

UP Squared V2

Maker Board
UPS-EHL01

User's Manual 2nd Ed

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Packing List

Before setting up your product, please make sure the following items have been shipped:

Item	Quantity
● UPS-EHL01 with Heatsink (UP Squared V2)	1

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the product page at AAEON.com for the latest version of this document.

Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

1. All cautions and warnings on the device should be noted.
2. Make sure the power source matches the power rating of the device.
3. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
4. Always completely disconnect the power before working on the system's hardware.
5. No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
6. If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
7. Always disconnect this device from any AC supply before cleaning.
8. While cleaning, use a damp cloth instead of liquid or spray detergents.
9. Make sure the device is installed near a power outlet and is easily accessible.
10. Keep this device away from humidity.
11. Place the device on a solid surface during installation to prevent falls
12. Do not cover the openings on the device to ensure optimal heat dissipation.
13. Watch out for high temperatures when the system is running.
14. Do not touch the heat sink or heat spreader when the system is running
15. Never pour any liquid into the openings. This could cause fire or electric shock.
16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

17. If any of the following situations arises, please the contact our service personnel:
 - i. Damaged power cord or plug
 - ii. Liquid intrusion to the device
 - iii. Exposure to moisture
 - iv. Device is not working as expected or in a manner as described in this manual
 - v. The device is dropped or damaged
 - vi. Any obvious signs of damage displayed on the device
18. **DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.**

Warning!



This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte. Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

China RoHS Requirements (CN)

产品中有毒有害物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有毒有害物质或元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
印刷电路板 及其电子组件	X	X	○	○	○	○
外部信号 连接器及线材	X	X	○	○	○	○
<p>○: 表示该有毒有害物质在该部件所有均质材料中的含量均在 SJ/T 11363-2006 标准规定的限量要求以下。</p> <p>X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。</p> <p>备注: 此产品所标示之环保使用期限, 系指在一般正常使用状况下。</p>						

China RoHS Requirement (EN)

Poisonous or Hazardous Substances or Elements in Products

AAEON Main Board/ Daughter Board/ Backplane

Component	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
PCB & Other Components	X	X	○	○	○	○
Wires & Connectors for External Connections	X	X	○	○	○	○
<p>O: The quantity of poisonous or hazardous substances or elements found in each of the component's parts is below the SJ/T 11363-2006-stipulated requirement.</p> <p>X: The quantity of poisonous or hazardous substances or elements found in at least one of the component's parts is beyond the SJ/T 11363-2006-stipulated requirement.</p> <p>Note: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only</p>						

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Chapter 1

Product Specifications

1.1 Specifications

System

CPU	Intel® Celeron® Processor N6210 Intel® Pentium® Processor J6426
Graphics	Intel® UHD Graphics
Memory	Up to 16GB LPDDR4
Storage	Up to 64GB EMMC
I/O	HDMI 1.4b x 1 DP 1.2 x 1 eDP 1.3 x 1 6-pin Audio Wafer (Line out + MIC in) x 1 6-pin RS-232/422 Header x 1
Camera	-
USB	USB 2.0 x 2 (via 10-pin wafer x 1) USB 3.2 Gen 2 (Type-A) x 3
Expansion	40-pin GPIO x 1 M.2 2230 E-Key x 1 (PCIe [x2], USB 2.0 x 1) M.2 2280 M-Key x 1 (PCIe [x2]) SATA 6Gb/s x 1
Display Interface	HDMI 1.4b x 1 DP 1.2 x 1 eDP x 1
Ethernet	GbE RJ-45 x 2
Security	Onboard TPM 2.0
RTC	Yes

System

OS Support	Microsoft Windows 10 (full)
	Windows IoT Core
	Ubuntu 20.04 LTS
	Yocto 3.1

Power Requirements

Power	12V DC-in, 5A
Power Supply Type	AT/ATX
Power Consumption (Typical)	30W~38W

Mechanical

Dimension	3.37" x 3.54" (85.6mm x 90mm)
Net Weight	0.52 lb. (0.24Kg)
Gross Weight	0.66 lb. (0.3Kg)

Environmental

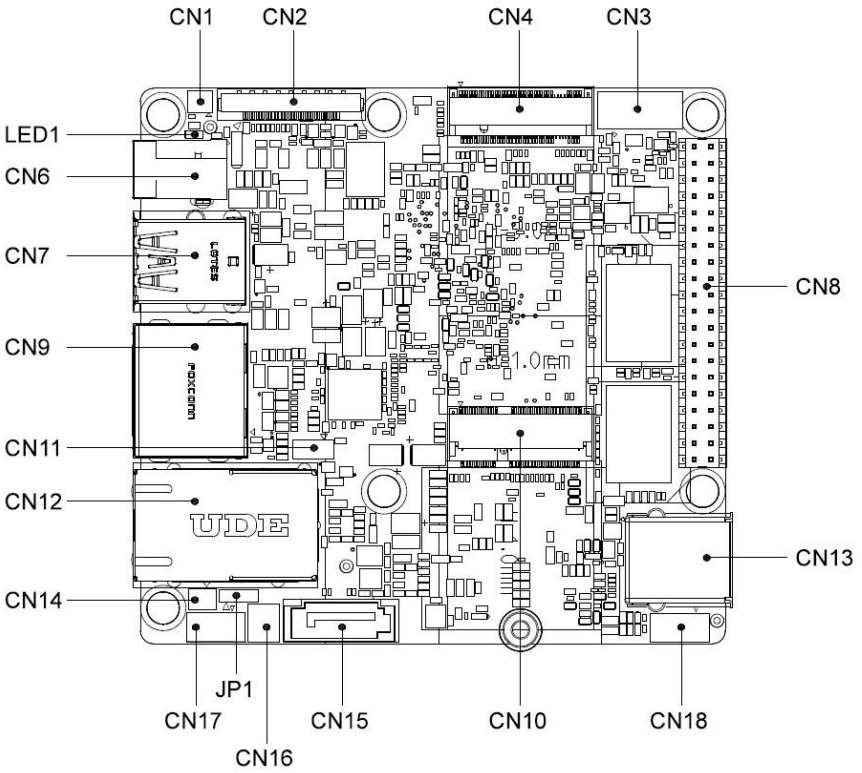
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)/0.5 airflow
Operating Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	465,586
Certificate	CE/FCC Class A, RoHS Compliant, REACH

Chapter 2

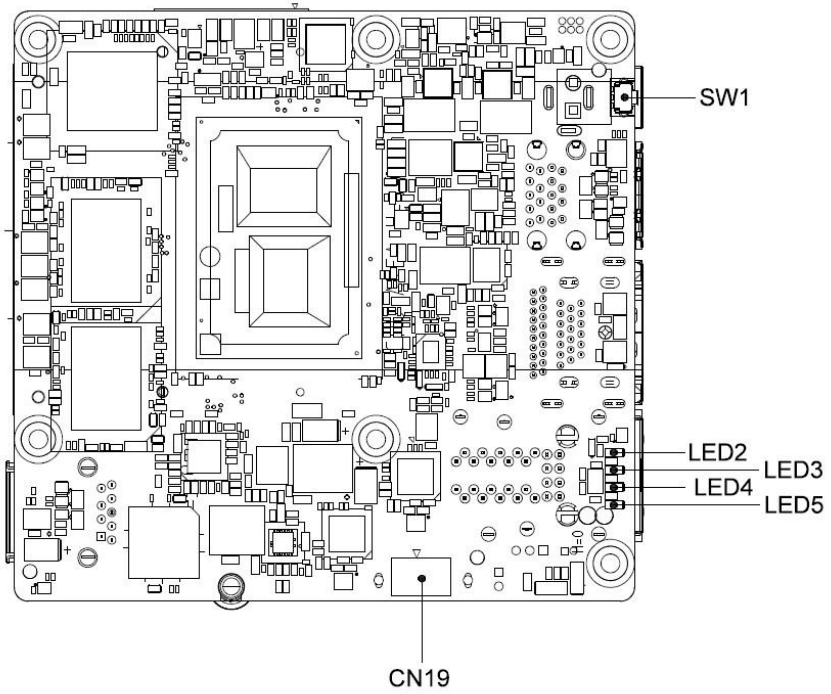
Hardware Information

2.2 Jumpers and Connectors

Top:



Bottom:

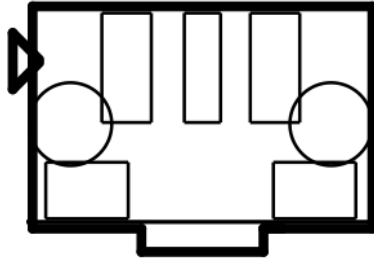


2.3 List of Jumpers and Connectors

Please refer to the table below for all of the board's connectors that you can configure for your application

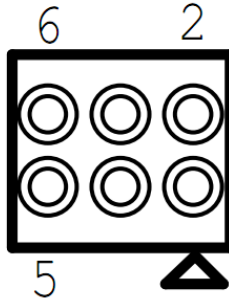
Label	Function
SW1	PWR Button
CN19	FAN
CN1	BIOS Prog
CN2	eDP
CN3	USB Header
CN4	M.2 2280 M-Key
CN6	Power Input
CN7	USB 3.0
CN8	HAT 40
CN9	DP/HDMI
CN10	M.2 2230 E-Key
CN11	RS-232/422
CN12	LAN
CN13	USB 3.0
CN14	RTC
CN15	SATA
CN16	SATA PWR
CN17	Front Panel
CN18	Audio
LED1	PWR LED
LED2	LED 2
LED3	LED 3
LED4	LED 4
LED5	LED 5
JP1	Auto-Power Button Selection

2.3.1 PWR Button (SW1)



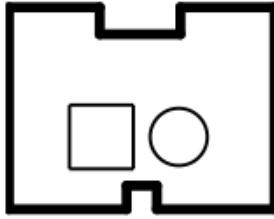
Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	PS_ON_SW	3	GND

2.3.2 BIOS Prog (CN1)



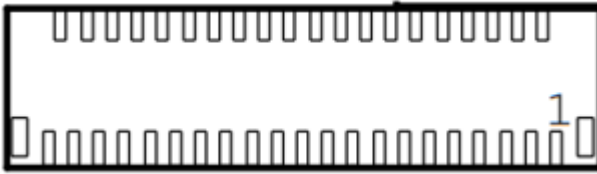
Pin	Signal	Pin	Signal
1	SPI_BIOS_MISO	2	SPI_BIOS_CLK
3	GND	4	SPI_BIOS_CS0#
5	+VCC_SPI	6	SPI_BIOS_MOSI

2.3.3 Fan (CN19)



Pin	Signal	Pin	Signal
1	FAN_PWR (12V)	2	GND

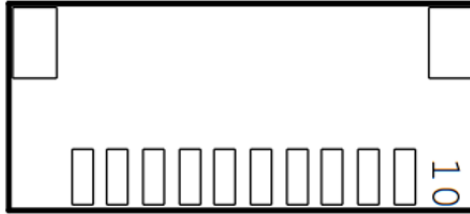
2.3.4 eDP (CN2)



Pin	Signal	Pin	Signal
1	+VDD_eDP	2	+VDD_eDP
3	GND	4	GND
5	EDP_TXN_2	6	EDP_TXP_2
7	GND	8	EDP_TXN_1
9	EDP_TXP_1	10	GND
11	EDP_TXN_0	12	EDP_TXP_0
13	GND	14	EDP_TXN_3
15	EDP_TXP_3	16	GND
17	EDP_AUXN	18	EDP_AUXP
19	GND	20	EDP_BKLT_CTRL
21	NC	22	EDP_BKLT_EN
23	EDP_HPD_N	24	GND
25	GND	26	GND
27	+V12S	28	+V12S

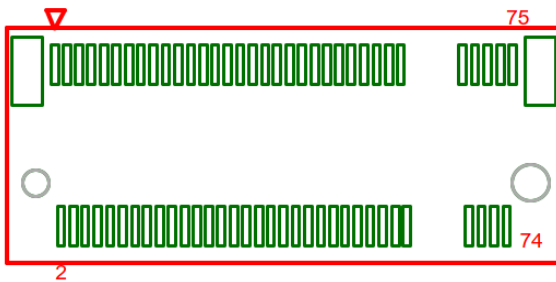
Pin	Signal	Pin	Signal
29	+V12S	30	+V12S

2.3.5 USB Header (CN3)



Pin	Signal	Pin	Signal
1	+5V	2	USB2_DN6
3	USB2_DP6	4	GND
5	+5V	6	USB2_DN7
7	USB2_DP7	8	GND
9	UART1_RXD	10	UART1_TXD

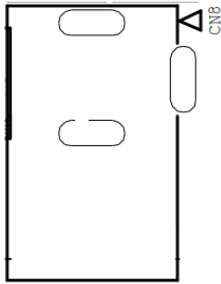
2.3.6 M.2 2280 M-Key (CN4)



Pin	Signal	Pin	Signal
1	GND	2	+3.3V_NGFF
3	NC	4	+3.3V_NGFF
5	NC	6	+3.3V_NGFF
7	NC	8	NC
9	GND	10	NC

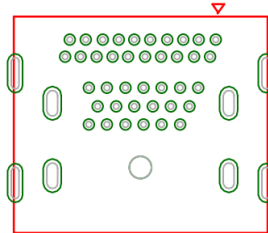
Pin	Signal	Pin	Signal
11	NC	12	+3.3V_NGFF
13	NC	14	+3.3V_NGFF
15	GND	16	+3.3V_NGFF
17	NC	18	+3.3V_NGFF
19	NC	20	NC
21	GND	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	PCIE_P5_RX_DN	30	NC
31	PCIE_P5_RX_DP	32	NC
33	GND	34	NC
35	PCIE_P5_TX_DN	36	NC
37	PCIE_P5_TX_DP	38	GPPC_E_4_SATA_DEVSLP_0
39	GND	40	SMB_CLK_1V8
41	PCIE_P4_RX_DN	42	SMB_DATA_1V8
43	PCIE_P4_RX_DP	44	NC
45	GND	46	NC
47	PCIE_P4_TX_DN	48	NC
49	PCIE_P4_TX_DP	50	BUF_PLT_RST#
51	GND	52	NC
53	PCIE_CLK4_DN	54	WAKE_N
55	PCIE_CLK4_DP	56	NC
57	GND	58	NC
59	KEY	60	KEY
61	KEY	62	KEY
63	KEY	64	KEY
65	KEY	66	KEY
67	NC	68	SUS_CLK_CPU
69	NC	70	+3P3V_NGFF
71	GND	72	+3P3V_NGFF
73	GND	74	+3P3V_NGFF
75	GND	-	-

2.3.7 Power Input (CN6)



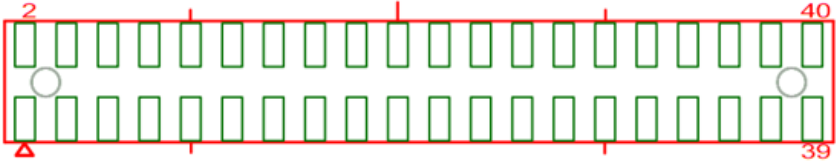
Pin	Signal	Pin	Signal	Pin	Signal
1	VCC_12V	2	GND	3	GND

2.3.8 USB 3.0 (CN7)



Pin	Signal	Pin	Signal
1	+V5	2	USB2_ DN1
3	USB2_ DP1	4	GND
5	USB3_RXN_P1	6	USB3_RXP_P1
7	GND	8	USB3_TXN_P1
9	USB3_TXP_P1	10	+V5
11	USB2_ DN2	12	USB2_ DP2
13	GND	14	USB3_RXN_P2
15	USB3_RXP_P2	16	GND
17	USB3_TXN_P2	18	USB3_TXP_P2

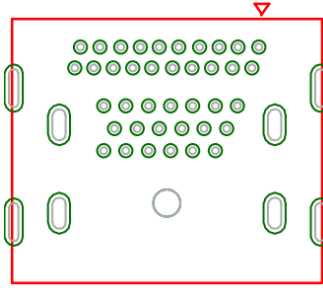
2.3.9 HAT 40 (CN8)



Pin	Signal	Pin	Signal
1	3.3V@0.5A	2	5V@0.5A
3	I2C1_SDA (GPIO 1)	4	5V@0.5A
5	I2C1_SCL (GPIO 2)	6	GND
7	GPIO_ADC (GPIO 3)	8	UART_TXD (GPIO 16)
9	GND	10	UART_RXD (GPIO 17)
11	UART_RTS (GPIO 4)	12	I2S_BCLK (GPIO 18)
13	GPIO 5	14	GND
15	GPIO 6	16	GPIO 19
17	3.3V@0.5A	18	GPIO 20
19	SPI_MOSI (GPIO 7)	20	GND
21	SPI_MISO (GPIO 8)	22	GPIO 21
23	SPI_CLK (GPIO 9)	24	SPI_FS0 (GPIO 22)
25	GND	26	SPI_FS1 (GPIO 23)
27	I2C0_SDA (GPIO 10)	28	I2C0_SCL (GPIO 24)
29	GPIO 11	30	GND
31	GPIO 12	32	PWM0 (GPIO 25)
33	PWM1 (GPIO 13)	34	GND
35	I2S_WS_SYNC (GPIO 14)	36	UART_CTS (GPIO 26)
37	GPIO 15	38	I2S_SDI (GPIO 27)
39	GND	40	I2S_SDO (GPIO 28)

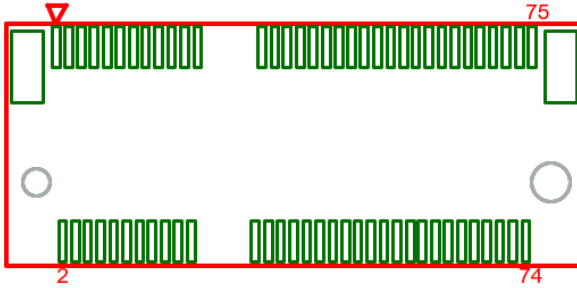
Note: As PWM is designed under PSE, please ensure your hardware CPU is Intel® Pentium® Processor J6426, as Intel® Celeron® Processor N6210 does not support PSE.

2.3.10 DP/HDMI (CN9)



Pin	Signal	Pin	Signal
1	TXP_DP_0	2	GND
3	TXN_DP_0	4	TXP_DP_1
5	GND	6	TXN_DP_1
7	TXP_DP_2	8	GND
9	TXN_DP_2	10	CLK_DP_D_P
11	GND	12	CLK_DP_D_N
13	GND	14	GND
15	AUX_P	16	GND
17	AUX_N	18	DP_HPD
19	GND	20	+3.3V
21	TXP_HDMI_0	22	GND
23	TXN_HDMI_0	24	TXP_HDMI_1
25	GND	26	TXN_HDMI_1
27	TXP_HDMI_2	28	GND
29	TXN_HDMI_2	30	CLK_HDMI_DP
31	GND	32	CLK_HDMI_DN
33	HDMI_CEC_O	34	NC
35	DDCCLK	36	DDCDATA
37	GND	38	5V
39	HDMI_HPD	-	-

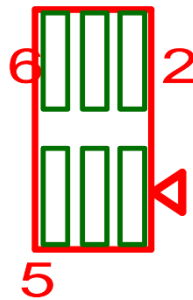
2.3.11 M.2 2230 E-Key (CN10)



Pin	Signal	Pin	Signal
1	GND	2	+3P3VAUX_WIFI
3	USB2_P4_DP	4	+3P3VAUX_WIFI
5	USB2_P4_DN	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	GND	14	NC
15	NC	16	NC
17	NC	18	GND
19	GND	20	NC
21	NC	22	RXD
23	NC	24	KEY
25	KEY	26	KEY
27	KEY	28	KEY
29	KEY	30	KEY
31	KEY	32	UART0_TXD
33	GND	34	UART0_CTS
35	PCIE_P6_TXP	36	UART0_RTS
37	PCIE_P6_TXN	38	NC
39	GND	40	NC
41	PCIE_P6_RXP	42	NC
43	PCIE_P6_RXN	44	NC
45	GND	46	NC
47	PCIE_CLKP0	48	NC

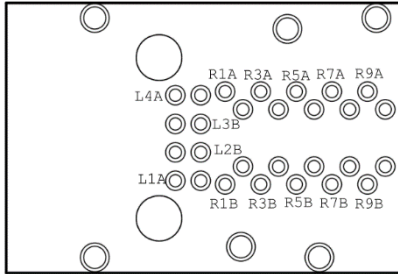
Pin	Signal	Pin	Signal
49	PCIE_CLKNO	50	M.2_BTWIFI_SUS_CLK
51	GND	52	PLT_RST#
53	CLKREQ_N	54	NC
55	WAKE_N	56	NC
57	GND	58	NC
59	PCIE_P7_TXP	60	NC
61	PCIE_P7_TXN	62	NC
63	GND	64	NC
65	PCIE_P7_RXP	66	NC
67	PCIE_P7_RXN	68	NC
69	GND	70	NC
71	NC	72	+3P3VAUX_WIFI
73	NC	74	+3P3VAUX_WIFI
75	GND	-	-

2.3.12 RS-232/422 (CN11)



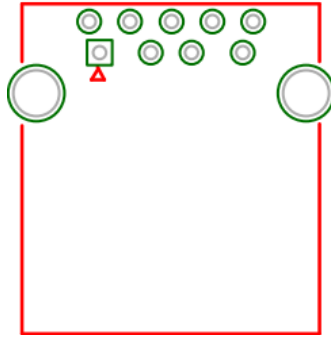
Pin	Signal	Pin	Signal
1	NC	2	GND
3	RTS/TX+	4	RX/RX+
5	CTS/RX-	6	TX/TX-

2.3.13 LAN (CN12)



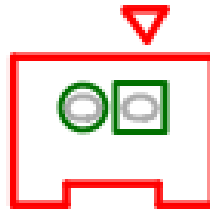
Pin	Signal	Pin	Signal
L1A	LAN1_ACTLEDN	L1B	LAN2_ACTLEDN
L2A	LAN1_ACTLEDP	L2B	LAN2_ACTLEDP
L3A	LAN1_LINK1000#	L3B	LAN2_LINK1000#
L4A	LAN1_LINK100#	L4B	LAN2_LINK100#
R1A	LAN1_MDIO+	R1B	LAN2_MDIO+
R2A	LAN1_MDIO-	R2B	LAN2_MDIO-
R3A	LAN1_MDIO1+	R3B	LAN2_MDIO1+
R4A	LAN1_MDIO1-	R4B	LAN2_MDIO1-
R5A	LAN1_MDIO2+	R5B	LAN2_MDIO2+
R6A	LAN1_MDIO2-	R6B	LAN2_MDIO2-
R7A	LAN1_MDIO3+	R7B	LAN2_MDIO3+
R8A	LAN1_MDIO3-	R8B	LAN2_MDIO3-
R9A	LAN1_DAC	R9B	LAN2_DAC
R10A	LAN1_GND	R10B	LAN2_GND

2.3.14 USB 3.0 (CN13)



Pin	Signal	Pin	Signal
1	+V5P0_USB_1	2	USB2_DN3
3	USB2_DP3	4	GND
5	USB3_RXN3	6	USB3_RXP3
7	GND	8	USB3_TXN3
9	USB3_TXP3	-	-

2.3.15 RTC (CN14)



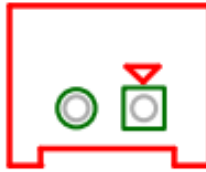
Pin	Signal	Pin	Signal
1	+V3P3A_RTC	2	GND

2.3.16 SATA (CN15)



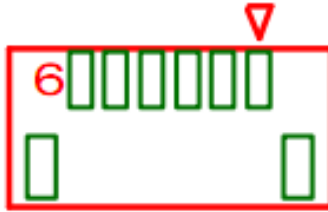
Pin	Signal	Pin	Signal
1	GND	2	SATA_TXP0
3	SATA_TXN0	4	GND
5	SATA_RXN0	6	SATA_RXP0
7	GND	-	-

2.3.17 SATA Power (CN16)



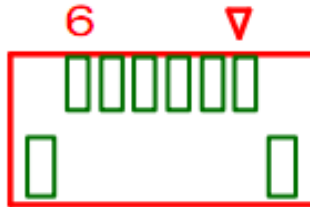
Pin	Signal	Pin	Signal
1	+V5S	2	GND

2.3.18 Front panel (CN17)



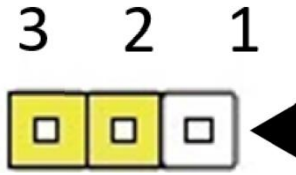
Pin	Signal	Pin	Signal
1	GND	2	SYSRST#
3	GND	4	PS_ON_SW
5	GND	6	SYS_LED+

2.3.19 Audio (CN18)



Pin	Signal	Pin	Signal
1	LOUT_R	2	LOUT_L
4	AUD_GND	5	MIC_IN_JD
7	AUDIO-JD	8	MIC_L_CN

2.3.20 Auto-Power Button Selection (JP1)



Pin	Signal
1-2	Disable
2-3	Enable (Default)

Chapter 3

Software Installation

3.1 Linux Setup

UPS-EHL01 supports Linux operating systems (see Chapter 1 for specifications). For instructions on how to install a Linux OS onto your UPS-EHL01, you can find several guides and tutorials in the wiki section of the UP Board website at <https://up-board.org> for both installing supported distributions as well as porting your own Linux build.

3.2 Enable RS-485 on Linux

3.2.1 Setting BIOS

Select advanced and enter HSUART Configurations.

Modify HSUART Controller to PSE.

Modify HSUART Mode to RS-485 Half Duplex.



3.2.2 Linux Kernel Version

Linux kernel version requires 6.1+ on Ubuntu or Debian Yocto BSP

<https://github.com/up-division/meta-up-board>

3.2.3 Software Configuration

Install serial communication tool

```
$sudo apt install minicom
```

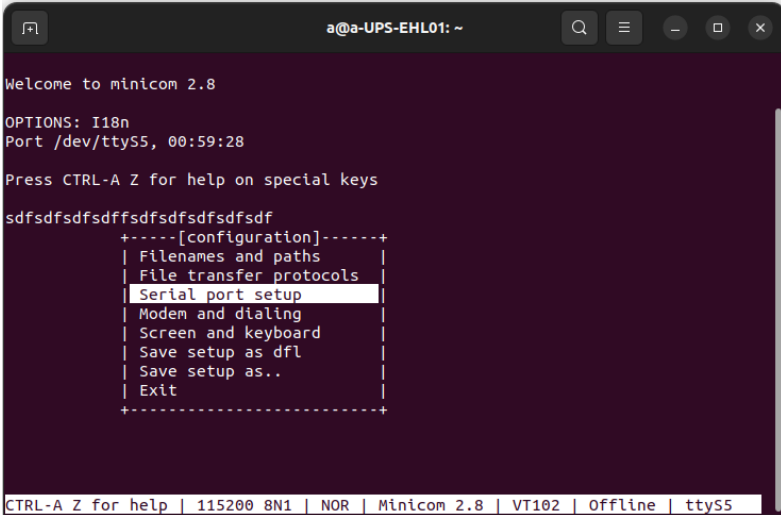
Open serial port with minicom

```
$sudo minicom -D /dev/ttyS5 -b 115200
```

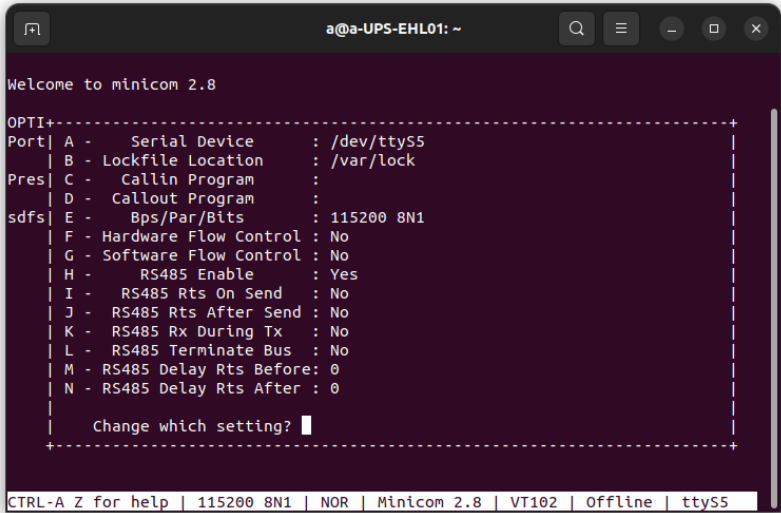
Setting serial port to RS485 mode

Press Ctrl + A and select configure minicom

To modify RS-485, enable in serial port setup



```
a@a-UPS-EHL01: ~  
Welcome to minicom 2.8  
OPTIONS: I18n  
Port /dev/ttyS5, 00:59:28  
Press CTRL-A Z for help on special keys  
sdfsdfsdfsdfsdffsdfsdfsdfsdfsdf  
+-----[configuration]-----+  
| Filenames and paths          |  
| File transfer protocols      |  
| Serial port setup            |  
| Modem and dialing           |  
| Screen and keyboard         |  
| Save setup as dfl           |  
| Save setup as..             |  
| Exit                         |  
+-----+  
CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.8 | VT102 | Offline | ttyS5
```



```
a@a-UPS-EHL01: ~  
Welcome to minicom 2.8  
OPTI+-----+  
Port| A - Serial Device      : /dev/ttyS5  
| B - Lockfile Location  : /var/lock  
Pres| C - Callin Program    :  
| D - Callout Program   :  
sdfs| E - Bps/Par/Bits      : 115200 8N1  
| F - Hardware Flow Control : No  
| G - Software Flow Control : No  
| H - RS485 Enable       : Yes  
| I - RS485 Rts On Send  : No  
| J - RS485 Rts After Send : No  
| K - RS485 Rx During Tx : No  
| L - RS485 Terminate Bus : No  
| M - RS485 Delay Rts Before: 0  
| N - RS485 Delay Rts After : 0  
|  
| Change which setting? |  
+-----+  
CTRL-A Z for help | 115200 8N1 | NOR | Minicom 2.8 | VT102 | Offline | ttyS5
```

Save setup as dfl.

3.2.4 DB-9 RS-485 Pin Out

Connection Data+/Data- as below table for communication.

SUGGESTED DB9 CONNECTOR PINOUT

DB9 Pin	RS-232	RS-485 Full Duplex	RS-485 Half Duplex
1			
2	RXD	RX+	
3	TXD	TX-	Data-
4			
5	Ground		
6			
7	RTS	TX+	Data+
8	CTS	RX-	
9			

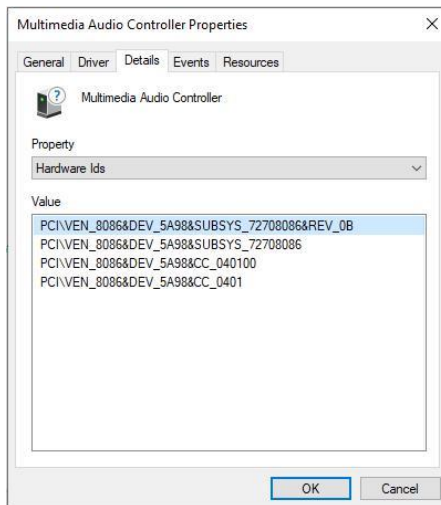
3.3 Windows Drivers Installation

Drivers for UPS-EHL01 can be downloaded from the UP Board website by following the link <https://up-board.org> and navigating to the Downloads section, then clicking on the UP Squared V2 to find all relevant drivers.

3.4 Unknown Device Troubleshooting

After installing Windows drivers on UP Squared V2 (UPS-EHL01), you will see some unknown devices shown on device manager. Most unknown devices can be fixed by manually installing the driver from the Intel Serial IO 5.123.1.1023, except for Multimedia Audio Controller but here's how to fix it:

Multimedia Audio Controller

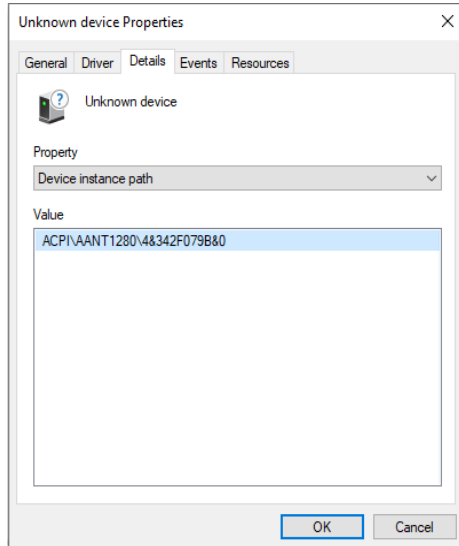


To fix the yellow exclamation mark "Multimedia Audio Controller", please go to BIOS setting and revise the default as below:

Setup > Chipset > PCH-IO Configuration > HD-Audio Configuration

Find **HD-Audio DSP** and change the setting to "Disabled"

VEN_AANT&DEV_1280: This is the ADC for Linux, there is no Windows driver. This can be ignored.



Appendix A

UP Framework SDK Installation

A.1 Introduction

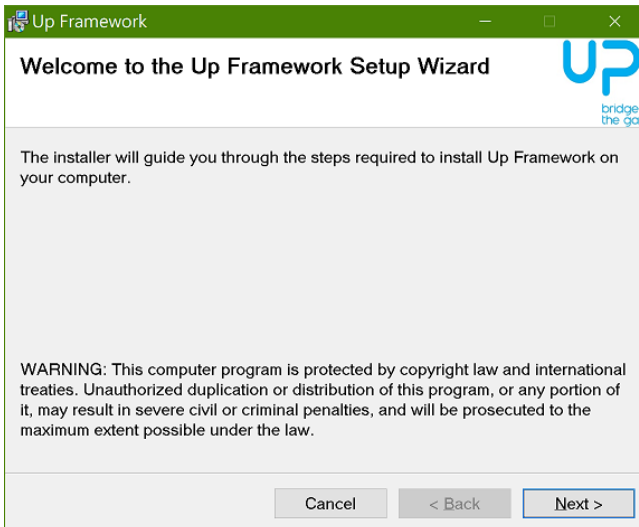
This section provides instructions for the installation of the UP Framework SDK. Instructions are provided for Windows 10 and Windows IoT Core. You can download the latest version of UP Framework SDK from the UP community:

<https://downloads.up-community.org/download/up-sdk-for-windows-10-and-windows-iot/>

A.2 Installation for Windows 10

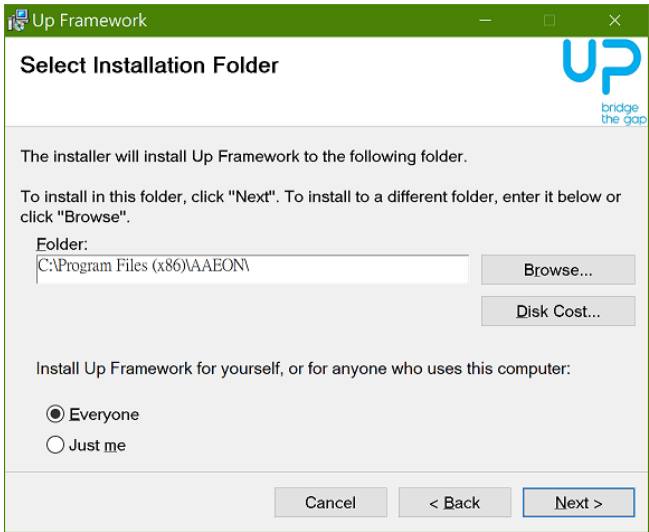
Step 1

Locate the downloaded file UpFrameworkSetup.msi and run the installer. Press “Next” to begin the setup process.



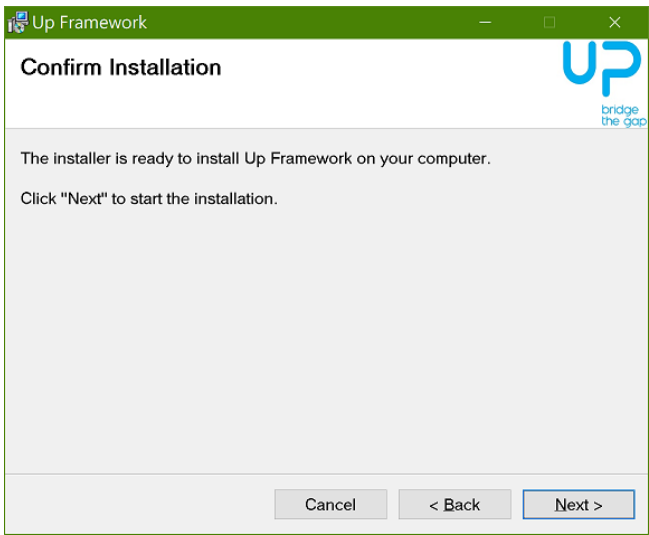
Step 2

Select the installation folder. Default destination path is C:\Program Files(x86)\AAEON\
 You may also choose to install the UP Framework SDK for all users or only the current user. Press "Next" to continue installation.



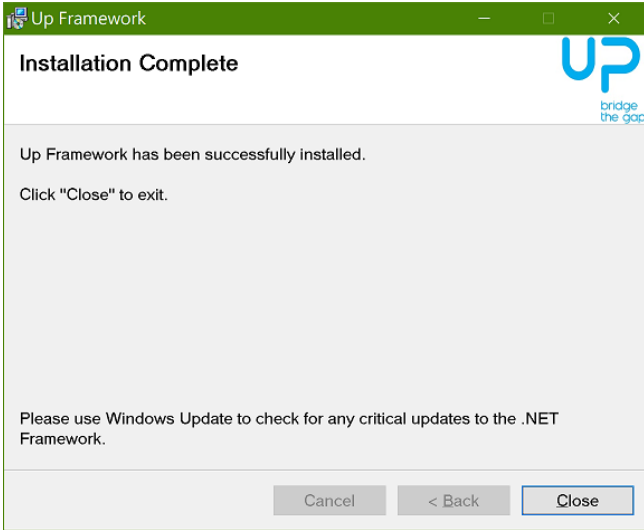
Step 3

Press "Next" to confirm the installation.



Step 4

Press "Close" to exit once setup is complete.



A.3 Installation for Windows IoT Core

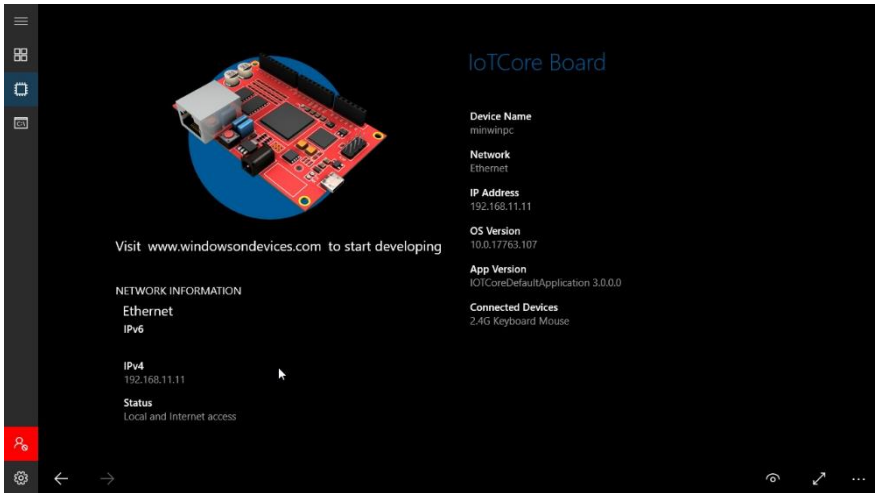
Before you begin, make sure you have downloaded and installed the latest version of the Windows IoT Core image from the UP community.

Installation requires using a connected PC with the UP Framework SDK software downloaded and saved.

Note: Make sure the UP IoT Core device is connected to the same network as the PC you are using to install the software from.

Step 1

Turn on your UP IoT Core device and note the IP address at the home screen.



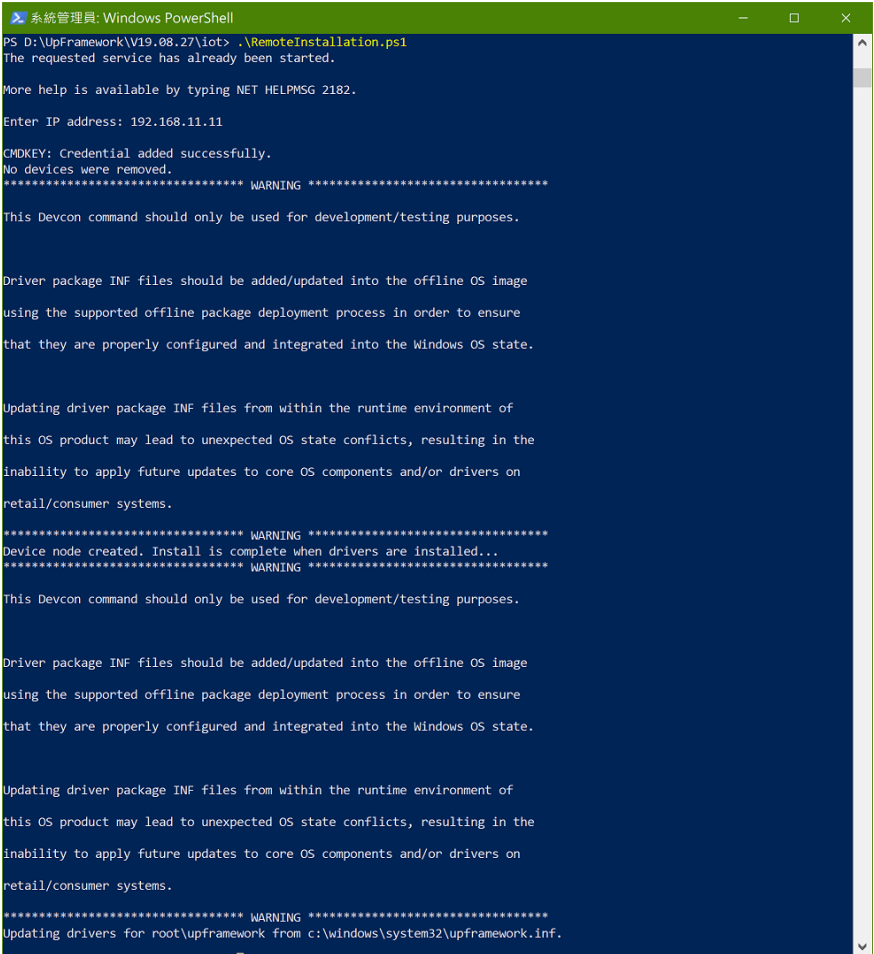
Step 2

Download the UP Framework SDK to your PC and unzip the files.

Open PowerShell as an Administrator. Run the command

RemoteInstallation.ps1 to install the UP Framework SDK.

Enter the IP address of the UP IoT Core device when prompted.



```
系統管理員: Windows PowerShell
PS D:\UpFramework\19.08.27\iot> .\RemoteInstallation.ps1
The requested service has already been started.

More help is available by typing NET HELPMSG 2182.

Enter IP address: 192.168.11.11

CMDKEY: Credential added successfully.
No devices were removed.
***** WARNING *****
This Devcon command should only be used for development/testing purposes.

Driver package INF files should be added/updated into the offline OS image
using the supported offline package deployment process in order to ensure
that they are properly configured and integrated into the Windows OS state.

Updating driver package INF files from within the runtime environment of
this OS product may lead to unexpected OS state conflicts, resulting in the
inability to apply future updates to core OS components and/or drivers on
retail/consumer systems.

***** WARNING *****
Device node created. Install is complete when drivers are installed...
***** WARNING *****
This Devcon command should only be used for development/testing purposes.

Driver package INF files should be added/updated into the offline OS image
using the supported offline package deployment process in order to ensure
that they are properly configured and integrated into the Windows OS state.

Updating driver package INF files from within the runtime environment of
this OS product may lead to unexpected OS state conflicts, resulting in the
inability to apply future updates to core OS components and/or drivers on
retail/consumer systems.

***** WARNING *****
Updating drivers for root\upframework from c:\windows\system32\upframework.inf.
```

Appendix B

Cables and Connectors

B.1 Cables and Connectors

This table provides detailed information about the cables and connectors used by the UP Squared V2 (UPS-EHL01). If you have any questions about the configuration of your board, please contact your AAEON sales representative.

Location	Connector	Function Description	Mating Cable PN/ CONN PN	Mating Cable Description
SW1	1601000990	PWR button		
CN1	165300320Q	BIOS Prog		
CN19	1655802020	FAN		
CN2	1653530130	eDP		
CN3	1655X00031	USB Header	170010015G	(TF)USB Cable.10P 1.0mm Housing.USB A(F).15cm
CN4	165420753B	M.2 2280 M-Key		
CN6	1652503109	Power Input		
CN7	1654801832	USB 3.0		
CN8	16530X0041	HAT 40		
CN9	1654403931	DP/HDMI		
CN10	1654207533	M.2 2230 E-Key		
CN11	165300320Q	RS-232/422	170X000556	(TF)COM Port.2*3P to D-SUB 9PPitch=1.0mm.COM port cable.100mm.FLYINGWAY.FWAA-1529.for UPS-EHL01
CN12	1652828200	LAN		
CN13	1654809302	USB 3.0		
CN14	1655X00019	RTC	175011301K	(TF)Lithium Battery.CR2032H.3V240mA H.w/cable 90mm.DIPBattery power.BP-CR2032-M90-001
CN15	1654907009	SATA	1709070500	(TF)SATA CABLE.7P Pitch 1.27mm.50cm

Location	Connector	Function Description	Mating Cable PN/ CONN PN	Mating Cable Description
CN16	1655302025	SATA PWR	1702150155 1702150306	(TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm (TF)Power Cable.15P SATA(F).2P 2.0mm Housing(PH).30cm
CN17	1655906033	Front Panel	170X000306	(TF)Cable.to 6P 1.00mm housing.Power switch cable.SW w/green LED.20cm.FLYINGWAY.FWAA -1348
CN18	1655906033	Audio	170X000382	(TF)Cable.6PPitch=1.0mm.15 0mm.FLYINGWAY.FWAA-147 3.Audio Jack Cable
LED1	1304300140	PWR LED		
LED2	1304300140	LED2		
LED3	1304200043	LED3		
LED4	1304101440	LED4		
LED5	1304000043	LED5		
JP1	165300310G	Auto-Power Button Selection		