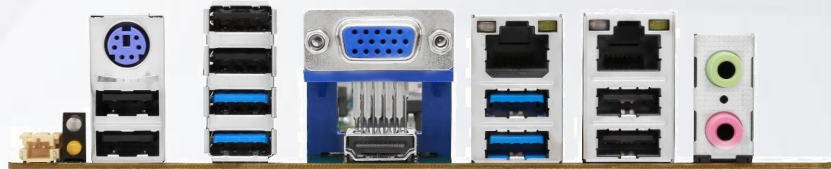


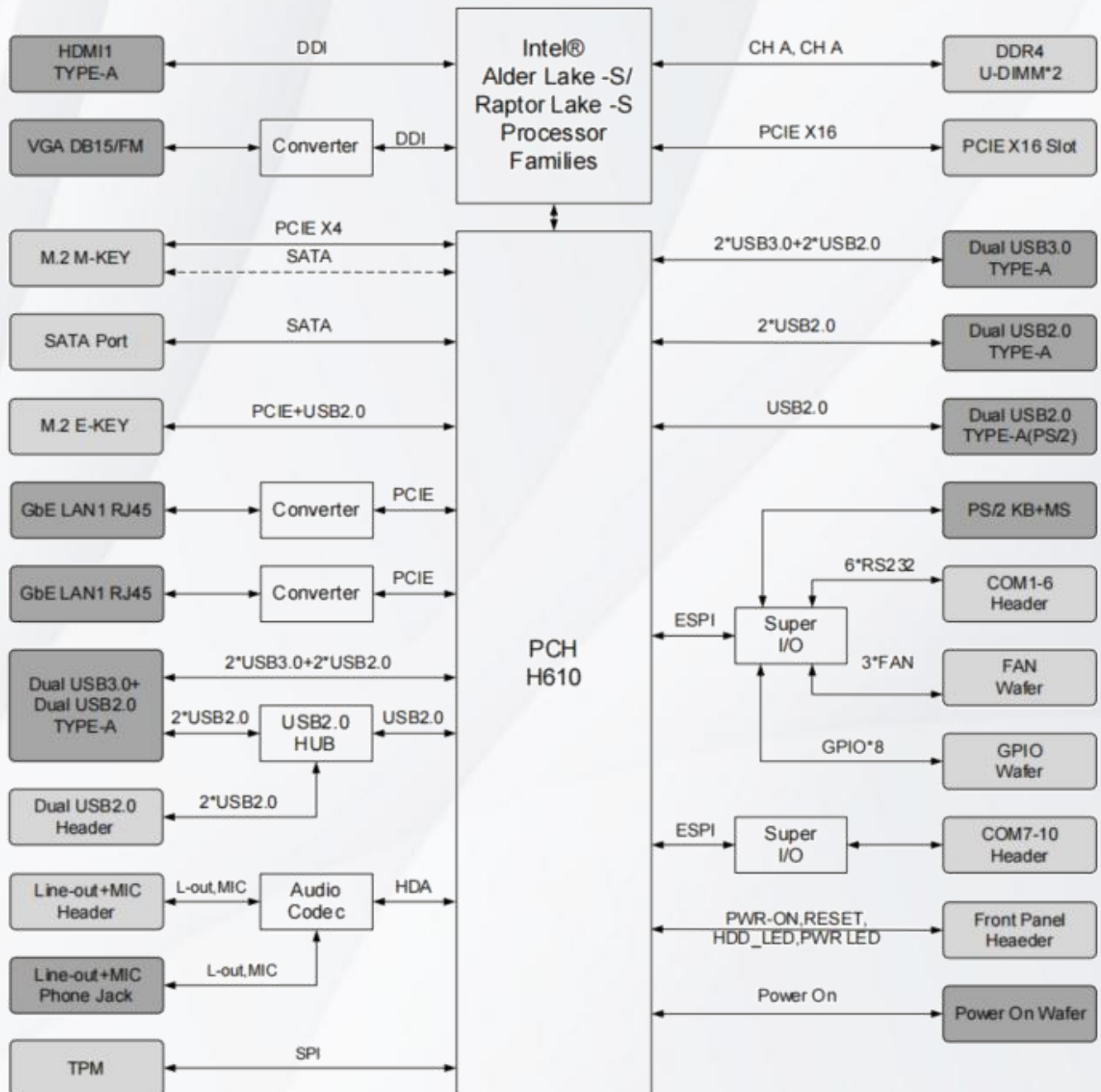
- **Intel H610 chipset**
- **Support Pentium/Celeron/12/13/14th-i3/i5/i7/i9 CPU**
- **2*Gigabit LAN,8*USB 2.0,4*USB 3.2,10*COM**
- **1*HDMI,1*VGA**
- **2*DDR IIII RAM slot**
- **1*M.2 SATA/NVME slot+1*SATA Slot**
- **1*M.2 Key-E Slot**
- **1*PCIE 16X slot**
- **DC 12V power input**
- **Mini-ITX type board, 17*17 cm**
- **1*Mic-in,1*Line-out connector**

A photograph of a green Mini-ITX motherboard. The board is populated with various components: two DDR4 RAM modules in their respective slots, a SATA-to-USB adapter, a SATA-to-PCIe adapter, and a SATA-to-USB adapter. The board features a variety of connectors along its edges, including a USB-C port, a USB-A port, a SATA port, a PCIe slot, and a power input. The board is shown at an angle, highlighting its compact size and the density of its components.

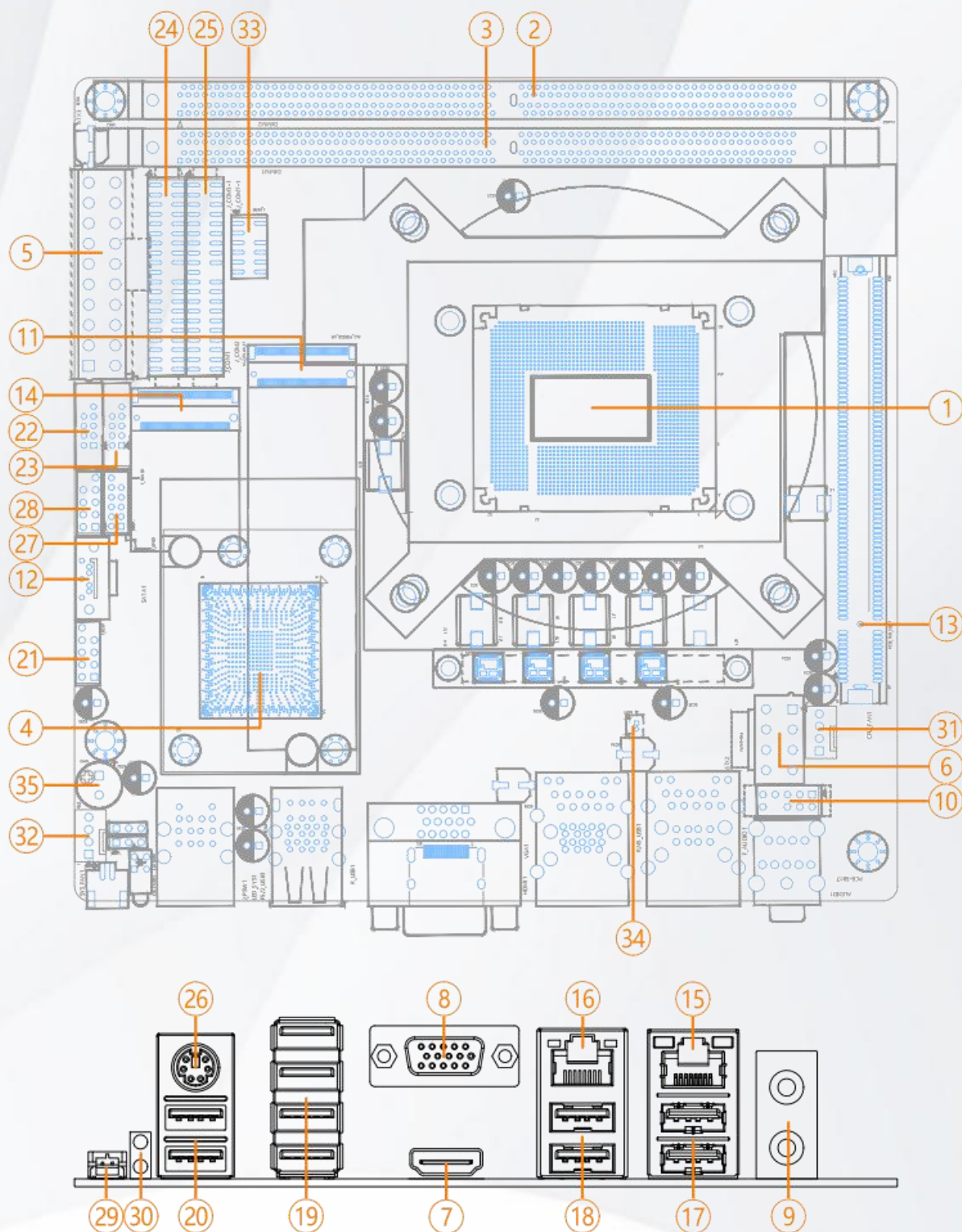
1. Specification:

Model	QY-MB-H610-MITX
CPU	Support Intel 12/13/14th Generation Core i3/5/7/9, Pentium, Celeron, LGA1700 Intel H610 chipset, TDP 6W
Display	1*HDMI: resolution up to 1920*1080@60Hz 1*VGA: resolution up to 4096*2160@30Hz
Memory	Support DDR4 3200 MHz, 2*Non-ECC U-DIMM Slots, Up to 32GB
Storage	1*SATA 3.0 Ports 1, M.2 M-Key 2280, PCIe x4 GEN3, Support PCIe x4 GEN3 NVMe SSD
Expansion	1*PCIE 16X 1, M.2 E-Key 2230, PCIE+USB2.0, support WiFi+ Bluetooth
Ethernet	2, Realtek RTL8111H GbE Ethernet Controller
USB	8*USB 2.0 (Rear I/O) 4*USB 3.2 (Rear I/O)
COM	10*RS-232
Audio	1*Line-Out+1*MIC
Other Ports	8 * GPIO 1 * PS/2 Connector (Keyboard +Mouse 2in1) 1 * Power Button Wafer 1 * Front Panel Header 1 * CPU FAN Wafer 1 * System FAN Wafer 1 * System +HDD LED 1 * Debug Header
System	Windows 10/11, Linux
Temperature	Storage: -20°C ~ 75°C Operating: 0°C ~ 60°C
BIOS	AMI UEFI BIOS
Factor	Mini-ITX (17cm*17cm)

2. Date Flow



3. Jumpers / Headers and Connectors



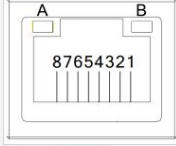
1	CPU	20	Dual USB2.0 TYPE-A Connector
2	DDR4 SO-DIMM Slot	21	Front Dual USB2.0 Header
3	DDR4 SO-DIMM Slot	22	COM1 Header
4	PCH	23	COM2 Header
5	ATX 20P Power Input Connector	24	COM3-6 Header
6	ATX 8P Power Input Connector	25	COM7-10 Header
7	HDMI TYPE-A Connector	26	PS/2 Connector (Keyboard & Mouse)
8	VGA DB15/FM Connector	27	GPIO Header
9	Line-Out + MIC Φ 3.5mm TRS Phone Jack	28	Front Panel Header
10	Front Audio Header (Line-out+ MIC	29	Power on Wafer
11	M.2 M-Key Slot (PCIe x4 Gen3/SATA, 2280)	30	Power on LED+SSD LED
12	SATA3.0 7P Connector	31	CPU FAN Wafer
13	PIC-E 16x Slot	32	System FAN Wafer
14	M.2 E-Key Slot (PCIe+USB2.0, 2230)	33	ESPI Header
15	GbE LAN RJ45 Connector1	34	CMOS Battery Wafer
16	GbE LAN RJ45 Connector2	35	Buzzer
17	Dual USB2.0 TYPE-A Connector		
18	Dual USB3.0 TYPE-A Connector		
19	Dual USB3.0 + Dual USB2.0 TYPE-A Connector		

4. Definition

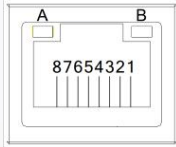
(1) F-AUDIO1 (Front Audio Pin Header 20*2 Pin 1.25mm)

Graphic	Pin	Definition	Pin	Definition
	1	MIC_IN_L	2	GND
	3	MIC_IN_R	4	VCC3.3
	5	LINE_OUT_R	6	MIC_IN_RET
	7	GND		
	9	LINE_OUT_L	10	LINE_OUT_RET

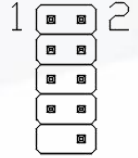
(2) GbE LAN: RJ45, 8P (Mark No.15, RJ45_USB1(LAN))

Graphic	Pin	Definition	Pin	Definition
	1	MDI0+	5	MDI2+
	2	MDI0-	6	MDI2-
	3	MDI1+	7	MDI3+
	4	MDI1-	8	MDI3-
	A	Speed LED	B	Active LED
		1000M: Turn Orange		ACT: Twinkling Yellow
		100M: Turn Green		Only LINK: Lights Off
		10M: Lights Off		Stop: Lights Off

(3) GbE LAN: RJ45, 8P (Mark No. 16, RJ45_USB2(LAN))

Graphic	Pin	Definition	Pin	Definition
	1	MDI0+	5	MDI2+
	2	MDI0-	6	MDI2-
	3	MDI1+	7	MDI3+
	4	MDI1-	8	MDI3-
	A	Speed LED	B	Active LED
		1000M: Turn Orange		ACT: Twinkling Yellow
		100M: Turn Green		Only LINK: Lights Off
		10M: Lights Off		Stop: Lights Off

(4) Front Dual USB2.0: Wafer, 20*2P, 2.00mm (Mark No.21, 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

(5) COM1: Header, 5*2P, 2.00mm (Mark No.22, J_COM1)

Graphic	Pin	Definition	Pin	Definition
	1	DCD	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI		

(6) COM1: Header, 5*2P, 2.00mm (Mark No.22, J_COM1)

Graphic	Pin	Definition	Pin	Definition
	1	DCD	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI		

(7) COM3-6: Header, 5*2P, 2.00mm (Mark No.24, J_COM3-1)

Graphic	Pin	Definition	Pin	Definition
	1	COM3_DCD/VCC5 ^[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_DCD/VCC5 ^[1]	12	COM4_RXD
	13	COM4_TXD	14	COM4_DTR
	15	GND	16	COM4_DSR
	17	COM4_RTS	18	COM4_CTS
	19	COM4_RI	20	
	21	COM5_DCD/VCC5 ^[1]	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/VCC5 ^[1]	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 COM3/4/5/6 can be DCD (default) /5V, selectable by resistor.

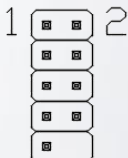
(8) COM7-10: Header, 5*2P, 2.00mm (Mark No.25, J_COM7-1)

Graphic	Pin	Definition	Pin	Definition
	1	COM7_DCD	2	COM7_RXD
	3	COM7_TXD	4	COM7_DTR
	5	GND	6	COM7_DSR
	7	COM7_RTS	8	COM7_CTS
	9	COM7_RI	10	GND
	11	N/C	12	COM8_RXD
	13	COM8_TXD	14	N/C
	15	GND	16	N/C
	17	N/C	18	N/C
	19	N/C	20	
	21	N/C	22	COM9_RXD
	23	COM9_TXD	24	N/C
	25	GND	26	N/C
	27	N/C	28	N/C
	29	N/C	30	GND
	31	N/C	32	COM10_RXD
	33	COM10_TXD	34	N/C
	35	GND	36	N/C
	37	N/C	38	N/C
	39	N/C	40	GND

(9) GPIO: Header, 6*2P, 2.00mm (Mark No.27 J_GPIO1)

Graphic	Pin	Definition	Pin	Definition
	1	SIO_GPI70 (0xA06 Bit0, H ^[1])	2	SIO_GPI71 (0xA06 Bit1, H ^[1])
	3	SIO_GPI72 (0xA06 Bit2, H ^[1])	4	SIO_GPI73 (0xA06 Bit3, H ^[1])
	5	GND	6	SIO_GPO74 (0xA06 Bit4, H ^[1])
	7	SIO_GPO75 (0xA06 Bit5, H ^[1])	8	SIO_GPO76 (0xA06 Bit6, H ^[1])
	9	SIO_GPO77 (0xA06 Bit7, H ^[1])	10	VCC
			12	N/C

(10) Front Panel: Wafer, 5*2P, 2.54mm (Mark No.28, F_PANEL1))

Graphic	Pin	Definition	Pin	Definition
	1	HDD 3.3V LED+	2	Power 3.3V LED+
	3	HDD 3.3V LED-	4	Power 3.3V LED-
	5	Reset-	6	Power On+
	7	Reset+	8	Power On-
	9	N/C		

(11) Power on: Wafer, 2*1P, 2.00mm (Mark No.29, J_PSW1)

Graphic	Settings	Settings
	Power On+	Power On-

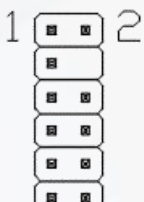
(12) CPU FAN: Wafer 4*1P, 2.54mm (Mark No.31, CPU_FAN1)

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

(13) CPU FAN: Wafer 4*1P, 2.54mm (Mark No.31, CPU_FAN1)

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

(14) ESPI: Wafer, 6*2P, 2.00mm (Mark No.33, J_ESPI1)

Graphic	Pin	Definition	Pin	Definition
	1	ESPI_IO0	2	VCC3.3
	3	ESPI_IO1		
	5	ESPI_IO2	6	ESPI_CLK
	7	ESPI_IO3	8	GND
	9	ESPI_CS0-	10	VCC3.3
	11	ESPI_ALERT0_N	12	PLTRST_N [1]

Notes:

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

(15) RCMOS Battery: Wafer, 2*1P, 1.25mm (Mark No.34, BAT1)

Graphic	Pin	Definition	Pin	Definition
	1	VCC_BA	2	GND

[END]