IPCTECH Motherboard User's Manual

QY-MB-H310C-ATX

1.Models and Attentions

1.1 Models

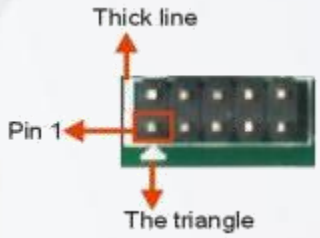
This manual is applied to following models:

Chipset	COM	LAN	USB 3.0	USB 2.0	HDMI	VGA	EDP	DVI	Mini-PCIE
H310C	6	2	4	5	1	1	1	1	2

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

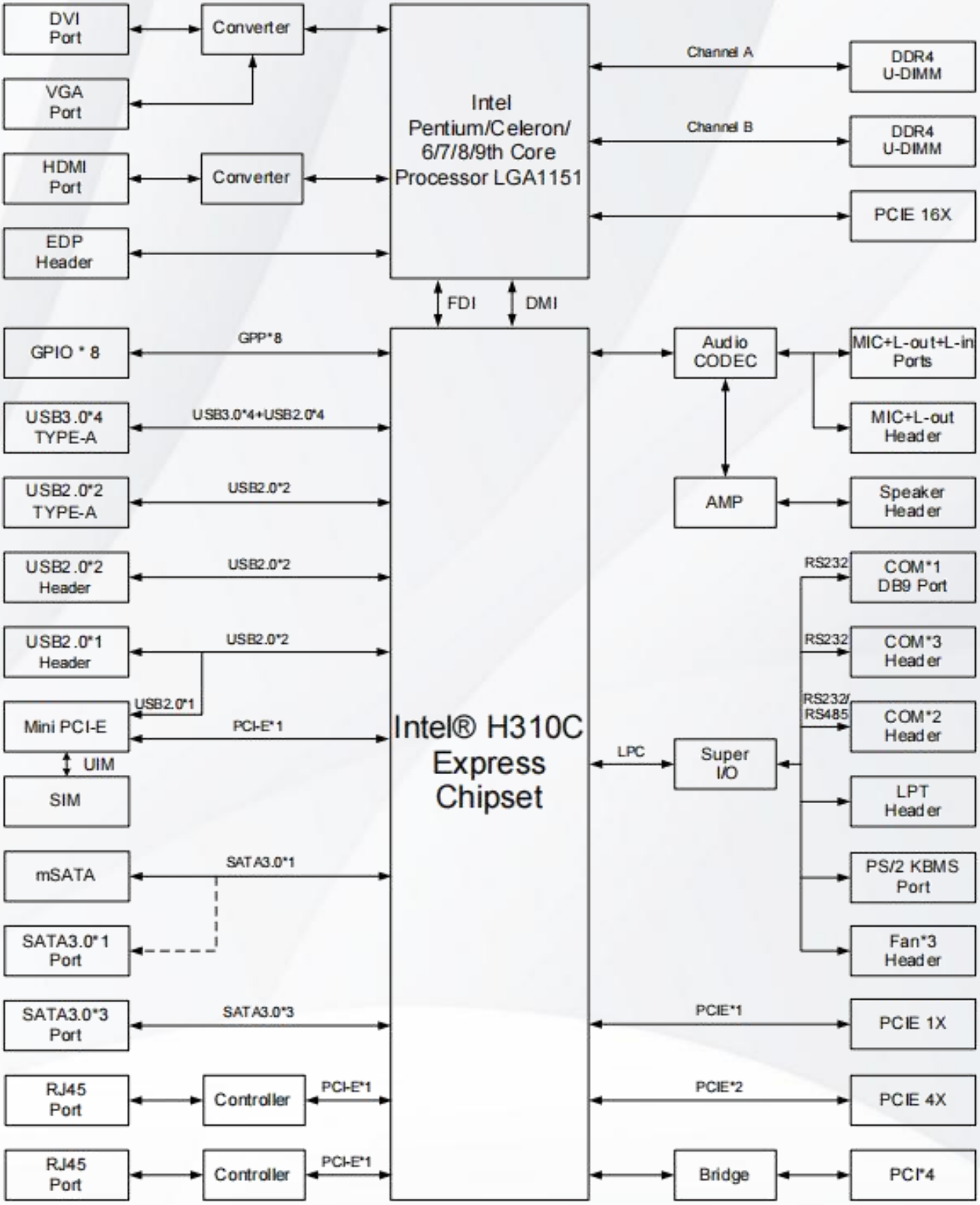
Model	QY-MB-H310C-ATX
CPU	Support Intel® 6/7/8/9th Generation CoreTM/Pentium®/Celeron® Desktop Processors LGA1151, Support MAX CPU TDP: 65W
Chipset	Intel® H310C, TDP 6W
Dispaly	1 * VGA DB15 port + 1 * DVI port + 1 * HDMI port + 1 * EDP Header
Memory	Support DDR4 2400, 2 * U-DIMM Slot, Up to 32GB [1]
Storage	4 * SATA3.0 + 1 * mSATA [2]
Ethernet	1 * Intel I219-LM + 1 * Intel I225-V for 1000Mbps
Audio	Realtek ALC897 5.1 Channel HD Audio Codec Support 2 * MIC + 2 * Line-out + 1 * Line-in
COM	4 * RS232 + 2 * RS232/RS485 [3]
USB	9 * USB: 4 * USB3.0 (Rear I/O) + 2 * USB2.0 (Rear I/O) + 2 * USB2.0(Header) + 1 * USB2.0 (Internet)
Other Ports	8 * GPIO 1 * LPT Header 1 * SMB Header 1 * Front Panel Header 1 * PCIE 16X Slot 1 * PCIE 4X Slot (PCIE 2x Signal) 1 * PCIE 1X Slot 4 * PCI Slot 1 * PS/2 Connector (keyboard or mouse) 2 * Mini PCI-E [2] 1 * SIM Card Slot 3 * CPU Fan Header

System	Windwos 7/8/10, Linux, Server 2008/2012
Temperature	Storage: -20~75℃ Operating: 0~60℃
BIOS	AMI UEFI BIOS
Power Supply	ATX
Size	305mm * 217mm

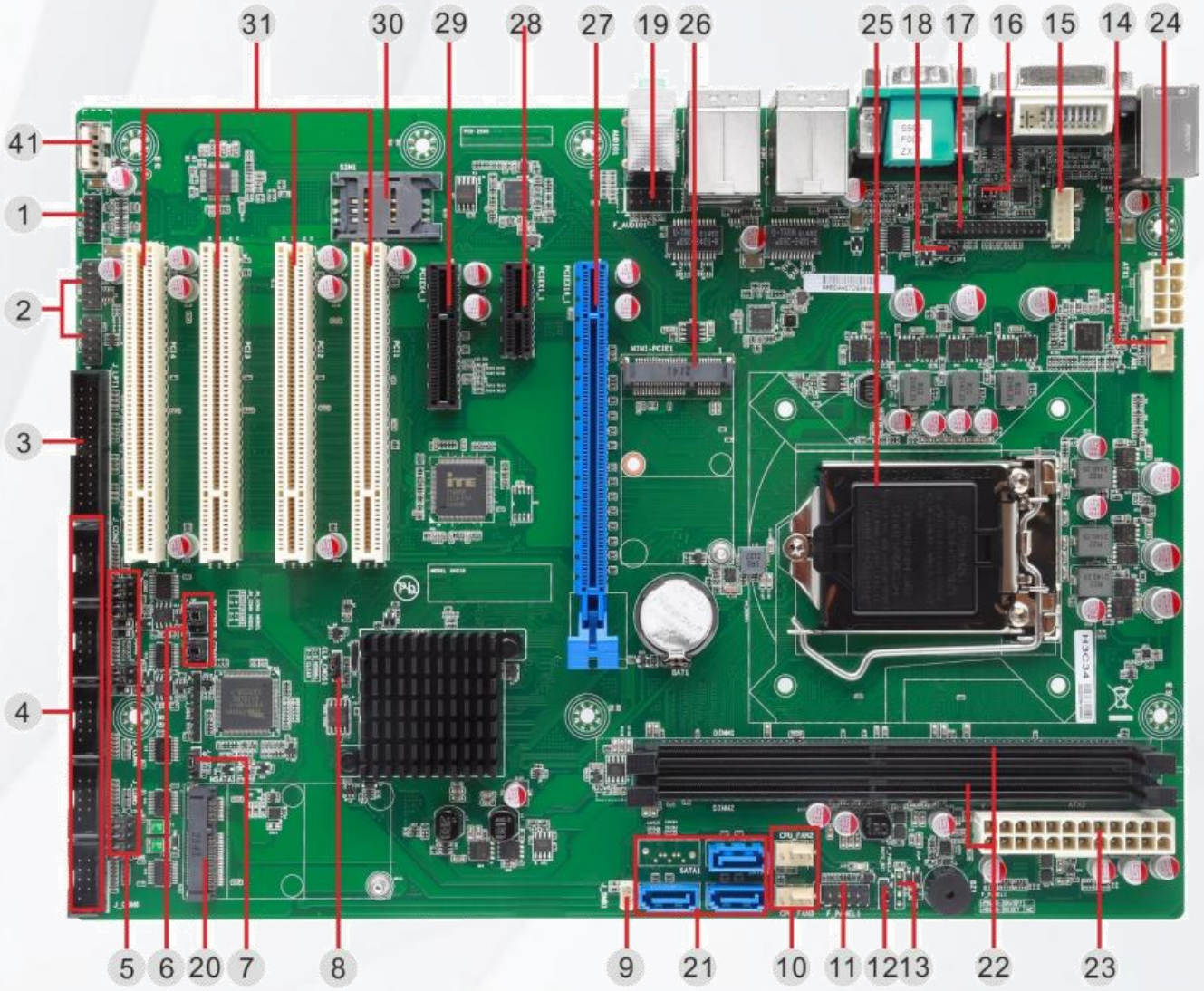
Notes:

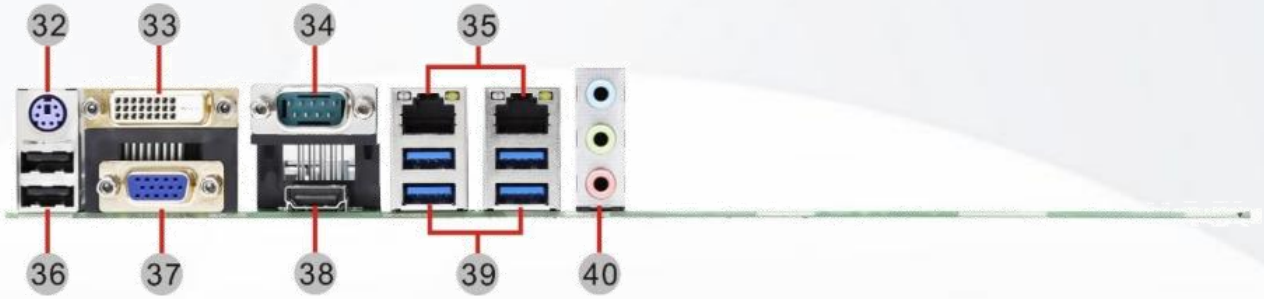
1. Supported memory frequency is determined by the CPU.The maximum memory frequency depends on CPU.
2. MINI-PCIE1 slot supports 3G/4G and WIFI by default, MSATA1 slot supports mSATA by default. MSATA and SATA1 share the same signal, they can’t be accessed simultaneously.
3. COM3-4 is RS232 by default, RS485 is selectable by “COM3-4 Select Jumpers” (JM_COM3-4, Location 6).
4. One of USB2.0 signal for F_USB2_2 colay with MINI-PCIE1. The other USB2.0 signal for F_USB2_2 colay with USB2_1. They can’t be accessed simultaneously.

3.Functional Block Diagram



4.Jumpers / Headers and Connectors





Jumpers / Headers and Connectors			
1	GPIO Pin Header	22	DIMM Slots
2	Front USB1-2 Pin Headers	23	ATX2 Power Supply Connector
3	Parallel Pin Header	24	ATX1 Power Supply Connector
4	COM2-6 Pin Header	25	CPU Socket Slot
5	COM2-6 Select Jumpers	26	Mini PCI-E Slot
6	COM3-4 Select Jumpers	27	PCIE 16X Slot
7	AT or ATX Select Jumper	28	PCIE 1X Slot
8	CMOS Clear Select Jumper	29	PCIE 4X Slot
9	SMB Pin Header	30	SIM Card Slot
10	CPU Fan2-3 Pin Headers	31	PCI Slots
11	Front Panel Pin Header1	32	PS/2 Connector (keyboard or mouse)
12	Buzzer Mute Select Jumper	33	DVI Connector
13	Front Panel Pin Header2	34	COM Connector
14	CPU Fan1 Pin Header	35	LAN Connector
15	EDP Backlight Control Header	36	USB2.0 Connector
16	COM1 Select Jumper	37	VGA(DB15) Connector
17	EDP Signal Header	38	HDMI Connector
18	EDP VDD Select Jumper	39	USB3.0 Connector
19	Front Audio Pin Header	40	Audio Connector
20	mSATA Slot	41	USB2.0 Connector
21	SATA3.0 Connectors		

5.Definition of Jumpers / Headers and Connectors

1) GPIO Pin Header(6*2 Pin 2.00mm)

Header	Pin	Definition	Pin	Definition
J_GPIO1	1	PCH-GPP_E4 (0xFDAE05A50 Bit1. H) [1]	2	PCH_GPP_E5 (0xFDAE05A8 Bit1, H) [1]
	3	PCH-GPP_E6 (0xFDAE05B50 Bit1. H) [1]	4	PCH_GPP_F5 (0xFDAE0610 Bit1, H) [1]
	5	GND	6	PCH_GPP_F6 (0xFDAE0618 Bit0, H)[1]
	7	PCH_GPP_F7 (0xFDAE0620 Bit0, H)[1]	8	PCH_GPP_F8 (0xFDAE0628 Bit0, H)[1]
	9	PCH_GPP_F9 (0xFDAE0630 Bit0, H)[1]	10	+ 5V [2]
			12	N/C

Notes:

[1]: "H" or "L" means the default voltage is Hight or Low level.

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

2) Front USB1-2 Pin Headers (5*2 Pin 2.54mm)

Header	Pin	Definition	Pin	Definition
F_USB2_1	1	+ 5V	2	+ 5V
	3	USB8-	4	USB9-
	5	USB8+	6	USB9+
	7	GND	8	GND
			10	N/C
F_USB2_2	1	+ 5V	2	+ 5V
	3	USB5-[1]	4	USB10-[2]
	5	USB5+[1]	6	USB10+[2]
	7	GND	8	GND
			10	N/C

Note:

[1]: This Pin and Mini PCI-E1 share the same USB signal and can't be accessed simultaneously. If Mini PCI-E1 doesn't support 3G device, this USB signal can be supplied.

[2]: This Pin and USB2_1 share the same USB signal and can't be accessed simultaneously. If USB2_1 doesn't support, this USB signal can be supplied.

3) Parallel Pin Header (13*2 Pin 2.54mm)

Header	Pin	Definition	Pin	Definition
J_LPT1	1	STORBE#	2	AUTOFEED#
	3	DATA0	4	ERROR#
	5	DATA1	6	INIT#
	7	DATA2	8	SLCTIN#
	9	DATA3	10	GND
	11	DATA4	12	GND
	13	DATA5	14	GND
	15	DATA6	16	GND
	17	DATA7	18	GND
	19	ACKNLG#	20	GND
	21	BUSY	22	GND
	23	PE	24	GND
	25	SLCT	26	N/C

4) COM2-6 Pin Headers (5*2 Pin 2.54mm)

Header	Pin	Definition	Pin	Definition
J_COM2	1	PIN1_COM2 [1]	2	DSR#2
	3	RXD2	4	RTS#2
	5	TXD2	6	CTS#2
	7	DTR#2	8	PIN8_COM2 [2]
	9	GND		
J_COM3	1	PIN1_COM3[1]	2	DSR#3
	3	PIN3_COM3 [3]	4	RTS#3
	5	TXD3	6	CTS#3
	7	DTR#3	8	PIN8_COM3 [2]
	9	GND		

J_COM5	1	PIN1_COM5[1]	2	DSR#5
	3	RXD5	4	RTS#5
	5	TXD5	6	CTS#5
	7	DTR#5	8	PIN8_COM5[2]
	9	GND		
J_COM6	1	PIN1_COM6[1]	2	DSR#6
	3	RXD6	4	RTS#6
	5	TXD6	6	CTS#6
	7	DTR#6	8	PIN8_COM6[2]
	9	GND		

Notes:

[1]: Pin1 of COM2-6 is DCD# by default, 5V is selectable by "COM2-6 Select Jumpers" (JC_COM2-6, Location 5).

[2]: Pin8 of COM2-6 is RI# by default, 12V is selectable by "COM2-6 Select Jumpers" (JC_COM2-6, Location 5).

[3]: COM3-4 is RS232 by default, RS485 is selectable by "COM3-4 Select Jumpers" (JM_COM3-4, Location 6)

5) COM2-6 Select Jumpers (3*2 Pin 2.54mm)

Jumper	Setting	Function
JC_COM2 JC_COM3 JC_COM4 JC_COM5 JC_COM6	1-3(Default)	Pin1: DCD#
	2-4(Default)	Pin8: RI#
	3-5	Pin1: + 5V
	4-6	Pin8: + 12V

6) COM3-4 Select Jumpers (3*2 Pin 2.54mm)

Jumper	Setting	Function
JM_COM3 JM_COM4	1-3, 2-4(Default)	RS232
	3-5, .4-6	PIN1_COM3: RS485- PIN3_COM3: RS485+ PIN1_COM4: RS485- PIN3_COM4: RS485+

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

Jumper	Setting	Function
J_ATCFG1	1-2(Default)	ATX MODE
	2-3	AT MODE

8) CMOS Clear Select Jumper (3*1 Pin 2.54mm)

Jumper	Setting	Function
CLR_CMOS1	1-2(Default)	Normal
	2-3	Clear CMOS

9) JC-COM4 (COM4 DCD/RI Select Jumper 3*2 Pin 2.54mm)

Header	Pin	Definition	Pin	Definition
J_SMB1	1	+ 3.3V	2	SMB_SDA
	3	SMB_SCL	4	GND

10) CPU Fan2-3 Pin Headers (4*1 Pin 2.54 mm)

Header	Pin	Definition	Pin	Definition
CPU_FAN2 CPU_FAN3	1	GND	2	+12V
	3	FAN Speed Detection	4	FAN Speed Control

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

Header	Pin	Definition	Pin	Definition
F_PANEL1	1	HD LED+	2	Power LED+
	3	HD LED-	4	Power LED-
	5	RESET-	6	Power+
	7	RESET+	8	Power-
	9	N/C		

12) Buzzer Mute Select Jumper (3*1 Pin 2.54mm)

Jumper	Setting	Function
MUTE_BZ1	1-2(Default)	Open Buzzer
	2-3	Close Buxxer

14) CPU Fan1 Pin Header (4*1 Pin 2.54 mm)

Header	Pin	Definition	Pin	Definition
CPU_FAN1	1	GND	2	+12V
	3	FAN Speed Detection	4	FAN Speed Control

15) EDP Backlight Control Pin Header (6*1 Pin 2.00mm))

Header	Pin	Definition	Pin	Definition
EDP_P1	1	GND	4	EDP_BKL_EN
	2	GND	5	+12V
	3	EDP_BKL_CTL	6	+12V

16)COM1 Select Jumper (3*2 Pin 2.54mm)

Jumper	Setting	Function
JC_COM1	1-3(Default)	Pin1: DCD#
	2-4(Default)	Pin8: RI#
	3-5	Pin1: +5V
	4-6	Pin1: +12V

17)EDP Signal Pin Header (15*2 Pin 2.00mm)

Header	Pin	Definition	Pin	Definition
EDP1	1	VDD[1]	2	VDD[1]
	3	VDD[1]		
	5	EDP-HPD	6	EDP-HPD
	7	N/C	8	N/C
	9	N/C	10	N/C
	11	N/C	12	N/C
	13	GND	14	GND
	15	N/C	16	N/C
	17	EDP_TX3-	18	EDP_TX3+
	19	EDP_TX0-	20	EDP_TX0+
	21	EDP_TX1-	22	EDP_TX1+
	23	EDP_TX2-	24	EDP_TX2+
	25	GND	26	GND
	27	N/C	28	N/C
	29	EDP_AUX-	30	EDP_AUX+

Notes:

[1]: Panel Power VDD is 3.3V by default, 5V is selectable by "EDP VDD Select Jumper" (JC_EDP1, Location18).

18)DP VDD Select Jumper (3*1 Pin 2.54mm)

Jumper	Setting	Function
JC_EDP1	1-2(Default)	+ 3.3V
	2-3	+ 5V

19) Front Audio Pin Header (5*2 Pin 2.54mm)

Header	Pin	Definition	Pin	Definition
F_AUDIO1	1	FRONT_MIC_L	2	GND_AUD
	3	FRONT_MIC_R	4	+ 3.3V
	5	FRONT_L_OUT_R	6	SENSE_B
	7	GND_AUD		
	9	FRONT_L_OUT_L	10	SENSE_B

[END]