COMMELL

MPX-225/N

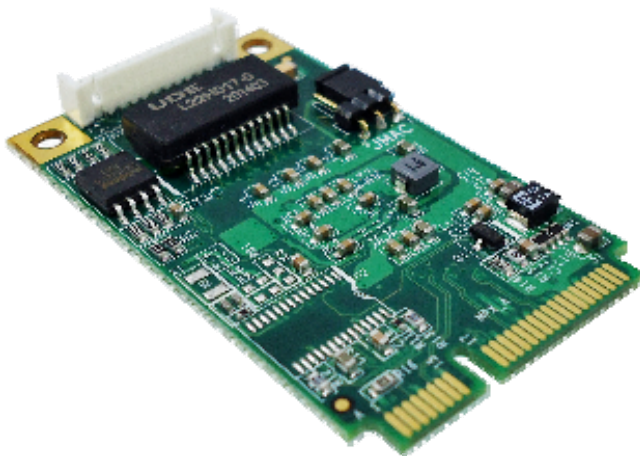**2.5 Gigabit Ethernet Mini Card**

User's Manual

Edition 1.31
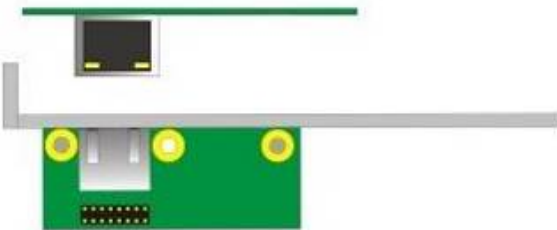2025/01/08

Packing List:

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

1 x MPX-225 Mini-PCIe card

1 x Adapter LAN Cable
(OALGLAN-A-20 / 1040617)

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

Index

1 <Product Specifications>

Product Description

Host Interface	PCIe
Controller	Intel® Ethernet Controller I225 / I226
Dimension	30.00mm x 50.95mm
Weight	3g

Operating Conditions

Voltage	3.3V +/-5%
Temperature	0~55°C
Storage Temperature	-40~+85°C

General Specifications

|	
Compliance	IEEE 802.3 Ethernet interface for 2500BASE-T 1000BASE-T, 100BASE-TX, and 10BASE-Te applications (802.3, 802.3u, 802.3ab).
Transfer Rate	2500 Mb/s, 1000 Mb/s, 100 Mb/s, or 10 Mb/s
Support OS	Win10 RS5+ x64, Linux kernel 5.7

2 <Block Diagram>

```
          ┌─────────────────┐
          │                 │
          │  Mini-PCIe Card │
          │                 │
          │    Connector    │
          │                 │
          └─────────────────┘
             ↕           ↓
            PCIe    3.3V Power Supply
          ┌─────────────────┐
          │                 │
          │                 │
          │  Intel I225 / I226 │
          │                 │
          │                 │
          └─────────────────┘
                  ↕
                 MDI
          ┌─────────────────┐
          │                 │
          │                 │
          │   Transformer   │
          │                 │
          │                 │
          └─────────────────┘
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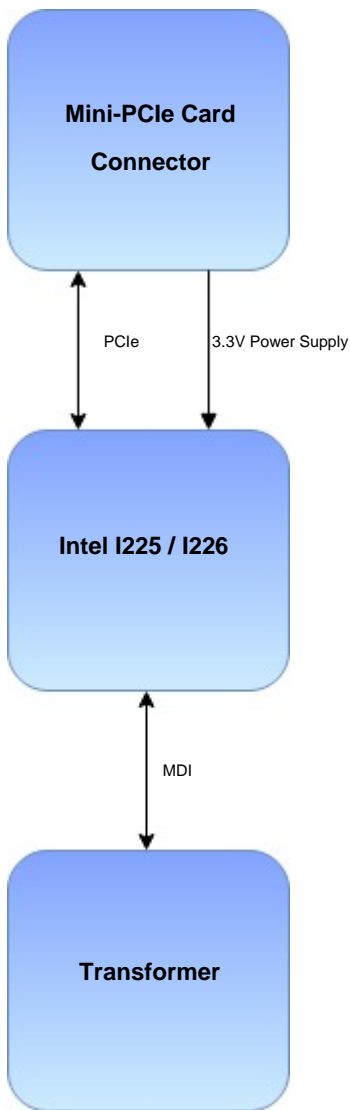
3 <Pin-out Definition>

Pin No.	Definition	Basic Description	Type
1	WAKE#	Power management event : open drain, active low Use to reactivate the PCI Express slot's main power rails and reference clocks. Connected internally to I225 / I226 .	O/D
2	3.3V/3.3VAUX	3.3V/3.3AUX power supply	VCC
3	NC	Floating Pin, No connect to anything.	
4	GND	Ground.	GND
5	NC	Floating Pin, No connect to anything.	
6	NC	Floating Pin, No connect to anything.	
7	NC	Floating Pin, No connect to anything.	
8	NC	Floating Pin, No connect to anything.	
9	GND	Ground.	GND
10	NC	Floating Pin, No connect to anything.	
11	REFCLK-	Differential reference clock.	Input
12	NC	Floating Pin, No connect to anything.	
13	REFCLK+	Differential reference clock.	Input
14	NC	Floating Pin, No connect to anything.	
15	GND	Ground.	GND
16	NC	Floating Pin, No connect to anything.	
17	NC	Floating Pin, No connect to anything.	
18	GND	Ground.	GND
19	NC	Floating Pin, No connect to anything.	
20	NC	Floating Pin, No connect to anything.	
21	GND	Ground.	GND
22	PERST#	PCI express fundamental reset.	Input
23	HSIN0	Differential transmit.	Output
24	3.3VAUX	3.3AUX power supply.	VCC
25	HSIP0	Differential transmit.	Output
26	GND	Ground.	GND
27	GND	Ground.	GND
28	NC	Floating Pin, No connect to anything.	

29	**GND**	Ground.	GND
30	**SMBCLK**	SMBus clock signal.	Input
31	**HSON0**	Differential receive.	Input
32	**SMB_DATA**	SMBus data signal.	Input
33	**HSOP0**	Differential receive.	Input
34	**GND**	Ground.	GND
35	**GND**	Ground.	GND
36	**NC**	Floating Pin, No connect to anything.	
37	**GND**	Ground.	GND
38	**NC**	Floating Pin, No connect to anything.	
39	**3.3VAUX**	3.3AUX power supply.	
40	**GND**	Ground.	GND
41	**3.3VAUX**	3.3AUX power supply.	
42	**NC**	Floating Pin, No connect to anything.	
43	**GND**	Ground.	GND
44	**NC**	Floating Pin, No connect to anything.	
45	**NC**	Floating Pin, No connect to anything.	
46	**NC**	Floating Pin, No connect to anything.	
47	**NC**	Floating Pin, No connect to anything.	
48	**NC**	Floating Pin, No connect to anything.	
49	**NC**	Floating Pin, No connect to anything.	
50	**GND**	Ground.	GND
51	**NC**	Floating Pin, No connect to anything.	
52	**3.3V/3.3AUX**	3.3V/3.3AUX power supply	VCC

4 <Component Placement>

4.1 < Connector Reference >

CN_LAN

1   13

JMAC

3   1
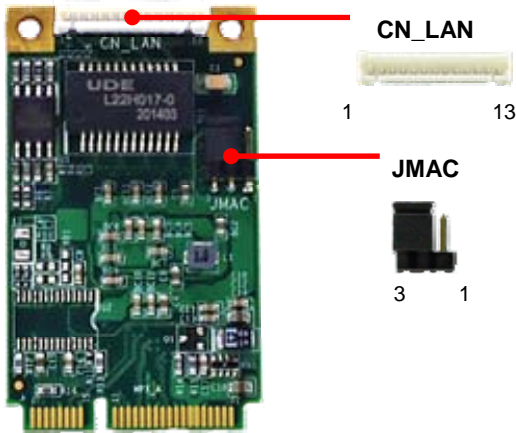
Connector: CN_LAN
Connector Type:
13-pin (13 x 1) , pitch : 1.25 mm ,DIP type
Straight P.C.B Connector

Pin	Description	Pin	Description
1	RTD00+	9	GND
2	RTD00-	10	RLINK2.5G0-
3	RTD01+	11	RLINK1G0-
4	RTD01-	12	RLINK0-
5	RTD02+	13	RACTLED0-
6	RTD02-		
7	RTD03+		
8	RTD03-		

Jumper: JMAC
SPI Security strapping

Jumper Setting	Function
1-2	It can update Non-Volatile Memory via LAN tool
2-3	Enable SPI Security (Default)

4.2 < LAN Adapter >

CN_LAN1X

15   1
16   2
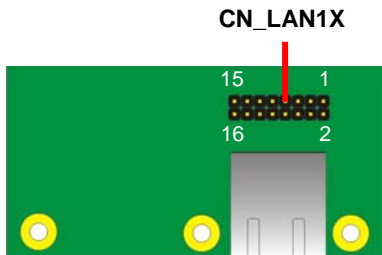
(Include Bracket)

RJ45_1

CN_LAN1X:

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

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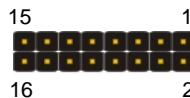
Pin	Description	Pin	Description
1	RTD0+	2	RTD1+
3	RTD0-	4	RTD1-
5	NC	6	GND
7	RTD2+	8	RTD3+
9	RTD2-	10	RTD3-
11	GND	12	GND
13	LINK1	14	Link100
15	ACTLED1	16	Link1000

Adapter LAN Connector: RJ45_1

RJ45 connector
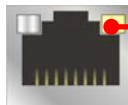
2500 Mb/s: Orange

10/100/1000 Mb/s: Green

8   1

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

4.3 < Cable connection >

NO	DESCRIPTION	COLOR	Q'TY	UNIT
1	UL1571 28AWG		13	PCS
2	HOUING 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

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.

<table>
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