

AUX-080

ARC-1232 IET Board

User's Manual

1st Ed – 28 July 2020

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.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

A Message to the Customer

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

Content

1. Getting Started	4
1.1 Safety Precautions	4
1.2 Packing List	4
1.2 Product Specifications	5
2. Hardware Configuration	7
2.1 Product Overview	8
2.2 Connector List	9
2.3 Setting Connectors	10
2.3.1 TEST connector (JTEST1)	10
2.3.2 SPI connector (JSPI1)	10
2.3.3 B2B connector (BB1)	11
3. Mechanical Drawing	12

1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



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

Always note that improper disassembling action could cause damage to the motherboard. We suggest not removing the heatsink without correct instructions in any circumstance. If you really have to do this, please contact us for further support.

1.2 Packing List

Before you begin installing your single board, please make sure that the following materials have been shipped:

- 1 x AUX-080
- 3 x screws for AUX-080
- 1 x bracket for AUX-080

1.2 Product Specifications

Component	
Other	Silicon motion SM768
Edge I/O	
USB 2.0	1 x USB2.0 Type A (Leverage MB signal)
HDMI	2 x HDMI 1.4 (Foxconn QJ51191-LFB4-7F)
Mechanical & Environmental	
Operating Temp.	-10~ 50 degree
Storage Temp.	-20 ~ 60 degree
Operating Humidity	0 ~ 90% Relative Humidity, Non-condensing
Size (L x W)	86mm x 55mm
Weight	20g
Vibration Test	<p>Random Vibration Operation:</p> <ol style="list-style-type: none"> 1. PSD: 0.00454G²/Hz , 1.5 Grms 2. operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 minutes per each axis 6. IEC 60068-2-64 Test:Fh 7. Storage : CF or SSD <p>Sine Vibration test (Non-operation)</p> <ol style="list-style-type: none"> 1 Test Acceleration : 2G 2 Test frequency : 5~500 Hz 3 Sweep : 1 Oct/ per one minute. (logarithmic) 4 Test Axis : X,Y and Z axis 5 Test time :30 min. each axis 6 System condition : Non-Operating mode 7. Reference IEC 60068-2-6 Testing procedures <p>Package vibration test</p> <ol style="list-style-type: none"> 1. PSD: 0.026G²/Hz , 2.16 Grms 2. Non-operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 min. per each axis

AUX-080

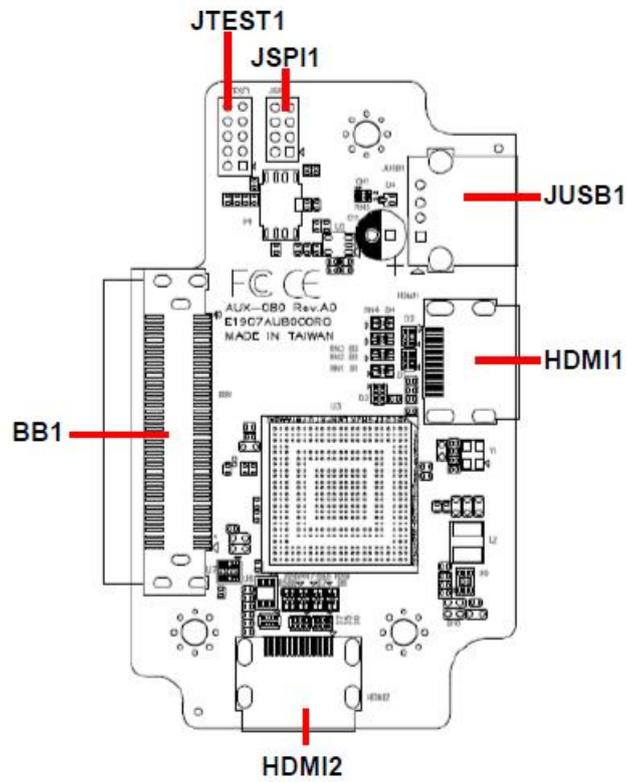
	6. IEC 60068-2-64 Test:Fh
Shock Test	<ol style="list-style-type: none">1. Wave form : Half Sine wave2. Acceleration Rate : 20g for operation mode3. Duration Time : 11ms4. No. of Shock : +/- X,Y,Z axis 3 times5. Test Axis: +/- X,Y,Z axis6. Operation mode7. Reference IEC 60068-2-27 Testing procedures Test Eb : Shock Test



Note: Specifications are subject to change without notice.

2. Hardware Configuration

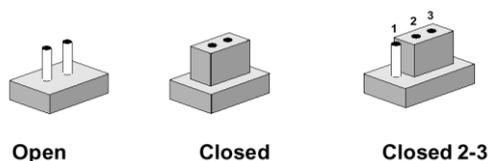
2.1 Product Overview



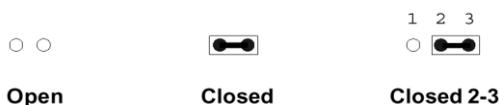
2.2 Connector List

You can configure your board to match the needs of your application by setting jumpers. A jumper is the simplest kind of electric switch.

It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To “close” a jumper you connect the pins with the clip. To “open” a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either two pins.



The jumper settings are schematically depicted in this manual as follows:



A pair of needle-nose pliers may be helpful when working with jumpers.

Connectors on the board are linked to external devices such as hard disk drives, a keyboard, or floppy drives. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

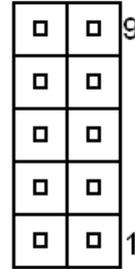
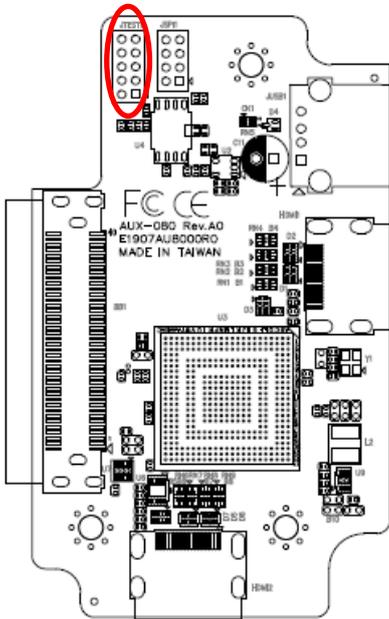
The following tables list the function of each of the board's jumpers and connectors.

Connectors

Label	Function	
JTEST1	TEST connector	5 x 2 header, pitch 2.00mm
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm
JUSB1	USB2.0 connector	
HDMI1/2	HDMI connector 1/2	
BB1	B2B connector	40 x 2 wafer, pitch 0.80mm

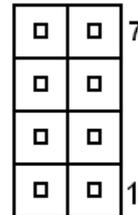
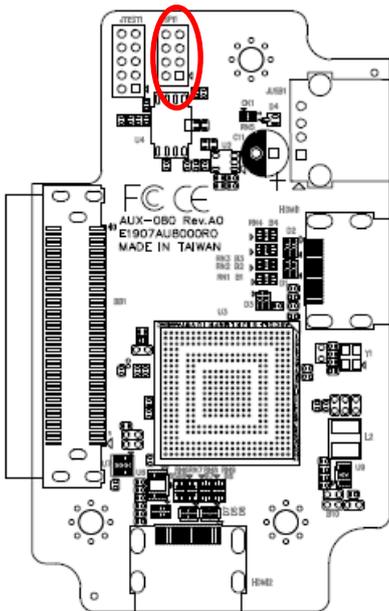
2.3 Setting Connectors

2.3.1 TEST connector (JTEST1)



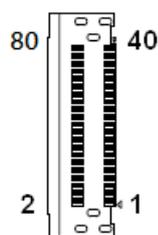
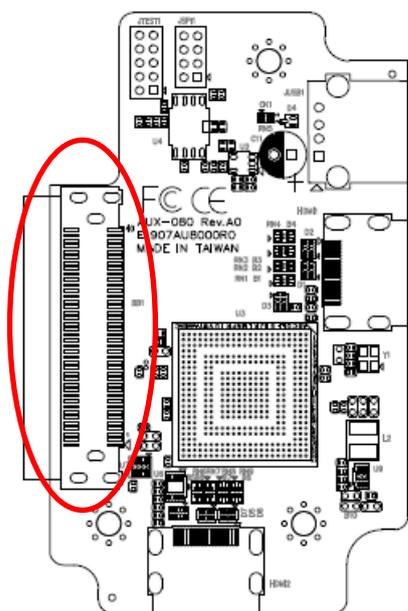
Signal	PIN	PIN	Signal
TCK	10	9	GND
TMS	8	7	GND
TDI	6	5	TDO
NC	4	3	RST#
+3.3V	2	1	+3.3V

2.3.2 SPI connector (JSPI1)



Signal	PIN	PIN	Signal
SPI_IO0	8	7	SPI_IO2_WP#
SPI_CLK	6	5	SPI_IO1
SPI_IO3_HOLD#	4	3	SPI_CS_RST#
GND	2	1	+3.3V

2.3.3 B2B connector (BB1)

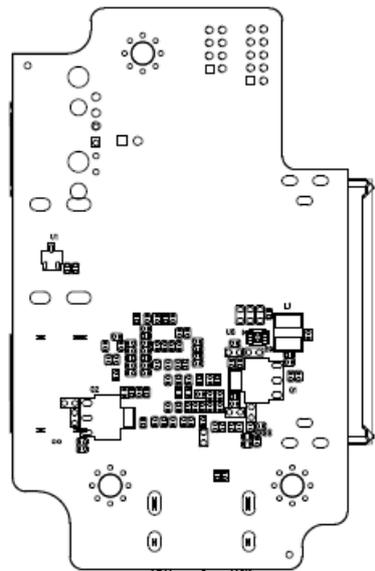
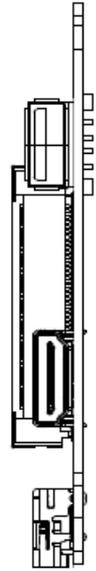
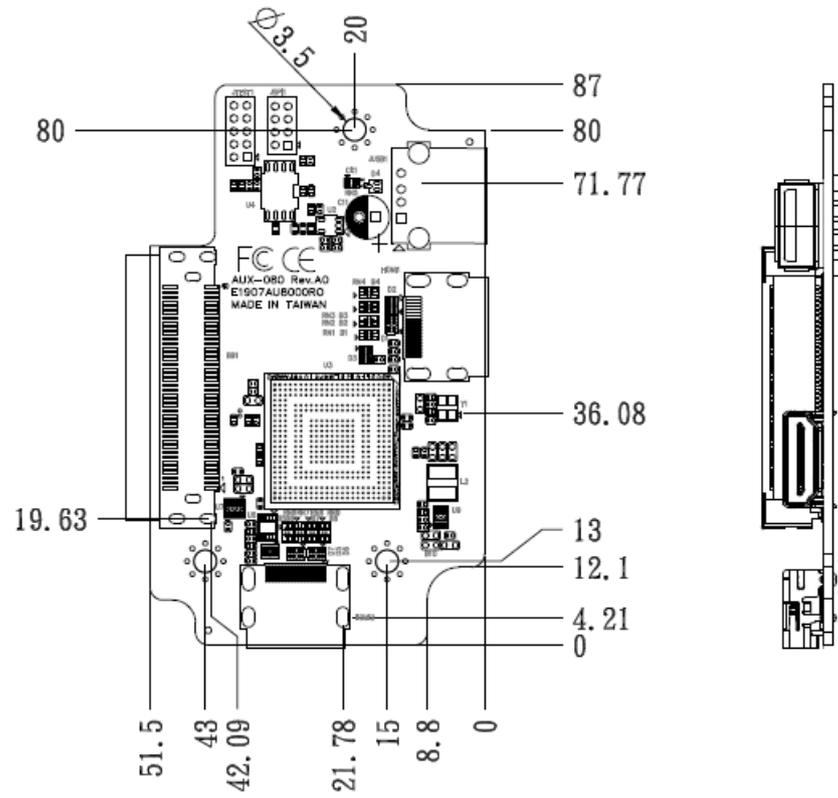


Signal	PIN	PIN	Signal
GND	80	40	GND
NC	79	39	NC
NC	78	38	NC
NC	77	37	NC
GND	76	36	GND
NC	75	35	NC
GND	74	34	NC
GND	73	33	GND
PCIE1_CLK+	72	32	GND
PCIE1_CLK-	71	31	HDMI1_CLK_P

Signal	PIN	PIN	Signal
GND	70	30	HDMI1_CLK_N
PCIE1_RX+	69	29	GND
PCIE1_RX-	68	28	HDMI1_TXP0
GND	67	27	HDMI1_TXN0
PCIE1_TX+	66	26	GND
PCIE1_TX-	65	25	HDMI1_TXP1
GND	64	24	HDMI1_TXN1
NC	63	23	GND
PCIE_RESET#	62	22	HDMI1_TXP2
NC	61	21	HDMI1_TXN2
NC	60	20	GND
NC	59	19	HDMI1_CTRLDATA
Board_ID	58	18	HDMI1_CTRLCLK
GND	57	17	GND
NC	56	16	HDMI_HPD_1
NC	55	15	NC
GND	54	14	NC
USB_DN_1	53	13	PS_ON
USB_DP_1	52	12	NC
GND	51	11	NC
+5VSB	50	10	NC
+5VSB	49	9	NC
+5VSB	48	8	NC
+5VSB	47	7	NC
+5VSB	46	6	NC
GND	45	5	GND
GND	44	4	NC
GND	43	3	NC
GND	42	2	GND
GND	41	1	GND

3. Mechanical Drawing





Unit: mm

