IES-3030

13th Gen Intel® Core™ i3/i5/i7 Processor

Fanless Embedded Edge System

User Manual

Acrosser Technology Co., Ltd.
www.acrosser.com.tw

Copyright Notice

Acknowledgment

Packing List

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

Item	Quantity
IES-3030	1
Adapter	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 www.acrosser.com.tw 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

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

Acrosser 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	O	O	O	O
外部信号连接器及线材	X	X	O	O	O	O

O： 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。

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 2011/65/EU 标准规定的限量要求。

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 Requirements (EN)

Poisonous or Hazardous Substances or Elements in Products

Acrosser Main Board/ Daughter Board/ Backplane

Component Name	Poisonous or Hazardous Substances or Elements					
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr(VI))	Polybrominated biphenyls (PBBs)	Polybrominated diphenyl ethers (PBDEs)
PCB and Components	X	X	O	O	O	O
Wires & Connectors for Ext. Connections	X	X	O	O	O	O

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.

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.

Notes: The Environment Friendly Use Period as labeled on this product is applicable under normal usage only.

Ver: 110
Date: Mar.23, 2026

To read this User Manual on your smart phone, you will have to install an APP that can read PDF file format first. Please find the APP you prefer from the APP Market.

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1. Product Specifications

1.1. Specifications

System

CPU	• 13th Gen Intel® Core™ i7-1370PE • 13th Gen Intel® Core™ i5-1340PE • 13th Gen Intel® Core™ i3-1320PE
Memory	• Onboard LPDDR5 16GB(i7-1370PE/i5-1340PE) • Onboard LPDDR5 8GB(i3-1320PE)
BIOS	• AMI UEFI BIOS
Storage	• 1 x 2.5”Internal HDD Bay • 1 x M Key (2280),NVMe SSD

Front I/O

Video Interface	• 1x HDMI • 1x DP
Ethernet	• 1x 2.5GbE (Intel® I226IT) • 1x GbE (Intel® I219)
USB	• 3x USB 3.2 Gen 2 (Type-A) • 1x USB 2.0 (Type-A) • 1x USB 4.0 (Type-C)
Power Input	• DC Jack
Antenna	• 1x Antenna Hole
Expansion Slot	• 1x M.2 2230 E-Key • 1x M.2 3052/3042 B-Key with Nano SIM slot
Serial Port	• 1x COM (RS232/ 422/ 485) DB9

Rear I/O

Antenna	• 4x Antenna Hole
USB	• 1x USB 4.0 (Type-C)
Audio	• 1 x Audio Jacky (Mic-in + Line-out)

Software

OS Support	• Windows 10 Enterprise 2021 LTSC • Ubuntu 22.04 LTS • Yocto 4.0

Mechanical & Environment

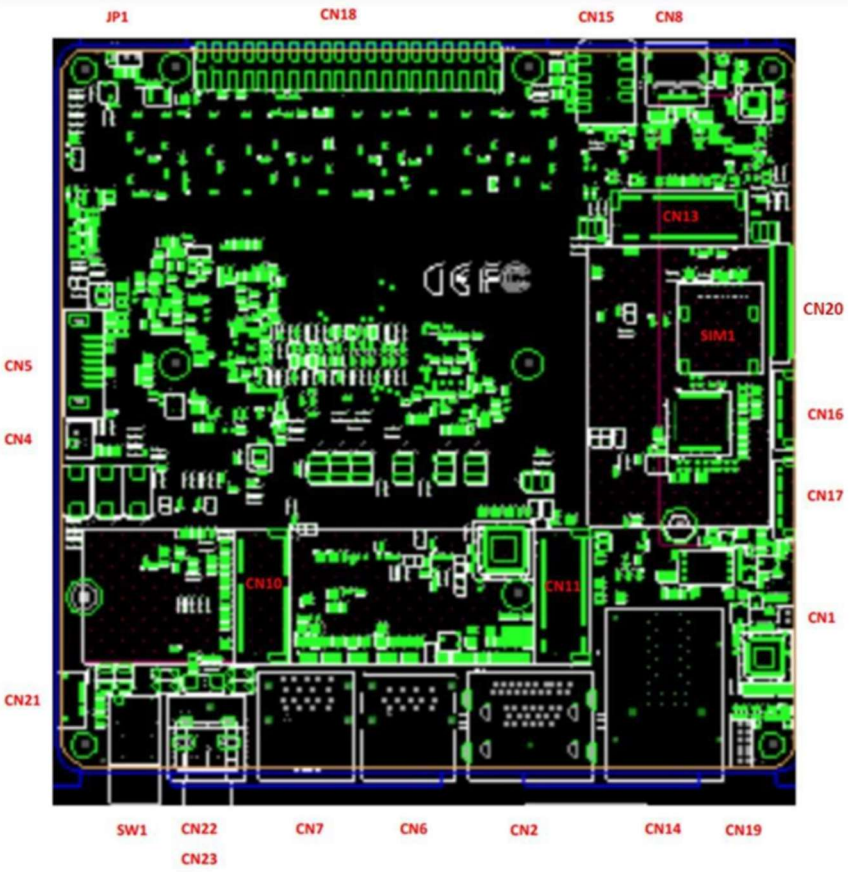
Thermal Design	• Fan-Less Design
Chassis	• Iron Chassis with Heatsink
Dimension	• 150 x 124 x 67mm(5.91 x 4.87 x 2.64in)
Operating Temperature /Humidity	• 0 ~ 50°C/ 0~90%
Storage Temperature	• -40 °C ~ 80 °C
Certification	• CE / FCC Class A

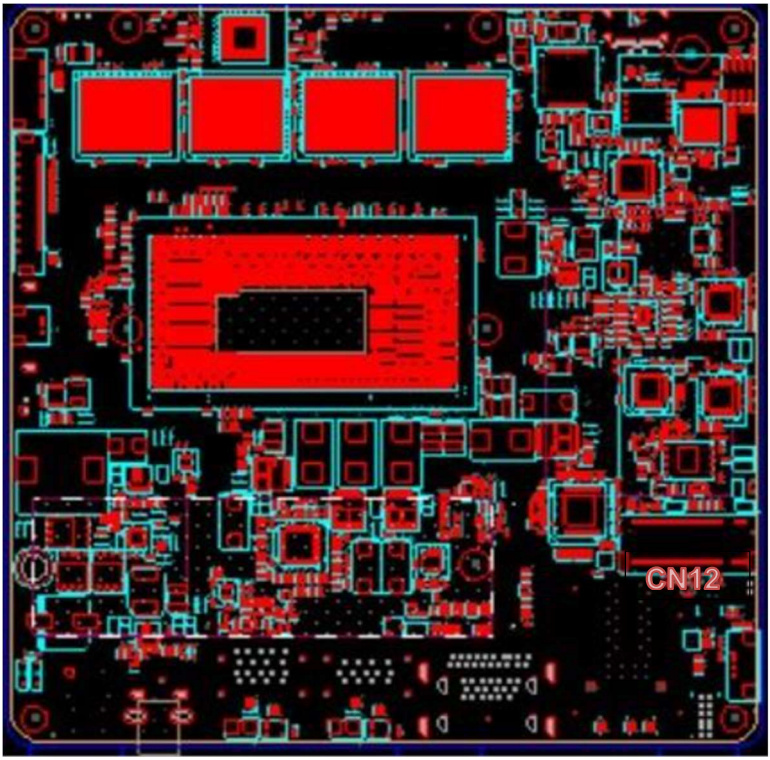
Note: M.2 storage (CN12) is supported only when pre-installed by the manufacturer. Customer self-installation is not supported.

2. Hardware Information

2.1. Jumpers and Connectors

Top:





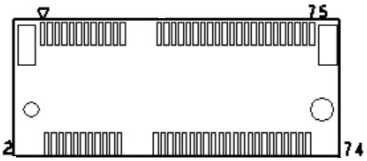
Bottom:

2.2. 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	PWR Button
CN1	RTC
CN2	HDMI/DP
CN3	eDP
CN6	Dual USB Type-A
CN7	Dual USB Type-A
CN8	USB Type C
CN10	M.2 2230 E-Key Slot
CN11	M.2 2280 M-Key Slot Note.When used with an NVMe SSD, a wide-temperature specification is required to prevent excessive internal operating temperatures.
CN12	M.2 2280 M-Key Slot
CN13	M.2 3052 B-Key Slot
CN14	Dual LAN Port
CN15	Audio Jack
CN16	RS-232/422/485 1x10P Wafer (COM 1)
CN19	CPLD and BIOS update
CN22	DC Power Jack
J1	Fan Connector (disable)
JP1	AT/ATX Mode
SIM1	Nano SIM Card Connector

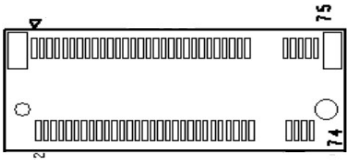
2.2.1. M.2 2230 E-Key Slot (CN10)



Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	+3.3V	3	USB2_D8+
4	+3.3V	5	USB2_D8-	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	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	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_CLK2P	48	NC

49	PCIE_CLK2N	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	71	CNV_WT_CLK_ DN	72	+3.3V
73	CNV_WT_CLK_DP	74	+3.3V	75	GND

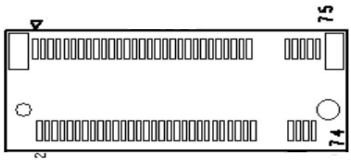
2.2.2. M.2 2280 M-Key Slot (CN11)



Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	+3.3V	3	NC
4	+3.3V	5	PCIE4_A_RXN3	6	FULL_CARD_POWER
7	PCIE4_A_RXP3	8	NC	9	GND
10	NC	11	PCIE4_A_TXN3	12	+3.3V
13	PCIE4_A_TXP3	14	+3.3V	15	GND
16	+3.3V	17	PCIE4_A_RXN2	18	+3.3V
19	PCIE4_A_RXP2	20	NC	21	GND
22	NC	23	PCIE4_A_TXN2	24	NC
25	PCIE4_A_TXP2	26	NC	27	GND

Pin	Signal	Pin	Signal	Pin	Signal
28	NC	29	PCIE4_A_RXN1	30	NC
31	PCIE4_A_RXP1	32	NC	33	GND
34	NC	35	PCIE4_A_TXN1	36	NC
37	PCIE4_A_TXP1	38	NC	39	GND
40	SMB_CLK_1V8	41	PCIE4_A_RXN0	42	SMB_DATA_1V8
43	PCIE4_A_RXP0	44	NC	45	GND
46	NC	47	PCIE4_A_TXN0	48	NC
49	PCIE4_A_TXP0	50	PLT_RST#	51	GND
52	PCIE_CLKREQ#	53	PCIE4_A_CLK_DN	54	PCIE_WAKE#
55	PCIE4_A_CLK_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

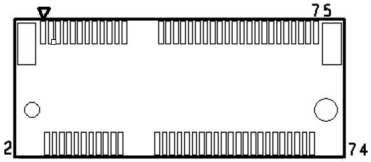
2.2.3. M.2 2280 M-Key Slot (CN12)



Pin	Signal	Pin	Signal	Pin	Signal
1	GND	2	+3.3V	3	NC
4	+3.3V	5	PCIE4_B_RXN3	6	FULL_CARD_POWER
7	PCIE4_B_RXP3	8	NC	9	GND
10	NC	11	PCIE4_B_TXN3	12	+3.3V
13	PCIE4_B_TXP3	14	+3.3V	15	GND
16	+3.3V	17	PCIE4_B_RXN2	18	+3.3V
19	PCIE4_B_RXP2	20	NC	21	GND
22	NC	23	PCIE4_B_TXN2	24	NC
25	PCIE4_B_TXP2	26	NC	27	GND

Pin	Signal	Pin	Signal	Pin	Signal
28	NC	29	PCIE4_B_RXN1	30	NC
31	PCIE4_B_RXP1	32	NC	33	GND
34	NC	35	PCIE4_B_TXN1	36	NC
37	PCIE4_B_TXP1	38	NC	39	GND
40	SMB_CLK_1V8	41	PCIE4_B_RXN0	42	SMB_DATA_1V8
43	PCIE4_B_RXP0	44	NC	45	GND
46	NC	47	PCIE4_B_TXN0	48	NC
49	PCIE4_B_TXP0	50	PLT_RST#	51	GND
52	PCIE_CLKREQ#	53	PCIE4_B_CLK_DN	54	PCIE_WAKE#
55	PCIE4_B_CLK_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

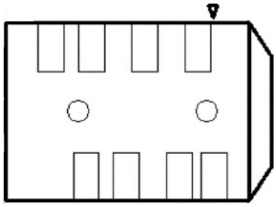
2.2.4. M.2 3052 B-Key Slot (CN13)



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_D+	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

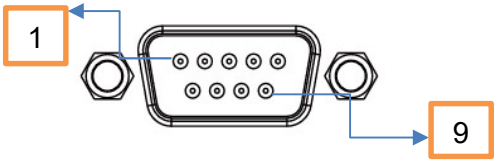
Pin	Signal	Pin	Signal	Pin	Signal
28	NC	29	USB3_RX3-	30	UIM_RST
31	USB3_RX3+	32	UIM_CLK	33	GND
34	UIM_DAT	35	USB3_PX3-	36	UIM_PWR
37	USB3_PX3+	38	NC	39	GND
40	NC	41	NC	42	NC
43	NC	44	NC	45	GND
46	NC	47	NC	48	NC
49	NC	50	PLT_RST#(3.3V)	51	GND
52	NC	53	NC	54	NC
55	NC	56	NC	57	GND
58	NC	59	NC	60	NC
61	NC	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

2.2.5. Audio Jack (CN15)



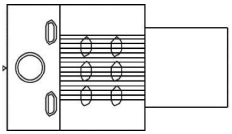
Pin	Signal	Pin	Signal
1	MIC_LR	2	GND
3	LOUT_R	4	NC
5	NC	6	AUDIO-JD
7	NC	8	LOUT_L

2.2.6. RS-232/422/485 (COM 1)



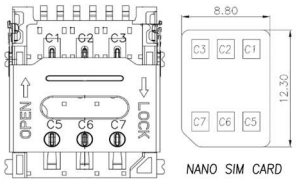
Pin	Signal	Pin	Signal
1	DCD / RS422TX- / RS485-	2	RX / RS422TX+ / RS485+
3	TX / RS422RX+	4	DTR / RS422RX-
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	NC

2.2.7. DC Power Jack (CN22)



Pin	Signal	Pin	Signal
1	DC_IN	2	GND
3	GND		

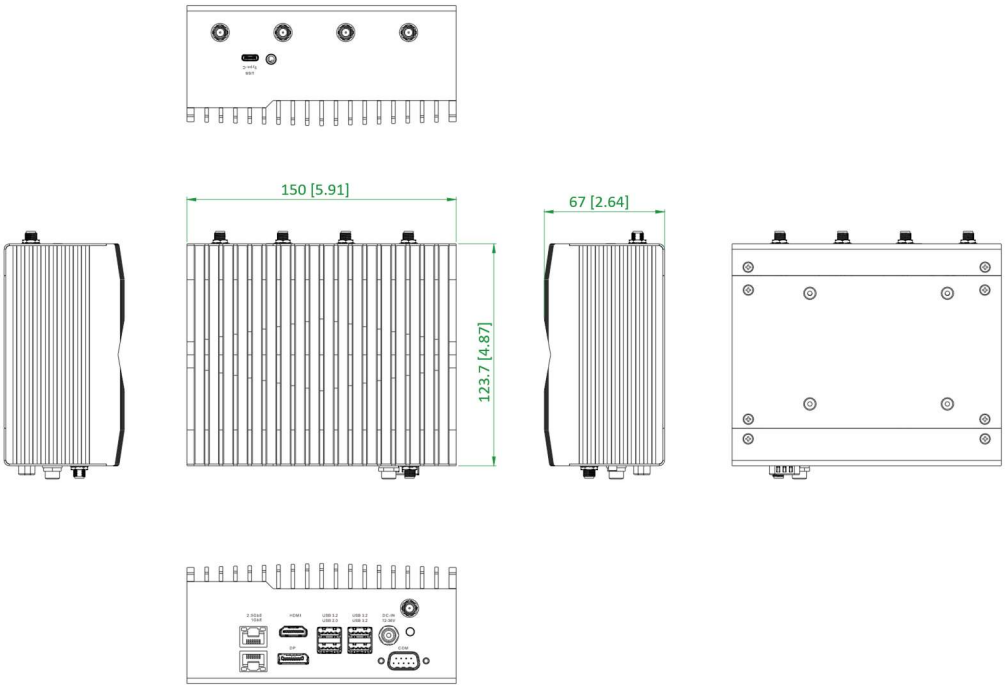
2.2.8. Nano SIM Slot (SIM1)



Pin	Signal	Pin	Signal
1	VCC	2	RST
3	CLK	5	GND
6	VPP	7	I/O

3. System Dissection

3.1. Dimensions



4. Components Assembly

Please follow the instruction to install the inner modules.

4.1. Module Installation

Step 1: Slopingly insert the module into the connector. (Do the same way for M.2 and mPCIE.)

Step 2: Use screws to lock the module to the nut position on the board.

Notes:

- As there are different module interfaces, like M.2 B key, M.2 E key, or mPCIE, please comply with the one the system specification specified.
- As there are different module specifications, like Half size, Full size, 3042, or 3052, please comply with the one the system specification specified

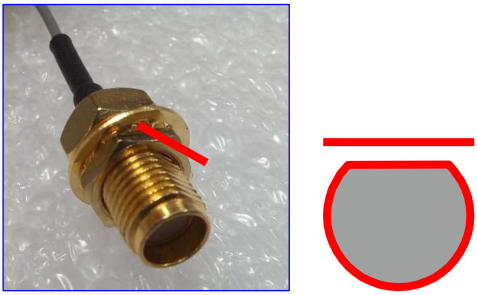
4.2. RF Cable Installation

Step 1: Connect the RF plug to the module connector.

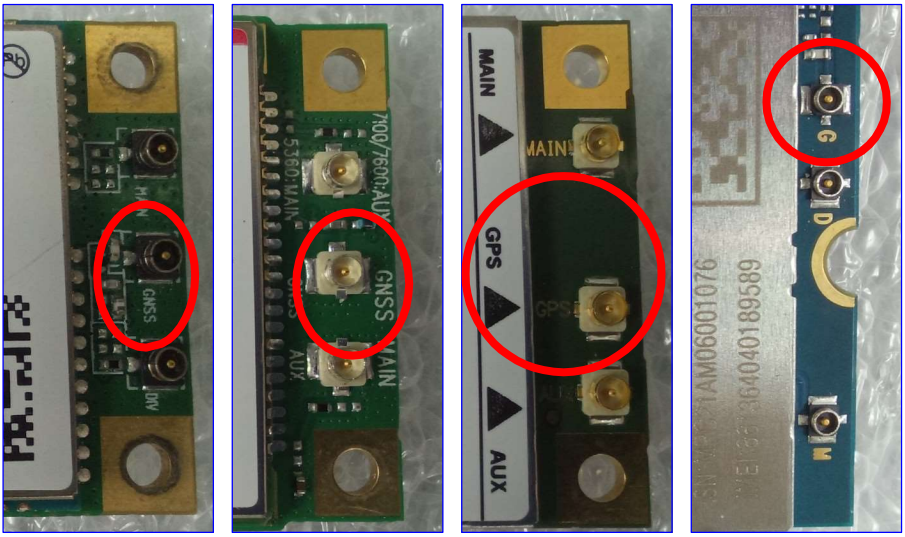
Notes:

- Wi-Fi: Support 2 RF cables at least.
- 4G LTE: Support 1 RF cable at least, up to 3 RF cables.
- 5G: Support 2 RF cables at least, up to 4 RF cables.

Step 2: The foolproof position and shape of the joint should correspond with the opening of the system panel.



Step 3: Assemble the SMA end of the RF Cable and lock it with gasket and nut.

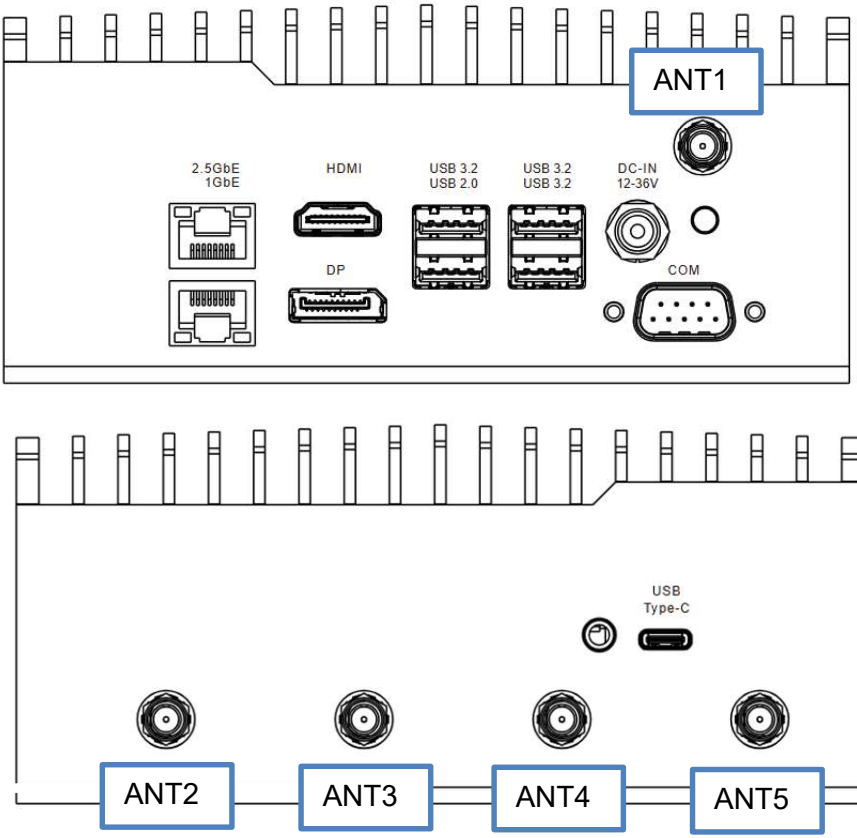


Notes:

- For the connector marked as GNSS or GPS, please install it on the system panel where the GPS antenna is located.
- The connector marked as MAIN or AUX is a 4G LTE / 5G connector, please install It on the system panel marked 4G or 5G antenna. Use the MAIN connector first.

4.3. Antenna Installation

Connect your antennas according to your system configuration.



ANT1	ANT2	ANT3	ANT4	ANT5
4G LTE / 5G /GPS	4G LTE / 5G	Wi-Fi	Wi-Fi	4G LTE / 5G

Wi-Fi:

Connect female type antenna to the male type socket **ANT 3** and **ANT 4**

GPS:

Connect male type antenna tail cable to the female type socket **ANT 1**.

4G LTE / 5G:

Connect male type antenna to the female type socket marked with **ANT1** and **ANT** 2 or **ANT5**