

# HW-T1562

Ver 1.0

# HW-AT1562 Series

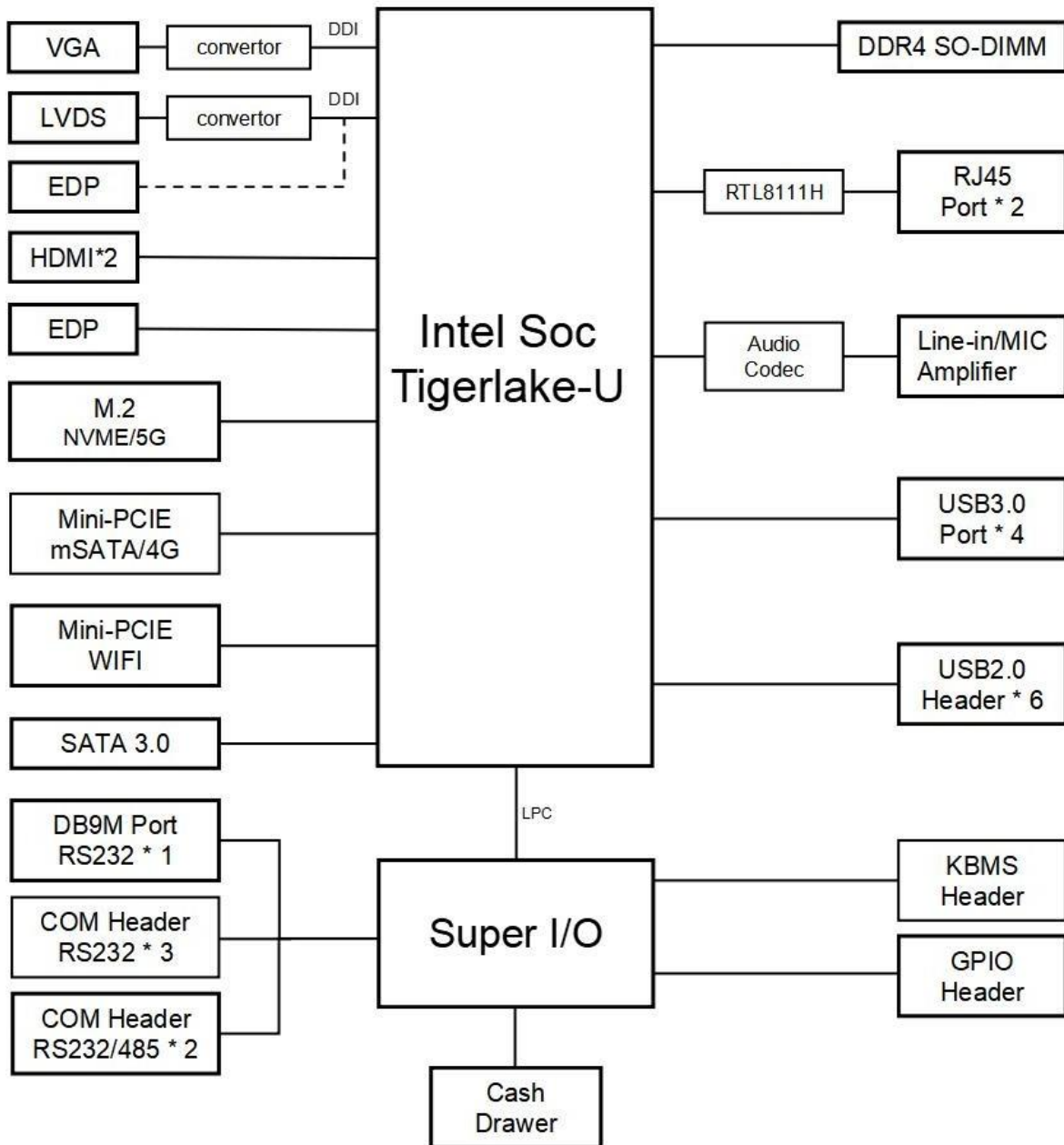
- 支持 Intel Tiger Lake 11<sup>th</sup>Core™ i3/i5/i7 或 Celeron CPU
- 6\*COM, 4\*USB3.0, 6\*USB2.0, 2\*Gigabit LAN
- 1\*LVDS/eDP, 2\*HDMI, 1\*VGA, 1\*eDP (Support quad display simultaneously)
- 2\*Mini-PCIe, support mSATA and Wifi/4G/BT
- 1\*M.2, support NVMe/SATA/5G
- Mini-ITX, DC 12V Power Input



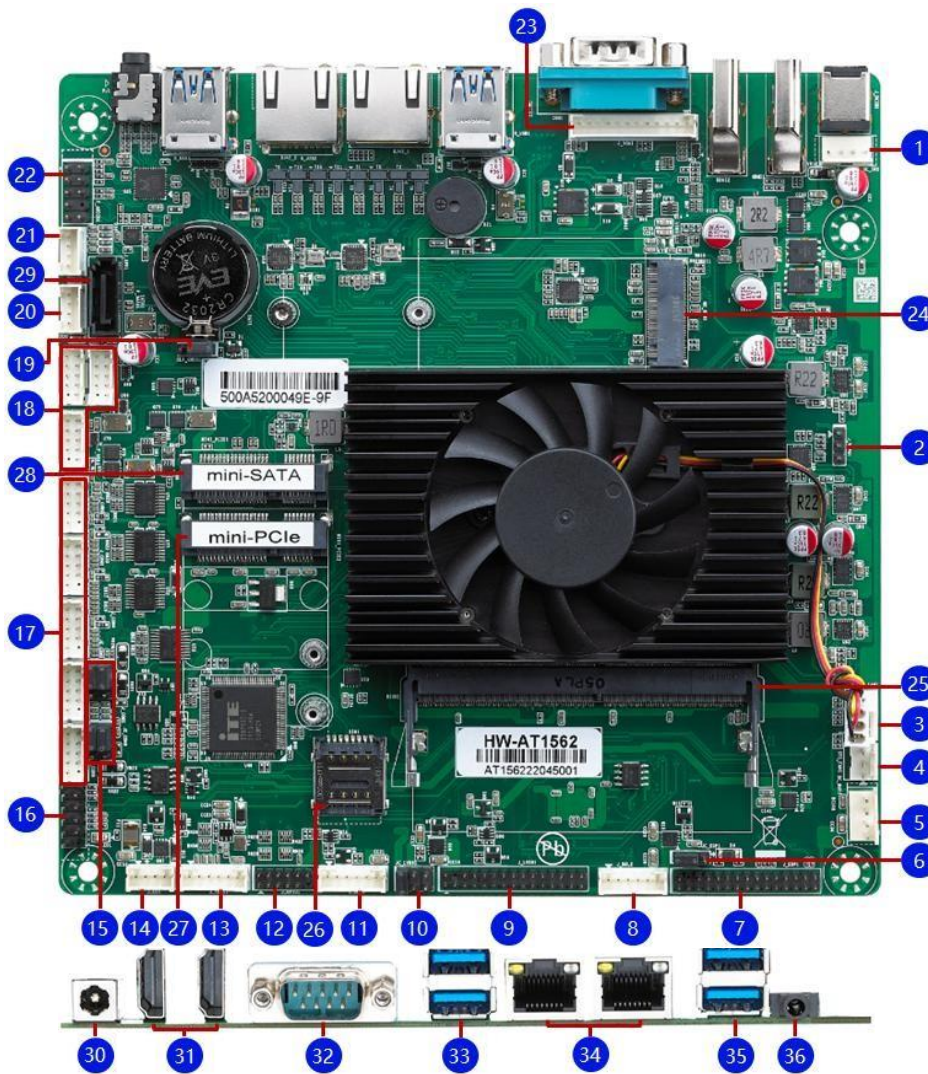
# 1. Specification

Model	HW-AT1562	HW-AT636
CPU	Intel® Core™ i3-1115G4, up to 4.10G, Dual-core	Intel® Celeron® 6305E, Base Frequency 1.8G, Dual-core, TDP 15W
Display	Support quad display simultaneously: 2 * HDMI: resolution up to 4096x2160@24Hz 1 * LVDS/eDP: LVDS, resolution up to 1920x1200@60Hz eDP, resolution up to 4096x2160@60Hz 1 * eDP: resolution up to 4096x2160@60Hz 1 * VGA: max resolution up to 1920*1200@60Hz	
Memory	DDR4-3200,1*SO-DIMM, up to 32GB	
Storage	1 * SATA2.0 7P Connector 1 * mSATA (3.0)	
Expansion Interface	2 * Mini-PCIe (1*mSATA, 1*Wifi supported with 3G/4G selectable) 1 * M.2(NVMe with SATA/5G selectable)	
Ethernet	2 * Realtek® 1Gbps PCIe Ethernet Controller, RJ45	1 * Realtek® 1Gbps PCIe Ethernet Controller, RJ45
Audio	Realtek® HDA Codec, with MIC/Line-out and Amplifier 1 * Front Audio Header (Line-Out + MIC) 1 * Line-Out/MIC 2in1 Phone Jack	
COM	4 * RS232(1*Connector&3*Header) 2 * RS232/RS485(2*Header)	
USB	4 * USB3.0 (Rear I/O, TYPE-A) 6 * USB2.0 (Internal, Header)	4 * USB3.0 (Rear I/O, TYPE-A) 2 * USB2.0 (Rear I/O, TYPE-A) 4 * USB2.0 (Internal, Header)
Other Ports	1 * Cash Drawer Header 1 * VGA Header 1 * Micro SIM Card Slot 1 * CPU FAN Header 1 * System FAN Header 1 * Front Panel Header 1 * GPIO Header 1 * CMOS Clear Jumper	
System	Windows10/11, Linux	
Temperature	Storage: -20~75°C Operating: -15°~60°C	
BIOS	AMI UEFI BIOS (Support Watchdog Timer)	
Power Input	DC 12V 1 * Power Input Connector	
Factor	MINI-ITX Standard (170mm * 170mm)	

## 2. Data Flow



### 3. Marking instruction



#### Connector&Header

1	DC 12V Power Input Connector
2	VRM Power PROGRAM I/F
3	CPU Fan Connector
4	System Fan Connector
5	DC12V/5V Power Output Connector
6	EDP Signal Pin Header
7	EDP VDD Select Jumper
8	EDP Backlight Control Pin Header
9	LVDS Signal Pin Header
10	LVDS VDD Select Jumper
11	LVDS Backlight Control Pin Header
12	GPIO Pin Header
13	Keyboard&Mouse Pin Header
14	Cash Drawer Pin Header
15	COM5/6 RS232/485 Signal Select Jumper
16	Front Panel Pin Header
17	COM2/3/4/5/6 Pin Headers
18	Front USB Pin Headers
19	CMOS Clear Jumper
20	SATA Power Pin Header
21	Amplifier Pin Header
22	Front Audio Pin Header
23	VGA Pin Header
24	M.2 Connector
25	DDR4 SO-DIMM Slot
26	SIM Card Slot
27	Mini PCI-E2 Slot (WIFI)
28	Mini PCI-E1 Slot (mSATA)
29	SATA 3.0 Connector
30	DC 12V Power Input Connector
31	HDMI Connectors
32	COM Connector
33	USB3.0 Connectors
34	LAN Connectors
35	USB3.0 Connectors
36	Mic-in/Line-out Connector

## 4. Definition

### [1] DC12V Power Input Connector

No.	Location	Pin	Definition	Pin	Definition
1	DC_IN1	1	GND	2	GND
		3	+ 12V	4	+ 12V

### [2] VRM Power PROGRAM I/F (3\*1 Pin 2.54mm)

No.	Location	Pin	Definition	Pin	Definition
2	J_VRPG1	1	VRM_SCL	2	GND
		3	VRM_SDA		

### [3] CPU Fan Connector (4\*1 Pin 2.54mm)

No.	Location	Pin	Definition	Pin	Definition
3	CPU_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection	4	FAN Speed Control

### [4] System FAN Connector (3\*1 Pin 2.54mm)

No.	Location	Pin	Definition	Pin	Definition
4	SYS_FAN1	1	GND	2	+ 12V
		3	FAN Speed Detection		

### [5] DC12V/5V Power Output Connector (4\*1 Pin 2.54mm)

No.	Location	Pin	Definition	Pin	Definition
5	DC_OUT1	1	+ 12V	2	GND
		3	GND	4	+ 5V

### [6] EDP Signal Pin Header (15\*2 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
6	J_EDP1	1	VDD <sup>[1]</sup>	2	VDD <sup>[1]</sup>
		3	VDD <sup>[1]</sup>		
		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	N/C	18	N/C
		19	EDP_TX0-	20	EDP_TX0+
		21	EDP_TX1-	22	EDP_TX1+
		23	N/C	24	N/C
		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, Location 7).

[7] EDP VDD Select Jumper (3\*2 Pin 2.54mm)

No.	Location	Setting	Function
7	JC_EDP1	1-2(Default)	+ 3.3V
		2-3	+ 5V

[8] EDP Backlight Control Pin Header(6\*1 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
8	J_BKL2	1	GND	2	GND
		3	EDP_BKL_CTL	4	EDP_BKL_EN
		5	+ 12V	6	+ 12V

[9] LVDS Signal Pin Header (15\*2 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
9	J_LVDS1	1	VDD <sup>[1]</sup>	2	VDD <sup>[1]</sup>
		3	VDD <sup>[1]</sup>		
		5	LVDS_Detect#/	6	LVDS_Detect#/

			EDP_HPDP#		EDP_HPDP#
		7	LVDS_A_DATA0-/ N/C	8	LVDS_A_DATA0+/ N/C
		9	LVDS_A_DATA1-/ N/C	10	LVDS_A_DATA1+/ N/C
		11	LVDS_A_DATA2-/ N/C	12	LVDS_A_DATA2+/ N/C
		13	GND	14	GND
		15	LVDS_A_CLK-/ N/C	16	LVDS_A_CLK+/ N/C
		17	LVDS_A_DATA3-/ N/C	18	LVDS_A_DATA3+/ N/C
		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-/ N/C	24	LVDS_B_DATA2+/ N/C
		25	GND	26	GND
		27	LVDS_B_CLK-/ N/C	28	LVDS_B_CLK+/ N/C
		29	LVDS_B_DATA3-/ EDP_AUX-	30	LVDS_B_DATA3+/ EDP_AUX+

Notes:

[1] Panel Power VDD is 3.3V by default, 5V or 12V is selectable by "LVDS VDD Select Jumper" (JC\_LVDS1, Location 10).

[2] It also can support EDP if specified(resistor selectable).

[10] LVDS VDD Select Jumper (3\*2 Pin 2.54mm)

No.	Location	Setting	Function
10	JC_LVDS1	1-2(Default)	+ 3.3V
		3-4	+ 5V
		5-6	+ 12V



[11] LVDS Backlight Control Pin Header(6\*1 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
11	J_BKL1	1	GND	2	GND
		3	LVDS_BKL_CTL	4	LVDS_BKL_EN
		5	+ 12V	6	+ 12V

[12] GPIO Pin Header (6\*2 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
12	J_GPIO1	1	SIO_GPI80 (0xA07 Bit0)	2	SIO_GPI81 (0xA07 Bit1)
		3	SIO_GPI82 (0xA07 Bit2)	4	SIO_GPI83 (0xA07 Bit3)
		5	GND	6	SIO_GPO84 (0xA07 Bit4)
		7	SIO_GPO85 (0xA07 Bit5)	8	SIO_GPO86 (0xA07 Bit6)
		9	SIO_GPO87 (0xA07 Bit7)	10	+ 3.3V
				12	N/C

[13] Keyboard&Mouse Pin Header (6\*1 Pin 2.0mm)

No.	Location	Pin	Definition	Pin	Definition
13	J_KBMS1	1	KB_CLK	2	KB_DAT
		3	MS_CLK	4	GND
		5	+ 5V	6	MS_DAT

[14] Cash Drawer Pin Header (4\*1 Pin 2.0mm)

No.	Location	Pin	Definition	Pin	Definition
14	J_CD1	1	+ 12V	2	CD_RTN#
		3	CD_DEC#	4	GND

[15] COM5/6 RS232/RS485 Select Jumpers (3\*2 Pin 2.54mm)

No.	Location	Settings	Function
15	JC_COM5/6	1-3、 2-4(Default)	RS232
		3-5、 4-6	RS485

[16] Front Panel Pin Header (5\*2 Pin 2.54 mm)

No.	Location	Pin	Definition	Pin	Definition
16	F_PANEL1	1	HD LED+	2	Power LED+
		3	HD LED-	4	Power LED-
		5	RESET-	6	PWR+
		7	RESET+	8	PWR-
		9	N/C		

[17] COM2/3/4/5/6 Pin Header (5\*2 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
17	J_COM2	1	DCD <sup>[1]</sup>	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	RI# <sup>[2]</sup>		
	J_COM3	1	DCD <sup>[3]</sup>	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	RI# <sup>[4]</sup>		
	J_COM4	1	DCD	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	RI# <sup>[4]</sup>		
	J_COM5	1	DCD	2	RXD <sup>[1]</sup>

J_COM6	3	TXD	4	DTR#
	5	GND	6	DSR#
	7	RTS#	8	CTS#
	9	RI#		
	1	DCD	2	RXD <sup>[5]</sup>
	3	TXD	4	DTR#
	5	GND	6	DSR#
	7	RTS#	8	CTS#
	9	RI#		

Note:

[1] Pin1 of J\_COM2 also can be 5V(resistor selectable).

[2] Pin9 of J\_COM2 also can be 5V(BIOS selectable).

[3] Pin1 of J\_COM3 also can be 12V(resistor selectable).

[4] Pin9 of J\_COM3/4 also can be 12V(BIOS selectable).

[5] J\_COM5/6 support RS232 by default, and also can support RS485 selected by JC\_COM5/6(Location15).

[18] Front USB Pin Headers (5\*2 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
18	F_USB1	1	+ 5 V	2	+ 5 V
		3	USB-	4	USB-
		5	USB+	6	USB+
		7	GND	8	GND
				10	GND
	F_USB2	1	+ 5 V	2	+ 5 V
		3	USB- <sup>[1]</sup>	4	USB- <sup>[2]</sup>
		5	USB+ <sup>[1]</sup>	6	USB+ <sup>[2]</sup>
		7	GND	8	GND
				10	GND
	F_USB3	1	+ 5 V	2	+ 5 V
		3	USB-	4	USB-
		5	USB+	6	USB+
		7	GND	8	GND
				10	GND

Note:

[1] This pair signal of F\_USB2 will be invaluable if MINI-PCIE2 support 3G/4G.

[2] This pair signal of F\_USB2 will be invaluable if M.2 support 5G.

[19] CMOS Clear Jumper (3\*1 Pin 2.54mm)

No.	Location	Setting	Function
19	CLR_CMOS	1-2(Default)	Normal
		2-3	Clear CMOS

[20] SATA Power Pin Header (4\*1 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
20	P_SATA1	1	+ 12V	2	GND
		3	GND	4	+ 5V

[21] Amplifier Pin Header (2\*1 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
21	J_SPK1	1	SPK_L-	2	SPK_L+
		3	SPK_R-	4	SPK_R+

[22] Front Audio Pin Header (5\*2 Pin 2.54mm)

No.	Location	Pin	Definition	Pin	Definition
22	F_AUDIO1	1	FP_MIC_L	2	GND
		3	FP_MIC_R	4	+ 3.3V
		5	FP_OUT_R	6	MIC_Detect
		7	GND		
		9	FP_OUT_L	10	LINE_Detect

[23] VGA Pin Header (12\*1 Pin 2.00mm)

No.	Location	Pin	Definition	Pin	Definition
23	J_VGA1	1	GND	2	VSYNC
		3	HSYNC	4	GND

		5	RED	6	GND
		7	GREEN	8	GND
		9	BLUE	10	GND
		11	DDC data	12	DDC clock

Note:

[1] VGA (DB15) Connector and J\_VGA1 share the same signal and can't be accessed simultaneously.

[24] COM1 Connector

No.	Location	Pin	Definition	Pin	Definition
32	COM1	1	DCD	2	RXD
		3	TXD	4	DTR#
		5	GND	6	DSR#
		7	RTS#	8	CTS#
		9	RI#[1]		

Note:

[1] Pin9 of COM1 also can be 5V(BIOS selectable).

**【END】**