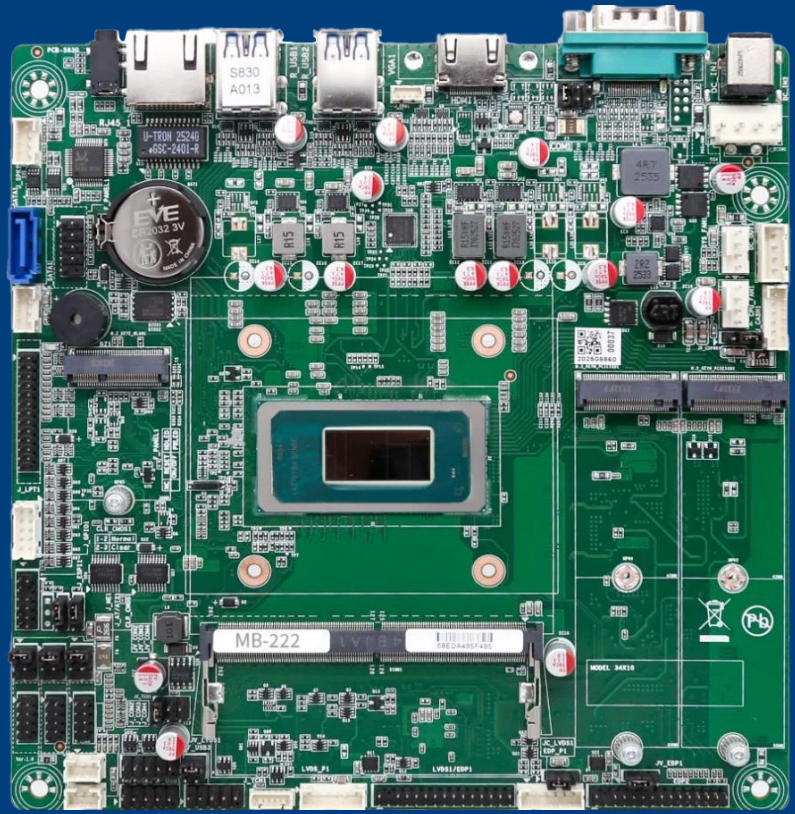


User Manual



Aicotek Motherboard | MB-222 User Manual

AICOTEK

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Contents

1 Models and Attentions	1
1.1 Models	1
1.2 Attentions	1
2 Specification and Interface	2
2.1 Specification	2
2.2 Interface	6
3 Block Diagram	8
4 Mechanical Drawing	9
5 Jumper	10
6 Definition of Jumpers	12
6.1 eDP1/LVDS1 Backlight PWM/CCFL Select: Jumper, 3*1P, 2.54mm (Mark No.1, JC_LVDS1)	12
6.2 eDP Power VCC3.3/VCC5 Select: Jumper, 3*1P, 2.54mm (Mark No.2, JV_EDP1)	12
6.3 eDP1/LVDS1 Power VCC3.3/VCC5 Select: Jumper, 2*2P, 2.54mm (Mark No.3, JV_LVDS1)	12
6.4 I2C Touch Power VCC1.8/VCC3.3 Select: Jumper, 3*2P, 2.54mm (Mark No.4, JC_TCH1)	12
6.5 COM1 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.5 JV_COM1)	12
6.6 COM2 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.6 JV_COM2)	12
6.7 COM3 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.7 JV_COM3)	13
6.8 COM4 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.8 JV_COM4)	13
6.9 ME Flash: Jumper, 3*1P, 2.54mm (Mark No.9, J_ME1)	13
6.10 AT or ATX mode Select: Jumper, 3*1P, 2.54mm (Mark No.10, J_AT/ATX1)	13
6.11 CMOS Clear Select: Jumper, 3*1P, 2.54mm (Mark No.11, CLR_CMOS1)	13
6.12 Cash Drawer Power VCC12/VCC24 Select: Jumper, 3*1P, 2.54mm (Mark No.12, JP_CDPWR1)	14
7 Headers / Wafers and Connectors	15
8 Definition of Connectors	18
8.1 DC 12V Power Input, ATX 4P (Mark No.5, J_DCIN1)	18
8.2 DC 12V+5V Power Output: Wafer, 4*1P, 2.54mm (Mark No.6, DC_OUT1)	18
8.3 eDP/LVDS: Header, 15*2P, 2.00mm (Mark No.10, LVDS1/EDP1)	18
8.4 eDP/LVDS Backlight Control: Wafer, 6*1P, 2.0mm (Mark No.11, LVDS_P1)	19
8.5 eDP: Header, 15*2P, 2.00mm (Mark No.12, EDP2)	19
8.6 eDP Backlight Control: Wafer, 6*1P, 2.00mm (Mark No.13, EDP_P1)	20
8.7 I2C Touch Screen: Wafer, 6*1P, 1.25mm (Mark No.14, J_TCH1)	20
8.8 Left+ Right Amplifier: Header 4*1P, 2.00mm (Mark No.16, J_SPK1)	20
8.9 SATA Power: Wafer, 4*1P, 2.00mm (Mark No.18, P_SATA1)	20
8.10 GbE LAN: RJ45, 8P (Mark No.22, RJ45_1)	20
8.11 Front Dual USB2.0: Header, 5*2P, 2.54mm (Mark No.25, F_USB1)	21
8.12 Front Dual USB2.0: Header, 5*2P, 2.54mm (Mark No.26, F_USB2)	21
8.13 Front Dual USB2.0: Header, 5*2P, 2.54mm (Mark No.27, F_USB3)	21
8.14 COM1: DB9/FM Connector (Mark No.28, COM1)	21
8.15 COM1: Header, 5*2P, 2.00mm (Mark No.29, J_COM1)	21
8.16 COM2: Header, 5*2P, 2.00mm (Mark No.30, J_COM2)	22
8.17 COM3: Header, 5*2P, 2.00mm (Mark No.31, J_COM3)	22
8.18 COM4: Header, 5*2P, 2.00mm (Mark No.32, J_COM4)	23

8.19 COM5: Wafer, 3*1P, 2.00mm (Mark No.33, J_COM5)	23
8.20 COM6: Wafer, 3*1P, 2.00mm (Mark No.34, J_COM6)	23
8.21 Parallel: Header, 13*2P, 2.00mm (Mark No.35, J_LPT1)	23
8.22 GPIO: Wafer, 5*2P, 2.00mm (Mark No.36, J_GPIO1)	24
8.23 Cash Drawer: Wafer, 6*1P, 2.00mm (Mark No.37, J_CASH1)	24
8.24 System FAN: Wafer 4*1P, 2.54mm (Mark No.38, SYS_FAN1)	24
8.25 CPU FAN: Wafer 4*1P, 2.54mm (Mark No.39, CPU_FAN1)	24
8.26 Front Panel: Header, 5*2P, 2.54mm (Mark No.40, F_PANEL1)	25
8.27 ESPI: Header, 6*2P, 2.00mm (Mark No.41, J_ESPI1)	25
8.28 Power Debug: Wafer, 4*1P, 1.25mm (Mark No.42, J_PRM1)	25

Revision History

Revision	Description	Date	Revised by
Ver 10.1.1	Initial release	2025.11.14	Auter.Li

1 Models and Attentions

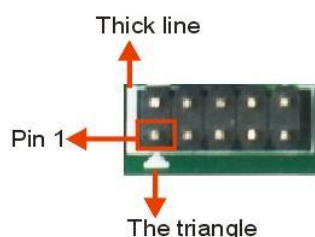
1.1 Models

This manual is applied to following models:

Model	Chipset	Memory	Storage	Display	Expansion	LAN	USB	I/O
MB-222-125U	125U	1*DDR5	1*SATA 2*M.2 M-KEY	1*HDMI 1*LVDS 1*eDP	1*M.2 E-KEY	1*GbE	4*USB3 6*USB2	6*RS232
MB-222-155U	155U	1*DDR5	1*SATA 2*M.2 M-KEY	1*HDMI 1*LVDS 1*eDP	1*M.2 E-KEY	1*GbE	4*USB3 6*USB2	6*RS232
MB-222-125H	125H	1*DDR5	1*SATA 2*M.2 M-KEY	1*HDMI 1*LVDS 1*eDP	1*M.2 E-KEY	1*GbE	4*USB3 6*USB2	6*RS232
MB-222-155H	155H	1*DDR5	1*SATA 2*M.2 M-KEY	1*HDMI 1*LVDS 1*eDP	1*M.2 E-KEY	1*GbE	4*USB3 6*USB2	6*RS232
MB-222-225U	225U	1*DDR5	1*SATA 2*M.2 M-KEY	1*HDMI 1*LVDS 1*eDP	1*M.2 E-KEY	1*GbE	4*USB3 6*USB2	6*RS232
MB-222-255U	255U	1*DDR5	1*SATA 2*M.2 M-KEY	1*HDMI 1*LVDS 1*eDP	1*M.2 E-KEY	1*GbE	4*USB3 6*USB2	6*RS232

1.2 Attentions

- Notes under a table or figure indicate the difference of models, or alternative definition of specific pin of the header (jumper/connector).
- 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 and Interface

2.1 Specification

Specification					
Model	Model	MB-222-125U	MB-222-155U	MB-222-125H	MB-222-155H
Processor System	Processor	Intel® Core™ Ultra processors (Series 1), Meteor Lake-U/H			
		Ultra5 125U	Ultra7 155U	Ultra5 125H	Ultra7 155H
	Turbo Frequency	4.30GHz	4.80GHz	4.50GHz	4.80GHz
	Multi-Core	12		14	16
	TDP	15W PL1		28W PL1	
	GPU	Intel® 4 Xe-Cores Graphics		Intel® Arc™ Graphics	
	NPU	Intel® AI Boost, up to 1.4 GHz			
	BIOS	AMI UEFI BIOS			
Memory	Memory Type	Non-ECC DDR5 5600MHz			
	Slot Type	1, SO-DIMM			
	Max Memory	32 GB			
	Channels	Single			
Display	HDMI1/VGA	1, HDMI, max 4096*2160@30Hz Note: BOM optional support VGA max 1920x1200@60Hz.			
	HDMI2	/			
		Note: HDMI2 use the same position with COM1.			
	eDP1/LVDS	1, LVDS, max 1920x1200@60Hz Note: BOM Optional support eDP max 4096*2160@60Hz.			
	eDP2	1, eDP, max 4096*2160@60Hz			
Multi-Display	Quad				
Audio	Codec	Realtek Audio HDA codec			
	Audio	1, Line-Out + MIC, CTIA Note: BOM optional support OMTP.			
	Amplifier	1, L/R Amplifier, 3W4 Ω /CH			
Storage	SATA	1, SATA Gen3 6Gbps			
	M.2 SSD	1, M.2 M-Key 2280, PCIe4.0 x4, Support PCIE x4 NVMe SSD 1, M.2 M-Key 2280, PCIe4.0 x4, Support PCIE x4 NVMe SSD Note: M.2_KEYM_PCIESSD1 BOM optional support SATA.			
Expansion Slot	M.2	1, M.2 E-Key 2230, PCIe, support WiFi Note: BOM optional support PCIe+USB2.0. USB2.0 signal colay with F USB3.			

Ethernet	Chipset	1, Realtek 8111H GbE Ethernet Controller
	PXE/RPL Boot	Yes
	Wake On LAN	Yes
USB	USB3.0	4, USB3.2 5Gbps
	USB2.0	6, USB2.0 <i>Note: One of USB2.0 for F_USB3 colay with M.2_KEYE_WLAN1.</i>
I/O	Serials	4, RS232, COM1-4 2, RS232, 2 Wires, COM5-6
	Parallel	1
	Cash Drawer	1, DC12V, Jumper optional support 24V.
	FAN	1, CPU FAN 1, System FAN
	PANEL	1, PWR On +Reset +PWR_LED +HDD_LED
	I2C Touch	1
	Debug	1, ESPI
	GPIO	8, 4* GPI+ 4* GPO, non-isolated 5V <i>Note.: BOM option support 3.3V.</i>
Others	AT/ATX Select	1, default ATX mode
	ME Flash	/
	CMOS Clear	1, default normal
	HW Monitor	System-temp, CPU-temp, Voltage-12V,5V,3.3V, Vcpu, Vddr
	Watch Dog Timer	System reset, Programmable 1-255 sec or min
	TPM	fTPM2.0
Power	Power in	1, Rear IO DC-IN 12V 1, Internal DC-IN 12V
	Power out	1, Internal DC-OUT 12V@2A, 5V@2A
OS	OS Supported	Windows 10/11 64bit, Linux
Mechanical	PCB form	170mm * 170mm, δ 1.6mm
Environment	Temperature	Operation: 0 ~ 60°C Storage: -20 ~ 75°C
	Humidity	Operation: 5 ~ 95%, Non-condensing Storage: 5 ~ 95%, Non-condensing

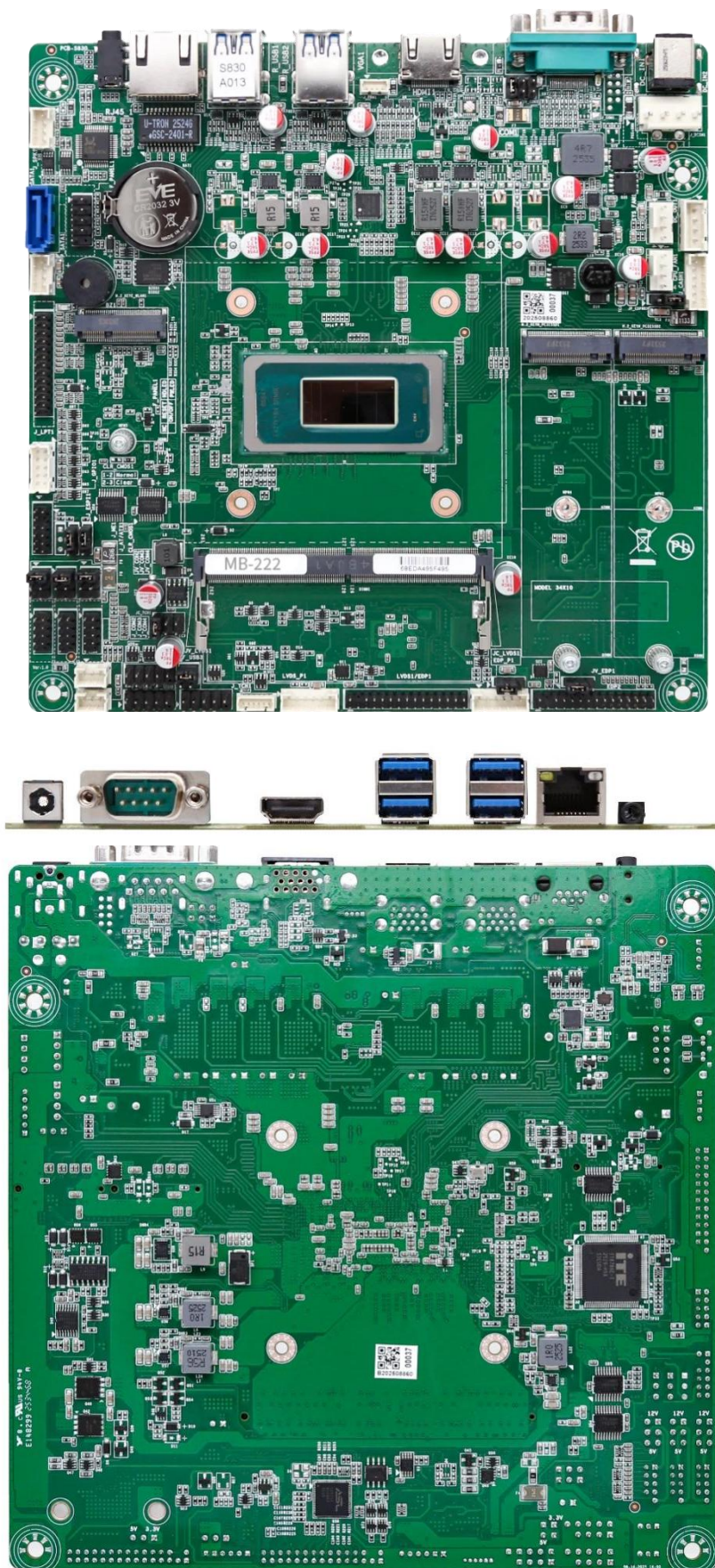
Specification

Model	Model	MB-222-225U	MB-222-255U
Processor System	Processor	Intel® Core™ Ultra processors (Series 2), Arrow Lake -U/H	
		Ultra5 225U	Ultra7 255U
	Turbo Frequency	4.8 GHz	5.2 GHz
	Multi-Core	12	
	TDP	15W PL1	
	GPU	Intel® 4 Xe-Cores Graphics	
	NPU	Intel® AI Boost, up to 1.4 GHz	
	BIOS	AMI UEFI BIOS	
Memory	Memory Type	Non-ECC DDR5 5600MHz	
	Slot Type	1, SO-DIMM	
	Max Memory	32 GB	
	Channels	Single	
Display	HDMI1/VGA	1, HDMI, max 4096*2160@30Hz <i>Note: BOM optional support VGA max 1920x1200@60Hz.</i>	
	HDMI2	/ <i>Note: HDMI2 use the same position with COM1.</i>	
	eDP1/LVDS	1, LVDS, max 1920x1200@60Hz <i>Note: BOM Optional support eDP max 4096*2160@60Hz.</i>	
	eDP2	1, eDP, max 4096*2160@60Hz	
	Multi-Display	Quad	
Audio	Codec	Realtek Audio HDA codec	
	Audio	1, Line-Out + MIC, CTIA <i>Note: BOM optional support OMTP.</i>	
	Amplifier	1, L/R Amplifier, 3W4 Ω /CH	
Storage	SATA	1, SATA Gen3 6Gbps	
	M.2 SSD	1, M.2 M-Key 2280, PCIe4.0 x4, Support PCIE x4 NVMe SSD 1, M.2 M-Key 2280, PCIe4.0 x4, Support PCIE x4 NVMe SSD <i>Note: M.2_KEYM_PCIESSD1 BOM optional support SATA.</i>	
Expansion Slot	M.2	1, M.2 E-Key 2230, PCIe, support WiFi <i>Note: BOM optional support PCIe+USB2.0. USB2.0 signal colay with F_USB3.</i>	
Ethernet	Chipset	1, Realtek 8111H GbE Ethernet Controller	
	PXE/RPL Boot	Yes	
	Wake On LAN	Yes	
USB	USB3.0	4, USB3.2 5Gbps	

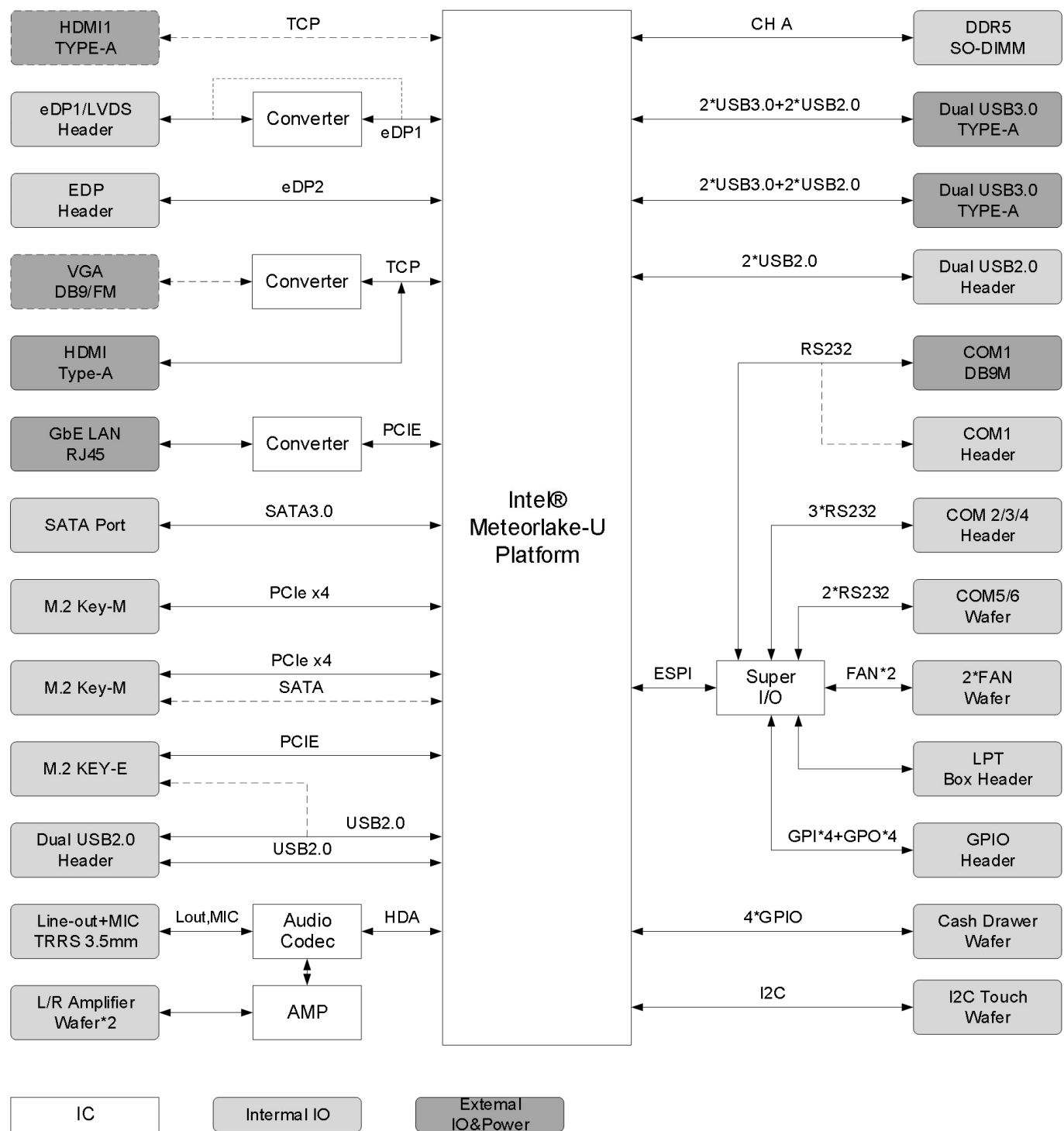
	USB2.0	6, USB2.0 <i>Note: One of USB2.0 for F_USB3 colay with M.2_KEYE_WLAN1.</i>
I/O	Serials	4, RS232, COM1-4 2, RS232, 2 Wires, COM5-6
	Parallel	1
	Cash Drawer	1, DC12V, Jumper optional support 24V.
	FAN	1, CPU FAN 1, System FAN
	PANEL	1, PWR On +Reset +PWR_LED +HDD_LED
	I2C Touch	1
	Debug	1, ESPI
	GPIO	8, 4* GPI+ 4* GPO, non-isolated 5V <i>Note.: BOM option support 3.3V.</i>
Others	AT/ATX Select	1, default ATX mode
	ME Flash	/
	CMOS Clear	1, default normal
	HW Monitor	System-temp, CPU-temp, Voltage-12V,5V,3.3V, Vcpu, Vddr
	Watch Dog Timer	System reset, Programmable 1-255 sec or min
	TPM	fTPM2.0
Power	Power in	1, Rear IO DC-IN 12V 1, Internal DC-IN 12V
	Power out	1, Internal DC-OUT 12V@2A, 5V@2A
OS	OS Supported	Windows 10/11 64bit, Linux
Mechanical	PCB form	170mm * 170mm, δ1.6mm
Environment	Temperature	Operation: 0 ~ 60°C Storage: -20 ~ 75°C
	Humidity	Operation: 5 ~ 95%, Non-condensing Storage: 5 ~ 95%, Non-condensing

2.2 Interface

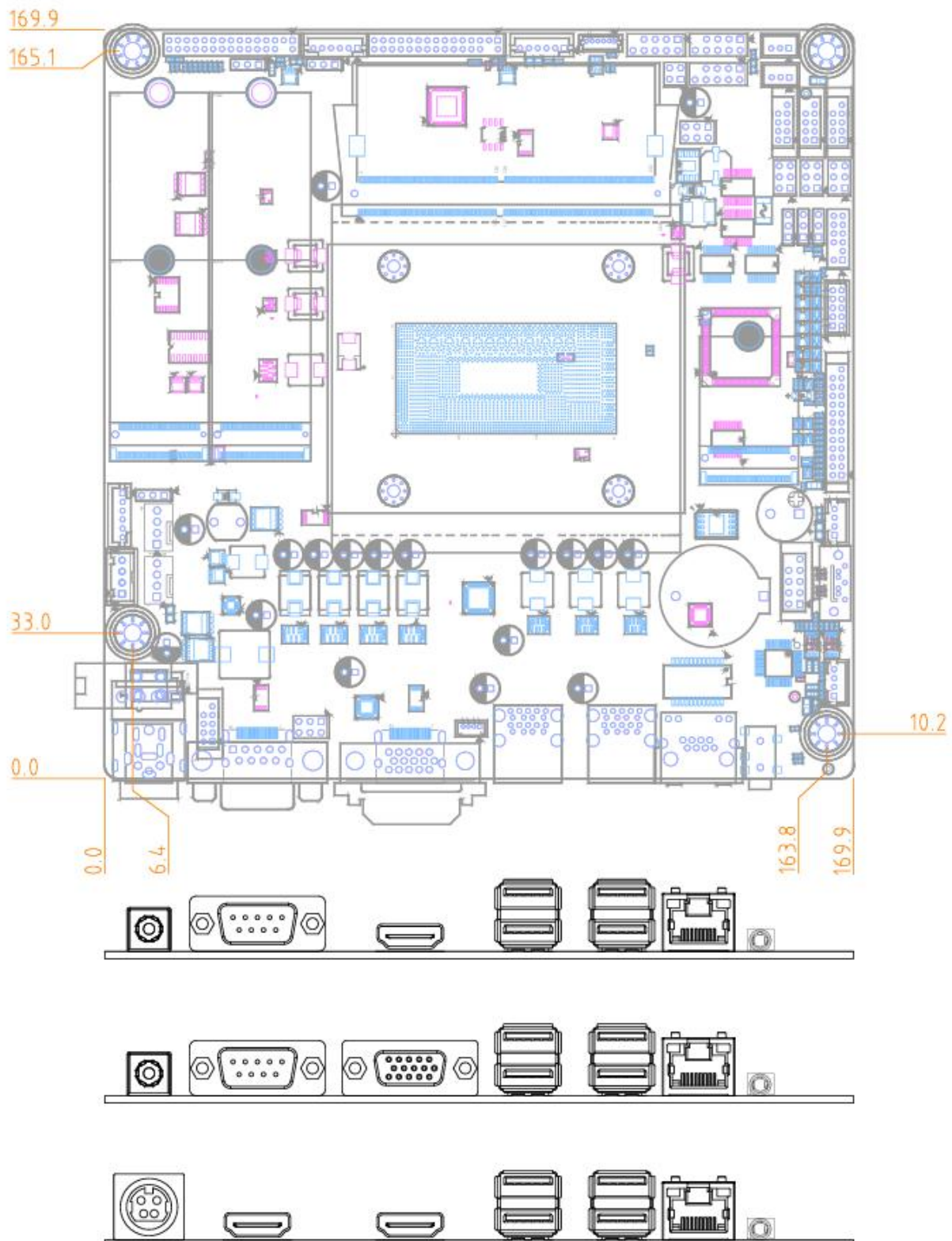
Interface		
Model	Model	MB-222
Rear I/O	Power in	1, Φ 5525 Jack <i>Note: BOM optional support Mini-Din 4P Jack.</i>
	HDMI	1, HDMI Type-A
	Serial	1, DB9/M, COM1 <i>Note: BOM optional support HDMI2 TYPE-A.</i>
	LAN	1, RJ45
	USB3.0	4, USB3.0 Type-A
	Audio	1, 2in1 TRRS Φ 3.5mm Jack
Internal I/O	Power in	1, Wafer <i>Note: BOM optional support 2*2P ATX.</i>
	Power out	1, Wafer
	eDP/LVDS	1, Header, with Backlight Control Wafer
	eDP	1, Header, with Backlight Control Wafer
	Audio AMP	1, Wafer, L/R Amplifier
	Storage	1, SATA 7P Port, with Power supply Wafer 2, M.2 M-Key 2280, PCIe x4
	Expansion	1, M.2 E-Key 2230, PCIe
	USB2.0	6, Header
	Serial	3, Header, COM2-4 2, Wafer, COM5-6
	I2C Touch	1, Wafer
	Parallel	1, Header
	Cash Drawer	1, Wafer
	GPIO	1, Header
	Front Panel	1, Header
	FAN	2, Wafer
Others	Debug	1, Header, Port80
	RTC	1, CR2032 Battery Holder
	Power Monitor	1, Wafer
	Buzzer	1



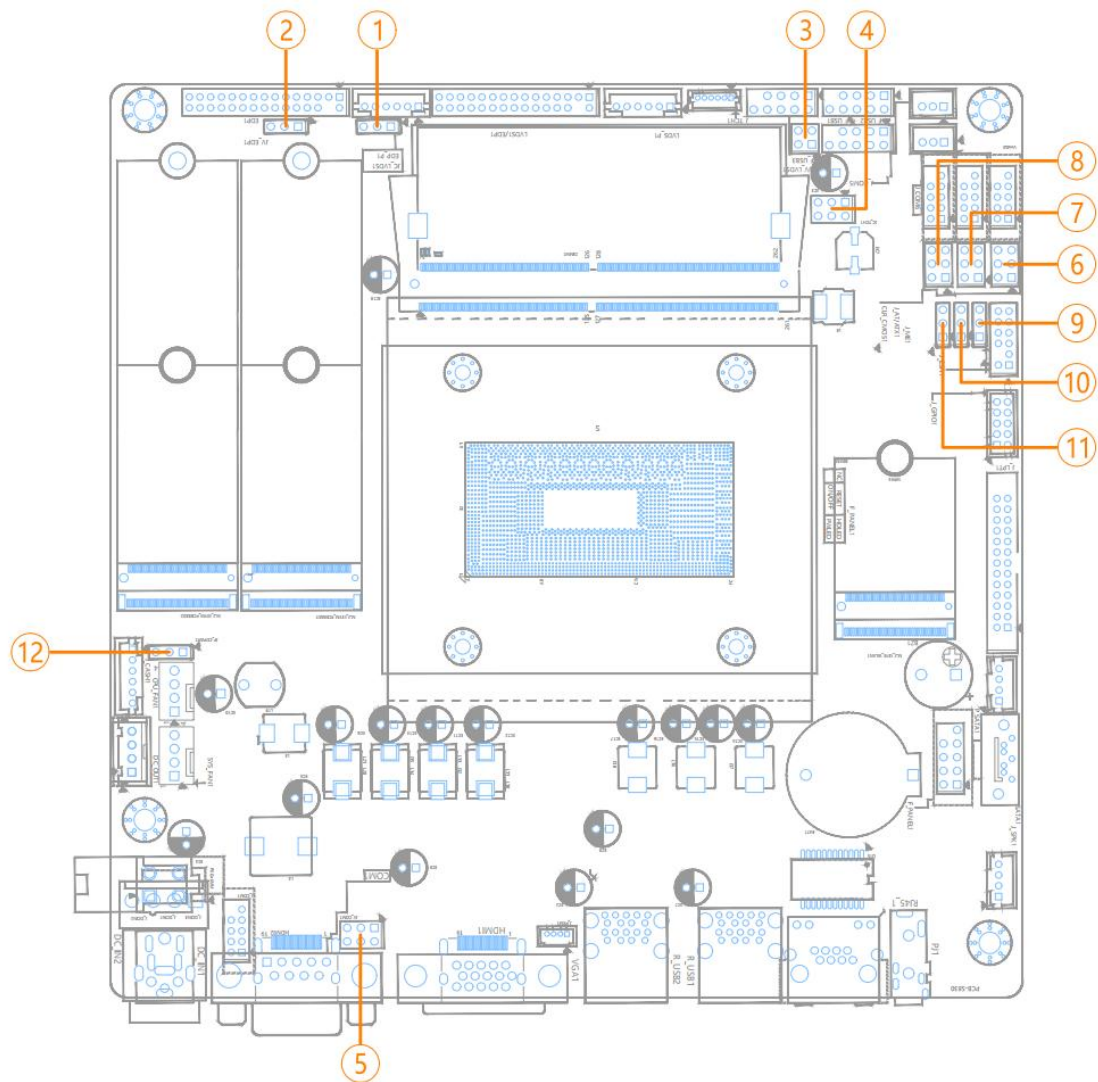
3 Block Diagram



4 Mechanical Drawing



5 Jumper



Jumpers		
①	JC_LVDS1	eDP1/LVDS1 Backlight PWM/CCFL Select Jumper
②	JV_EDP1	eDP Power VCC3.3/VCC5 Select Jumper
③	JV_LVDS1	eDP/LVDS Power VCC3.3/VCC5 Select Jumper
④	JC_TCH1	I2C Touch Power VCC1.8/VCC3.3 Select Jumper
⑤	JV_COM1	COM1 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper
⑥	JV_COM2	COM2 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper
⑦	JV_COM3	COM3 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper
⑧	JV_COM4	COM4 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper
⑨	J_ME1	ME Flash Jumper

⑩	J_AT/ATX1	AT or ATX mode Select Jumper
⑪	CLR_CMOS	CMOS Clear Select Jumper
⑫	JP_CDPWR1	Cash Drawer Power VCC12/VCC24 Select Jumper

6 Definition of Jumpers

6.1 eDP1/LVDS1 Backlight PWM/CCFL Select: Jumper, 3*1P, 2.54mm (Mark No.1, JC_LVDS1)

Graphic	Setting	Function
	1-2 (Default)	Controlled by PWM
	2-3	Controlled by CCFL ^[1]

Note:

[1]: Controlled by CCFL by default, PWM# optional. (resistor selectable)

6.2 eDP Power VCC3.3/VCC5 Select: Jumper, 3*1P, 2.54mm (Mark No.2, JV_EDP1)

Graphic	Setting	Function
	1-2(Default)	VCC3.3
	2-3	VCC5

6.3 eDP1/LVDS1 Power VCC3.3/VCC5 Select: Jumper, 2*2P, 2.54mm (Mark No.3, JV_LVDS1)

Graphic	Setting	Function
	1-2 (Default)	VCC3.3
	3-4	VCC5

6.4 I2C Touch Power VCC1.8/VCC3.3 Select: Jumper, 3*2P, 2.54mm (Mark No.4, JC_TCH1)

Graphic	Setting	Function
	1-3, 2-4	VCC_I2C: VCC3.3 VCC_I2C_RST: VCC3.3
	3-5, 4-6	VCC_I2C: VCC1.8 VCC_I2C_RST: VCC1.8

6.5 COM1 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.5 JV_COM1)

Graphic	Setting	Function
	1-3,2-4	PIN1_COM2: VCC12 PIN9_COM2: VCC12
	3-5,4-6	PIN1_COM2: VCC5 PIN9_COM2: VCC5

Note:

* Jumper 1-3/3-5 select the COM1_PIN1 signal. Jumper 2-4/4-6 select the COM1_PIN9 signal.

6.6 COM2 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.6 JV_COM2)

Graphic	Setting	Function
	1-3,2-4	PIN1_COM3: VCC12 PIN9_COM3: VCC12

	3-5,4-6	PIN1_COM3: VCC5 PIN9_COM3: VCC5
--	---------	------------------------------------

Note:

* Jumper 1-3/3-5 select the COM2_PIN1 signal. Jumper 2-4/4-6 select the COM2_PIN9 signal.

6.7 COM3 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.7 JV_COM3)

Graphic	Setting	Function
	1-3,2-4	PIN1_COM4: VCC12 PIN9_COM4: VCC12
	3-5,4-6	PIN1_COM4: VCC5 PIN9_COM4: VCC5

Note:

* Jumper 1-3/3-5 select the COM3_PIN1 signal. Jumper 2-4/4-6 select the COM3_PIN9 signal.

6.8 COM4 Pin1/Pin9 Power DCD/VCC5/VCC12 Select: Jumper, 3*2P, 2.54mm (Mark No.8 JV_COM4)

Graphic	Setting	Function
	1-3,2-4	PIN1_COM4: VCC12 PIN9_COM4: VCC12
	3-5,4-6	PIN1_COM4: VCC5 PIN9_COM4: VCC5

Note:

* Jumper 1-3/3-5 select the COM4_PIN1 signal. Jumper 2-4/4-6 select the COM4_PIN9 signal.

6.9 ME Flash: Jumper, 3*1P, 2.54mm (Mark No.9, J_ME1)

Graphic	Setting	Function
	1-2(Default)	Normal
	2-3	Debug

6.10 AT or ATX mode Select: Jumper, 3*1P, 2.54mm (Mark No.10, J_AT/ATX1)

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

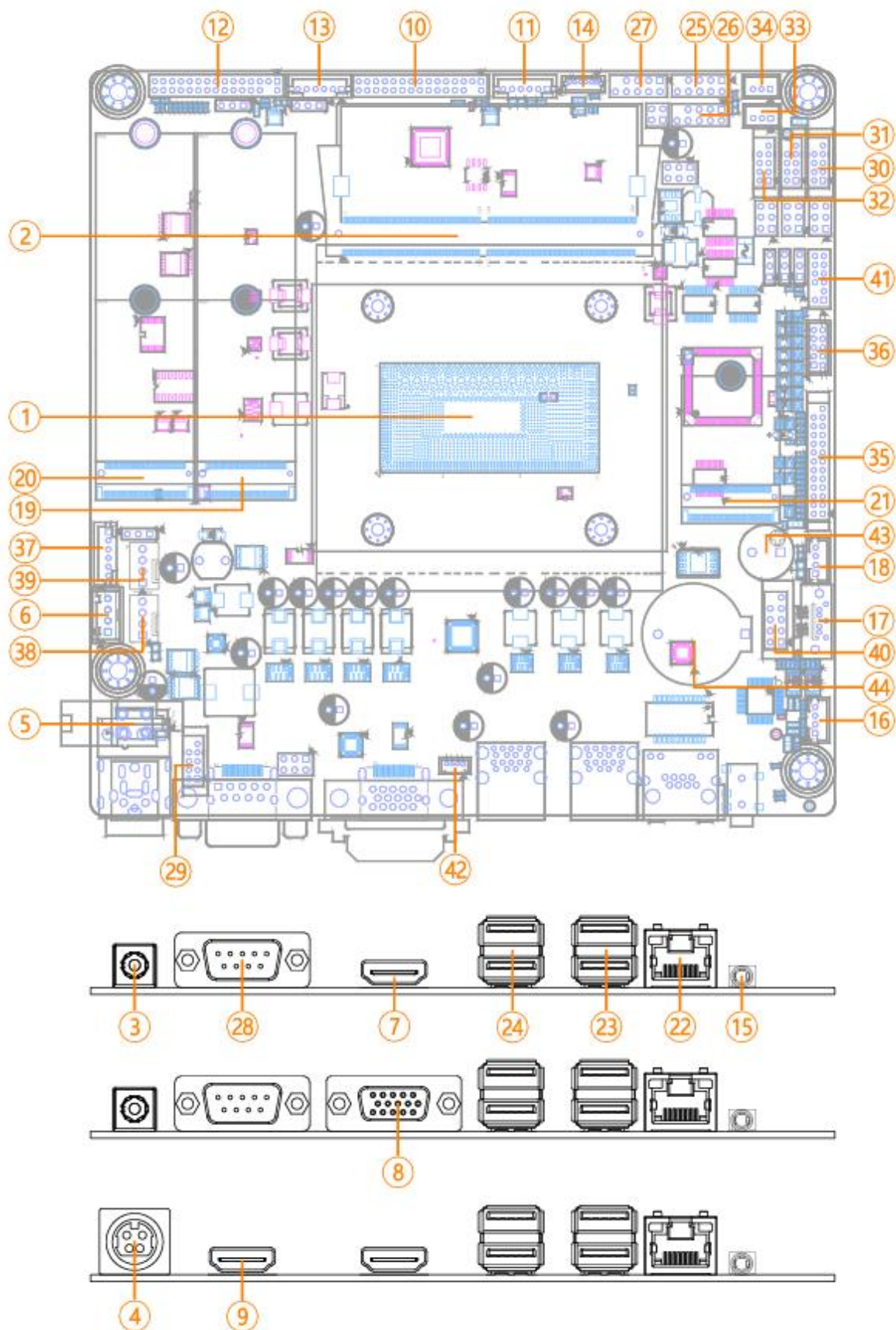
6.11 CMOS Clear Select: Jumper, 3*1P, 2.54mm (Mark No.11, CLR_CMOS1)

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

6.12 Cash Drawer Power VCC12/VCC24 Select: Jumper, 3*1P, 2.54mm (Mark No.12, JP_CDPWR1)

Graphic	Setting	Function
	1-2(Default)	VCC24
	2-3	VCC12

7 Headers / Wafers and Connectors



Headers / Wafers and Connectors

①	U1	CPU
②	DIMM1	DDR5 SO-DIMM Slot1
③	DC_IN1	DC 12V Power Input Φ2.5mm Jack
④	DC_IN2	DC 12V Power Input Mini-Din 4P Jack
⑤	J_DCIN1	DC 12V ATX 4P Power Input Connector
⑥	DC_OUT1	DC 12V+5V Power Output Wafer
⑦	HDMI1	HDMI TYPE-A Connector1
⑧	VGA1	VGA DB15/FM Connector
⑨	HDMI2	HDMI TYPE-A Connector2
⑩	LVDS1/EDP1	eDP1/LVDS1 Signal Header
⑪	LVDS_P1	eDP1/LVDS1 Backlight Control Wafer
⑫	EDP2	eDP2 Signal Header
⑬	EDP_P1	eDP2 Backlight Control Wafer
⑭	J_TCH1	I2C Touch Screen Wafer
⑮	PJ1	Line-In + MIC 2in1 3.5mm Jack
⑯	J_SPK1	Left+ Right Amplifier Wafer
⑰	SATA1	SATA3.0 7P Connector
⑱	P_SATA1	SATA Power Header
⑲	M.2_KEYM_PCIESSD1	M.2 M-Key Slot1 (PCIe x4/SATA, 2280)
⑳	M.2_KEYM_PCIESSD2	M.2 M-Key Slot2 (PCIe x4, 2280)
㉑	M.2_KEYE_WLAN1	M.2 E-Key Slot1 (PCIe+USB2.0, 2230)
㉒	RJ45_1	GbE LAN RJ45 Connector1
㉓	R_USB1	Dual USB3.0 TYPE-A Connector
㉔	R_USB2	Dual USB3.0 TYPE-A Connector
㉕	F_USB1	Front Dual USB2.0 Header
㉖	F_USB2	Front Dual USB2.0 Header
㉗	F_USB3	Front Dual USB2.0 Header
㉘	COM1	COM1 DB9/M Connector
㉙	J_COM1	COM1 Header
㉚	J_COM2	COM2 Header
㉛	J_COM3	COM3 Header
㉜	J_COM4	COM4 Header
㉝	J_COM5	COM5 Wafer
㉞	J_COM6	COM6 Wafer

③⑤	J_LPT1	Parallel Box Header
③⑥	J_GPIO1	GPIO Wafer
③⑦	J_CASH1	Cash Drawer Wafer
③⑧	SYS_FAN1	System FAN Wafer
③⑨	CPU_FAN1	CPU FAN Wafer
④①	F_PANEL1	Front Panel Header
④②	J_ESPI1	ESPI Header
④③	J_PR1	Power Debug Wafer
④④	BZ1	Buzzer
④⑤	BAT1	CMOS Battery Holder

8 Definition of Connectors

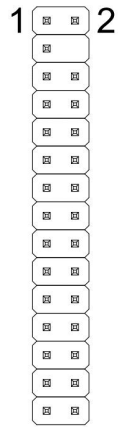
8.1 DC 12V Power Input, ATX 4P (Mark No.5, J_DCIN1)

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	GND
	3	VCC12	3	VCC12

8.2 DC 12V+5V Power Output: Wafer, 4*1P, 2.54mm (Mark No.6, DC_OUT1)

Graphic	Pin	Definition	Pin	Definition
	1	VCC12	3	GND
	2	GND	4	VCC5

8.3 eDP/LVDS: Header, 15*2P, 2.00mm (Mark No.10, LVDS1/EDP1)

Graphic	Pin	Definition	Pin	Definition
	1	VDD_PANEL1 ^[1]	2	VDD_PANEL1 ^[1]
	3	VDD_PANEL1 ^[1]		
	5	LVDS_PRSENT#/ EDP_HPD ^[2]	6	LVDS_PRSENT#/ EDP_HPD ^[2]
	7	LVDS_A_DATA0-	8	LVDS_A_DATA0+
	9	LVDS_A_DATA1-	10	LVDS_A_DATA1+
	11	LVDS_A_DATA2-	12	LVDS_A_DATA2+
	13	GND	14	GND
	15	LVDS_A_CLK-	16	LVDS_A_CLK+
	17	LVDS_A_DATA3-	18	LVDS_A_DATA3+
	19	LVDS_B_DATA0-/ EDP_TX0-	20	LVDS_B_DATA0+/ EDP_TX0+
	21	LVDS_B_DATA1-/ EDP_TX1-	22	LVDS_B_DATA1+/ EDP_TX1+
	23	LVDS_B_DATA2-/ EDP_TX2-	24	LVDS_B_DATA2+/ EDP_TX2+
	25	GND	26	GND
	27	LVDS_B_CLK-/ EDP_TX3-	28	LVDS_B_CLK+/ EDP_TX3+
	29	LVDS_B_DATA3-/ EDP_AUX-	30	LVDS_B_DATA3+/ EDP_AUX+

Note:

[1]: Panel Power VDD is 3.3V by default, 5V is selectable by “eDP1/LVDS1 Power VCC3.3/VCC5 Select Jumper”. (JV_LVDS1)

[2]: It can support LVDS or eDP. (resistor selectable)

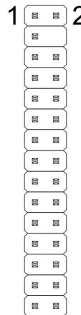
8.4 eDP/LVDS Backlight Control: Wafer, 6*1P, 2.0mm (Mark No.11, LVDS_P1)

Graphic	Pin	Definition	Pin	Definition
	1	GND	4	LVDS_BKLT_EN ^[1]
	2	GND	5	VCC12
	3	LVDS_BKLT_CTL ^[1]	6	VCC12

Note:

[1]: LVDS_BKLT can be controlled by PWM(Default) /PWM#/CCFL, selectable by “eDP1/LVDS1 Backlight PWM/CCFL Select Jumper”. (JC_LVDS1).

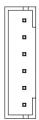
8.5 eDP: Header, 15*2P, 2.00mm (Mark No.12, EDP2)

Graphic	Pin	Definition	Pin	Definition
	1	VDD_PANEL1 ^[1]	2	VDD_PANEL1 ^[1]
	3	VDD_PANEL1 ^[1]		
	5	EDP_HPDP	6	EDP_HPDP
	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	N/C	18	N/C
	19	EDP_TX0-	20	EDP_TX0+
	21	EDP_TX1-	22	EDP_TX1+
	23	EDP_TX2-	24	EDP_TX2+
	25	GND	26	GND
	27	EDP_TX3-	28	EDP_TX3+
	29	EDP_AUX-	30	EDP_AUX+

Note:

[1]: Panel Power VDD is 3.3V by default, 5V is selectable by “eDP2 Power VCC3.3/VCC5 Select Jumper” (JV_EDP1).

8.6 eDP Backlight Control: Wafer, 6*1P, 2.00mm (Mark No.13, EDP_P1)

Graphic	Pin	Definition	Pin	Definition
	1	GND	4	EDP2_BKLT_EN
	2	GND	5	VCC12
	3	EDP2_BKLT_CTL	6	VCC12

8.7 I2C Touch Screen: Wafer, 6*1P, 1.25mm (Mark No.14, J_TCH1)

Graphic	Pin	Definition	Pin	Definition
	1	VCC3.3	4	TCH_RST_N_R
	2	GND	5	TCH_I2C3_SCL
	3	TCH_INT_N	6	TCH_I2C3_SDA

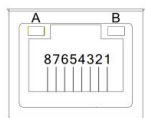
8.8 Left+ Right Amplifier: Header 4*1P, 2.00mm (Mark No.16, J_SPK1)

Graphic	Pin	Definition	Pin	Definition
	1	SPK_OUT_L-	3	SPK_OUT_R-
	2	SPK_OUT_L+	4	SPK_OUT_R+

8.9 SATA Power: Wafer, 4*1P, 2.00mm (Mark No.18, P_SATA1)

Graphic	Pin	Definition	Pin	Definition
	1	VCC12	3	GND
	2	GND	4	VCC5

8.10 GbE LAN: RJ45, 8P (Mark No.22, RJ45_1)

Graphic	Pin	Definition		Pin	Definition	
	1	MDI0+		5	MDI2-	
	2	MDI0-		6	MDI1-	
	3	MDI1+		7	MDI3+	
	4	MDI2+		8	MDI3-	
	A	Active LED	ACT: Twinkling Yellow	B	Speed LED	1000M: Turn Yellow
			Only LINK: Lights On			100M: Turn Green
			NO LINK: Lights Off			10M: Lights Off

8.11 Front Dual USB2.0: Header, 5*2P, 2.54mm (Mark No.25, F_USB1)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5	2	VCC5
	3	USB2.0_1-	4	USB2.0_2-
	5	USB2.0_1+	6	USB2.0_2+
	7	GND	8	GND
			10	N/C

8.12 Front Dual USB2.0: Header, 5*2P, 2.54mm (Mark No.26, F_USB2)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5	2	VCC5
	3	USB2.0_1-	4	USB2.0_2-
	5	USB2.0_1+	6	USB2.0_2+
	7	GND	8	GND
			10	N/C

8.13 Front Dual USB2.0: Header, 5*2P, 2.54mm (Mark No.27, F_USB3)

Graphic	Pin	Definition	Pin	Definition
	1	VCC5	2	VCC5
	3	USB2.0_1-	4	USB2.0_2-
	5	USB2.0_1+	6	USB2.0_2+
	7	GND	8	GND
			10	N/C

8.14 COM1: DB9/FM Connector (Mark No.28, COM1)

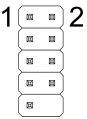
Graphic	Pin	Definition	Pin	Definition
	1	DCD/VCC5/VCC12 ^[1]	6	DSR
	2	RXD	7	RTS
	3	TXD	8	CTS
	4	DTR	9	RI/VCC5/VCC12 ^[1]
	5	GND		

Note:

[1]: PIN1 of COM1 can be DCD# (default) /5V/12V and PIN9 of COM1 can be RI# (default) /5V/12V, selectable by "COM1 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper". (JV_COM1)

8.15 COM1: Header, 5*2P, 2.00mm (Mark No.29, J_COM1)

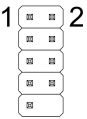
Graphic	Pin	Definition	Pin	Definition
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	1	DCD/VCC5/VCC12 ^[1]	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI/VCC5/VCC12 ^[1]		

Note:

[1]: PIN1 of COM1 can be DCD# (default) /5V/12V and PIN9 of COM1 can be RI# (default) /5V/12V , selectable by "COM1 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper". (JV_COM1)

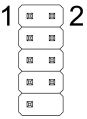
8.16 COM2: Header, 5*2P, 2.00mm (Mark No.30, J_COM2)

Graphic	Pin	Definition	Pin	Definition
	1	DCD/VCC5/VCC12 ^[1]	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI/VCC5/VCC12 ^[1]		

Note:

[1]: PIN2 of COM1 can be DCD# (default) /5V/12V and PIN9 of COM2 can be RI# (default) /5V/12V , selectable by "COM2 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper". (JV_COM2)

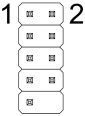
8.17 COM3: Header, 5*2P, 2.00mm (Mark No.31, J_COM3)

Graphic	Pin	Definition	Pin	Definition
	1	DCD/VCC5/VCC12 ^[1]	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI/VCC5/VCC12 ^[1]		

Note:

[1]: PIN3 of COM1 can be DCD# (default) /5V/12V and PIN9 of COM3 can be RI# (default) /5V/12V , selectable by "COM3 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper". (JV_COM3)

8.18 COM4: Header, 5*2P, 2.00mm (Mark No.32, J_COM4)

Graphic	Pin	Definition	Pin	Definition
	1	DCD/VCC5/VCC12 ^[1]	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI/VCC5/VCC12 ^[1]		

Note:

[1]: PIN4 of COM1 can be DCD# (default) /5V/12V and PIN9 of COM4 can be RI# (default) /5V/12V , selectable by "COM4 Pin1/Pin9 Power DCD/VCC5/VCC12 Select Jumper". (JV_COM4)

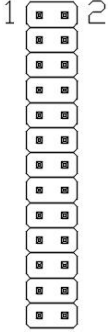
8.19 COM5: Wafer, 3*1P, 2.00mm (Mark No.33, J_COM5)

Graphic	Pin	Definition	Pin	Definition
	1	RXD	3	GND
	2	TXD		

8.20 COM6: Wafer, 3*1P, 2.00mm (Mark No.34, J_COM6)

Graphic	Pin	Definition	Pin	Definition
	1	RXD	3	GND
	2	TXD		

8.21 Parallel: Header, 13*2P, 2.00mm (Mark No.35, J_LPT1)

Graphic	Pin	Definition	Pin	Definition
	1	STB#	2	AFD#
	3	PD0	4	ERR#
	5	PD1	6	INIT#
	7	PD2	8	SLIN#
	9	PD3	10	GND
	11	PD4	12	GND
	13	PD5	14	GND
	15	PD6	16	GND
	17	PD7	18	GND
	19	ACK#	20	GND
	21	BUSY	22	GND
	23	PE	24	GND
	25	SLCT	26	N/C

8.22 GPIO: Wafer, 5*2P, 2.00mm (Mark No.36, J_GPIO1)

Graphic	Pin	Definition	Pin	Definition
	1	SIO_GPI11 (0xA00 Bit1, H ^[1])	2	SIO_GPI15 (0xA00 Bit5, H ^[1])
	3	SIO_GPI16 (0xA00 Bit6, H ^[1])	4	SIO_GPI33 (0xA02 Bit3, H ^[1])
	5	SIO_GPO47 (0xA03 Bit7, H ^[1])	6	SIO_GPO50 (0x4A04 Bit0, H ^[1])
	7	SIO_GPO64 (0xA05 Bit4, H ^[1])	8	SIO_GPO65 (0xA05 Bit5, H ^[1])
	9	GND	10	VCC_GPIO ^[2]

Note:

[1]: “H” or “L” means the default voltage is High or Low level (5V GPIO).

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

8.23 Cash Drawer: Wafer, 6*1P, 2.00mm (Mark No.37, J_CASH1)

Graphic	Pin	Definition	Pin	Definition
	1	VCC_CDPWR ^[1]	4	GND
	2	CASH_PWR1 (GPP B07, 0xE0D50670 bit0)	5	CASH_PWR2 (GPP B08, 0xE0D50680 bit0)
	3	CASH_DETECT2 (GPP B02, 0xE0D50620 bit1)	6	CASH_DEC2 (GPP B03, 0xE0D50630 bit1)

Note:

[1]: Pin1 of J_CASH is 24V by default, 12V is selectable by “Cash Drawer Power VCC12/VCC24 Select Jumper” (J_CDPWR).

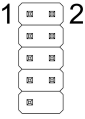
8.24 System FAN: Wafer 4*1P, 2.54mm (Mark No.38, SYS_FAN1)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	VCC12	4	FAN Speed Control

8.25 CPU FAN: Wafer 4*1P, 2.54mm (Mark No.39, CPU_FAN1)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	FAN Speed Detection
	2	VCC12	4	FAN Speed Control

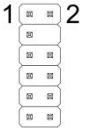
8.26 Front Panel: Header, 5*2P, 2.54mm (Mark No.40, F_PANEL1)

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

Note:

[1]: Power on this Pin is VCC3.3S by default, VCC3.3_DUAL is available if specified. (resistor selectable)

8.27 ESPI: Header, 6*2P, 2.00mm (Mark No.41, J_ESPI1)

Graphic	Pin	Definition	Pin	Definition
	1	ESPI_I00	2	VCC3.3
	3	ESPI_I01		
	5	ESPI_I02	6	ESPI_CLK
	7	ESPI_I03	8	GND
	9	ESPI_CS0	10	VCC3.3
	11	ESPI_ALERT0_N	12	PLTRST_N ^[1]

Note:

[1]: Signal on this Pin is PLT_RST_N by default, ESPI_RST0_N is available if specified. (resistor selectable).

8.28 Power Debug: Wafer, 4*1P, 1.25mm (Mark No.42, J_PRM1)

Graphic	Pin	Definition	Pin	Definition
	1	GND	3	MPS_SCL
	2	N/C	4	MPS_SDA

【End】



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Baltesakker 17, 5625TC
Eindhoven, the Netherlands
www.aicotek.com
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