

M2-210

M.2(NGFF) Gigabit Ethernet Card

User's Manual

Edition 1.41

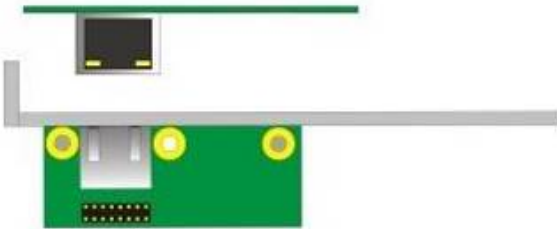
2025/01/08



Packing List:

Please check the package content before you starting using the card.

a.



1 x LAN Adapter
(BADPGLAND_A / 4120007011)
(Include Bracket)

b.



1 x Adapter LAN Cable
(OALGLAN-A-20 / 1040617)
(L=200mm)

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1 <Product Overview>

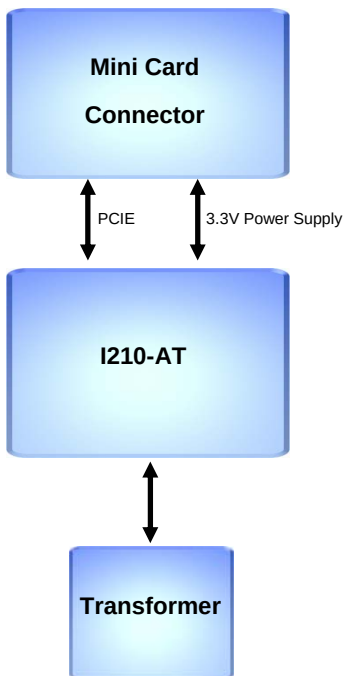
M2-210 IEEE* 802.3* M.2 A-E key module is the gigabit Ethernet solution. It enables a high performance, cost effective, low power.

Compliant with the standard IEEE 802.3 Ethernet interface for 1000BASE-T, 100BASE-TX, and 10BASE-T applications (802.3, 802.3u, and 802.3ab)

M2-210 module adopts Intel® Ethernet Controller I210 Family solution. The module design is based on the Intel® Ethernet Controller I210-AT.

2 <Features>

- ✧ Low power consumption and high performance
- ✧ 2230 M.2 Card dimension
- ✧ M.2 Key A-E PCIe interface
- ✧ Support WOL

3 <Block Diagram>

4 <Product Specifications>

Product Description

Host Interface	M .2
Controller	Intel® I210-AT Gigabit Ethernet Controller
M.2 key type	A-E key PCIe interface
Dimension	22mm x 30mm x 5.3mm (L x W x H)

Operating Conditions

Voltage	3.3V +/-5%
Temperature	0~60°C
Storage Temperature	-40~+85°C

General Specifications

Compliance	IEEE 802.3 Ethernet interface for 1000Base-T, 100Base-TX, and 10Base-T applications (802.3, 802.3u, 802.3ab).
Transfer Rate	1000 Mb/s, 100 Mb/s, or 10 Mb/s
Support OS	Win7 x32&x64, Win8 x32&x64, Win8.1 x32&x64, Win10 x32&x64, Win server 2012 R2. Linux (kernel versions 2.6.30 or newer)

4.1 < Recommended Operating Conditions >

Symbol	Parameter	Rating	Unit
Vdd33	I/O voltage	3.135~3.465	V

5 < Pin-out Definition >

Pin No.	Definition	Definition	Pin No.
1	GND		
3	NC	3.3V	2
5	NC	3.3V	4
7	GND	NC	6
	Key A	Key A	
	Key A	Key A	
	Key A	Key A	
	Key A	Key A	
17	NC	NC	16
19	NC	GND	18
21	NC	NC	20
23	NC	NC	22
	Key E	Key E	
	Key E	Key E	
	Key E	Key E	
	Key E	Key E	
33	GND	NC	32
35	PERp0	NC	34
37	PERn0	NC	36
39	GND	NC	38
41	PETp0	NC	40
43	PETn0	NC	42
45	GND	NC	44
47	REFCLKp0	NC	46
49	REFCLKn0	NC	48
51	GND	NC	50
53	CLKREQ0#	PERST0#	52
55	PEWAKE0#	NC	54
57	GND	NC	56
59	NC	NC	58

Pin No.	Definition	Definition	Pin No.
61	NC	NC	60
63	GND	NC	62
65	NC	NC	64
67	NC	NC	66
69	GND	NC	68
71	NC	NC	70
73	NC	3.3V	72
75	GND	3.3V	74

6 <Component Placement>

6.1 < Connector Reference >

M2-210:



Connector: CN_LAN1

Connector Type:

13-pin (13 x 1), pitch: 1.25 mm, DIP type

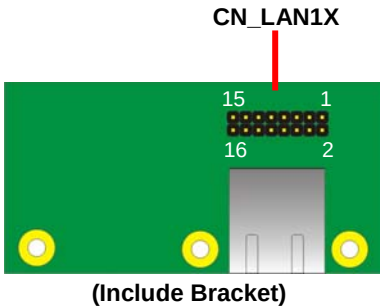
Straight P.C.B Connector



1 13

Pin	Description(LAN1)
1	RTD00+
2	RTD00-
3	RTD01+
4	RTD01-
5	RTD02+
6	RTD02-
7	RTD03+
8	RTD03-
9	GND
10	RLINK1G0-
11	RLINK1H0-
12	RLINK0-
13	RACTLED0-

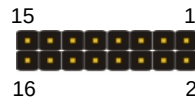
LAN Adapter:



CN_LAN1X

Connector Type:

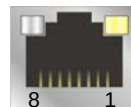
16-pin (8 x 2) 2.0 x 2.0 mm Straight Type Header



Pin	Description	Pin	Description
1	RTD0+	2	RTD1+
3	RTD0-	4	RTD1-
5	NC	6	GND
7	RTD2+	8	RTD3+
9	RTD2-	10	RTD3-
11	GND	12	GND
13	LINK1	14	Link100
15	ACTLED1	16	Link1000

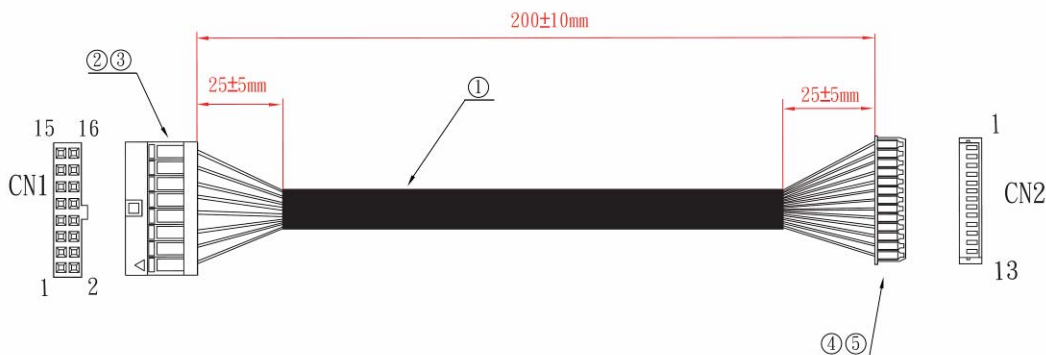
Adapter LAN Connector: RJ45_1

RJ45 10/100/1000Mbps connector



Pin	1	2	3	4	5	6	7	8
Description	MDI0+	MDI0-	MDI1+	MDI2+	MDI2-	MDI1-	MDI3+	MDI3-

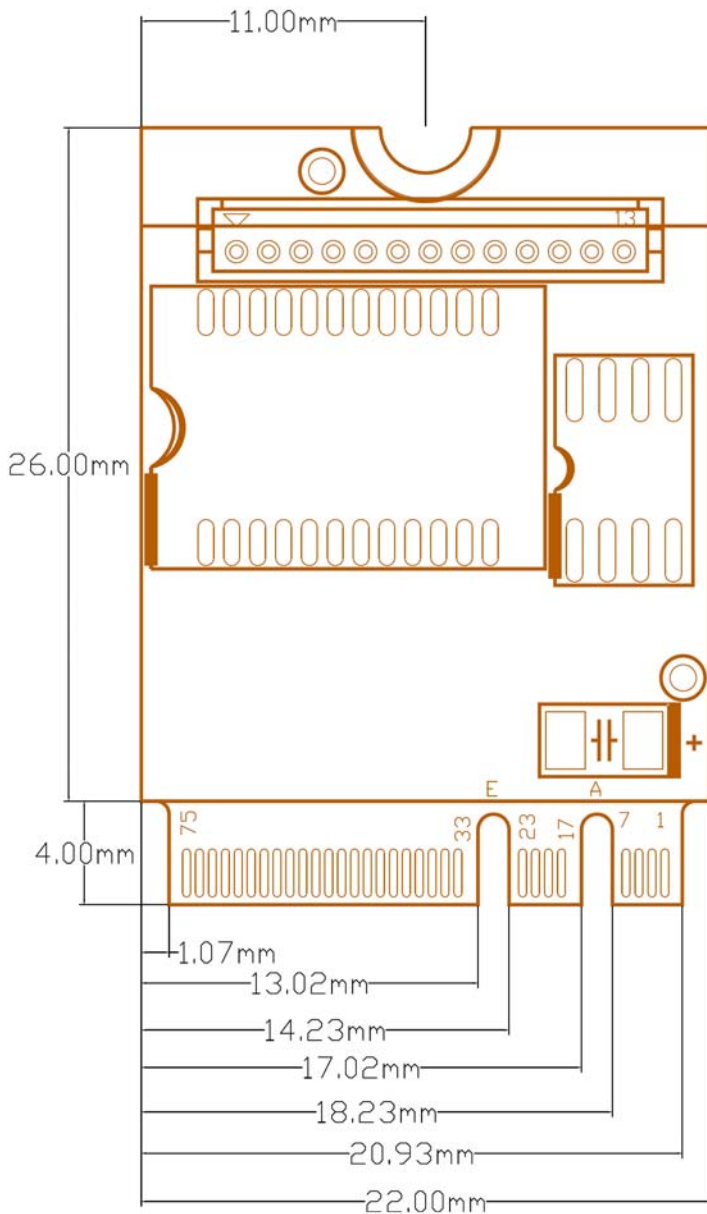
6.2 < Cable connection >



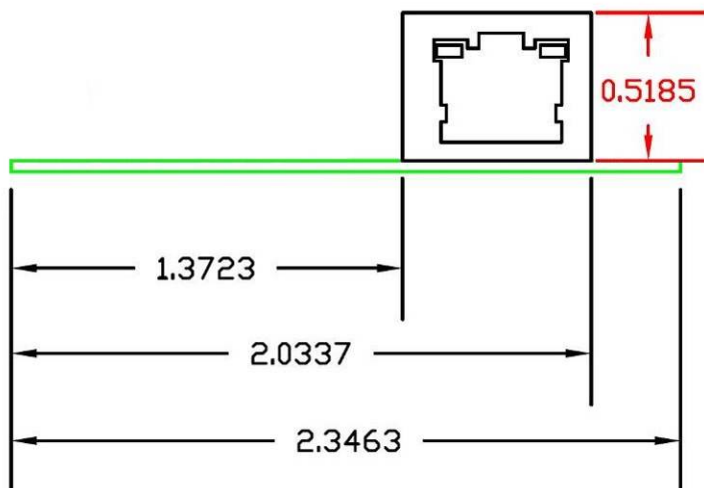
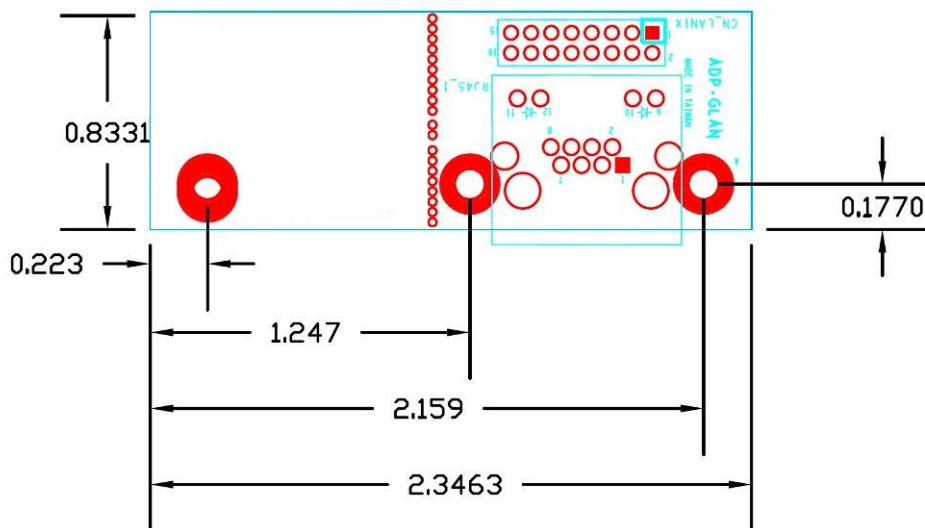
CN1		CN2		CN1		CN2
1		1		12		9
3		2		16		10
2		3		14		11
4		4		15		12
7		5		13		13
9		6				
8		7				
10		8				

NO	DESCRIPTION	COLOR	Q' TY	UNIT
1	UL1571 28AWG		13	PCS
2	HOUSING DP2.0 2*8P	BLACK	1	PCS
3	TERMINAL DP2.0		13	PCS
4	HOUSING MOLEX1.25 13PIN	WHITE	1	PCS
5	TERMINAL MOLEX 1.25		13	PCS

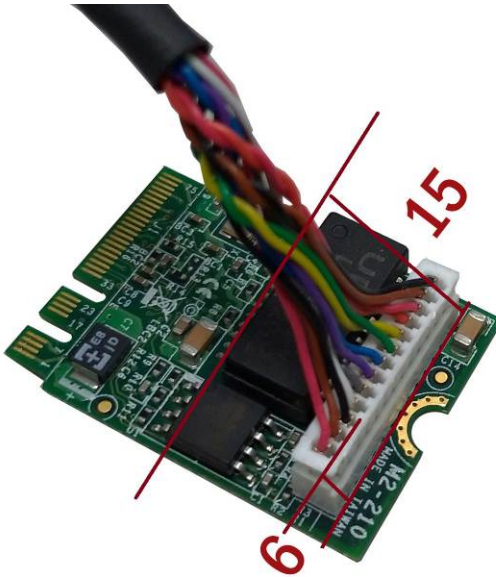
M2-210: (Units: mm)



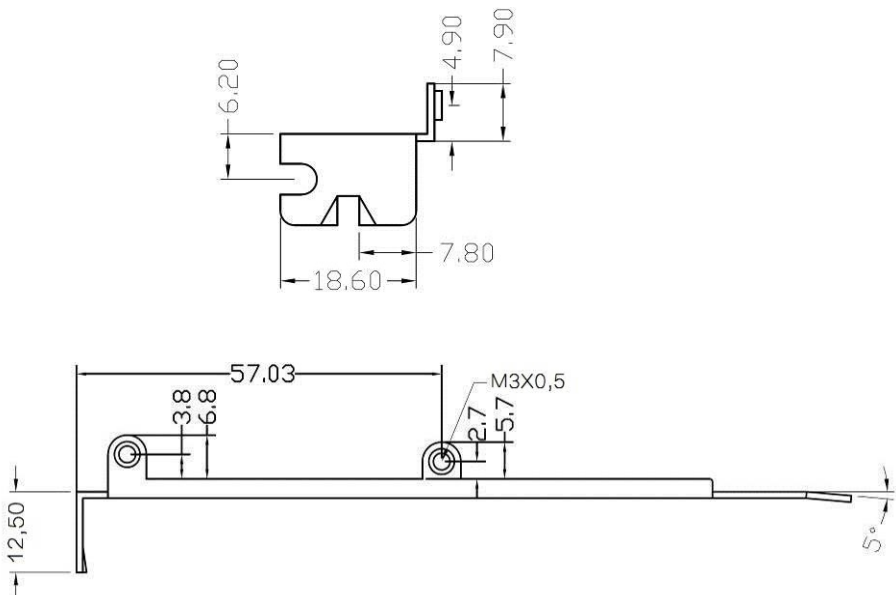
LAN Adapter: (Units: inch)

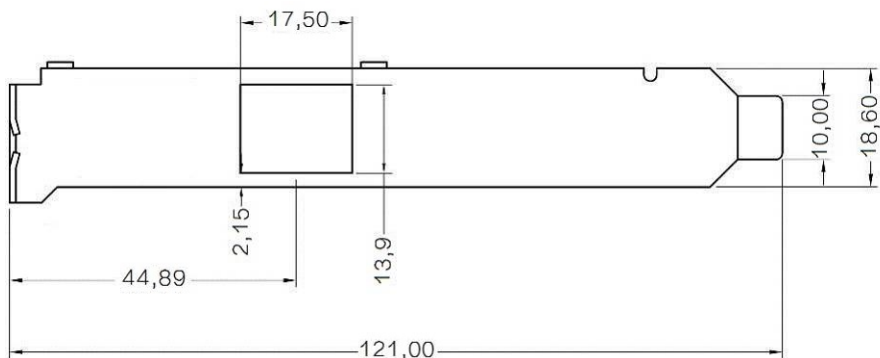


Mechanical height: (Units: mm)



Bracket: (Units: mm)





Contact information

Any advice or comment about our products and service, or anything we can help you please don't hesitate to contact with us. We will do our best to support you for your products, projects and business.

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