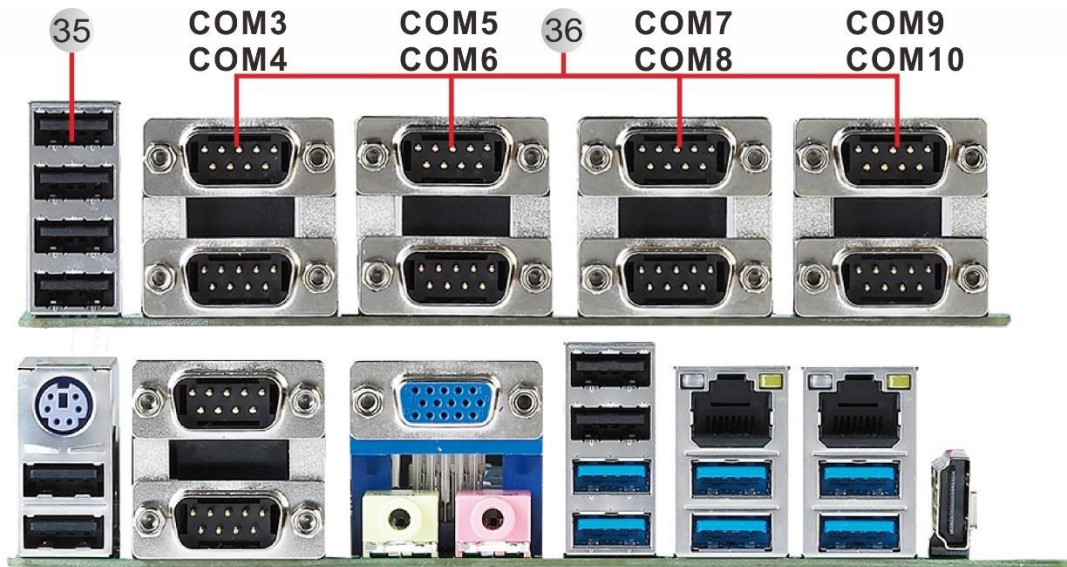


5. Jumpers / Headers and Connectors





With Daughter Board SV-M5-CU or EXCU:



Jumpers / Headers and Connectors

1	BAT1	CMOS Battery Header
2	CPU_FAN1	CPU FAN Header
3	J_GPIO1	GPIO Header
4	F_AUDIO1	Front Audio Header (Line-Out + MIC)
5	F_PANEL1	Front Panel Header
6	SYS_FAN1	System FAN Header
7	J1	Port80 Debug Header
8	J5	SMBUS Header
9	J_AT1	AT or ATX Select Jumper
10	J_COM3-6	COM3/4/5/6 Header
11	JP1	CMOS Clear Jumper
12	SV-IO1	Seavo IO Header
13	J_COM3-4_P1	COM3/4 DCD Select Jumper
14	ATX2	ATX 4P CPU Power Input Connector
15	PCIEX16_1	PCI-E 16x Slot
16	UX1	KaiXian KX-6000 series CPU (Default KX-U6780A)
17	SATA1, SATA2	SATA3.0 7P Connector1/2
18	ATX1	ATX 20P Power Input Connector
19	DIMM1, DIMM2	DDR4 CHA/B U-DIMM Slot
20	SIM1	Full-Size SIM Card Slot
21	MPCIE1	Mini PCI-E Slot (WIFI+4G/3G)
22	MSATA1	Mini PCI-E Slot (mSATA)
23	USB_KBMS1(USB)	Dual USB2.0 TYPE-A Connector


24	COM1-2	COM1/2 DB9/M Connector
25	JACK1	Line-Out 3.5mm Jack
26	JACK2	MIC 3.5mm Jack
27	R_USB1	Dual USB3.0 + Dual USB2.0 TYPE-A Connector
28	RJ45USB1(USB)	Dual USB3.0 TYPE-A Connector1
29	RJ45USB2(USB)	Dual USB3.0 TYPE-A Connector2
30	HDMI1	HDMI Upright TYPE-A Connector
31	USB_KBMS1(KBMS)	PS/2 Connector (Keyboard & Mouse)
32	VGA1	VGA DB15/F Connector
33	RJ45USB1(RJ45)	GBE LAN RJ45 Connector1
34	RJ45USB2(RJ45)	GBE LAN RJ45 Connector2

With Daughter Board SV-M5-CU or EXCU:


35	R_USB1	Quad USB2.0 TYPE-A Connector
36	COM3-4/5-6/7-8/9-10	COM3/4/5/6/7/8/9/10 DB9/M Connector

6. Definition of Jumpers /Headers and Connectors


1) BAT1 (CMOS Battery Header 2*1 Pin 1.25mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	+3.3V

2) CPU_FAN1 (CPU FAN Header 4*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	+ 12V	4	FAN Speed Control

3) J_GPIO1 (GPIO Header 6*2 Pin 2.00mm)

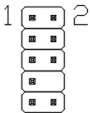
Graphic	Pin	Definition	Pin	Definition
	1	SIO_GP80_GPI1 (0xA07 Bit0, H) [1]	2	SIO_GP81_GPI2 (0xA07 Bit1, H)
	3	SIO_GP82_GPI3 (0xA07 Bit2, H)	4	SIO_GP83_GPI4 (0xA07 Bit3, H)
	5	GND	6	SIO_GP84_GPO1 (0xA07 Bit4, H)
	7	SIO_GP85_GPO2 (0xA07 Bit5, H)	8	SIO_GP86_GPO3 (0xA07 Bit6, H)
	9	SIO_GP87_GPO4 (0xA07 Bit7, H)	10	+ 3.3 V [2]
				12

Notes:

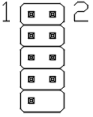
[1]: "H" or "L" means the default voltage is High or Low level (3.3V GPIO).

[2]: Power on this Pin is 3.3V by default, 5V is available if specified (resistor selectable).


4) F_AUDIO1 (Front Audio Header (Line-Out + MIC) 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	MIC_IN_L	2	GND_AUD
	3	MIC_IN_R	4	+ 3.3V
	5	LINE_OUT_R	6	MIC_IN_DET
	7	GND_AUD		
	9	LINE_OUT_L	10	LINE_OUT_DET


5) F_PANEL1 (Front Panel Header 5*2 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	HDD LED+	2	POWER LED+
	3	HDD LED-	4	POWER LED-
	5	RESET-	6	POWER+
	7	RESET+	8	POWER-
	9	N/C		


6) SYS_FAN1 (System FAN Header 3*1 Pin 2.54mm)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	+ 12V		


7) J1 (Port80 Debug Header 9*1 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	LPC_LFRAME#	6	GND
	2	LPC_AD3	7	LPC_RST#
	3	LPC_AD2	8	DBG_CLK
	4	LPC_AD1	9	+ 3.3V
	5	LPC_AD0		

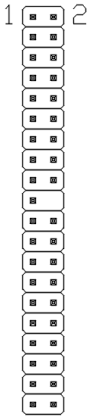
8) J5 (SMBUS Header 4*1 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	SMBCK_+3.3V	3	GND
	2	N/C	4	SMBDT_+3.3V

9) J_AT1 (AT or ATX Select Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	ATX Mode
	2-3	AT Mode


10) J_COM3-6 (COM3/4/5/6 Header 20*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	COM3_PIN1 [1]	2	COM3_RXD
	3	COM3_TXD	4	COM3_DTR
	5	GND	6	COM3_DSR
	7	COM3_RTS	8	COM3_CTS
	9	COM3_RI	10	GND
	11	COM4_PIN1 [1]	12	COM4_RXD
	13	COM4_TXD	14	COM4_DTR
	15	GND	16	COM4_DSR
	17	COM4_RTS	18	COM4_CTS
	19	COM4_RI		
	21	COM5_DCD	22	COM5_RXD
	23	COM5_TXD	24	COM5_DTR
	25	GND	26	COM5_DSR
	27	COM5_RTS	28	COM5_CTS
	29	COM5_RI	30	GND
	31	COM6_DCD	32	COM6_RXD
	33	COM6_TXD	34	COM6_DTR
	35	GND	36	COM6_DSR
	37	COM6_RTS	38	COM6_CTS
	39	COM6_RI	40	GND

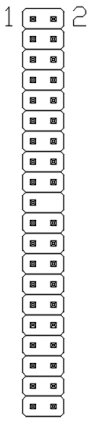
Notes:

[1]: Pin1 of COM3/4 is signal DCD# by default, 5V is selectable by “COM3/4 DCD Select Jumper” (J_COM3-4_P1, Location 13).


11) JP1 (CMOS Clear Jumper 3*1 Pin 2.54mm)

Graphic	Setting	Function
	1-2(Default)	Normal
	2-3	Clear CMOS


12) SV-IO1 (Seavo IO Header 20*2 Pin 2.00mm)

Graphic	Pin	Definition	Pin	Definition
	1	+ 5V	2	+ 5V
	3	+ 5V	4	+ 5V
	5	+ 5V	6	+ 5V
	7	+ 5V	8	GND
	9	+ 3.3V	10	GND
	11	+ 3.3V	12	GND
	13	+ 3.3V	14	GND
	15	+ 3.3VA	16	GND
	17	+ 3.3VA	18	LPC_SIO_CLK
	19	SIO_PLTRST#		
	21	LPC_AD0	22	LPC_AD1
	23	LPC_AD2	24	LPC_AD3
	25	LFRAME_N	26	SER_IRQ
	27	GND	28	GND
	29	USB2_1+	30	USB2_1-
	31	GND	32	GND
	33	USB2_2+	34	USB2_2-
	35	GND	36	GND
	37	GND	38	FP_PWRBTN_L
39	- 12V	40	+ 12V	

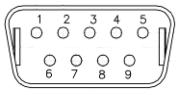
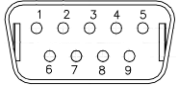
13) J_COM3-4_P1 (COM3/4 DCD Select Jumper 3*2 Pin 2.54 mm)

Graphic	Setting	Function
	1-3,2-4 (Default)	COM3_PIN1: DCD# COM4_PIN1: DCD#
	3-5,4-6	COM3_PIN1: + 5V COM4_PIN1: + 5V


14) ATX2 (ATX 4P CPU Power Input Connector)

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	GND
	3	+ 12V_IN	4	+ 12V_IN


24) COM1-2 (COM1/2 DB9/M Connector)

Graphic	Pin	Definition	Pin	Definition
 COM1	1	COM1_DCD#	6	COM1_DSR#
	2	COM1_RXD	7	COM1_RTS#
	3	COM1_TXD	8	COM1_CTS#
	4	COM1_DTR#	9	COM1_RI#
	5	GND		
 COM2	1	COM2_DCD#	6	COM2_DSR#
	2	COM2_RXD	7	COM2_RTS#
	3	COM2_TXD	8	COM2_CTS#
	4	COM2_DTR#	9	COM2_RI#
	5	GND		

25) JACK1 (Line-Out 3.5mm Jack)

Graphic	Pin	Definition
	Green	LINE-OUT

26) JACK2 (MIC 3.5mm Jack)

Graphic	Pin	Definition
	Pink	MIC-IN

7. BIOS setup

See “BIOS Spec for QY-ZX6780B-XB Series” for detail information of BIOS setup.

【End】