

UP Xtreme 7100

Maker Board
UPX-ASL01

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
● UPX-ASL01 (UP Xtreme 7100) with heatsink	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.**

FCC Statement

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 主板/子板/背板

QQ4-381 Rev.A2

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	×	○	○	○	○	○
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。 环保使用期限(EFUP (Environmental Friendly Use Period))：10年 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。						

China RoHS Requirement (EN)

Name and content of hazardous substances in product

AAEON Main Board/Daughter Board/Backplane

QO4-381 Rev.A2

Part Name	Hazardous Substances					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
PCB Assemblies	×	○	○	○	○	○
Connector and Cable	×	○	○	○	○	○
The table is prepared in accordance with the provisions of SJ/T 11364. ○: Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572. ×: Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1). EFUP (Environment Friendly Use Period) value: 10 years Notes: This product defined period of use is under normal condition.						

Table of Contents

Chapter 1 - Product Specifications.....	1
1.1 Specifications	2
Chapter 2 – Hardware Information	4
2.1 Dimensions	5
2.2 Jumpers and Connectors.....	6
2.3 List of Jumpers and Connectors.....	8
2.3.1 DIP Switch (SW1)	10
2.3.2 Power Button (SW2)	10
2.3.3 RTC (CN1).....	11
2.3.4 M.2 2280 M-Key (CN2).....	11
2.3.5 M.2 3052 B-Key (CN3).....	12
2.3.6 M.2 2230 E-Key (CN4)	14
2.3.7 LAN 1 (CN6)	15
2.3.8 LAN 2 (CN7).....	16
2.3.9 Dual USB 3.2 Port (CN8)	17
2.3.10 Dual USB 2.0 Port (CN9)	18
2.3.11 eDP (CN12).....	18
2.3.12 MCU Debug (CN13)	19
2.3.13 CAN (CN14).....	20
2.3.14 DIO/GPIO (CN15).....	21
2.3.15 COM Port (CN16).....	22
2.3.16 SATA Connector (CN18).....	22
2.3.17 SATA Power (CN19).....	23
2.3.18 BIOS Update (CN20)	23
2.3.19 Front Panel (CN23)	24
2.3.20 DC Input (CN24)	24

2.3.21	Buzzer (CN25)	25
2.3.22	PWM Controller I2C (CN26)	25
2.3.23	USB Type-C (CN27)	26
2.3.24	GPIO Voltage Level (CN29)	27
2.3.25	DIO Board Connector (CN30)	27
2.3.26	UART Wafer (CN31)	28
2.3.27	Fan Connector (J1)	29
2.3.28	MCU Bootloader (JP1)	29
2.3.29	AT/ATX Mode (JP2)	29
2.3.30	Digital Input Selection (JP9)	30
2.3.31	SIM Card Slot (SIM1)	30
Chapter 3 – CANBus User Guide.....		31
3.1	Installation Instructions	32
3.2	Uninstalling CAN.....	34
3.3	Change Baud Rate and CAN Interface Name.....	35
3.4	Update Tool.....	37
Appendix A – Cables and Connectors.....		41
A.1	Cables and Connectors.....	42
Appendix B – Power Adapter Configuration.....		43
B.1	Connecting 2 pin DC Connector with DC Adapter.....	44

Chapter 1

Product Specifications

1.1 Specifications

System

Processor	Intel® Processor N97 Intel® Core™ i3-N305 Processor
Graphics	Intel® UHD Graphics for 12th Gen Intel® Processors
Memory	Up to 16GB LPDDR5
Storage	Up to 64GB onboard eMMC M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]) SATA 6Gb/s x 1
I/O	RS-232/422/485 x 1 (Terminal Block) (Default RS-232) 30-pin Board-to-Board Connector x 1 UART x 1 (via 10-pin Header x 1)
Camera	—
USB	USB 2.0 (Type-A) x 2 USB 3.2 Gen 2 (Type-A) x 2 USB 3.2 Gen 2 (Type-C) x 1 (Supports DP alt mode)
Expansion	M.2 3052 B-Key x 1 with Nano SIM slot (USB 3.0) M.2 2230 E-Key x 1 (USB 2.0/PCIe) M.2 2280 M-Key x 1 (PCIe Gen 3 [x2]) 24V 8-in/8-out Digital I/O x 1 via Terminal Block (Output current: 500mA per channel) 6 pin GPIO x 1 via Terminal Block 6 pin 2-channel CAN 2.0B x 1 via Terminal Block (10 ~ 1000 kbps) DIP Switch for CANBus function x 1 CAN LED indicator x 2 SATA 6Gb/s x 1

System

Display Interface	DP 1.4a x 1 (via USB Type-C) eDP 1.3 x 1
Ethernet	2.5GbE x 2 (Intel® Ethernet Controller I226-IT)
Security	Onboard TPM 2.0
RTC	Yes
OS Support	Ubuntu 22.04 LTS (Kernel 5.15 and Kernel 5.19)

Power Requirement

Power	9 ~ 36V
Power Supply Type	AT/ATX (AT as default)
Power Consumption (Typical)	52W ~ 55W

Mechanical

Dimension	4.74" x 4.82" (120.35mm x 122.5mm)
Net Weight	1.11lb. (0.5Kg)
Gross Weight	1.76 lb. (0.8Kg)

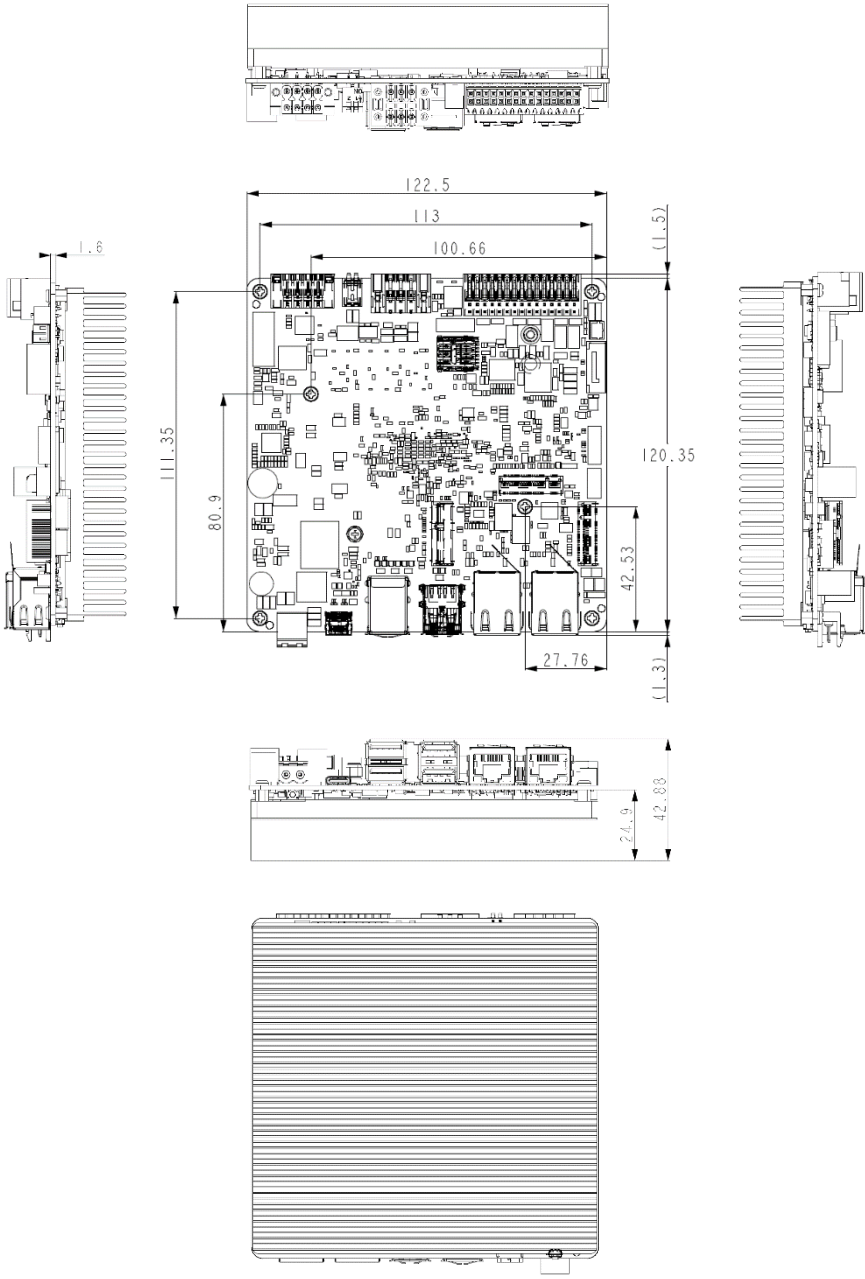
Environment

Operating Temperature	With Heatsink: -4°F ~ 158°F (0°C ~ 60°C)/0.5m/s airflow
Operation Humidity	0% ~ 90% relative humidity, non-condensing
MTBF	421,998
Certification	CE/FCC Class A, RoHS Compliant, REACH

Chapter 2

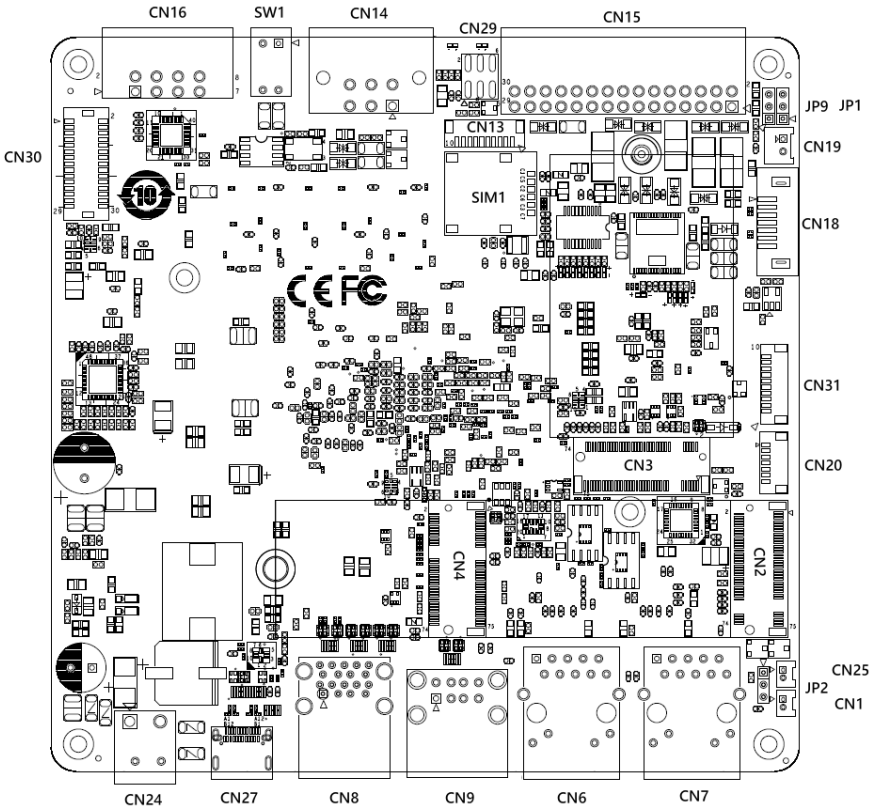
Hardware Information

2.1 Dimensions

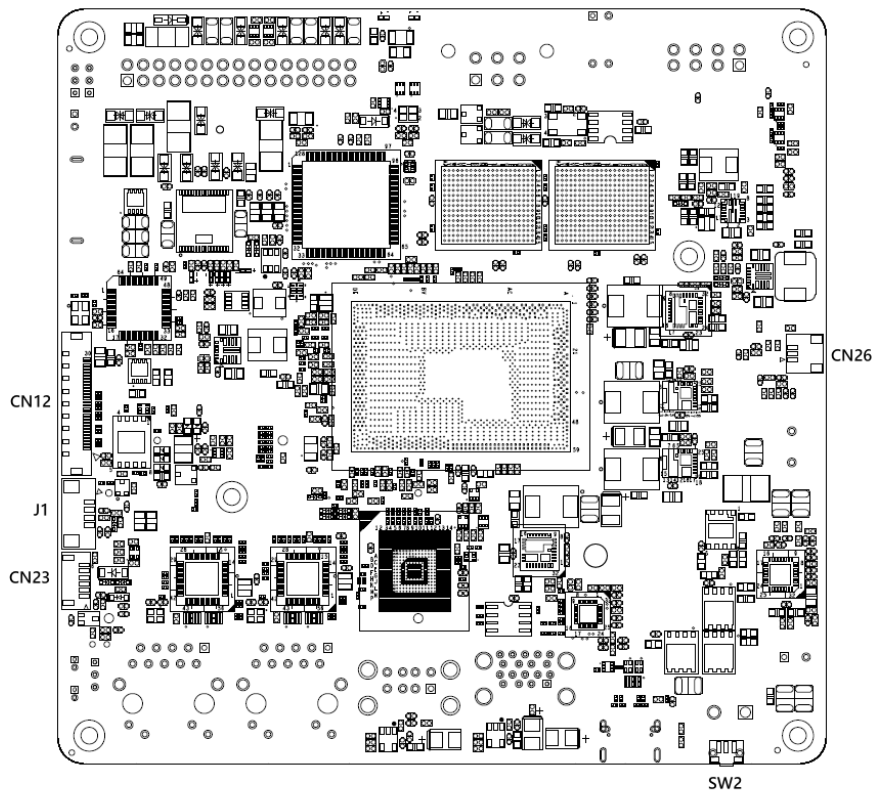


2.2 Jumpers and Connectors

Top:



Bottom:



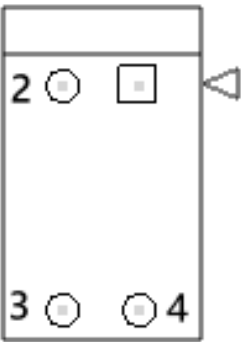
2.3 List of Jumpers and Connectors

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

Label	Function
SW1	DIP Switch
SW2	Power Button
CN1	RTC
CN2	M.2 2280 M-Key
CN3	M.2 3052 B-Key
CN4	M.2 2230 E-Key
CN6	LAN 1
CN7	LAN 2
CN8	USB 3.2
CN9	USB 2.0
CN12	eDP
CN13	MCU Debug
CN14	CANBus
CN15	DIO/GPIO
CN16	COM Port
CN18	SATA
CN19	SATA Power
CN20	BIOS Update
CN23	Front Panel
CN24	DC Input
CN25	Buzzer
CN26	PWM Controller I2C
CN27	USB Type-C
CN29	GPIO Voltage Level
CN30	DIO Board Connector
CN31	UART Wafer
J1	Fan Connector
JP1	MCU Bootloader

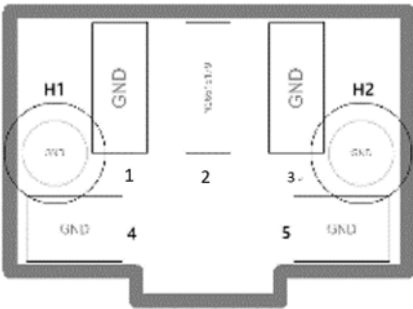
Label	Function
JP2	AT/ATX Mode
JP9	Digital Input Selection
SIM1	SIM Card Slot

2.3.1 DIP Switch (SW1)



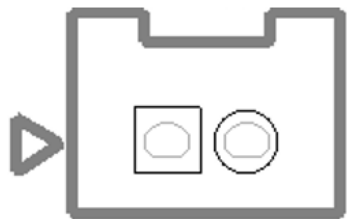
Pin	Signal	Pin	Signal
1	CAN1_L	2	CAN2_L
3	CAN2_H (120 ohm)	4	CAN1_H (120 ohm)

2.3.2 Power Button (SW2)



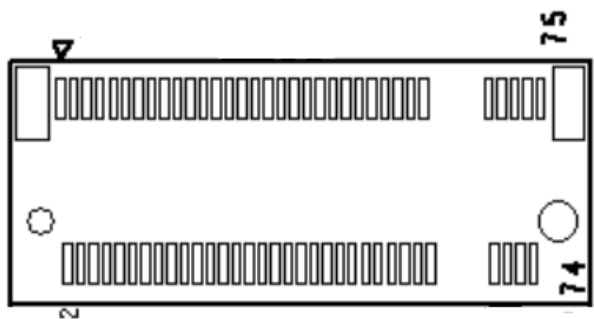
Pin	Signal	Pin	Signal
1	GND	2	PWR_SW#_CTL
3	GND	4	GND
5	GND		
H1	GND	H2	GND

2.3.3 RTC (CN1)



Pin	Signal	Pin	Signal
1	+VCC_RTC	2	GND

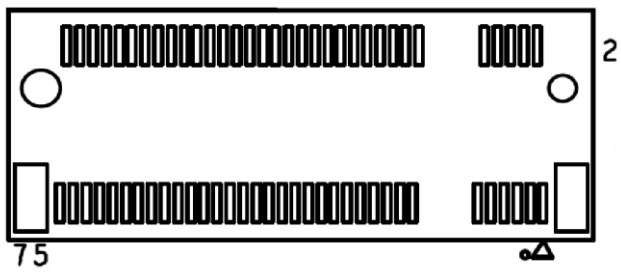
2.3.4 M.2 2280 M-Key (CN2)



Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	3.3V	3	NC
4	3.3V	5	NC	6	3.3V or 1.8V
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	PCIE10_RXN	30	NC
31	PCIE10_RXP	32	NC	33	GND

Pin	Signal	Pin	Signal	Pin	Signal
34	NC	35	PCIE10_TXN	36	NC
37	PCIE10_TXP	38	NC	39	GND
40	NC	41	PCIE9_RXN	42	SMB_CLK_1V8
43	PCIE9_RXP	44	SMB_DATA_1V8	45	GND
46	NC	47	PCIE9_TXN	48	NC
49	PCIE9_TXP	50	BUF_PLT_RST#	51	GND
52	PCIE_CLKREQ#3	53	PCIE_CLK3_DN	54	PCIE_WAKE#
55	PCIE_CLK3_DP	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

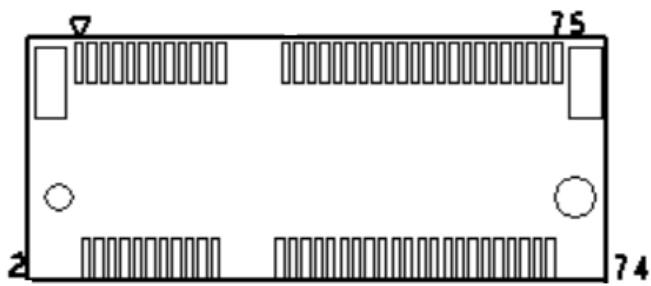
2.3.5 M.2 3052 B-Key (CN3)



Pin	Signal	Pin	Signal	Pin	Signal
1	NC	2	3.3V	3	GND
4	3.3V	5	GND	6	FULL_CARD_PWR_OFF#(1.8V)
7	USB2_P6_DP	8	3GPW_EN	9	USB2_P6_DN
10	NC	11	GND	12	NC
13	NC	14	NC	15	NC
16	NC	17	NC	18	NC

Pin	Signal	Pin	Signal	Pin	Signal
19	NC	20	NC	21	NC
22	NC	23	NC	24	NC
25	NC	26	NC	27	GND
28	NC	29	USB3_P3_RXN	30	UIM_RST
31	USB3_P3_RXP	32	UIM_CLK	33	GND
34	UIM_DAT	35	USB3_P3_TXN	36	UIM_PWR
37	USB3_P3_TXP	38	NC	39	GND
40	NC	41	NC	42	NC
43	NC	44	NC	45	GND
46	NC	47	NC	48	NC
49	NC	50	5G_WWAN_PERST	51	GND
52	NC	53	NC	54	PCIE_WAKE#
55	NC	56	NC	57	GND
58	NC	59	NC	60	CNV_PA_BLANKING
61	NC	62	NC	63	NC
64	NC	65	NC	66	NC
67	BUF_PLT_RST_1.8_N	68	SUSCLK	69	NC
70	3.3V	71	GND	72	3.3V
73	GND	74	3.3V	75	GND

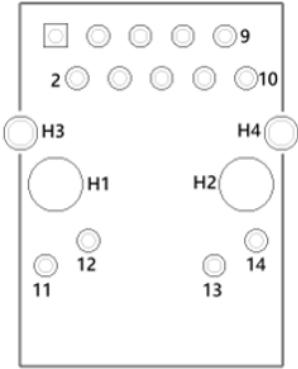
2.3.6 M.2 2230 E-Key (CN4)



Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	3.3V	3	USB2_P8_DP
4	3.3V	5	USB2_ P8_DN	6	NC
7	GND	8	NC	9	CNV_WR_LANE1_DN
10	CNV_RF_RESET	11	CNV_WR_LANE1_DP	12	NC
13	GND	14	CNV_MODEM_CLKRE Q	15	CNV_WR_LANE0_DN
16	NC	17	CNV_WR_LANE0_DP	18	GND
19	GND	20	CNV_UART_WAKE	21	CNV_WR_CLK_DN
22	CNV_BRI_RSP	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	PCIE11_TXP	36	CNV_BRI_DT
37	PCIE11_TXN	38	NC	39	GND
40	NC	41	PCIE11_RXP	42	NC
43	PCIE11_RXN	44	NC	45	GND
46	NC	47	PCIE_CLK2_DP	48	NC
49	PCIE_CLK2_DN	50	SUS_CLK	51	GND
52	BUF_PLT_RST#	53	NC	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

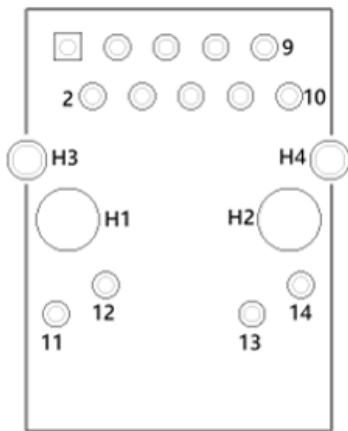
Pin	Signal	Pin	Signal	Pin	Signal
70	NC	71	CNV_WT_CLK_DN	72	3.3V
73	CNV_WT_CLK_DP	74	3.3V	75	GND

2.3.7 LAN 1 (CN6)



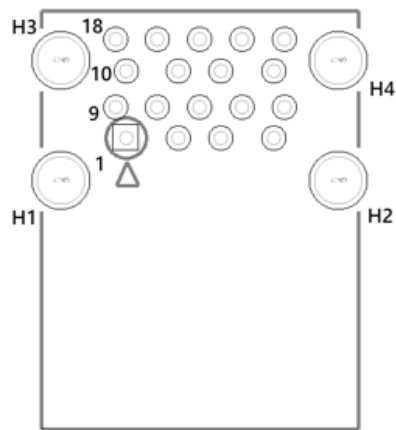
Pin	Signal	Pin	Signal
1	NC	2	LAN1_MDI0P
3	LAN1_MDI0N	4	LAN1_MDI1P
5	LAN1_MDI1N	6	LAN1_MDI2P
7	LAN1_MDI2N	8	LAN1_MDI3P
9	LAN1_MDI3N	10	GND
11	LAN1_LED_1000#	12	LAN1_LED_100#
13	+V3P3_LAN1	14	LAN1_LED_LNK#_ACT
H1	NC	H2	NC
H3	GND_CHASSIS1	H4	GND_CHASSIS1

2.3.8 LAN 2 (CN7)



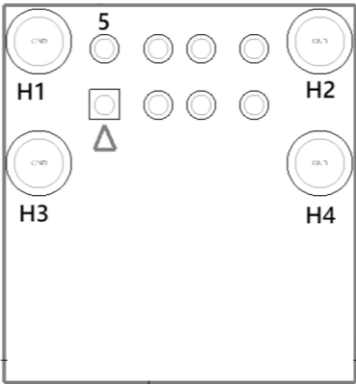
Pin	Signal	Pin	Signal
1	NC	2	LAN2_MDI0P
3	LAN2_MDI0N	4	LAN2_MDI1P
5	LAN2_MDI1N	6	LAN2_MDI2P
7	LAN2_MDI2N	8	LAN2_MDI3P
9	LAN2_MDI3N	10	GND
11	LAN2_LED_1000#	12	LAN2_LED_100#
13	+V3P3_LAN2	14	LAN2_LED_LNK#_ACT
H1	NC	H2	NC
H3	GND_CHASSIS2	H4	GND_CHASSIS2

2.3.9 Dual USB 3.2 Port (CN8)



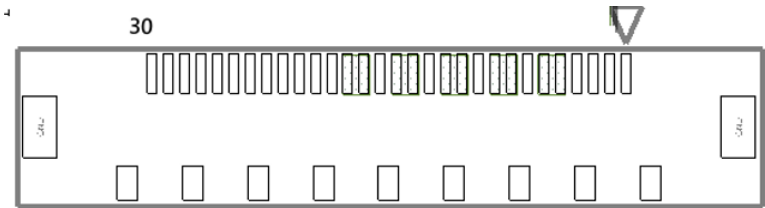
Pin	Signal	Pin	Signal	Pin	Signal
1	5V	2	USB2_P1_DN	3	USB2_P1_DP
4	GND	5	USB3_ P1_RXN	6	USB3_ P1_RXP
7	GND	8	USB3_ P1_TXN	9	USB3_ P1_TXP
10	+5V	11	USB2_P2_DN	12	USB2_P2_DP
13	GND	14	USB3_ P2_RXN	15	USB3_ P2_RXP
16	GND	17	USB3_ P2_TXN	18	USB3_ P2_TXP
H1	GND	H2	GND	H3	GND
H4	GND				

2.3.10 Dual USB 2.0 Port (CN9)



Pin	Signal	Pin	Signal
1	5V	2	USB2_P3_DN
3	USB2_P3_DP	4	GND
5	5V	6	USB2_P4_DN
7	USB2_P4_DP	8	GND
H1	GND	H2	GND
H3	GND	H4	GND

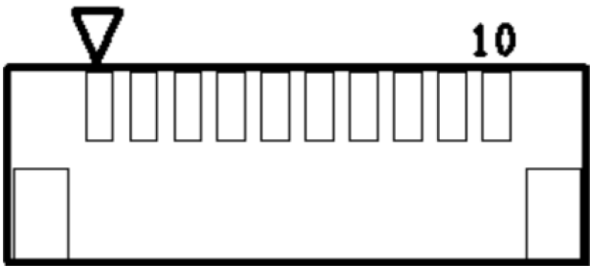
2.3.11 eDP (CN12)



Pin	Signal	Pin	Signal	Pin	Signal
1	3.3V	2	3.3V	3	NC(3.3V)
4	GND	5	EDP_TX2_DN	6	EDP_TX2_DP
7	GND	8	EDP_TX1_DN	9	EDP_TX1_DP
10	GND	11	EDP_TX0_DN	12	EDP_TX0_DP

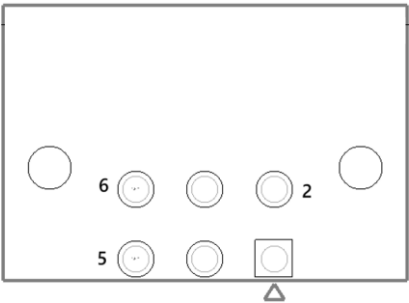
Pin	Signal	Pin	Signal	Pin	Signal
13	GND	14	EDP_TX3_DN	15	EDP_TX3_DP
16	GND	17	EDP_AUX_DN	18	EDP_AUX_DP
19	GND	20	EDP_BKLT_CTRL	21	NC
22	EDP_BKLT_EN	23	EDP_HPD_CONN	24	GND
25	GND	26	GND	27	12V
28	12V	29	12V	30	12V

2.3.12 MCU Debug (CN13)



Pin	Signal	Pin	Signal
1	TARGET_RESETN	2	+VDD_DBG
3	GND	4	SWO-
5	SWCLK	6	NC
7	NC	8	SWDIO
9	NC	10	NC
11	GND	12	GND

2.3.13 CAN (CN14)

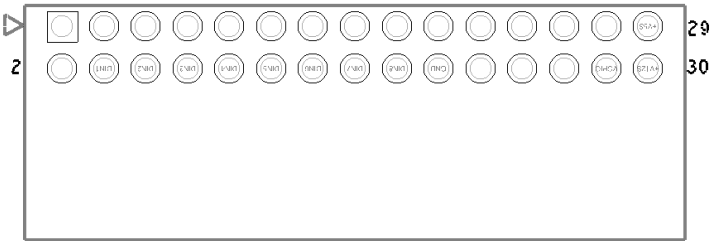


Pin	Signal	Pin	Signal
1	CAN1_H	2	CAN2_H
3	CAN1_L	4	CAN2_L
5	GND	6	GND
H1	NC	H2	NC



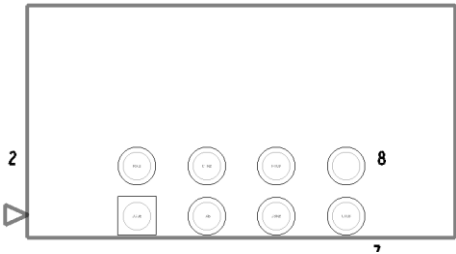
LED Assignment		
LED Name	LED Color	Description
CAN1	Green	LED flashing while CAN transmission
	Red	LED flashing while error occurred
CAN2	Green	LED flashing while CAN transmission
	Red	LED flashing while error occurred

2.3.14 DIO/GPIO (CN15)



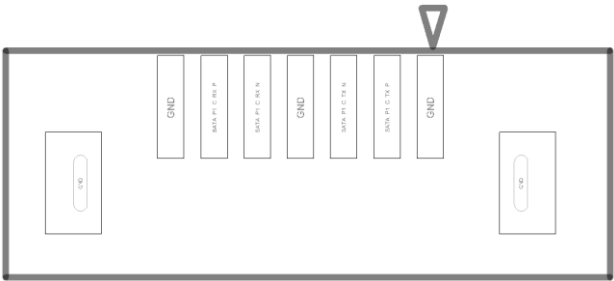
Pin	Signal	Pin	Signal	Pin	Signal
1	24V (External)	2	24V (External)	3	DOUT1
4	DIN1	5	DOUT2	6	DIN2
7	DOUT3	8	DIN3	9	DOUT4
10	DIN4	11	DOUT5	12	DIN5
13	DOUT6	14	DIN6	15	DOUT7
16	DIN7	17	DOUT8	18	DIN8
19	GND (External)	20	GND (External)	21	GND (External)
22	GND (External)	23	GPIO1	24	GPIO2
25	GPIO3	26	GPIO4	27	GPIO5
28	GPIO6	29	GND	30	GND

2.3.15 COM Port (CN16)



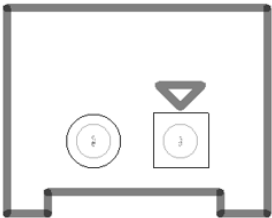
Pin	Signal	Pin	Signal
1	DCDA/RS422TX-/RS485-	2	RXA/RS422TX+/ RS485+
3	TXA / RS422RX+	4	DTRA / RS422RX-
5	DSRA	6	RTSA
7	CTSA	8	GND

2.3.16 SATA Connector (CN18)



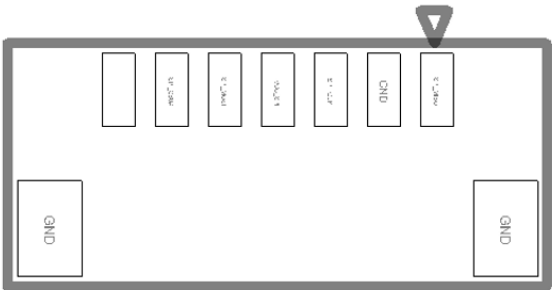
Pin	Signal	Pin	Signal
1	GND	2	SATA1_TXP
3	SATA1_TXN	4	GND
5	SATA1_RXN	6	SATA1_RXP
7	GND		

2.3.17 SATA Power (CN19)



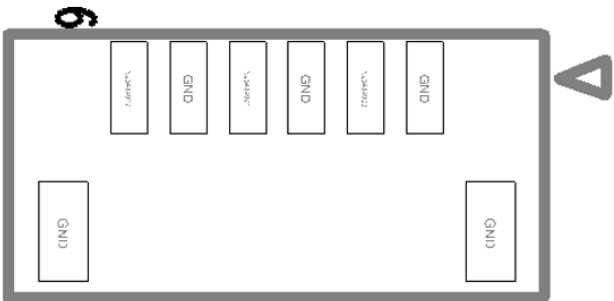
Pin	Signal	Pin	Signal
1	+V5S	2	GND

2.3.18 BIOS Update (CN20)



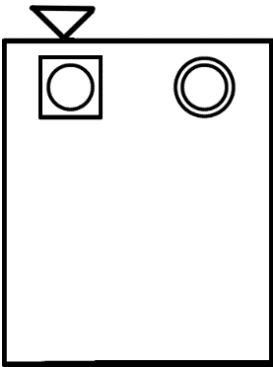
Pin	Signal	Pin	Signal
1	SPI_MISO	2	GND
3	SPI_CLK	4	+VCC_SPI
5	SPI_MOSI	6	SPI_CS0#
7	SPI_SOCK_HOLD_N		

2.3.19 Front Panel (CN23)



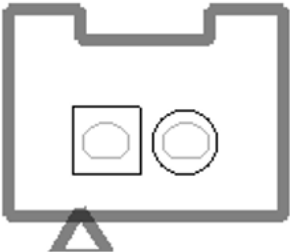
Pin	Signal	Pin	Signal
1	GND	2	HWRST#
3	GND	4	PWR_SW#_CTL
5	GND	6	3.3V

2.3.20 DC Input (CN24)



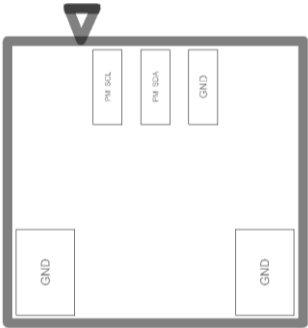
Pin	Signal	Pin	Signal
1	DC_IN	2	GND

2.3.21 Buzzer (CN25)



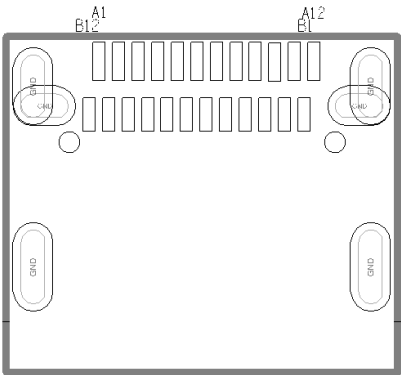
Pin	Signal	Pin	Signal
1	5V	2	SPK

2.3.22 PWM Controller I2C (CN26)



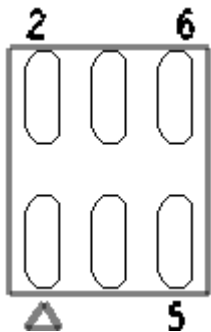
Pin	Signal	Pin	Signal
1	PM_SCL	2	PM_SDA
3	GND		

2.3.23 USB Type-C (CN27)



Pin	Signal	Pin	Signal	Pin	Signal
A1	GND	A2	TCP0_TX0_DP	A3	TCP0_TX0_DN
A4	5V	A5	TCP0_CC1	A6	USB2_P5_DP
A7	USB2_P5_DN	A8	TCP0_SBU1	A9	5V
A10	TCP0_TXRX1_DN	A11	TCP0_TXRX1_DP	A12	GND
B1	GND	B2	TCP0_TX1_DP	B3	TCP0_TX1_DN
B4	5V	B5	TCP0_CC2	B6	USB2_P5_DP
B7	USB2_P5_DN	B8	TCP0_SBU2	B9	5V
B10	TCP0_TXRX0_DN	B11	TCP0_TXRX0_DP	B12	GND
H1	NC	H2	NC	H3	GND
H4	GND	H5	GND	H6	GND
H7	GND	H8	GND		

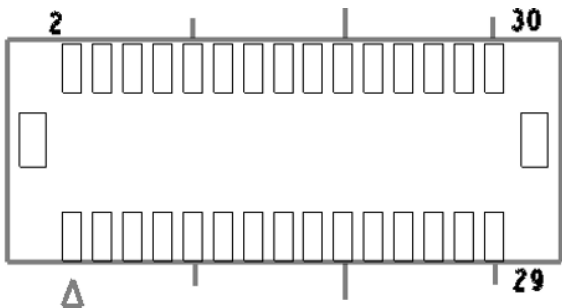
2.3.24 GPIO Voltage Level (CN29)



Pin	Signal	Pin	Signal
1	V3P3_GPIO	2	VGPIO
3	V5_GPIO	4	VGPIO
5	V12_GPIO	6	VGPIO

Note: The GPIO voltage level is set by jumper. The default is 3.3V (pin 1-2).

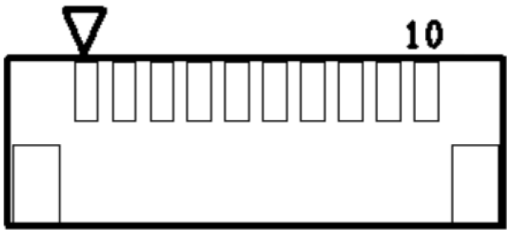
2.3.25 DIO Board Connector (CN30)



Pin	Signal	Pin	Signal	Pin	Signal
1	DGPIO7(EMERG_GPIO1)	2	1.8V	3	DGPIO8(EMERG_GPIO2)
4	BOT_SPI_MISO	5	DGPIO9(EMERG_GPIO3)	6	BOT_SPI_CLK

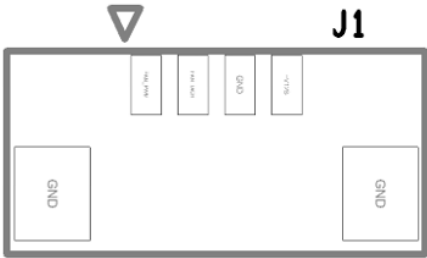
Pin	Signal	Pin	Signal	Pin	Signal
7	DGPIO10(EMERG_GPIO4)	8	BOT_SPI_MOSI	9	DGPIO11(PWM1)
10	BOT_SPI_CS#	11	DGPIO12(PWM2)	12	DGPIO1
13	DGPIO13(PWM3)	14	DGPIO2(HDA_RST#)	15	DGPIO14(PWM4)
16	DGPIO3(HDA_SYNC)	17	DGPIO15(BAT_UART1_TXD)	18	DGPIO4(HDA_SDI0)
19	DGPIO16(BAT_UART1_RXD)	20	DGPIO5(HDA_BCLK)	21	GND
22	DGPIO6(HDA_SDO)	23	GND	24	3.3V
25	GND	26	3.3V	27	GND
28	5V	29	GND	30	5V

2.3.26 UART Wafer (CN31)



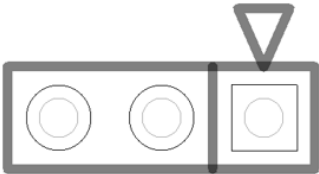
Pin	Signal	Pin	Signal
1	DCDB#	2	RXB#
3	TXB#	4	DTRB#
5	GND	6	DSRB#
7	RTSB#	8	CTSB#
9	RIB#	10	NC
11	GND	12	GND

2.3.27 Fan Connector (J1)



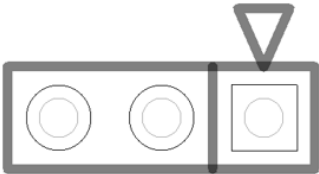
Pin	Signal	Pin	Signal
1	PWM	2	TACH
3	GND	4	12V

2.3.28 MCU Bootloader (JP1)



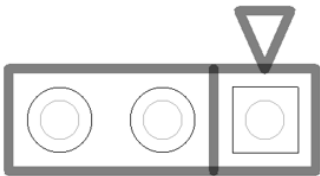
Pin	Signal	Pin	Signal
1	3.3V	2	INIT
3	GND		

2.3.29 AT/ATX Mode (JP2)



Pin	Signal	Pin	Signal
1	AT_MODE	2	AT/ATX select
3	AT_MODE (default)		

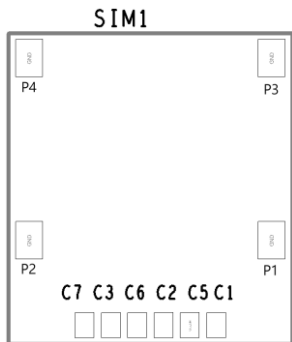
2.3.30 Digital Input Selection (JP9)



Pin	Signal	Pin	Signal
1	GND (External)	2	COM
3	24V		

Note: Default sink type. Need BOM change for source type selection.

2.3.31 SIM Card Slot (SIM1)



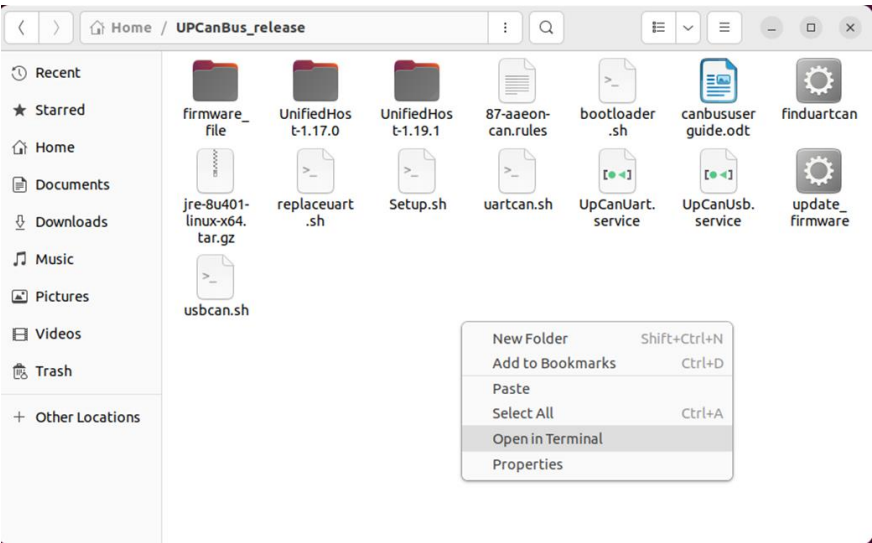
Pin	Signal	Pin	Signal
C1	P_UIM_PWRF	C2	P_UIM_RSTC
C3	P_UIM_CLKC	C5	GND
C6	NC	C7	P_UIM_DATC
P1	GND	P2	GND
P3	GND	P4	GND

Chapter 3

CANBus User Guide

3.1 Installation Instructions

Step 1: In the folder, right-click to select Open in Terminal.



Step 2: Enter command:

```
sudo chmod 777
```

```
a@a-SYSTEM-PRODUCT-NAME:~/UPCanBus_release$ sudo chmod 777 *  
[sudo] password for a:  
a@a-SYSTEM-PRODUCT-NAME:~/UPCanBus_release$
```

Step 3: Ensure Ethernet is connected.

Step 4: Input command:

```
./Setup.sh install
```

```
a@a-SYSTEM-PRODUCT-NAME:~/UPCanBus_release$ ./Setup.sh install  
Host already install can-utils  
find canbus uart successfully  
replace uart_pid 0x9dc7 to 0x9dc7  
Setup file will copy to /opt/aaeon/canbus , if need,you could go there to use  
Created symlink /etc/systemd/system/multi-user.target.wants/UpCanUsb.service → /etc/systemd/system/UpCanUsb.service.  
Created symlink /etc/systemd/system/multi-user.target.wants/UpCanUart.service → /etc/systemd/system/UpCanUart.service.  
You need to reboot to active udev
```

Step 5: Following reboot, CANBus will be usable.

Optional: Check CANBus via command:

```
ip a
```

```
4: can1: <NOARP,UP,LOWER_UP> mtu 16 qdisc pfifo_fast state UP group default qlen 10000  
    link/can  
5: can0: <NOARP,UP,LOWER_UP> mtu 16 qdisc pfifo_fast state UP group default qlen 10000  
    link/can
```

3.2 Uninstalling CAN

Step 1: Open terminal and navigate to the appropriate folder using the following command:

```
cd /opt/aaeon/canbus/
```

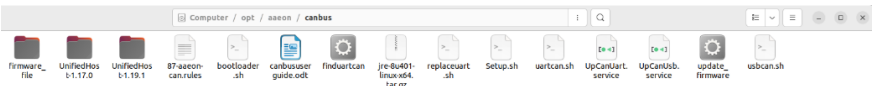
Step 2: To uninstall, use following command:

```
./Setup.sh uninstall
```

```
a@a-SYSTEM-PRODUCT-NAME:/opt/aaeon/canbus$ ./Setup.sh uninstall
remove aaeon UP can rules
[sudo] password for a:
Removed /etc/systemd/system/multi-user.target.wants/UpCanUsb.service.
Removed /etc/systemd/system/multi-user.target.wants/UpCanUart.service.
a@a-SYSTEM-PRODUCT-NAME:/opt/aaeon/canbus$
```

3.3 Change Baud Rate and CAN Interface Name

To change the naming configuration of `uartcan.sh` or `usbcan.sh` you must first navigate to the below folder. Note that changing interface name(s) requires super user permissions.



```
1 #!/bin/bash
2
3 #-----#
4 # Baudrate could be set as below: #
5 # 10K #
6 # 20K #
7 # 50K #
8 # 100K #
9 # 125K #
10 # 250K #
11 # 500K #
12 # 800K #
13 # 1000K #
14 #-----#
15 Baudrate="1000K"
16 #If can device name conflicted,you could be change name to others
17 canname="can0"
18
19 function canbegin()
20 {
21     sudo -S slcand -S 115200 -s$1 -o AaeonUsbCan0 $canname
22     sleep 0.1
23     sudo ip link set $canname up
24     sleep 0.1
25     sudo ip link set $canname txqueuelen 10000
26 }
27 function kill()
28 {
29     pid=$(ps aux | grep slcand | grep AaeonUsbCan0 | grep -v grep | awk '{print $2}')
30     echo $pid
31     sudo kill -9 $pid
32 }
33
34 function Start()
35 {
36     case $Baudrate in
37         "10K")
38         canbegin 0
39         ;;
40         "20K")
41         canbegin 1
42         ;;
43         "50K")
44         canbegin 2
45         ;;
46         "100K")
47         canbegin 3
48         ;;
49         "125K")
50         canbegin 4
51         ;;
52     esac
53 }
```

```

1 #!/bin/bash
2
3 -----#
4 # Baudrate could be set as below: #
5 # 10K #
6 # 20K #
7 # 50K #
8 # 100K #
9 # 125K #
10 # 250K #
11 # 500K #
12 # 800K #
13 # 1000K #
14 -----#
15 Baudrate="1000K"
16 #If can device name conflicted,you could be change name to others
17 Scanname="can:"
18
19 function canbegin()
20 {
21     sudo -S slcand -S 2000000 -s$1 -o AaeonUartCan Scanname
22     sleep 0.1
23     sudo ip link set $Scanname up
24     sleep 0.1
25     sudo ip link set Scanname txqueuelen 10000
26 }
27 function kill()
28 {
29     pId=$(ps aux | grep slcand | grep AaeonUartCan | grep -v grep | awk '{print $2}')
30     echo $pId
31     sudo kill -9 $pId
32 }
33
34 function Start()
35 {
36     case $Baudrate in
37         "10K") canbegin 0
38             ;;
39         "20K") canbegin 1
40             ;;
41         "50K") canbegin 2
42             ;;
43         "100K") canbegin 3
44             ;;
45         "125K")
46

```

Once file names have been changed, the following command is required to restart service.

If USB CANBus file name has been changed, enter command:

```
sudo systemctl stop UpCanUsb.service
```

```
sudo systemctl start UpCanUsb.service
```

If UART CANBus file name has been changed, enter command:

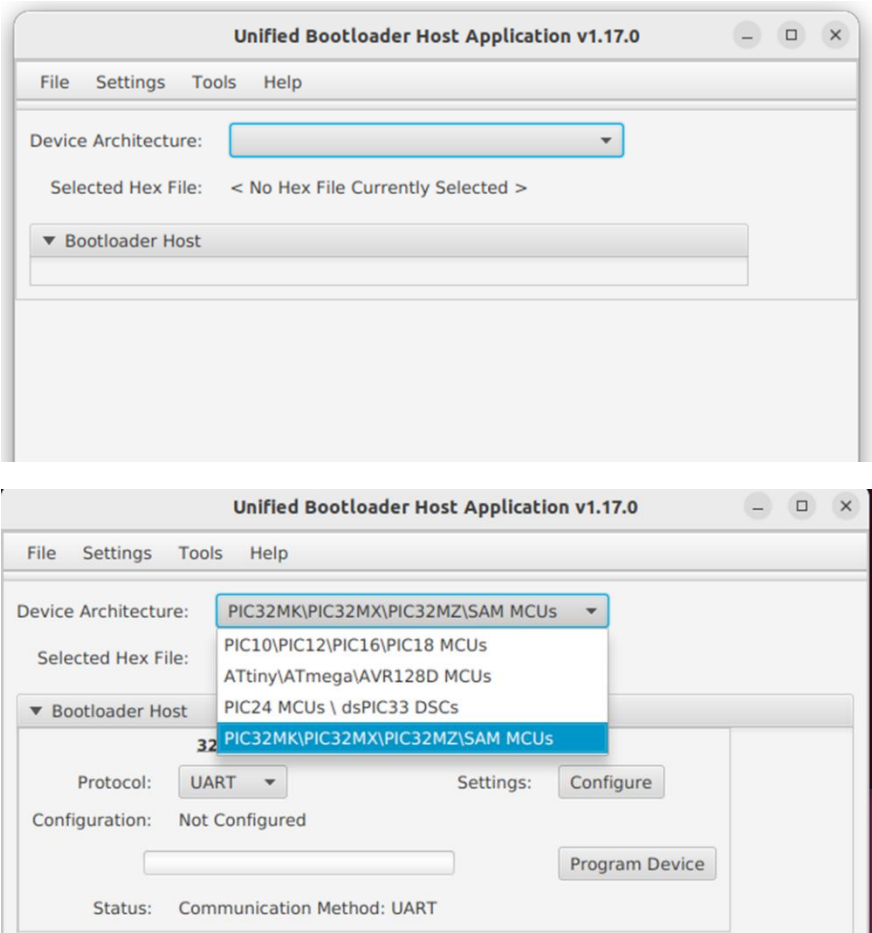
```
sudo systemctl stop UpCanUart.service
```

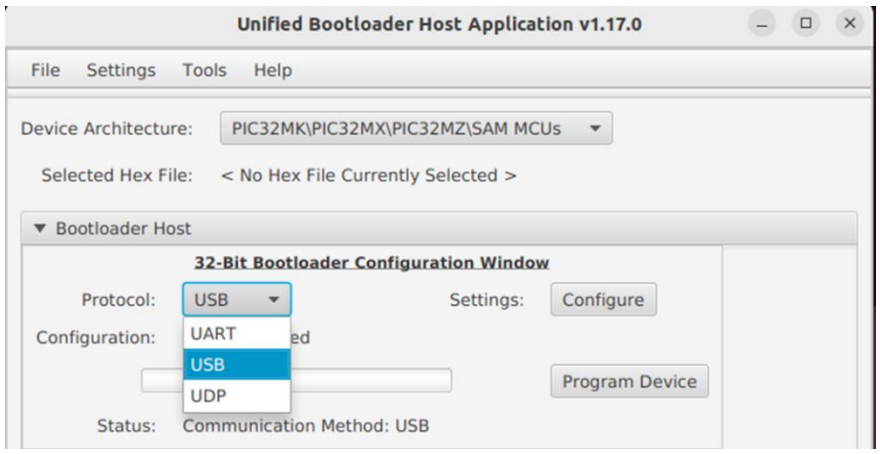
```
sudo systemctl start UpCanUart.service
```


3.4 Update Tool

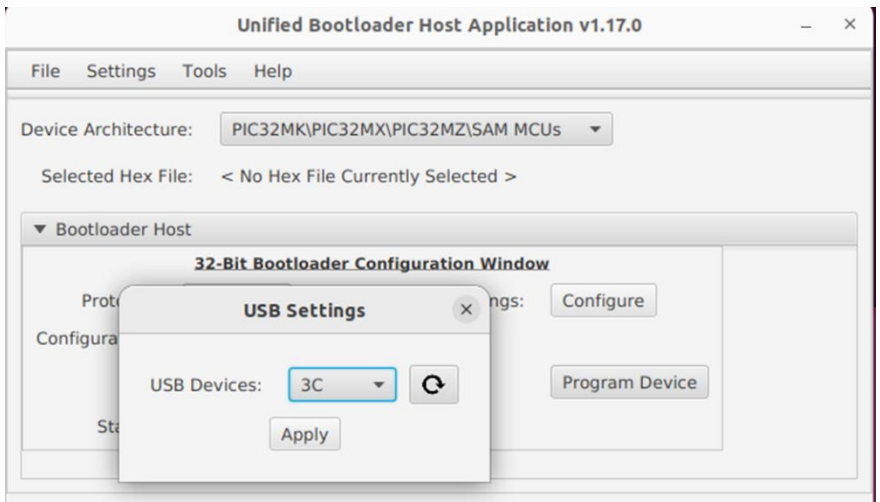
Type the following command to run script:

```
sudo ./bootloader.sh
```

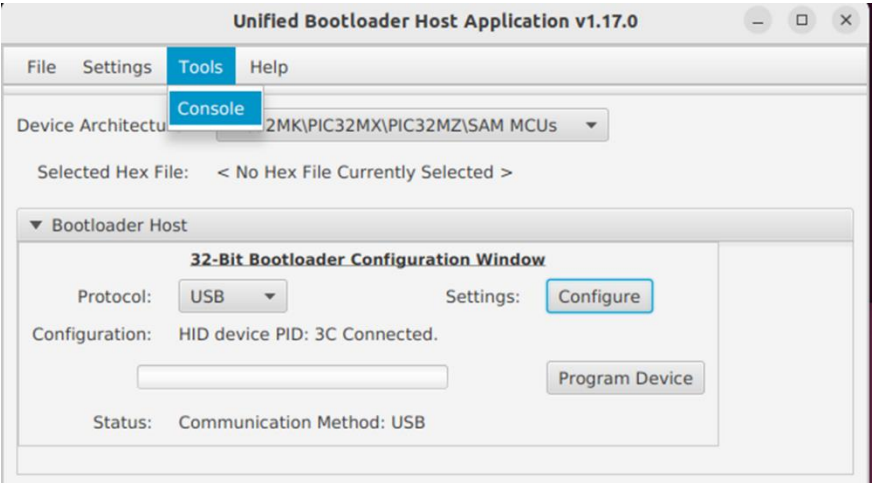




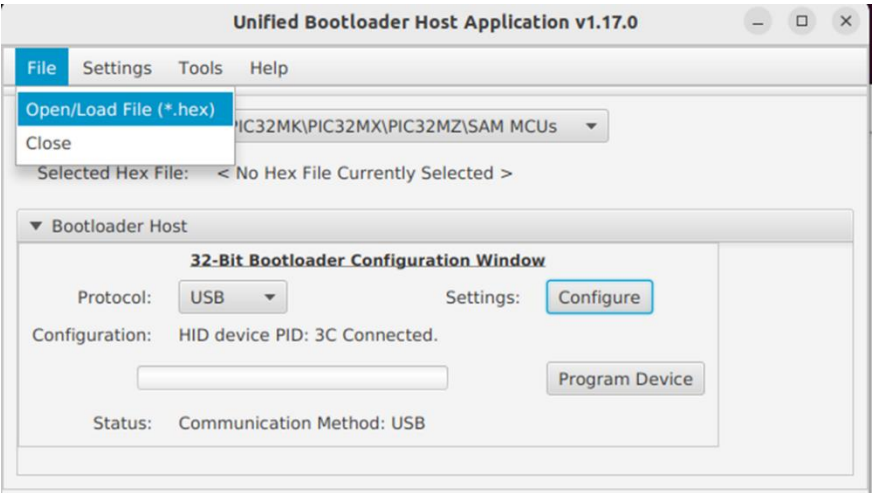
Click Configure and Select "3C" to Apply.



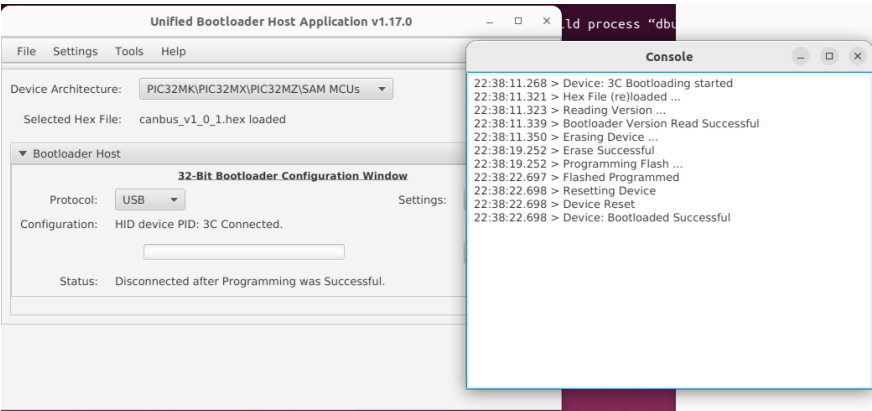
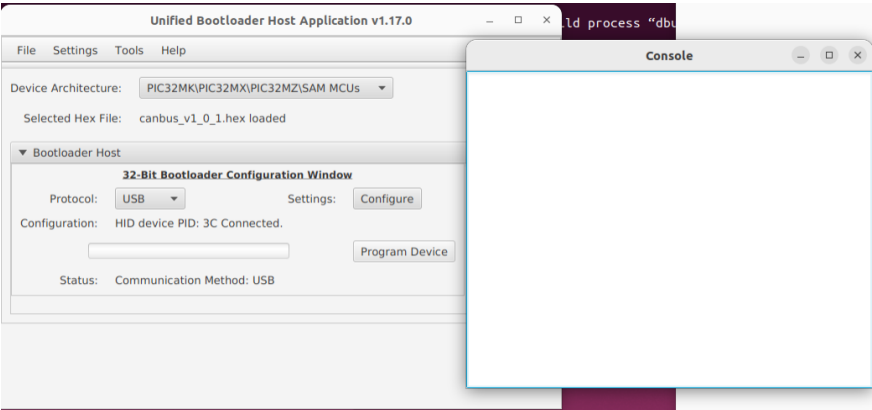
Open "Console".



Select bin file to record.



Click Program Device to record.



Appendix A

Cables and Connectors

A.1 Cables and Connectors

This table provides detailed information about the cables and connectors used by UPX-ASL01 (UP Xtreme 7100). If you have any questions about the configuration, please contact your AAEON sales representative.

Function Description	Mating Cable	Mating Cable Description
DC In	165260210A	Block.2P:90D(M).DIP.5.00mm
RS232/422/485	16522X0055	Phoenix Connector. DIP:90D.4*2PPitch=3.5mm.H=22.55mm.FEMALE.PLUG IN Black
DIO/GPIO	16522X0064	Phoenix Connector.DIP:90D.15*2PPitch=2.54mm.H=19.7mm.FEMALE.BLACK.PLUG IN
CAN	16522X0063	Phoenix Connector.DIP:90D.3PPitch=3.50mm.H=22.9mm.FEMALE.BLACK.W/ Screw Flange.PLUG IN
DIO cable	170X000773	Cable.2*15P to 2*15PWafer Box Cable.60mm

Appendix B

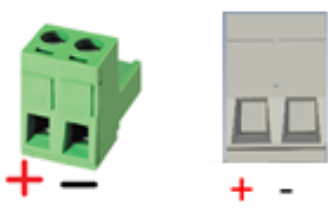
Power Adapter Configuration

B.1 Connecting 2 pin DC Connector with DC Adapter

Step 1: Locate DC connector with 2-pin Phoenix DC connector provided in the UP Xtreme 7100 packing box.



Pin Definition:



Step 2: Connect the cable from the adapter (note that power cable must connect to the red "+" and ground cable must be inserted to black "-")

Step 3: Affix both cable and 2-pin DC connector together.

Step 4: Connect adapter and power cord with the UP Xtreme 7100 to power up device.

