UP Extreme EDGE i11

Maker Board System UPX-EDGE-TGL01

User's Manual 1st Edition

Last Updated: September 10, 2021

Copyright Notice

Acknowledgements

Packing List

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

Item	Quantity
UP Xtreme EDGE i11 System	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 and 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 to keep a printed copy of this manual in an easy to access location for reference.

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.

FCC Statement

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 System QO4-381 Rev.A0

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	×	○	○	○	○	○
外部信号连接器及线材	×	○	○	○	○	○
外壳	○	○	○	○	○	○
中央处理器与内存	×	○	○	○	○	○
硬盘	×	○	○	○	○	○
液晶模块	×	×	○	○	○	○
光驱	×	○	○	○	○	○
触控模块	×	○	○	○	○	○
电源	×	○	○	○	○	○
电池	×	○	○	○	○	○

本表格依据 SJ/T 11364 的规定编制。

○：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 GB/T 26572标准规定的限量要求以下。

×：表示该有害物质的某一均质材料超出了GB/T 26572的限量要求，然而该部件 仍符合欧盟指令2011/65/EU 的规范。

备注:

一、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。

二、上述部件物质中央处理器、内存、硬盘、光驱、电源为选购品。

三、上述部件物质液晶模块、触控模块仅一体机产品适用。

China RoHS Requirement (EN)

Hazardous and Toxic Materials List

AAEON System QO4-381 Rev.A0

Component Name	Hazardous or Toxic Materials or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBBs)	Polybrominated diphenyl ethers (PBDEs)
PCB and Components	X	O	O	O	O	O
Wires & Connectors for Ext.Connections	X	O	O	O	O	O
Chassis	O	O	O	O	O	O
CPU & RAM	X	O	O	O	O	O
HDD Drive	X	O	O	O	O	O
LCD Module	X	X	O	O	O	O
Optical Drive	X	O	O	O	O	O
Touch Control Module	X	O	O	O	O	O
PSU	X	O	O	O	O	O
Battery	X	O	O	O	O	O

This form is prepared in compliance with the provisions of SJ/T 11364.
O: The level of toxic or hazardous materials present in this component and its parts is below the limit specified by GB/T 26572.
X: The level of toxic of hazardous materials present in the component exceed the limits specified by GB/T 26572, but is still in compliance with EU Directive 2011/65/EU (RoHS 2).

Notes:
1. The Environment Friendly Use Period indicated by labelling on this product is applicable only to use under normal conditions.
2. Individual components including the CPU, RAM/memory, HDD, optical drive, and PSU are optional.
3. LCD Module and Touch Control Module only applies to certain products which feature these components.

Table of Contents

Chapter 1

Product Specifications

1.1 Specifications

System	
CPU	11th Gen Intel® Core™ Processor SoC Core i7-1185GRE Core i5-1145GRE Core i3-1115GRE Celeron® 6305E
Memory	DDR4 SO-DIMM Slot x 2 (up to 64GB 3200MHz)
Graphics	Intel® Iris® Xe Graphics
Storage	SATA Connector (with Power) x 1 M.2 2280 M-Key NVMe (PCIe [x2])
Ethernet	Intel® i225IT x 1 Intel® i219 (with vPro) x 1
Wi-Fi/Bluetooth	Optional
Audio	Realtek ALC888s x 1 (Mic/Line Out)
USB	USB3.2 Gen 2 x 3 USB2.0 x 1 (Type A) USB4 Type C x 1
Expansion Slot	M.2 2230 E-Key x 1 M.2 2280 M-Key x 1 M.2 3052 B-Key x 1 with SM Slot SATA III Connector (with Power) x 1

I/O	
Power	12V DC-In (lockable plug)/ Phoenix Connector
USB	USB3.2 Gen 2 x 3 USB2.0 x 1 (Type A) USB4 Type C x 1
Display Port	HDMI 2.0 x 1 DP 1.4 x 1 eDP x 1, 4K at 60Hz Panel

I/O

Ethernet	Intel® i225IT x 1 Intel® i219 (with vPro) x 1
COM Ports	RS232/422/485 x 2

Environment and Dimensions

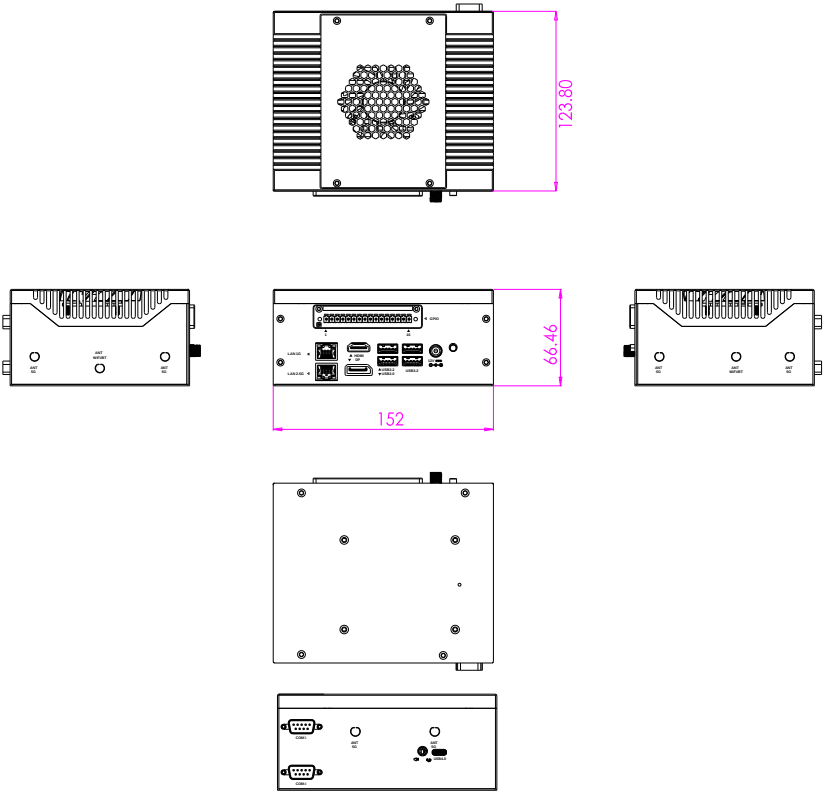
Power Supply	12V (AT & ATX)
Dimensions	124 mm x 152 mm x 66.5mm
Gross Weight	2.3 kg
Operating Temperature	32°F ~ 140°F (0°C ~ 60°C)
Operating Humidity	0% ~ 90% relative humidity, non-condensing
Certification	CE, FCC Class A
OS Support	Windows 10, Windows 10 IoT Yocto 3.1 Ubuntu 20.04

Chapter 2

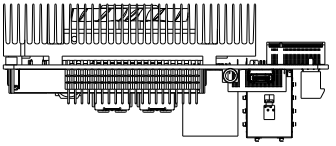
Hardware Information

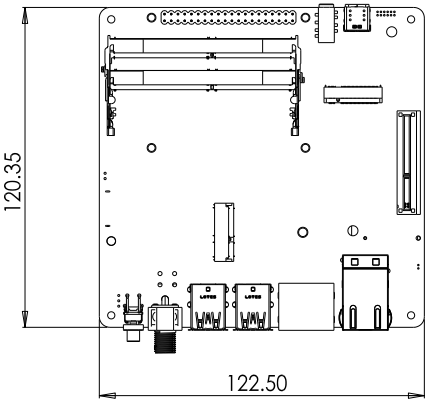
2.1 Dimensions

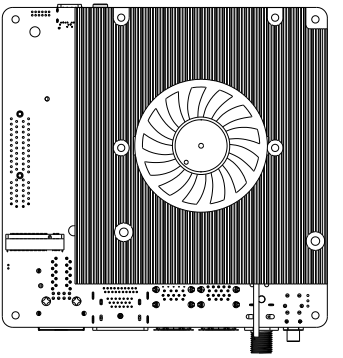
System Dimensions

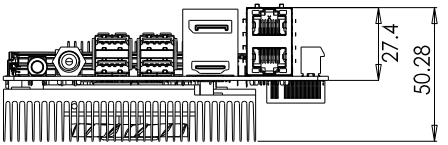


Board Dimensions



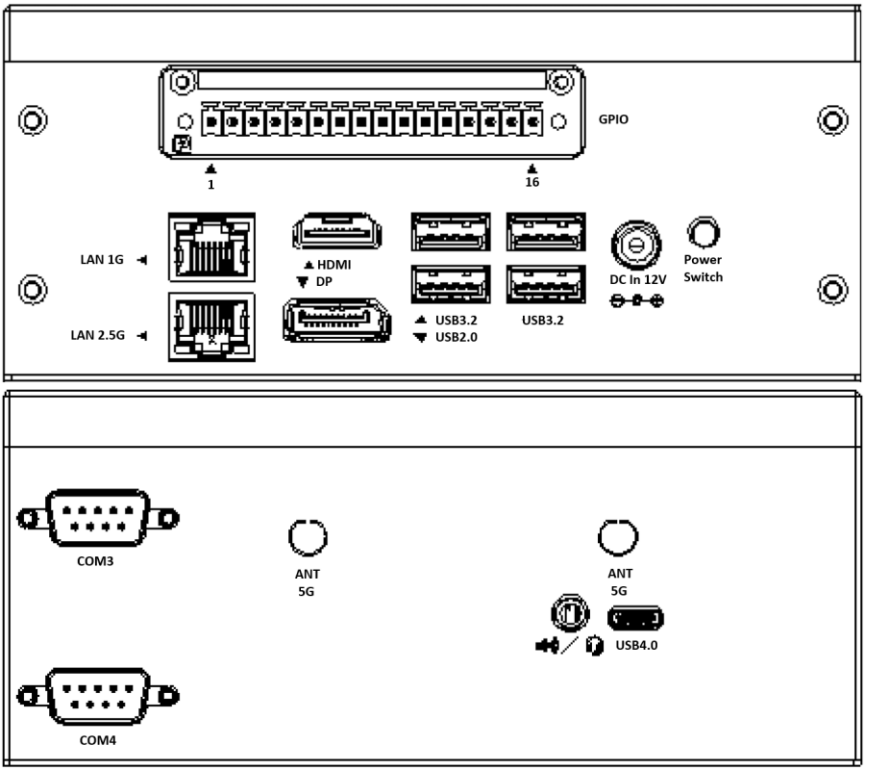




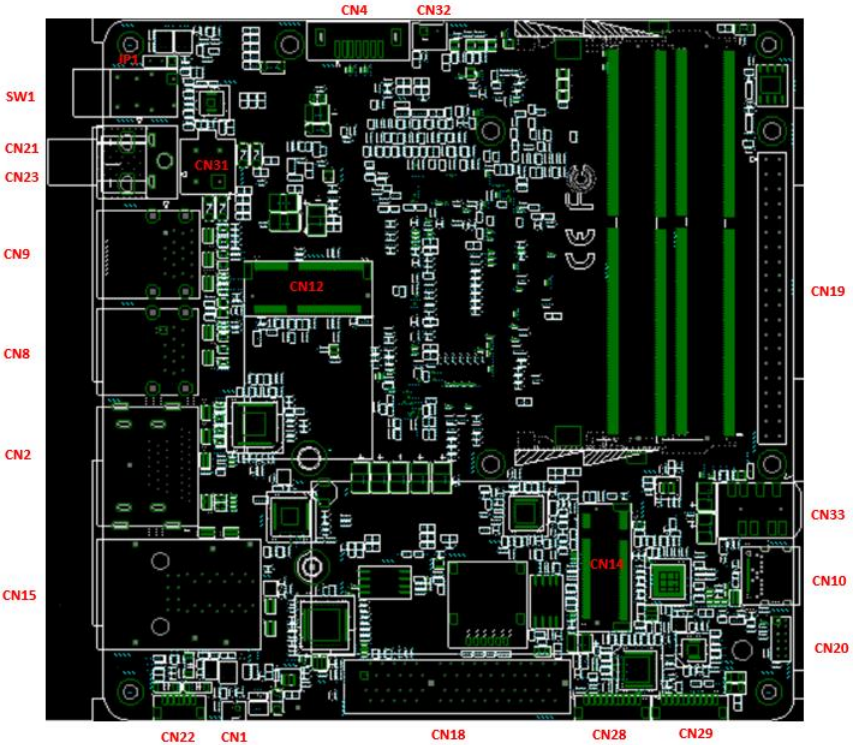


2.2 Jumpers and Connectors

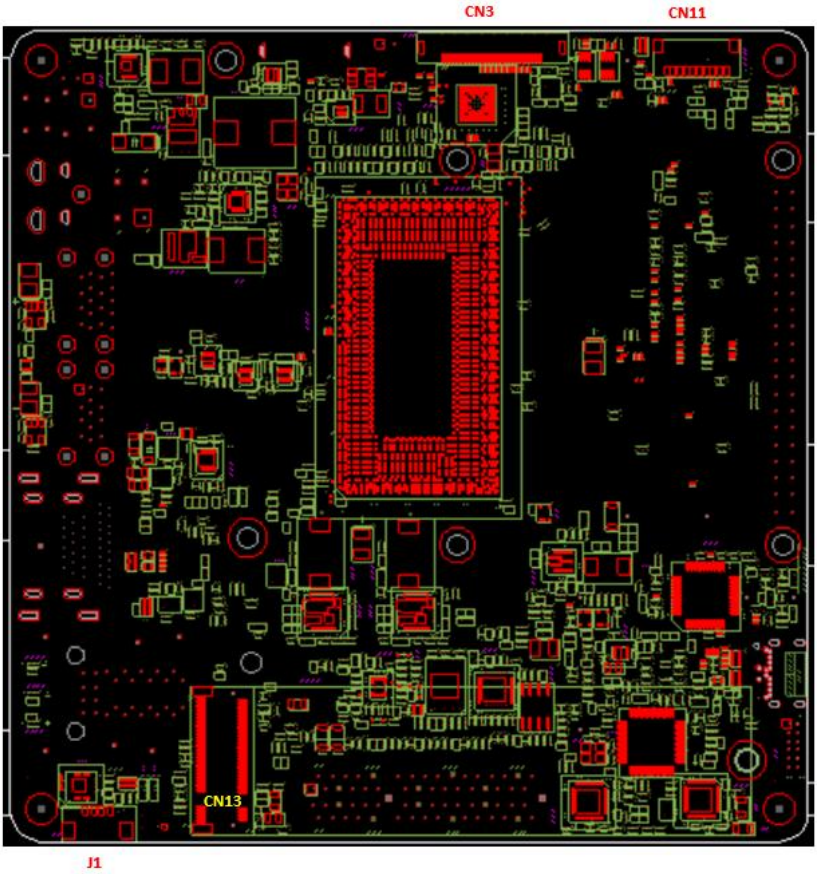
UPX-EDGE-TGL01 System:



Board Top:


CN4
CN32
JP1
SW1
CN21
CN23
CN31
CN9
CN12
CN19
CN8
CN2
CN33
CN14
CN10
CN15
CN20
CN22
CN1
CN18
CN28
CN29

Board Bottom:



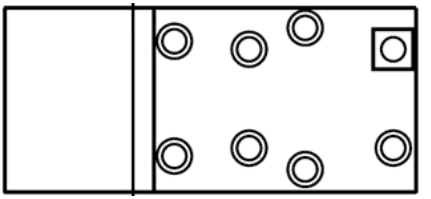
2.3 List of Jumpers and Connectors

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

Label	Function
SW1	Power Button
CN1	RTC
CN2	HDMI/DP Dual Port
CN3	eDP Connector
CN4	SATA Connector
CN8	USB Type A Dual Port
CN9	USB Type A Dual Port
CN10	USB Type C
CN11	USB 2.0/UART 1x10P Wafer
CN12	M.2 2230 E Key Slot
CN13	M.2 2280 M Key Slot
CN14	M.2 3052 B Key Slot
CN15	LAN Dual Port
CN18	PCI Express Slot
CN19	40-pin HAT Connector
CN20	CPLD and BIOS update
CN21	DC Jack
CN22	Front Panel 1x6P Wafer
CN23	DC terminal block
CN28	COM3 RS232/ 422/ 485 1x10P Wafer
CN29	COM4 RS232/ 422/ 485 1x10P Wafer
CN31	ATX Power Connector
CN32	SATA Power
CN33	Audio Jack
J1	Fan Connector
JP1	AT/ATX Mode

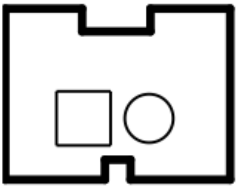
Label	Function
Terminal Block	GPIO

2.3.1 Power Button (SW1)



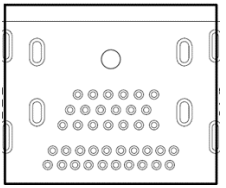
Pin	Signal	Pin	Signal
1	PWR_SW#	2	PWR_SW#
3	GND	4	GND
5	GND	6	GND
L1	SW1_LED_P	L2	SW1_LED_N

2.3.2 RTC (CN1)



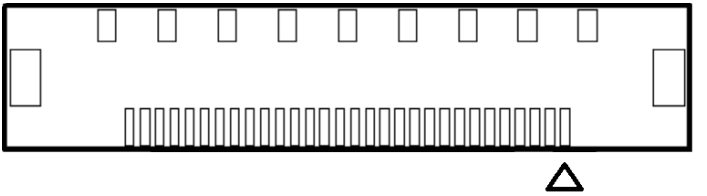
Pin	Signal
1	RTC_VCC
2	GND

2.3.3 HDMI/ DP Dual Port (CN2)



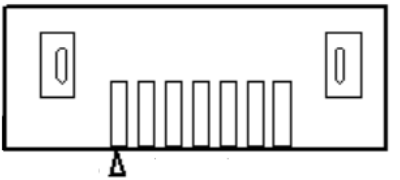
Pin	Signal	Pin	Signal
P1	DP_TXP0	P2	GND
P3	DP_TXN0	P4	DP_TXP1
P5	GND	P6	DP_TXN1
P7	DP_TXP2	P8	GND
P9	DP_TXN2	P10	DP_CLK+
P11	GND	P12	DP_CLK-
P13	CONFIG1	P14	CONFIG2
P15	DP_AUX_P	P16	GND
P17	DP_AUX_N	P18	DP_HPD
P19	GND	P20	3.3V
P21	HDMI_TXP0	P22	GND
P23	HDMI_TXN0	P24	HDMI_TXP1
P25	GND	P26	HDMI_TXN1
P27	HDMI_TXP2	P28	GND
P29	HDMI_TXN2	P30	HDMI_CLK+
P31	GND	P32	HDMI_CLK-
P33	HDMI_CEC	P34	NC
P35	DDC_CLK	P36	DDC_DATA
P37	GND	P38	5V
P39	HDMI_HPD		

2.3.4 eDP (CN3)



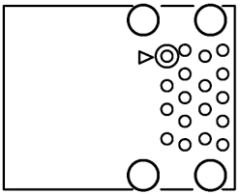
Pin	Signal	Pin	Signal
1	+VDD_3V3	2	+VDD_3V3
3	GND	4	GND
5	EDP_TXN2	6	EDP_TXP2
7	GND	8	EDP_TXN1
9	EDP_TXP1	10	GND
11	EDP_TXN0	12	EDP_TXP0
13	GND	14	EDP_TXN3
15	EDP_TXP3	16	GND
17	EDP_AUXN	18	EDP_AUXP
19	GND	20	BKLT_CTRL
21	NC	22	BKLT_EN
23	EDP_HPD	24	GND
25	GND	26	GND
27	+12V	28	+12V
29	+12V	30	+12V

2.3.5 SATA Connector (CN4)



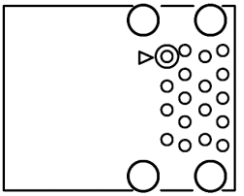
Pin	Signal	Pin	Signal
1	GND	2	SATA_TXP0_C
3	SATA_TXN0	4	GND
5	SATA_RXN0	6	SATA_RXP0
7	GND		

2.3.6 USB Type A Dual Port (CN8)



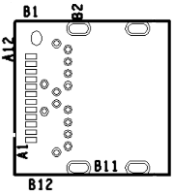
Pin	Signal	Pin	Signal
1	+5V	2	USB2_D1-
3	USB2_D1+	4	GND
5	USB3_RX1-	6	USB3_RX1+
7	GND	8	USB3_TX1-
9	USB3_TX1+	10	+5V
11	USB2_D2-	12	USB2_D2+
13	GND		

2.3.7 USB Type A Dual Port (CN9)



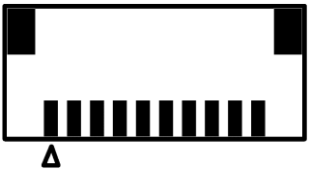
Pin	Signal	Pin	Signal
1	+5V	2	USB2_D3-
3	USB2_D3+	4	GND
5	USB3_RX3-	6	USB3_RX3+
7	GND	8	USB3_TX3-
9	USB3_TX3+	10	+5V
11	USB2_D4-	12	USB2_D4+
13	GND	14	USB3_RX4-
15	USB3_RX4+	16	GND
17	USB3_TX4-	18	USB3_TX4+

2.3.8 USB Type C (CN10)



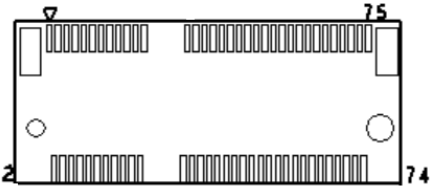
Pin	Signal	Pin	Signal
A1	GND	A2	SSTXP1
A3	SSTXN1	A4	+5V
A5	CC1	A6	DP1
A7	DN1	A8	SBU1
A9	+5V	A10	SSRXN2
A11	SSRXP2	A12	GND
B1	GND	B2	SSTXP2
B3	SSTXN2	B4	+5V
B5	CC2	B6	DP2
B7	DN2	B8	SBU2
B9	+5V	B10	SSRXN1
B11	SSRXP1	B12	GND

2.3.9 USB 2.0/UART 1x10P Wafer (CN11)



Pin	Signal	Pin	Signal
1	+5V	2	USB2_D5-
3	USB2_D5+	4	GND
5	+5V	6	USB2_D6-
7	USB2_D6+	8	GND
9	UART_RX	10	UART_TX

2.3.10 M.2 2230 E Key Slot (CN12)

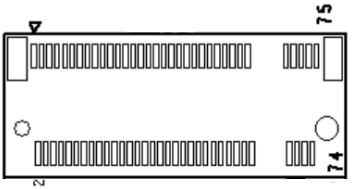


Pin	Signal	Pin	Signal
1	GND	2	+3.3V
3	USB2_D10+	4	+3.3V
5	USB2_D10-	6	NC
7	GND	8	NC
9	CNV_WR_LANE1_DN	10	CNV_RF_RST#
11	CNV_WR_LANE1_DP	12	NC
13	GND	14	CNV_CLKREQ_R
15	CNV_WR_LANE0_DN	16	NC

Pin	Signal	Pin	Signal
17	CNV_WR_LANE0_DP	18	GND
19	GND	20	NC
21	CNV_WR_CLK_DN	22	CNV_RGI_RSP_R
23	CNV_WR_CLK_DP	24	NC
25	NC	26	NC
27	NC	28	NC
29	NC	30	NC
31	NC	32	CNV_RGI_DT
33	GND	34	CNV_RGI_RSP
35	PCIE9_TXP	36	CNV_BRI_DT
37	PCIE9_TXN	38	NC
39	GND	40	NC
41	PCIE9_RXP	42	NC
43	PCIE9_RXN	44	NC
45	GND	46	NC
47	PCIE5_CLKP	48	NC
49	PCIE9_CLKN	50	SUS_CLK
51	GND	52	WIFI_RST#
53	PCIE_CLKREQ#	54	BT_EN
55	PCIE_WAKE#	56	WIFI_EN
57	GND	58	NC
59	CNV_WT_LANE1_DN	60	NC
61	CNV_WT_LANE1_DP	62	NC
63	GND	64	NC
65	CNV_WT_LANE0_DN	66	NC
67	CNV_WT_LANE0_DP	68	NC
69	GND	70	NC

Pin	Signal	Pin	Signal
71	CNV_WT_CLK_DN	72	+3.3V
73	CNV_WT_CLK_DP	74	+3.3V
75	GND		

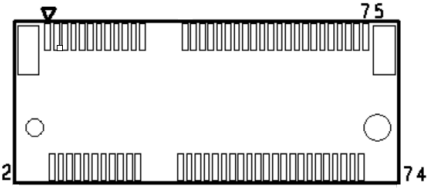
2.3.11 M.2 2280 M Key Slot (CN13)



Pin	Signal	Pin	Signal
1	GND	2	+3.3V
3	NC	4	+3.3V
5	NC	6	NC
7	NC	8	NC
9	GND	10	NC
11	NC	12	+3.3V
13	NC	14	+3.3V
15	GND	16	+3.3V
17	NC	18	+3.3V
19	NC	20	NC
21	GND	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	PCIE1_RXN	30	NC
31	PCIE1_RXP	32	NC

Pin	Signal	Pin	Signal
33	GND	34	NC
35	PCIE1_TXN	36	NC
37	PCIE1_TXP	38	SSD_DEV_SLP
39	GND	40	SMB_CLK_1V8
41	PCIE0_RXN	42	SMB_DATA_1V8
43	PCIE0_RXP	44	NC
45	GND	46	NC
47	PCIE0_TXN	48	NC
49	PCIE0_TXP	50	PLT_RST#
51	GND	52	PCIE_CLKREQ#
53	PCIE3_CLKN	54	PCIE_WAKE#
55	PCIE3_CLKP	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	NC	68	NC
69	NC	70	+3.3V
71	GND	72	+3.3V
73	GND	74	+3.3V
75	GND		

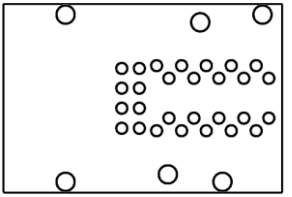
2.3.12 M.2 3052 B Key Slot (CN14)



Pin	Signal	Pin	Signal
1	NC	2	+3.3V
3	GND	4	+3.3V
5	GND	6	FULL_CARD_POWER_OFF#
7	USB2_D8+	8	W_DISABLE#1
9	USB2_D8-	10	NC
11	GND	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	NC
19	NC	20	NC
21	NC	22	NC
23	NC	24	NC
25	NC	26	NC
27	GND	28	NC
29	USB3_RX-	30	UIM_RST
31	USB3_RX+	32	UIM_CLK
33	GND	34	UIM_DAT
35	USB3_PX-	36	UIM_PWR
37	USB3_PX+	38	NC
39	GND	40	NC
41	PCIE10_RXN	42	NC

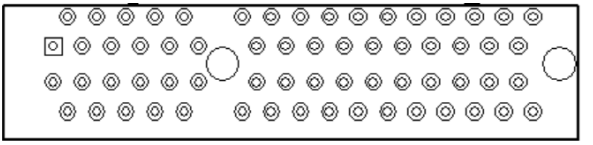
Pin	Signal	Pin	Signal
43	PCIE10_RXP	44	NC
45	GND	46	NC
47	PCIE10_TXN	48	NC
49	PCIE10_TXP	50	PLT_RST#(3.3V)
51	GND	52	PCIE_CLKREQ#
53	PCIE4_CLKN	54	PCIE_WAKE#
55	PCIE4_CLKP	56	NC
57	GND	58	NC
59	NC	60	NC
61	NC	62	NC
63	NC	64	NC
65	NC	66	NC
67	PLT_RST#(1.8V)	68	NC
69	NC	70	+3.3V
71	GND	72	+3.3V
73	GND	74	+3.3V
75	GND		

2.3.13 LAN Dual Port (CN15)



Pin	Signal	Pin	Signal
R1A	LAN1_MDI0+	R2A	LAN1_MDI0-
R3A	LAN1_MDI1+	R4A	LAN1_MDI1-
R5A	LAN1_MDI2+	R6A	LAN1_MDI2-
R7A	LAN1_MDI3+	R8A	LAN1_MDI3-
R9A	GND	R10A	GND
L1A	LAN1_ACTLED-	L2A	LAN1_ACTLED+
L3A	LAN1_LINK1000#	L4A	LAN1_LINK100#
R1B	LAN2_MDI0+	R2B	LAN2_MDI0-
R3B	LAN2_MDI1+	R4B	LAN2_MDI1-
R5B	LAN2_MDI2+	R6B	LAN2_MDI2-
R7B	LAN2_MDI3+	R8B	LAN2_MDI3-
R9B	GND	R10B	GND
L1B	LAN2_ACTLED-	L2B	LAN2_ACTLED+
L3B	LAN2_LINK1000#	L4B	LAN2_LINK100#

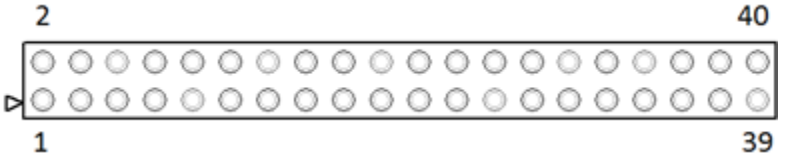
2.3.14 PCI Express Slot (CN18)



Pin	Signal	Pin	Signal
A1	GND	A2	+12V
A3	+12V	A4	GND
A5	NC	A6	NC
A7	NC	A8	NC
A9	+3.3V	A10	+3.3V
A11	PLT_RST#	A12	GND
A13	PCIE0_CLKP	A14	PCIE0_CLKN
A15	GND	A16	PCIE4_P0_RXP
A17	PCIE4_P0_RXN	A18	GND
A19	NC	A20	GND
A21	PCIE4_P1_RXP	A22	PCIE4_P1_RXN
A23	GND	A24	GND
A25	PCIE4_P2_RXP	A26	PCIE4_P2_RXN
A27	GND	A28	GND
A29	PCIE4_P3_RXP	A30	PCIE4_P3_RXN
A31	GND	A32	NC
B1	+12V	B2	+12V
B3	+12V	B4	GND
B5	SMB_CLK	B6	SMB_DATA
B7	GND	B8	+3.3V
B9	NC	B10	+V3.3A
B11	PCIE_WAKE#	B12	NC

Pin	Signal	Pin	Signal
B13	GND	B14	PCIE4_P0_TXP
B15	PCIE4_P0_TXN	B16	GND
B17	GND	B18	GND
B19	PCIE4_P1_TXP	B20	PCIE4_P1_TXN
B21	GND	B22	GND
B23	PCIE4_P2_TXP	B24	PCIE4_P2_TXN
B25	GND	B26	GND
B27	PCIE4_P3_TXP	B28	PCIE4_P3_TXN
B29	GND	B30	NC
B31	GND	B32	GND

2.3.15 40-Pin HAT Connector (CN19)

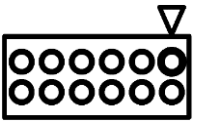


Note: PWM function (Pin 32, 33) only supported with UP Framework SDK. UPX-TGL only has one PWM controller, and cannot output two different frequencies for PWM0 and PWM1. User can only either pick one PWM to output, or assign the same output signal to both PWM pins under Windows.

Pin	Signal	Pin	Signal
1	+3.3V	2	+5V
3	I2C1_DAT/ GPIO1	4	+5V
5	I2C1_CLK/ GPIO2	6	GND
7	ANALOG_DATA / GPIO3	8	UART_TX/ GPIO16
9	GND	10	UART_RX/ GPIO17
11	GPIO4	12	I2S_BCLK/ GPIO18
13	GPIO5	14	GND

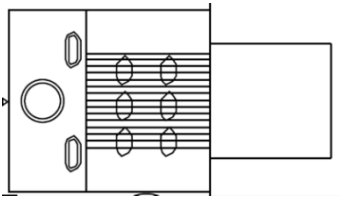
Pin	Signal	Pin	Signal
15	GPIO6	16	GPIO19
17	+3.3V	18	GPIO20
19	SPI_MOSI/ GPIO7	20	GND
21	SPI_MISO/ GPIO8	22	GPIO21
23	SPI_CLK/ GPIO9	24	SPI_CS0/ GPIO22
25	GND	26	SPI_CS1/ GPIO23
27	I2C0_DAT/ GPIO10	28	I2C0_CLK/ GPIO24
29	GPIO11	30	GND
31	GPIO12	32	PWM0/ GPIO25
33	PWM1/ GPIO13	34	GND
35	I2S_SYNC/ GPIO14	36	GPIO26
37	GPIO15	38	I2S_SDI/ GPIO27
39	GND	40	I2S_SDO/ GPIO28

2.3.16 CPLD and BIOS Update (CN20)



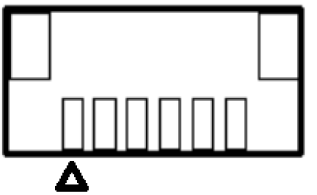
Pin	Signal	Pin	Signal
1	JTAG_TCK	2	GND
3	JTAG_TDO	4	1.8V
5	JTAG_TMS	6	SPI_CS
7	SPI_CLK	8	SPI_MISO
9	JTAG_TDI	10	GND
11	SPI_MOSI	12	SPI_HOLD

2.3.17 DC Jack (CN21)



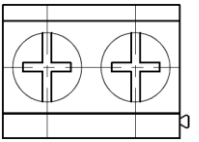
Pin	Signal
1	DC_IN
2	GND
3	GND

2.3.18 Front Panel (CN22)



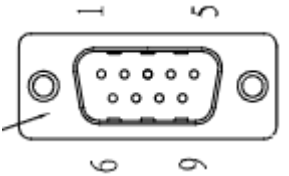
Pin	Signal	Pin	Signal
1	GND	2	RESET
3	GND	4	POWER S/W
5	GND	6	+3.3V

2.3.19 DC Terminal Block (CN23)



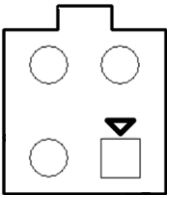
Pin	Signal
1	DC_IN
2	GND

2.3.20 COM3, COM4 RS232/ 422/ 485 (CN28/CN29)



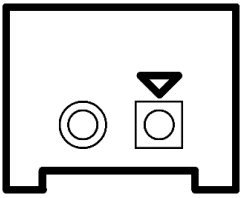
Pin	Signal	Pin	Signal
1	DCD/ RS422TX-/ S485-	2	RX/ RS422TX+/ RS485+
3	TX/ RS422RX+	4	DTR/ RS422RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI		

2.3.21 ATX Power (CN31)



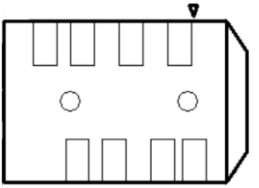
Pin	Signal	Pin	Signal
1	GND	2	GND
3	12V OUT	4	12V OUT

2.3.22 SATA Power (CN32)



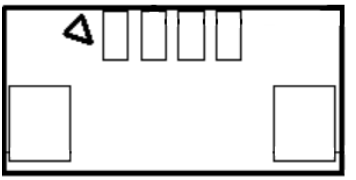
Pin	Signal
1	5V
2	GND

2.3.23 Audio Jack (CN33)



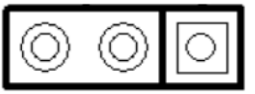
Pin	Signal	Pin	Signal
1	MIC_LR	2	GND
3	LOUT_R	4	NC
5	NC	6	AUDIO-JD
7	NC	8	LOUT_L

2.3.24 Fan Connector (J1)

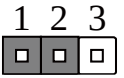


Pin	Signal	Pin	Signal
1	PWM	2	TACH
3	GND	4	12V

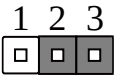
2.3.25 AT/ATX Mode Jumper (JP1)



Pin	Signal
1	ATX_MODE
2	PWRBTN
3	AT_MODE

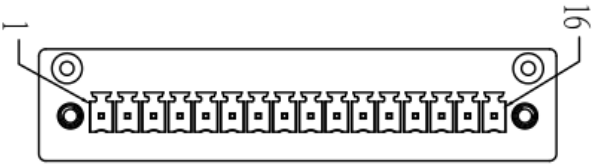


ATX Mode (Default)



AT Mode

2.3.26 GPIO Terminal Block



Pin	Signal	Pin	Signal
1	PIN1 (3.3V)	2	PIN2 (5V)
3	PIN3 (I2C_SDA)	4	PIN5 (I2C_SCL)
5	PIN6 (GND)	6	PIN9 (GND)
7	PIN12 (GPIO)	8	PIN13 (GPIO)
9	PIN15 (GPIO)	10	PIN16 (GPIO)
11	PIN18 (GPIO)	12	PIN19 (GPIO)
13	PIN21 (GPIO)	14	PIN22 (GPIO)
15	PIN32 (PWM0)	16	PIN33 (PWM1)

Note: PWM function (PIN32, PIN33) only supported with UP Framework SDK

Chapter 3

Software Installation

3.1 Linux Setup

UP Xtreme EDGE i11 supports Linux operating systems (see Chapter 1 for specifications). For instructions on how to install a Linux OS onto your UP Xtreme EDGE i11, 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.

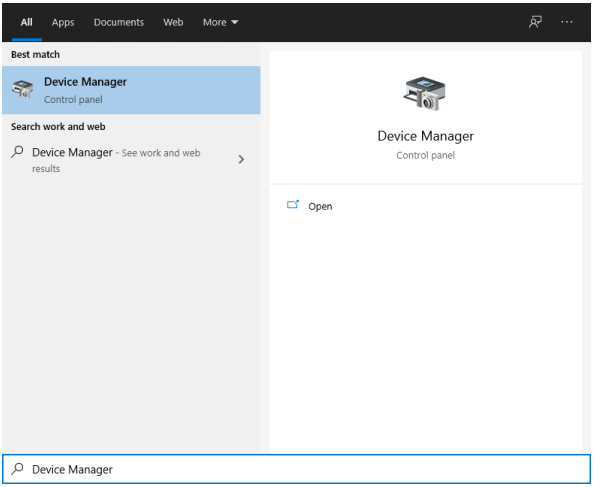
3.2 Windows Drivers Installation

Drivers for UP Xtreme EDGE i11 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 Xtreme EDGE i11 to find all relevant drivers.

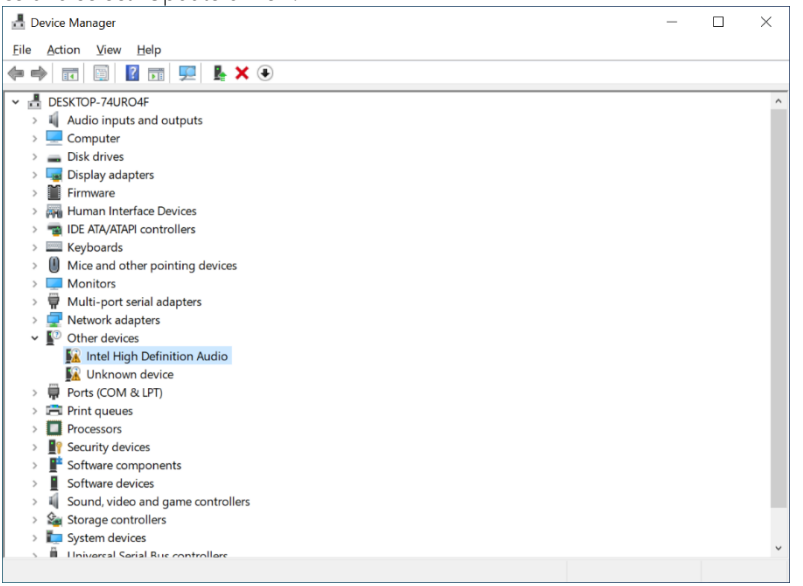
3.3 Dummy Driver Installation

The following instructions detail how to install the dummy driver for UPX-EDGE-TGL01.

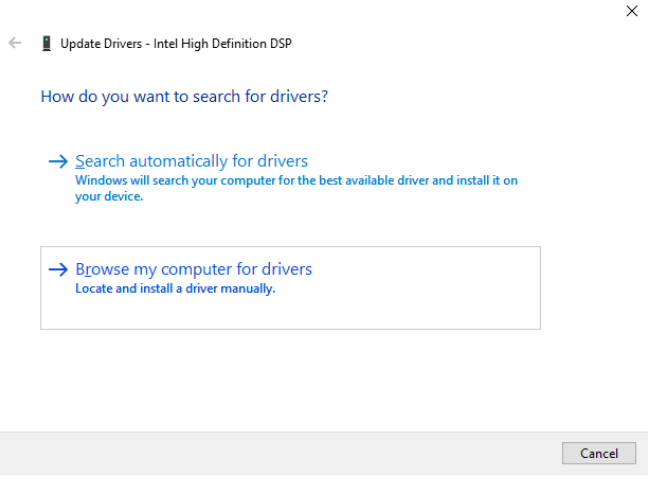
Step 1 – Open Device Manager in Windows by searching for the app in the Start Menu.



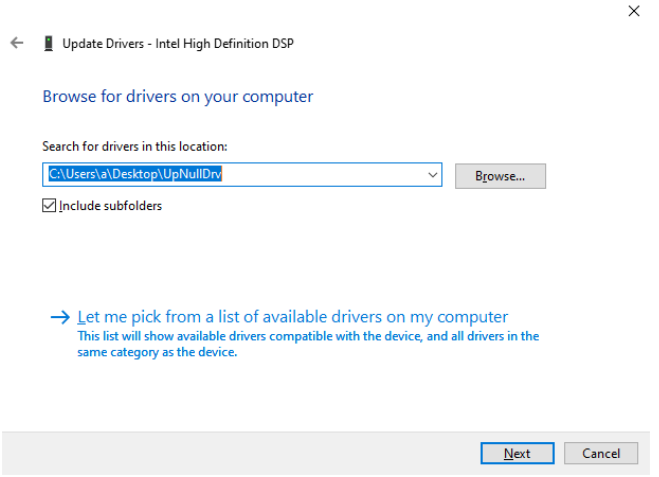
Step 2 – Under "Other devices" look for **Intel High Definition Audio**. Right click on the device and select "Update driver".



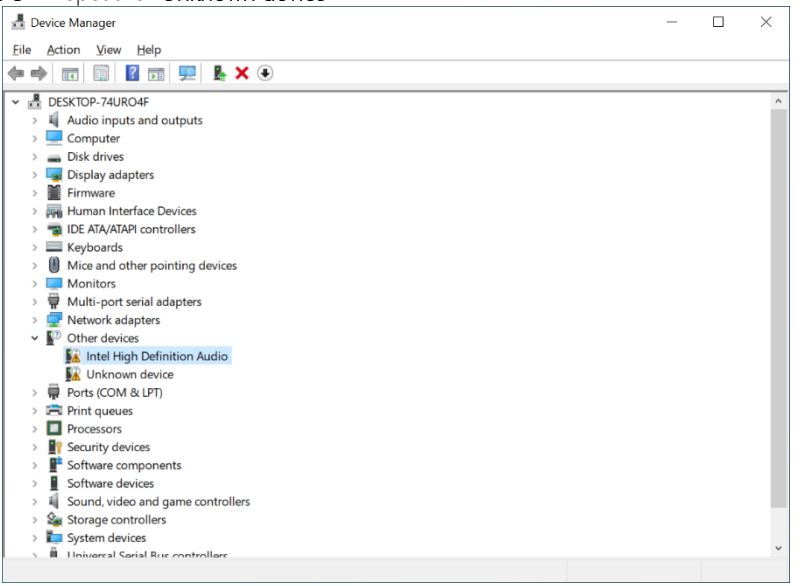
Step 3 – Select "Browse my computer for drivers"

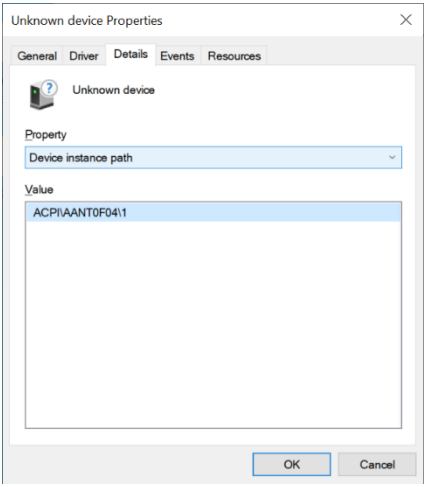


Step 4 – Click "Browse…" and select the folder where you saved the dummy driver software.



Step 5 – Repeat for Unknown device





Appendix A

UP Framework SDK Installation

A.1 Introduction

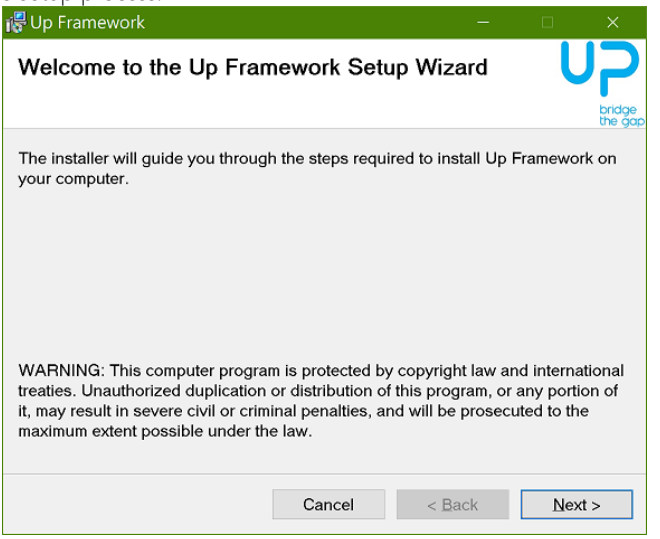
This section provides instructions for the installation of the UP Framework SDK. Instructions are provided for Windows 10 and Windows IoT Core. You can download the latest version of UP Framework SDK from the UP community:

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

A.2 Installation for Windows 10

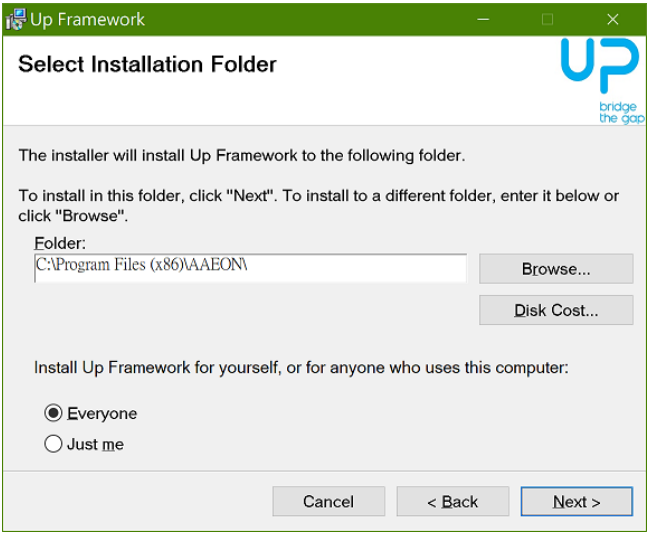
Step 1

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



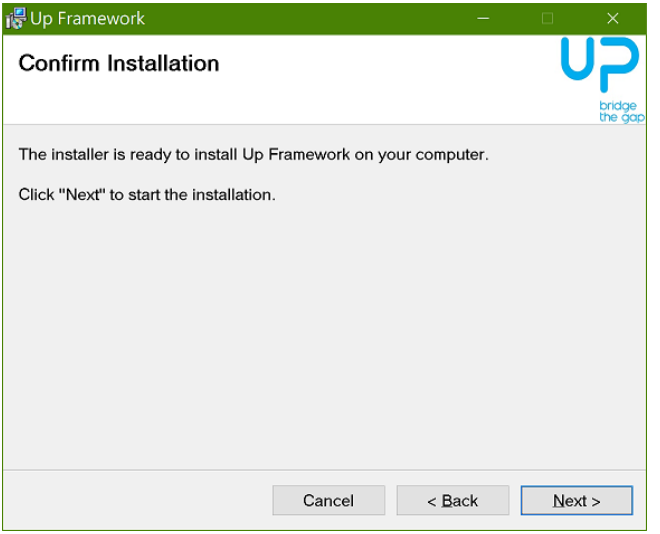
Step 2

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.



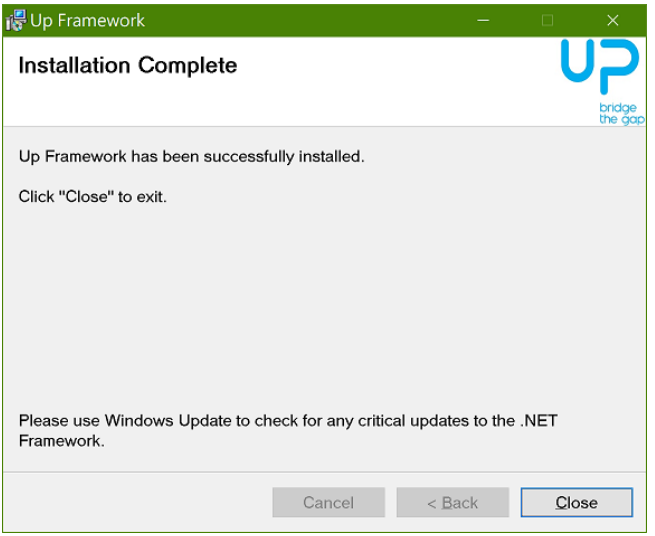
Step 3

Press "Next" to confirm the installation.



Step 4

Press "Close" to exit once setup is complete.

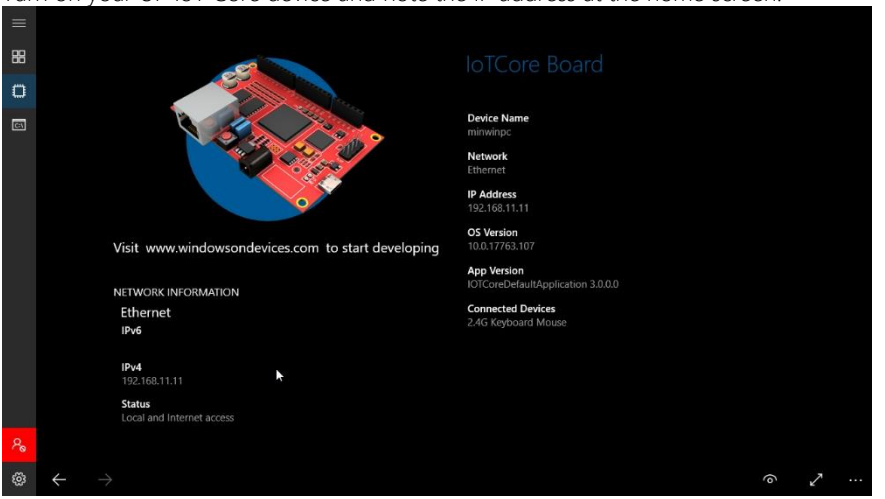

Up Framework
Installation Complete
bridge the gap
Up Framework has been successfully installed.
Click "Close" to exit.
Please use Windows Update to check for any critical updates to the .NET Framework.
Cancel
< Back
Close

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.

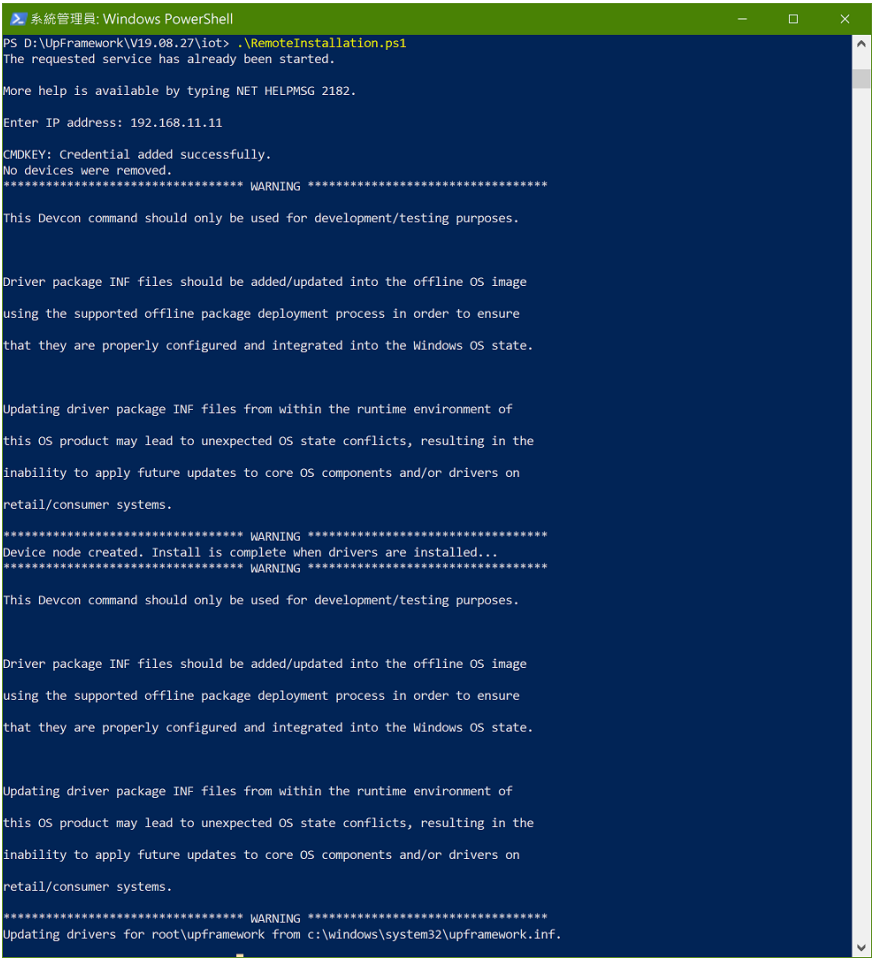
Step 1

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. Enter the command `RemoteInstallation.ps1` to install the UP Framework SDK. Enter the IP address of the UP IoT Core device when prompted.



Appendix B

Cables and Connectors

B.1 Cables and Connectors

This table provides detailed information about the cables and connectors used by the UP Xtreme EDGE i11 (UPX-EDGE-TGL01). If you have any questions about the configuration of your board, please contact your AAEON sales representative.

Label	Connector PN	Description	Mating Cable PN	Mating Cable Description
CN1	1655X00019	RTC Battery Connector	175011301K	Lithium Battery.CR2032H.3V.240mAH.w/cable 90mm.DIP.Battery power.BP-CR2032-M90-001
CN2	1654403931	HDMI 2.0 + DP 1.2	N/A	
CN3	1653530130	eDP Connector	N/A	
CN4	1654907009	SATA	1700070200	SATA CABLE.7P 180D(F) w/lock.to 7P 90D(F) w/o lock SATA.20cm
CN8	1654801330	Type A.USB3.2 x1 + USB2.0 x1	N/A	
CN9	1654801832	Type A.USB3.2 x2	N/A	
CN10	16548X0015	Type C.USB4.0 Connector	N/A	
CN11	1655810131	10-pin USB 2.0+HSUART Connector	N/A	
CN12	1654207539	m.2 2230 E Key	N/A	
CN13	165420753B	m.2 2280 M Key	N/A	
CN14	1654207536	m.2 3052 B Key	N/A	
CN15	16528X0015	GbE RJ-45 x2	N/A	
CN18	1654206422	SLOT PCI EXPRESS.32*2P	N/A	
CN19	165302020L	40-pin HAT Connector	170X000277	Cable.40P.Pitch=3.81mm.16P-to-40P header.300mm.FLYING WAY.FWAA-1418

Label	Connector PN	Description	Mating Cable PN	Mating Cable Description
CN21	165250320K	DC Power Jack.3P (DC 12V)	N/A	
CN22	1655906033	Wafer Box.6P. Front Panel (Power on + Reset)	N/A	
CN28	1655901000	Wafer Box.10P. COM port	170X000255	COM Port.9P.COM Cable to VGA.210mm.FLYINGWAY.FWAA-1375.
CN29	1655901000	Wafer Box.10P. COM port	170X000255	COM Port.9P.COM Cable to VGA.210mm.FLYINGWAY.FWAA-1375.
CN31	1655404020	ATX POWER CONNECTOR.2P*2 (DC 12V)	N/A	
CN32	1655302025	WAFER BOX.2P. SATA power (DC 5V)	1702150155	Power Cable.15P SATA(F).2P 2.0mm Housing(PH).15cm
CN33	1652708203	Audio Jack(Line out + Mic in)	N/A	
J1	1655804030	WAFER BOX.4P. Fan Connector	TH1EDTG010	System Cooler.12V.5200.Smart FAN
SW1	1601615600	Power Button with LED	N/A	
SIM1	1654900693	Nano SIM Card Connector	N/A	