

EMIO-100P-MPU01E

Parallel Module

Datasheet

CONTENTS

1. Overview 4

2. Electrical Features 5

3. Environmental Features 6

4. Block Diagram 7

5. Pin Assignment and Description 8

 5.1 Connector and LED Location 8

 5.2 USB Interface Connector, USB_CON1 8

 5.3 Parallel LPT Port, LPT1 9

6. Physical Dimension 10

Appendix I: Part Number Table 11

Appendix II: Peripheral Cable recommendation..... 12

Revision History

Rev.	Date	History
0.1	2013/9/13	1. 1 st draft

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1. Overview

Advantech EMIO-100P, USB to Parallel Printer module, is a high-quality electronic component developed and manufactured according to the IEEE 1284 printer. Fully USB 1.1 compliant, the adapter supports bi-directional parallel interface communications. The form factor of EMIO-100P Parallel module is designed the full-size Mini PCIe & module type combo solution. It's following the MiniPCIe definition and added USB pin header.

The EMIO-100P is as easy to install as a parallel cable. Connect the adapter to a printer's parallel port then plug it into a computer's USB port or Hub.

2. Electrical Features

- Universal Serial Bus Specification Rev. 1.1 compliant
- USB full speed communication and bus powered
- USB Printer Class Specification 1.0 compliant, Data Transfer Rate: 1.216Mbps (ECP mode)
- Supports IEEE-1284 (bi-directional parallel interface) specification
- Low-level printer class drivers provided for Windows serial
- Reserved another USB pin header on the module

(The EMIO-100P model is ready the USB signal on both MiniPCIe side (Pin 23, 25, 31, 33) and Pin Header (USB1). While using, please kindly select only one of the two.)

3. Environmental Features

■ Temperature Ranges

- Operating : 0°C ~ 70°C
- Storage : -40°C ~ 85°C

■ Humidity

- 25% ~ 95%, 40°C

■ Random Vibration Test

- 5 - 500Hz, PSD 0.028G²/Hz,3.5Grms
- 3 axes, 1 hr/per axis

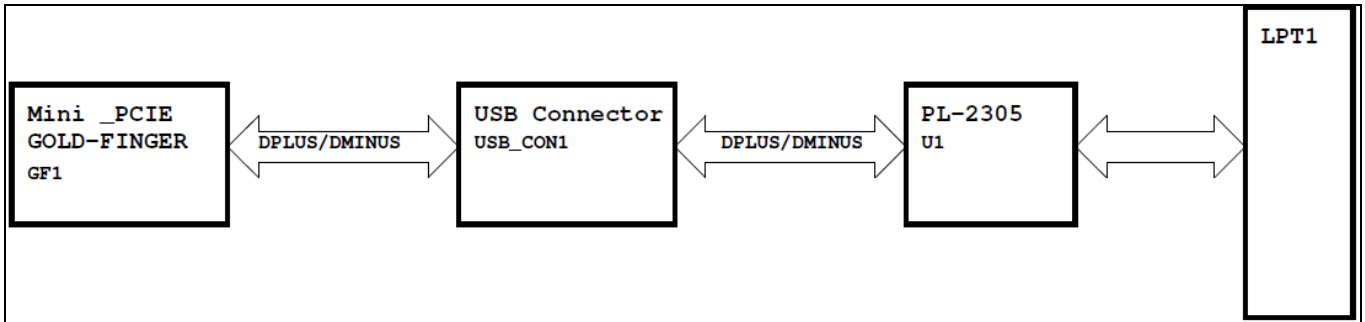
■ Acquired RoHS Certificate

■ Dimension : 50.95 mm x 30 mm x 10 mm

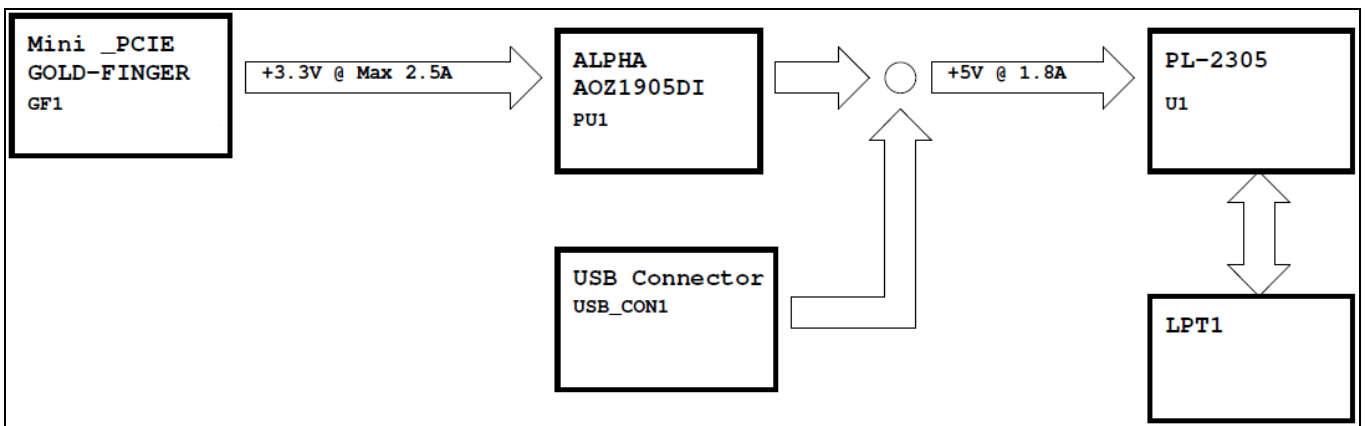
■ Weight : 30 g

4. Block Diagram

Below Figure shows the operation of Advantech EMIO-100P Parallel module from the system level, including the major hardware blocks.



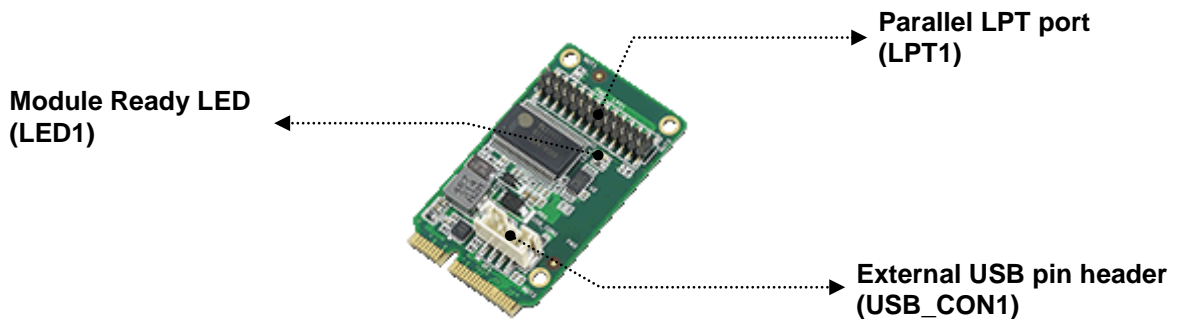
System Block Diagram



Power Distribution

5. Pin Assignment and Description

5.1 Connector and LED Location

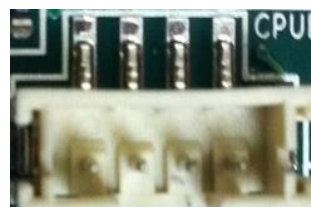
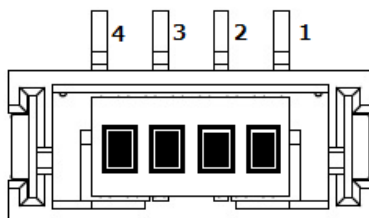


LED #	Function
LED1	Red, Module Ready LED

5.2 USB Interface Connector, USB_CON1

The USB interface connector, USB_CON1, is a 2.0mm 4-pins 180 degree, Male type Wafer Box connector. The pins are numbered as shown in the table below.

USB_CON1 Pin #	Signal Name	Signal Function
1	+5V_CON	USB Power (+5V)
2	USB_DM_CN	USB D-
3	USB_DP_CN	USB D+
4	GND	Ground

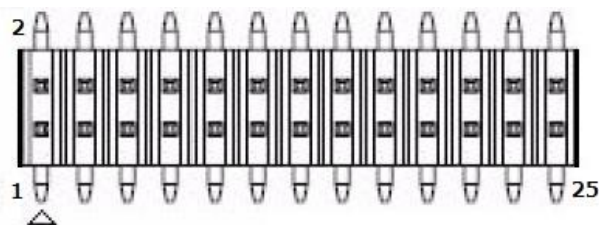


USB Connector

5.3 Parallel LPT Port, LPT1

The EMIO-100P has designed 1-channel of parallel LPT port which is LPT1. It is a 2.0mm 13x2-pins 180 degree, Male type pin header connector. The pins are numbered as shown in the table below.

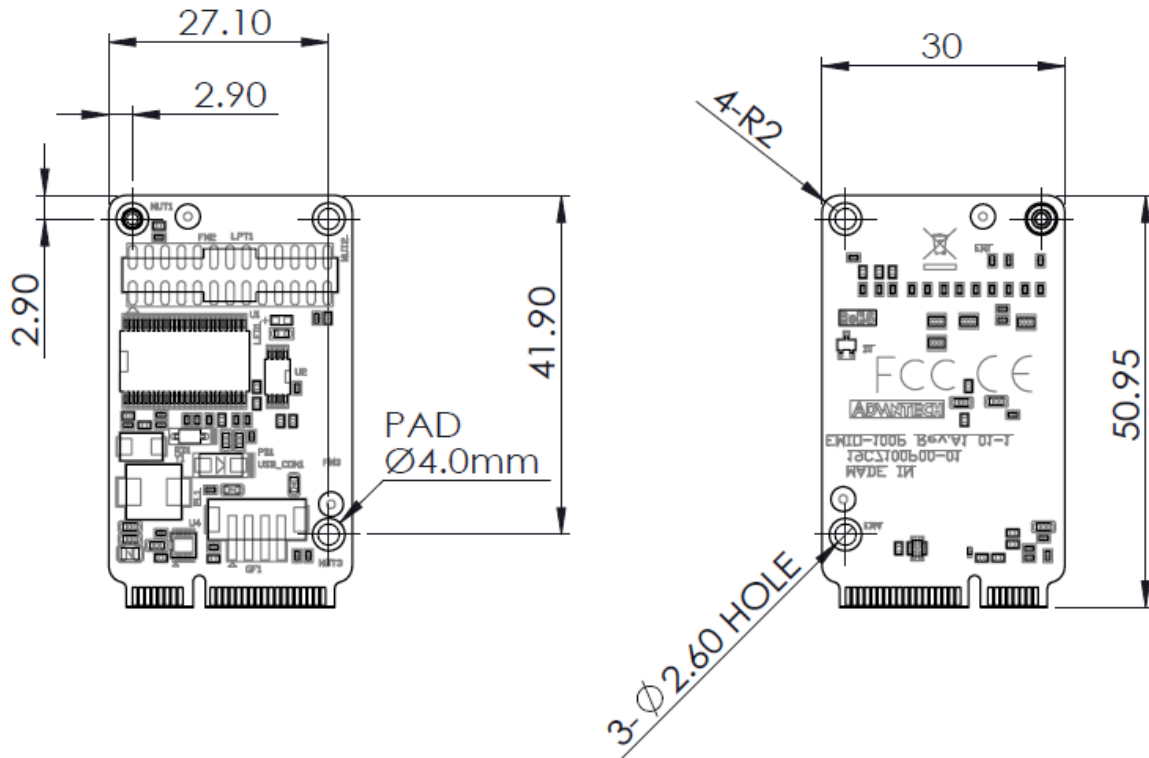
LPT1 Pin #	Signal Name	LPT1 Pin #	Signal Name
1	LPT_STB#	2	LPT_AFD#
3	LPT_PD0	4	LPT_ERR#
5	LPT_PD1	6	LPT_INIT#
7	LPT_PD2	8	LPT_SLIN#
9	LPT_PD3	10	GND
11	LPT_PD4	12	GND
13	LPT_PD5	14	GND
15	LPT_PD6	16	GND
17	LPT_PD7	18	GND
19	LPT_ACK#	20	GND
21	LPT_BUSY	22	GND
23	LPT_PE	24	GND
25	LPT_SLCT	26	N/A



Parallel LPT Connector

6. Physical Dimension

EMIO-100P Parallel LPT module (Unit: mm)

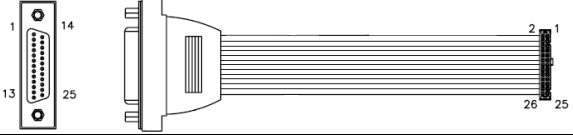
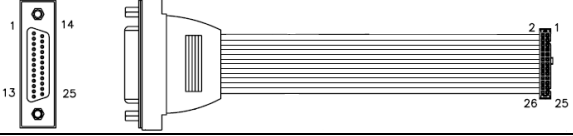


Appendix I: Part Number Table

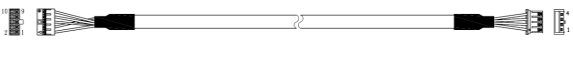

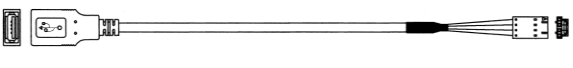
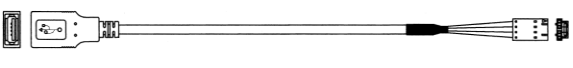
Product Description	Advantech P/N
Advantech EMIO-100P Parallel LPT module, 1-Ch, USB I/F (0~70°C)	EMIO-100P-MPU01E

Appendix II: Peripheral Cable recommendation

1. Parallel LPT1 cable

Advantech P/N	Description	Picture
1700019693	Cable, 26P-2.0mm to D-SUB 25P(F), L=15cm	
1700260250	Cable, 26P-2.0mm to D-SUB 25P(F), L=25cm	

2. Between the USB_CON1 and Main Board

Advantech P/N	Description	Picture
1700019261	Cable, 2x5P-2.0mm to 1x4P-2.0mm, L=40cm	
1700020814-01	Cable, 2x5P-2.0mm to 1x4P-2.0mm, L=50cm	
1700021861-01	Cable, USB-A(F) to 1x4P-2.0mm, L=15cm	
1700013354	Cable, USB-A(F) to 1x4P-2.0mm, L=125cm	

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