

Notice

This guide is designed for experienced users to setup the system in the shortest time.

Safety Precautions

Warning!



Always completely disconnect the power cord from your board whenever you are working on it. Do not make connections while the power is on, because a sudden rush of power can damage sensitive electronic components.

Caution!



Always ground yourself to remove any static charge before touching the board. Modern electronic devices are very sensitive to static electric charges. Use a grounding wrist strap at all times. Place all electronic components on a static-dissipative surface or in a static-shielded bag when they are not in the chassis



Product Warranty

First of all, thank you for purchasing PER-C20L Mini-PCI Dual Ethernet Module. This Quick Installation Guide will help you on the process of the installation. Please read it thoroughly before you start to install it. You may visit AAEON website for the latest version of the instruction. Please refer to [Http://www.aaeon.com](http://www.aaeon.com)

All products in AAEON are designed as the strictest specifications to ensure that the products will own the reliable performance in the typical industrial environments. Whether your purchase from AAEON is made to the purpose of the laboratory or the factory facility, you can be assured that every purchase in AAEON will provide the reliability and stability of operation.

Technical Support

For the most frequently asked questions, you can easily find solutions in your product documentation. The guide is detailedly specified and please refer to it first. We strongly suggest you to read it before asking for a customer service over the phone. If you still cannot find the answer, please give a call to your dealer. All dealers of AAEON are well-trained and ready to provide you as many supports as we can. Based on the customer service we've encountered until now, most of problems are minor and able to be easily solved over the phone. We are always pleased to give advice regarding any installation and operation for AAEON products.

Ordering Information

- **TF-PER-C20L-A10**

Mini PCI, 10/100Base-TX LAN Module, with Intel® 82551ER,
Rev.A1.0

Packing List

- 1 TF-PER-C20L-A10
- 1 LAN Cable
- 1 Quick Installation Guide
- 1 Utility CD

Content

Product Warranty.....	2
Ordering Information.....	3
Packing List	3
Features.....	5
Specification.....	5
Location of Jumpers and Connectors.....	6
Mechanical Drawing	6
List of Jumper	7
List of Connectors.....	7
LAN 2 IDSEL Selection (JP1).....	7
Mini-PCI 124-pin Slot.....	7
LAN 1 Connector (CN1).....	10
LAN 1 LED Display Connector (CN2).....	11
LAN 2 Connector (CN3).....	11
LAN 2 LED Display Connector (CN4).....	11

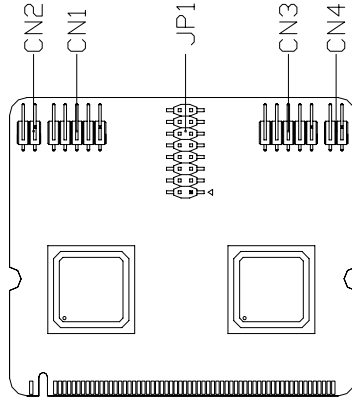
Features

- Mini PCI Type III Interface
- Dual 10/100Base-TX Ethernet Ports
- Pin-header For LAN Status LED

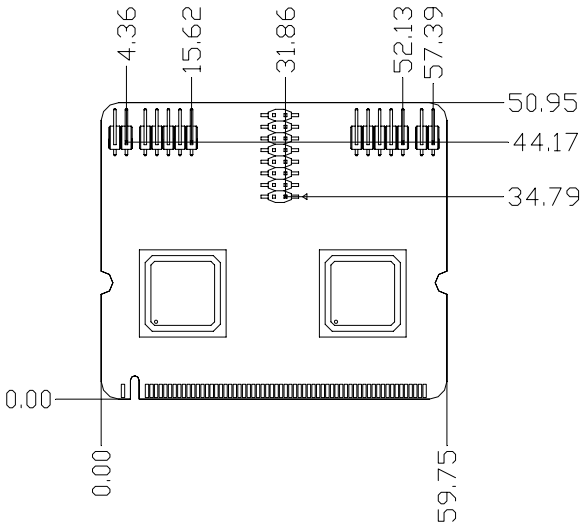
Specification

- Form Factor Mini-PCI Type III A 2" x 2.35"
(50.8mm x 59.6mm)
- Controller Intel® 82551ER (does not support Wake-on-LAN function)/ optional Intel® 82551QM
- Speed Supports 10/100Base-TX, auto-negotiation
- Function IEEE 802.3x compliant flow control; IEEE 802.1Q Virtual LAN
- Power Requirement +3.3V only
- Operating Temperature 32°F~140°F (0°C~60°C)

Location of Jumpers and Connectors



Mechanical Drawing



List of Jumper

Label	Function
JP1	LAN2 IDSEL selection

List of Connectors

Label	Function
CN1	LAN1 Connector
CN2	LAN1 LED Display Connector
CN3	LAN2 Connector
CN4	LAN2 LED Display Connector

LAN 2 IDSEL Selection (JP1)

JP1	Function
1-2	PCI_AD24 (Default)
3-4	PCI_AD25
5-6	PCI_AD26
7-8	PCI_AD27
9-10	PCI_AD28
11-12	PCI_AD29
13-14	PCI_AD30
15-16	PCI_AD31

Mini-PCI 124-pin Slot

Pin	Signal	Pin	Signal
1	Reserved	2	Reserved

3	Reserved	4	Reserved
5	Reserved	6	Reserved
7	Reserved	8	Reserved
9	Reserved	10	Reserved
11	Reserved	12	Reserved
13	Reserved	14	Reserved
15	Reserved	16	Reserved
17	INTB#	18	Reserved
19	+3.3V	20	INTA#
21	Reserved	22	Reserved
23	GND	24	+3.3V_DUAL
25	CLK	26	PCI_RST#
27	GND	28	+3.3V
29	REQ#	30	PCI_GNT#
31	+3.3V	32	GND
33	PCI_AD33	34	PME#
35	PCI_AD29	36	Reserved
37	GND	38	PCI_AD30
39	PCI_AD27	40	+3.3V
41	PCI_AD25	42	PCI_AD28
43	Reserved	44	PCI_AD26
45	PCI_C/BE#3	46	PCI_AD24
47	PCI_AD23	48	IDSEL

49	GND	50	GND
51	PCI_AD21	52	PCI_AD22
53	PCI_AD19	54	PCI_AD20
55	GND	56	PAR
57	PCI_AD17	58	PCI_AD18
59	PCI_C/BE#2	60	PCI_AD16
61	PCI_IRDY#	62	GND
63	+3.3V	64	FRAME#
65	CLKRUN#	66	TRDY#
67	PCI_SERR#	68	STOP#
69	GND	70	+3.3V
71	PCI_PERR#	72	DEVSEL#
73	PCI_C/BE#1	74	GND
75	PCI_AD14	76	PCI_AD15
77	GND	78	PCI_AD13
79	PCI_AD12	80	PCI_AD11
81	PCI_AD10	82	GND
83	GND	84	PCI_AD9
85	PCI_AD8	86	PCI_C/BE#0
87	PCI_AD7	88	+3.3V
89	+3.3V	90	PCI_AD6
91	PCI_AD5	92	PCI_AD4
93	Reserved	94	PCI_AD2

95	PCI_AD3	96	PCI_AD0
97	Reserved	98	Reserved
99	PCI_AD1	100	Reserved
101	GND	102	GND
103	Reserved	104	Reserved
105	Reserved	106	Reserved
107	Reserved	108	Reserved
109	Reserved	110	Reserved
111	Reserved	112	Reserved
113	Reserved	114	GND
115	Reserved	116	Reserved
117	Reserved	118	Reserved
119	Reserved	120	Reserved
121	Reserved	122	Reserved
123	Reserved	124	+3.3V_DUAL

LAN 1 Connector (CN1)

Pin	Signal	Pin	Signal
1	RX-A	2	RX+A
3	N1	4	N1
5	GND_LAN	6	GND_LAN
7	C1	8	C1
9	TX+A	10	TX-A

LAN 1 LED Display Connector (CN2)

Pin	Signal	Pin	Signal
1	+3.3V	2	ALED#-A
3	+3.3V	4	LAN_LED_A

LAN 2 Connector (CN3)

Pin	Signal	Pin	Signal
1	RX-B	2	RX+B
3	N2	4	N2
5	GND_LAN	6	GND_LAN
7	C2	8	C2
9	TX+B	10	TX-B

LAN 2 LED Display Connector (CN4)

Pin	Signal	Pin	Signal
1	+3.3V	2	ALED#-B
3	+3.3V	4	LAN_LED_B

Below Table for China RoHS Requirements

产品中有害有毒物质或元素名称及含量

AAEON Main Board/ Daughter Board/ Backplane

部件名称	有害有毒物质或元素					
	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	×	○	○	○	○	○
<p>O: 表示该有害有毒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。</p> <p>X: 表示该有害有毒物质至少在该部件的某一均质材料中的含量超出 SJ/T 11363-2006 标准规定的限量要求。</p> <p>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。</p>						