ASLAN-W810/812C-2930G2

Fanless 10.1"/11.6" Industrial Panel PC with Intel® Bay Trail SoC Processor

User's Manual
Version 1.0

C E

RoHS
VERIFIED

Revision History

Version	Time	Description
1.0	May, 2016	Initial release

Contents

Copyright Notice

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Declaration of Conformity

CE

The CE symbol on your product indicates that it is in compliance with the directives of the Union European (EU). A Certificate of Compliance is available by contacting Technical Support.

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from ARBOR. Please contact your local supplier for ordering information.

Warning
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC Class A

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)   This device may not cause harmful interference, and

(2)   This device must accept any interference received, including interference that may cause undesired operation.

NOTE:

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.

RoHS

ARBOR Technology Corp. certifies that all components in its products are in compliance and conform to the European Union's Restriction of Use of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive 2002/95/EC.

The above mentioned directive was published on 2/13/2003. The main purpose of the directive is to prohibit the use of lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), and polybrominated diphenyl ethers (PBDE) in electrical and electronic products. Member states of the EU are to enforce by 7/1/2006.

ARBOR Technology Corp. hereby states that the listed products do not contain unintentional additions of lead, mercury, hex chrome, PBB or PBDB that exceed a maximum concentration value of 0.1% by weight or for cadmium exceed 0.01% by weight, per homogenous material. Homogenous material is defined as a substance or mixture of substances with uniform composition (such as solders, resins, plating, etc.). Lead-free solder is used for all terminations (Sn(96-96.5%), Ag(3.0-3.5%) and Cu(0.5%)).

SVHC / REACH

To minimize the environmental impact and take more responsibility to the earth we live, Arbor hereby confirms all products comply with the restriction of SVHC (Substances of Very High Concern) in (EC) 1907/2006 (REACH --Registration, Evaluation, Authorization, and Restriction of Chemicals) regulated by the European Union.

All substances listed in SVHC < 0.1 % by weight (1000 ppm)

Important Safety Instructions

Read these safety instructions carefully

1. Read all cautions and warnings on the equipment.

2. Place this equipment on a reliable surface when installing. Dropping it or letting it fall may cause damage

3. Make sure the correct voltage is connected to the equipment.

4. For pluggable equipment, the socket outlet should be near the equipment and should be easily accessible.

5. Keep this equipment away from humidity.

6. The openings on the enclosure are for air convection and protect the equipment from overheating. DO NOT COVER THE OPENINGS.

7. Position the power cord so that people cannot step on it. Do not place anything over the power cord.

8. Never pour any liquid into opening. This may cause fire or electrical shock.

9. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.

10. If one of the following situations arises, get the equipment checked by service personnel:

    a. The power cord or plug is damaged.

    b. Liquid has penetrated into the equipment.

    c. The equipment has been exposed to moisture.

    d. The equipment does not work well, or you cannot get it to work according to the user's manual.

    e. The equipment has been dropped or damaged.

    f. The equipment has obvious signs of breakage.

11. Keep this User's Manual for later reference.

Warning

The Box PC and its components contain very delicately Integrated Circuits (IC). To protect the Box PC and its components against damage caused by static electricity, you should always follow the precautions below when handling it:

1. Disconnect your Box PC from the power source when you want to work on the inside.

2. Use a grounded wrist strap when handling computer components.

3. Place components on a grounded antistatic pad or on the bag that came with the Box PC, whenever components are separated from the system.

Lithium Battery Replacement

Incorrect replacement of the lithium battery may lead to a risk of explosion.

The lithium battery must be replaced with an identical battery or a battery type recommended by the manufacturer.

Do not throw lithium batteries into the trash can. It must be disposed of in accordance with local regulations concerning special waste.

Technical Support

If you have any technical difficulties, please consult the user's manual first at: http://www.arbor.com.tw

Please do not hesitate to call or e-mail our customer service when you still cannot find out the answer.

> http://www.arbor-technology.com
>
> E-mail:info@arbor.com.tw

Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster.

Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, or inability to use this product. Vendor will not be liable for any claim made by any other related party.

Vendors disclaim all other warranties, either expressed or implied, including but not limited to implied warranties of merchantability and fitness for a particular purpose, with respect to the hardware, the accompanying product's manual(s) and written materials, and any accompanying hardware. This limited warranty gives you specific legal rights.

Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.

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Chapter 1

Introduction

1.1. The Computer

Product Highlights

- High Resolution LCD Display w/ LED Backlight
- Flat panel with projected capacitive touchscreen
- Front panel compliant with IP65
- Anti-scratch surface: 7H hardness
- Slim and Compact Design
- Mini PCIe expansion slot support
- Fanless cooling system
- Cable-less Design
- Low power consumption

1.2. About this Manual

This manual is meant for the experienced users and integrators with hardware knowledge of personal computers. If you are not sure about the description in this manual, consult your vendor before further handling.

We recommend that you keep one copy of this manual for the quick reference for any necessary maintenance in the future. Thank you for choosing ARBOR products.

1.3. Specifications

System	
CPU	Intel® N2930 Quad-Core™ Processor 1.83GHz
Memory	2GB DDR3L SO-DIMM RAM module installed 1 x DDR3L SO-DIMM Socket, supporting 1600MHz SDRAM up to 8GB
LAN	2 x Intel® I210AT GbE controllers
Watchdog Timer	1~255 levels reset
Storage	
Device	1 x mSATA for SATA interface SSD Supports 300MB/s HDD transfer rate
Audio	
Type	1x Mic-in / 1xLine out
LCD Display	
Size/Type	ASLAN-W810C: 10.1" TFT LCD Panel
	ASLAN-W812C: 11.6" TFT LCD Panel
Max. Resolution	ASLAN-W810C: 1280 x 800, WXGA
	ASLAN-W812C: 1920 x 1080, Full HD
Max. Colors	16.7M
Luminance	ASLAN-W810C: 350 cd/m²
	ASLAN-W812C: 300 cd/m²
Touch Screen	Projected capacitive touch panel
View Angle (U/D/R/L)	85°/85°/85°/85°
Power System	
Power Input	DC 12V input with DC jack
Certification	
EMC / EMI	CE, FCC Class A
Expansion	
Expansion Bus	1 x Full-Size mPCIE (PCIex1+USB2.0) 1 x Half-Size mPCIE (PCIex1 Lane only)

External I/O	
USB Ports	1 x Type-A USB 3.0 port
	1 x Type-A USB 2.0 port
LAN	2 x RJ-45 GbE ports
DVI	1 x DVI-I connector
WiFi	1 x SMA antenna hole for optional WiFi function
Mechanical	
Mounting Type	VESA-75 / 100 Mounting with Bracket
Chassis	Aluminum front bezel and SECC steel chassis
Dimension (W x H x D)	ASLAN-W810C: 255.00 x 175.0. x 39.50 mm (10.04" x 6.89" x 1.56")
	ASLAN-W812C: 306.00 x 206.00 x 39.50 mm (12.05" x 8.11" x 1.56")
Weight (Net)	ASLAN-W810C: 1.7 kg (3.75 lb)
	ASLAN-W812C: 2.1 kg (4.63 lb)
Environmental	
Operating Temp.	-20ºC ~ 55ºC (-4°F ~ 140°F)
Storage Temp.	-30ºC ~ 70°C (-22°F ~ 158°F)
Operating Humidity	10 ~ 95% RH @ 60°C (non-condensing)
Vibration	5 ~ 500Hz, 1Grms Random (with CFast/SSD)
Shock	Operating 10G, 11ms Non-operating 30G, 11ms (with CFast/SSD)
OS Support	
W7 Pro / WS7E / Linux: Ubuntu	

1.4. Inside the Package

Upon opening the package, carefully inspect the contents. If any of the items is missing or appears damaged, contact your local dealer or distributor. The package should contain the following items:

1 x ASLAN-W810/812C-2930G2 Industrial panel PC

1 x **Accessory Box** that contains the following items:

• Driver CD
• User's manual
• Screws/cable

1.5. Ordering Information

|	
ASLAN-W810C-2930G2	10.1" Intel® N2930 Quad-Core™ Processor industrial panel PC with 2GB Memory
ASLAN-W812C-2930G2	11.6" Intel® N2930 Quad-Core™ Processor industrial panel PC with 2GB Memory

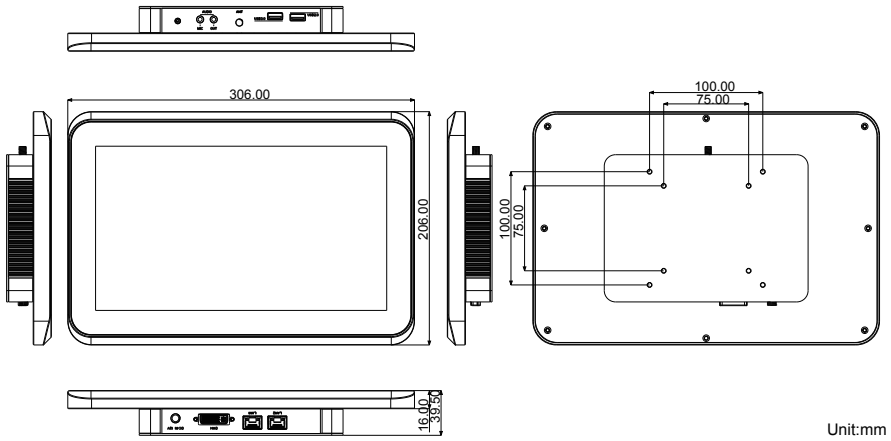This page is intentionally left blank.

Chapter 2

Getting Started

2.1. Dimensions

The following illustration shows the dimensions of the computer.

ASLAN-W810C

Unit:mm

ASLAN-W812C

Unit:mm
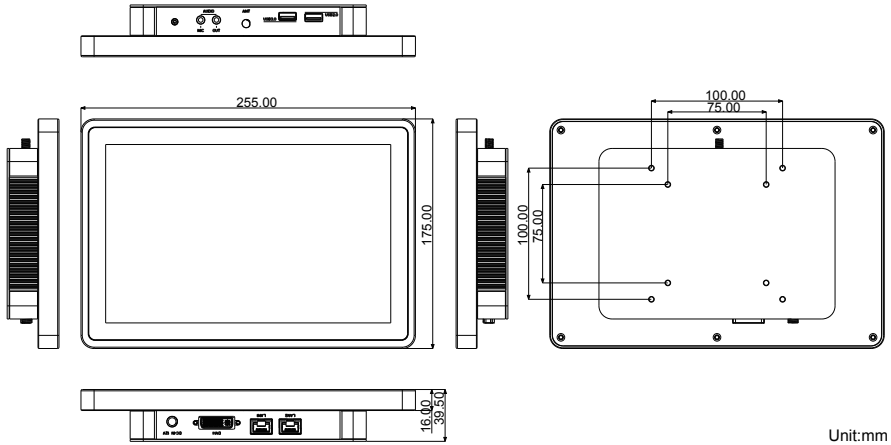
2.2. Tour the Computer

Take a look around the computer and find the external controls and connectors.
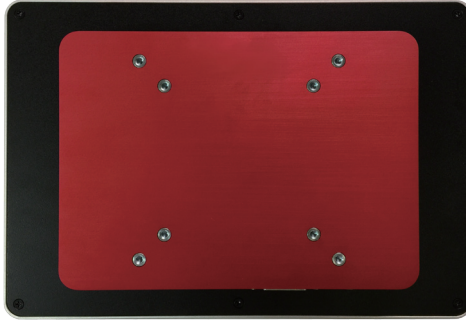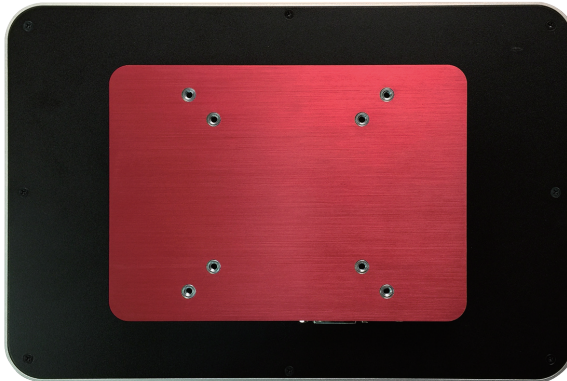
2.2.1. Front View

ASLAN-W810C

ASLAN-W812C

2.2.2. Rear View

ASLAN-W810C

ASLAN-W812C

2.3. Driver Installation Note

The computer supports the operating system Windows 7. Find the necessary device drivers on the CD that comes with your purchase. Always follow the sequence below to install all drivers to prevent errors:

Windows 7

| Device	Driver Path
Chipset	\\Chipset\SetupChipset.exe
Ethernet	32Bit: \\LAN\Win7\PROWin32.exe
	64Bit: \\LAN\Win7\PROWinx64.exe
USB 3.0	\\USB 3.0\Setup.exe
VGA	32Bit: \\Graphic\WIN7_32bit\setup.exe
	64Bit: \\Graphic\WIN7_64bit\setup.exe
TXE	\\TXE\setup.exe Patch files (to fix unknown device issue in device manager, for Windows 7 only) 32Bit: \\TXE\kmdf-1.11-Win-6.1-x86.exe 64Bit: \\TXE\kmdf-1.11-Win-6.1-x64.exe
Audio	32Bit: \\Audio\32bit_Win7_Win8_Win81_R275.exe
	64Bit: \\Audio\64bit_Win7_Win8_Win81_R275.exe

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Chapter 3

Engine of the Computer

3.1. Board Layout
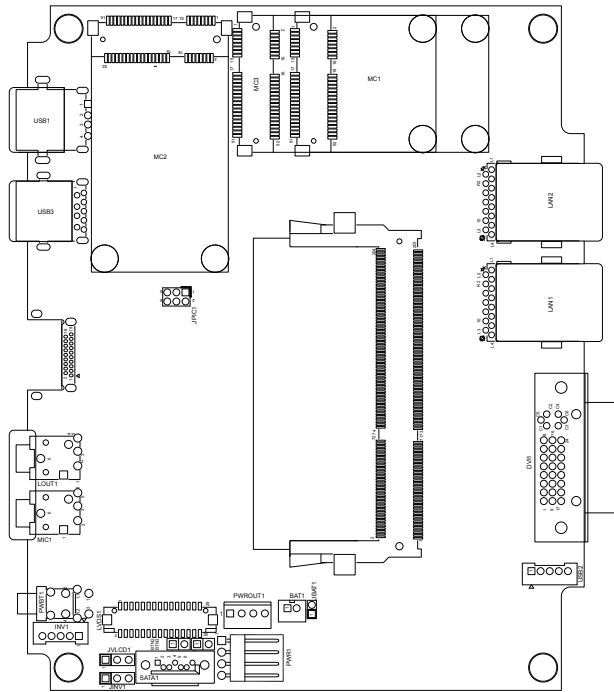
3.2. Jumpers and Connectors

This chapter will explicate each of the jumpers and connectors on the carrier board of the computer.
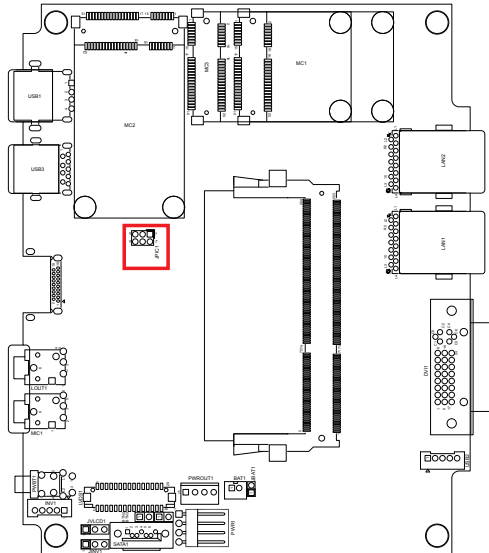
3.2.1. Jumpers

JPIC1

| **Function:** | Sets the AT/ATX mode |
| **Jumper Type:** | 2.00mm pitch 2x3-pin header |

Setting:

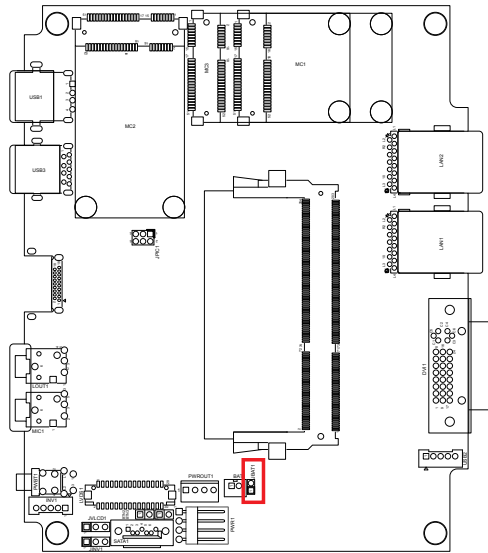| Pin	Description	
2-4	AT mode	
4-6	ATX mode (default)	

Board Top

JBAT1

Function: Clears/keeps CMOS
Jumper Type: 2.00 mm pitch 1x2-pin header
Setting:

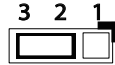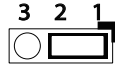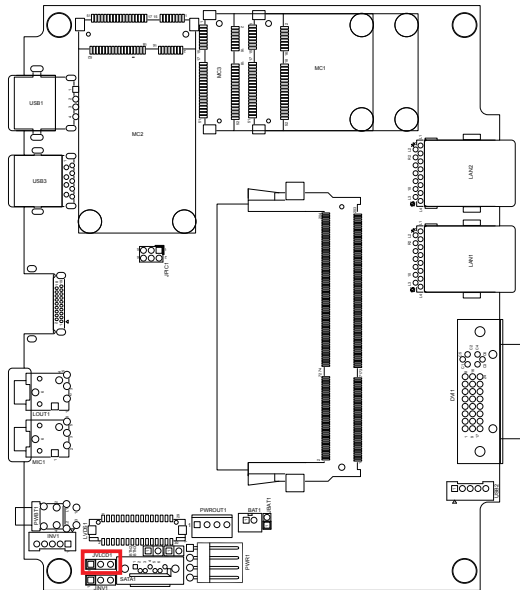| Pin	Description
Short Clears CMOS	1 2
Open Keeps CMOS (default)	1 2

Board Top

JVLCD1

Function: Sets LCD panel voltage
Jumper Type: 2.00mm pitch, 1x3-pin header
Setting:

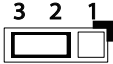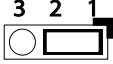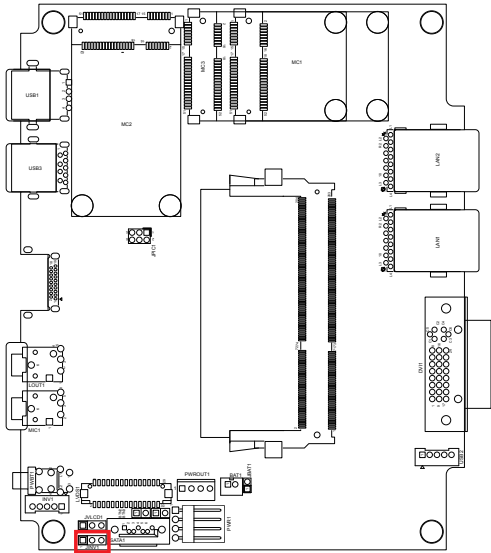| Pin	Description
1-2	+5V
2-3	+3.3V (default)

Board Top

JINV1

Function: Sets backlight voltage
Jumper Type: 2.00mm pitch, 1x3-pin header
Setting:

Pin	Description	
1-2	+12V(default)	
2-3	+5V	

Board Top

3.2.2. Connectors

INV1

Description: LCD Inverter Connector
Connector Type: 1.25mm 1x6-pin box connector
Setting:

Pin	Description
1	INV_VDD
2	GND
3	3460_BKLT_EN
4	3460_BKLT_CTRL
5	GND

Board Top
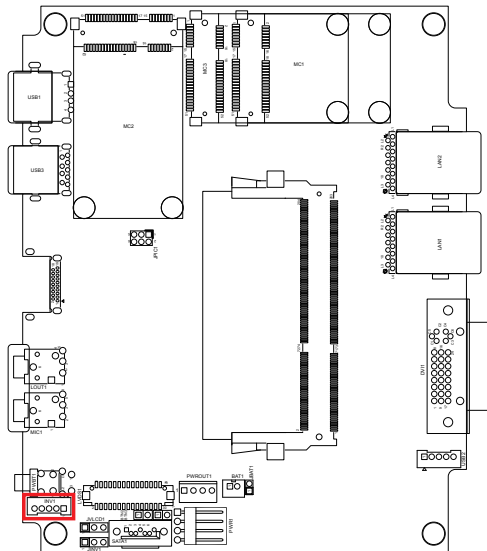
BTN2

Description: Power Button
Connector Type: Onboard 2-pin header
Setting:

Pin	Description
1	EXT_BTN-
2	GND

Board Top
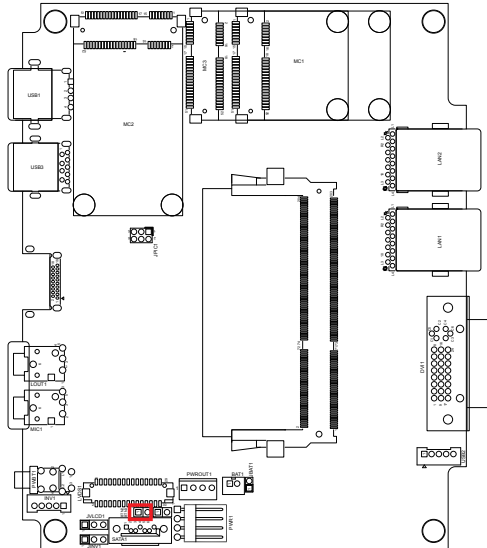
BTN3

Description: Reset Button
Connector Type: Onboard 2-pin header
Setting:

Pin	Description
1	RSTBTN#
2	GND

Board Top
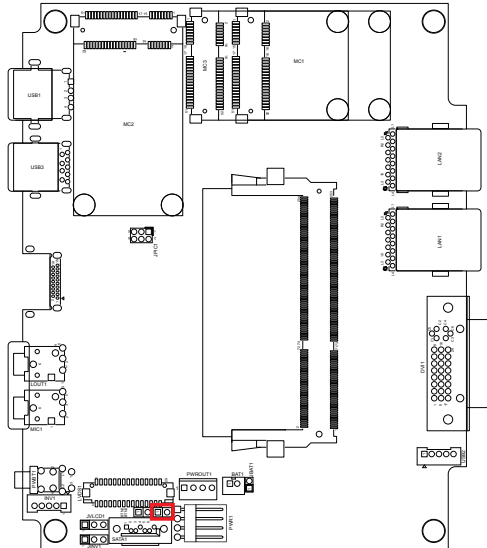
LVDS1

Description: Connector for LCD panel.
Connector Type: DF-13-30DP-1.25V connector
Setting:

Pin	Description	Pin	Description
2	LVDS1_VDD	1	LVDS1_VDD
4	LVDS_B_CLK+	3	LVDS_A_CLK+
6	LVDS_B_CLK-	5	LVDS_A_CLK--
8	GND	7	GND
10	LVDS_B0+	9	LVDS_A0+
12	LVDS_B0-	11	LVDS_A0-
14	GND	13	GND
16	LVDS_B1+	15	LVDS_A1+
18	LVDS_B1-	17	LVDS_A1-
20	GND	19	GND
22	LVDS_B2+	21	LVDS_A2+
24	LVDS_B2--	23	LVDS_A2-
26	GND	25	GND
28	LVDS_B3+	27	LVDS_A3+
30	LVDS_B3-	29	LVDS_A3-
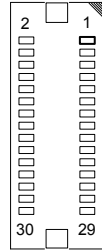
Board Top
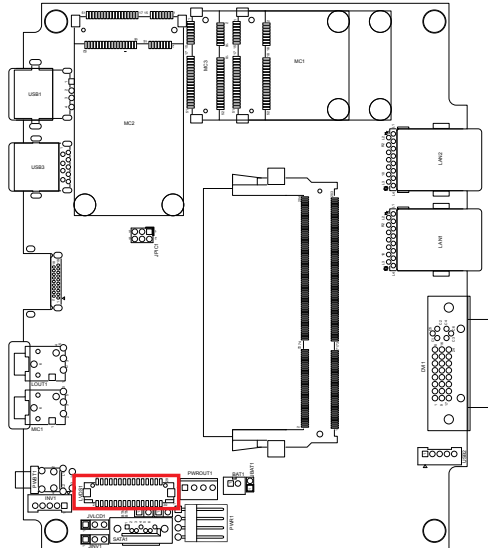
SATA1

Description: Serial ATA connector
Connector Type: Onboard 9-pin header
Setting:

Pin	Description
1	GND
2	SATA_TXP1
3	SATA_TXN1
4	GND
5	SATA_RXN1
6	SATA_RXP1
7	GND

Board Top
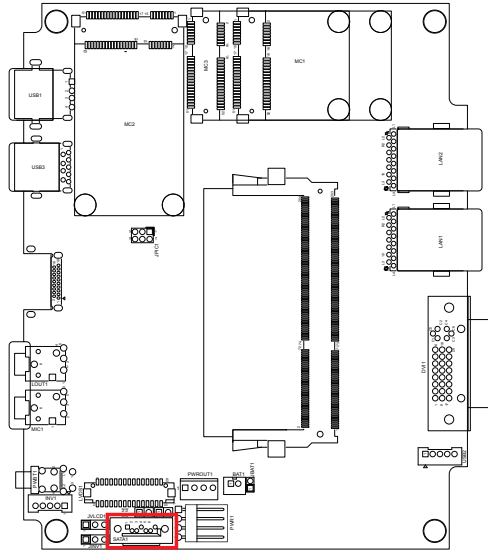
LAN1&2

Function: Ethernet connectors
Connector Type: RJ-45 connector that supports 10/100/1000Mbps fast Ethernet
Pin Assignment:

The pin assignments conform to the industry standard.
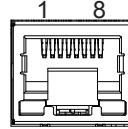
Bottom Panel
ASLAN-W810C
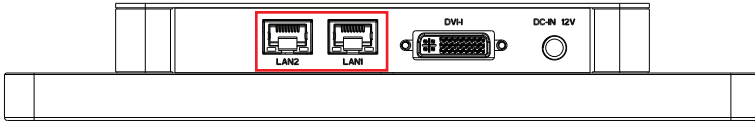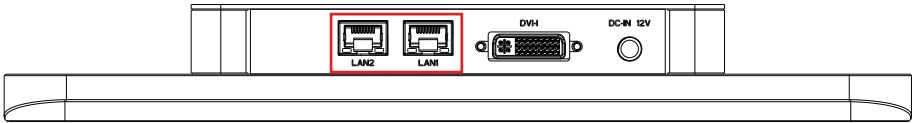
ASLAN-W812C

DVI1

Function: DVI-I connector
Connector Type: 29-pin DIP-type female connector
Pin Assignment: The pin assignments conform to the industry standard.
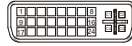
Bottom Panel
ASLAN-W810C
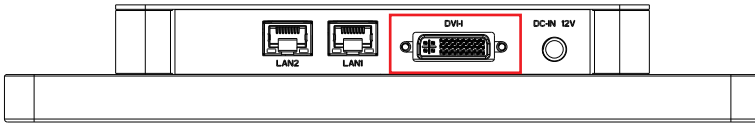
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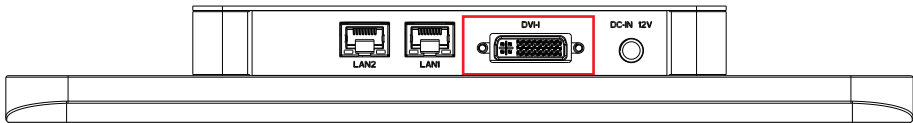
USB2

Destription: Connectors for the internal USB ports
Connector Type: Pitch 2.00mm 5-pin wafer connectors
Pin Assignment:

Pin	Desc.
1	VCCUSB1
2	USBLN0
3	USBLP0
4	GND
5	GND
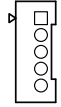
Board Top
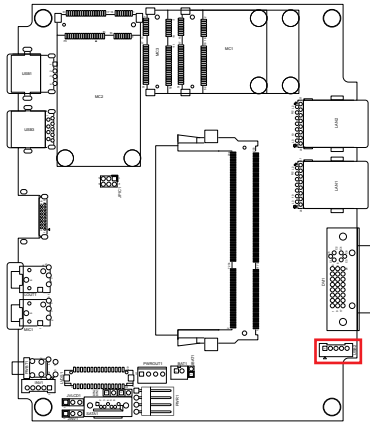
PWR1

Destription: Connectors for DC-in power.
Connector Type: Onboard 4-pin one-wall wafer connector
Pin Assignment:

Pin	Description
1	DC12V
2	DC12V
3	C-GND
4	C-GND
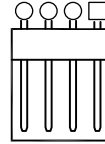
Board Top
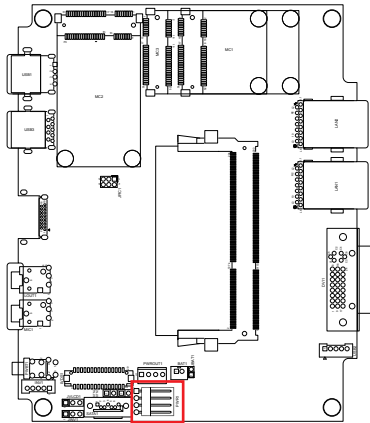
PWROUT1

Destription: Connectors for SATA power.

Connector Type: Onboard 4-pin one-wall wafer connector

Pin Assignment:

Pin	Description
1	5VS
2	GND
3	GND
4	12VS

1
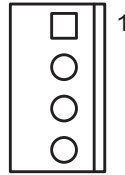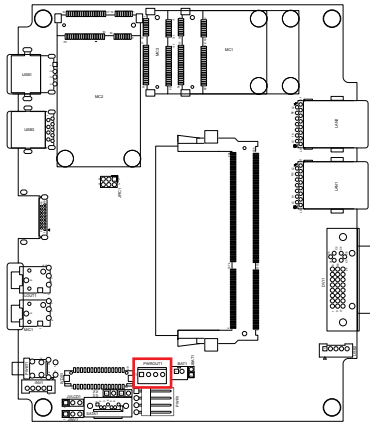
Board Top

PWBT1

Destription: Power Button
Connector Type: LED tact switch with green and red
colors
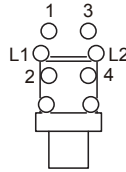
Pin	Description	Pin	Description
1	GND	2	N/A
3	BTN	4	N/A
L1	SW1_LED_N	L2	SW1_LED_P

Board Top
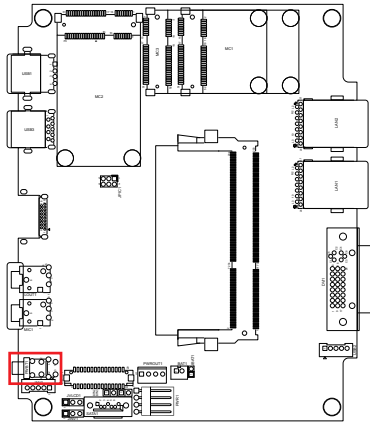
Top Panel
ASLAN-W810C
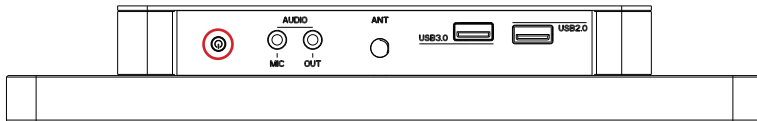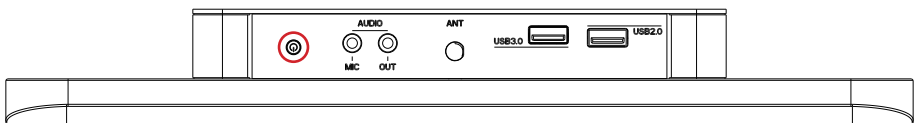
ASLAN-W812C

MIC1

Destription: Mic-in Port
Connector Type: Pink 3.5mm audio jack

◎ – IN
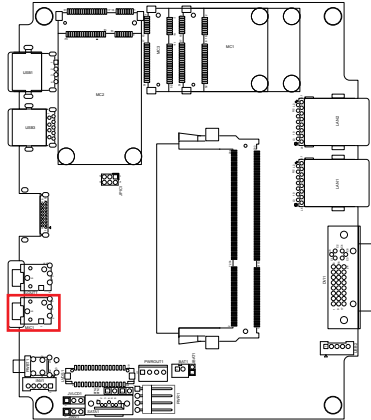
Board Top

Top Panel
ASLAN-W810C
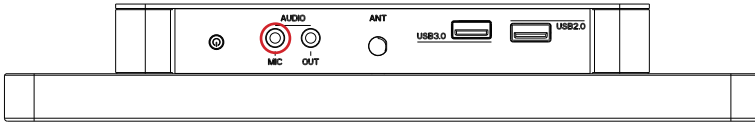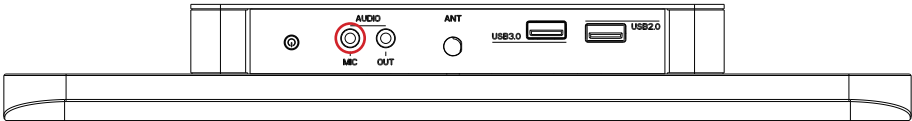
ASLAN-W812C

LOUT1

Destription: Line-out Port
Connector Type: Lime green 3.5mm audio jack

OUT – ⊙
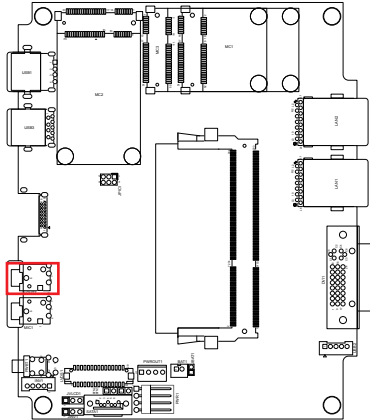
Board Top

**Top Panel**
ASLAN-W810C
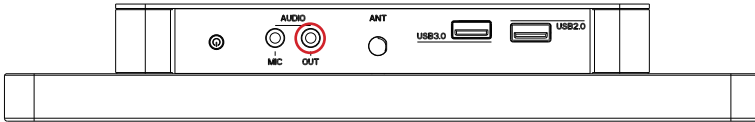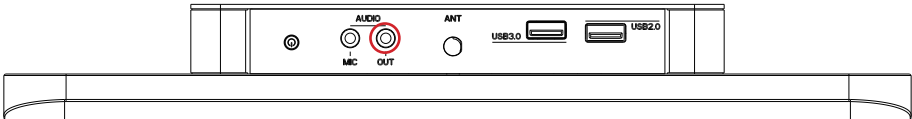
ASLAN-W812C

USB3

Function: USB 3.0 connector
Connector Type: USB 3.0/2.0 type-A connectors
Pin Assignment:
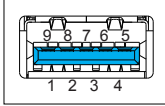
The pin assignments conform to the industry standard.

Top Panel
ASLAN-W810C
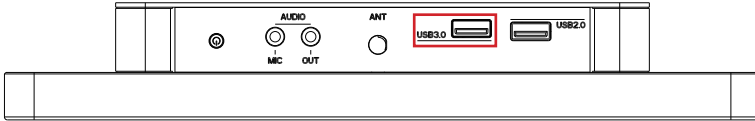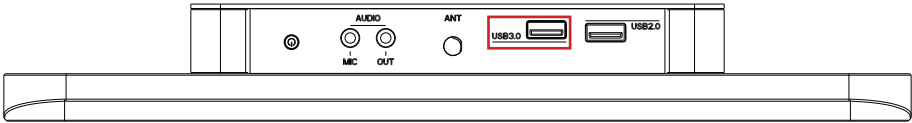
ASLAN-W812C

USB1

Function: USB 2.0 connectors
Connector Type: USB 2.0/1.0 type-A connectors
Pin Assignment:
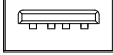
The pin assignments conform to the industry standard.

Top Panel
ASLAN-W810C
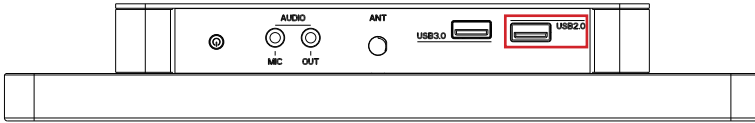
ASLAN-W812C
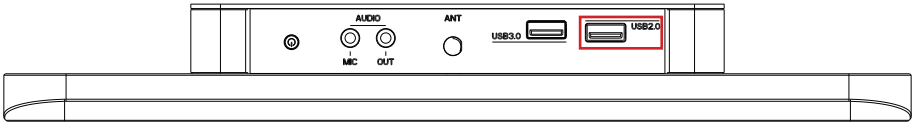
MC2

|	
Description:	Mini-card Full Size socket
Connector Type:	Onboard 0.8mm pitch 52-pin edge card connector
Pin Assignment:	The pin assignments conform to the industry standard.
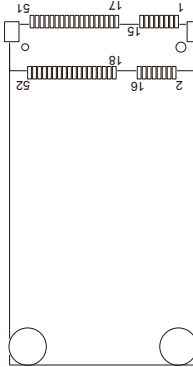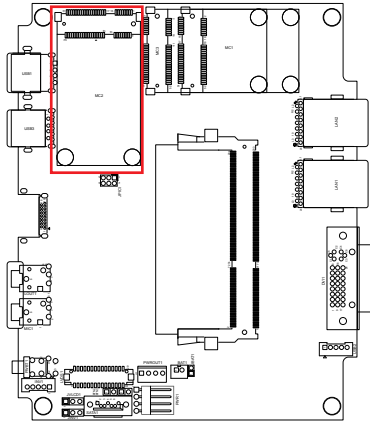
Board Top

MC3

Function: mSATA socket
Connector Type: Onboard 0.8mm pitch 52-pin edge card connector
Pin Assignment:
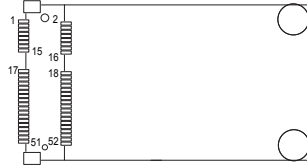
The pin assignments conform to the industry standard.

Board Top
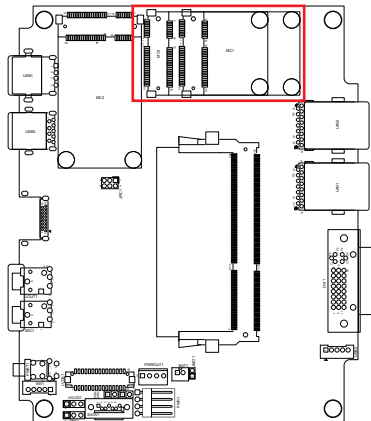
MC1

Function: Mini-card half-size socket
Connector Type: Onboard 0.8mm-pitch 52-pin edge card connector
Pin Assignment:

Pin	Desc.	Pin	Desc.	Pin	Desc.
1	3.3AUX	21	GND		
2	3.3AUX	22	BUF_PLT_RST#		
3	COEX1	23	PCIE_RXN3		
4	GND	24	3.3AUX		
5	Reserved	25	PCIE_RXP3		
6	1.5VS_MINI	26	GND		
7	3.3AUX	27	GND		
8	Reserved	28	1.5VS_MINI	Pin	Desc.
9	GND	29	GND	41	3.3AUX
10	UIM_IO	30	SMB_CLK_MAIN	42	Reserved
11	PCIE_CLKN3	31	PCIE_TXN3	43	GND
12	UIM_CLK	32	SMB_DATA_MAIN	44	Reserved
13	PCIE_CLKP3	33	PCIE_TXP3	45	Reserved
14	UIM_RESET	34	GND	46	Reserved
15	GND	35	GND	47	Reserved
16	Reserved	36	USBN2	48	1.5VS_MINI
17	Reserved	37	GND	49	Reserved
18	GND	38	USBP2	50	GND
19	Reserved	39	3.3AUX	51	Reserved
20	Reserved	40	GND	52	3.3AUX

Board Top
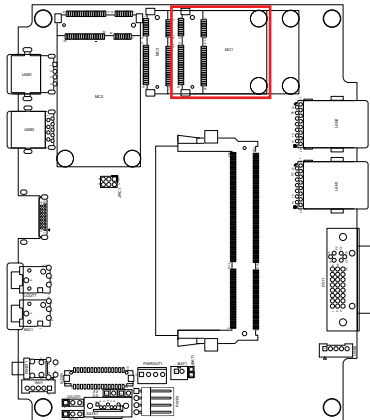
Chapter 4

Installation & Maintenance

4.1. Access the Inside of the Computer

To use onboard jumpers/connectors or to install/remove internal hardware, you will need to open the system to access the main board of the computer. The installations of ASLAN-W810C and ASLAN-W812C are similar and the following descriptions will use ASLAN-W810C as example. Follow through the guide below to access the inside of the computer.

4.1.1. Disassemble the Computer

1. Loosen and remove the six screws securing the LCD panel assembly and the rear case.
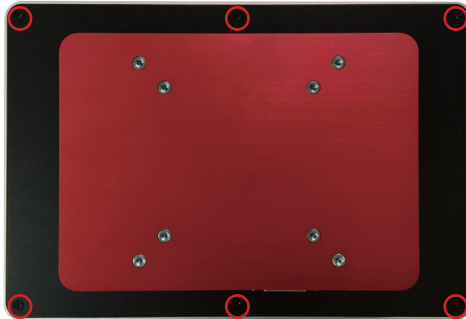
2. Turn over the case assembly as shown in the picture below. Disconnect the LVDS and USB cables from the LCD panel.

LVDS cables   USB Cable
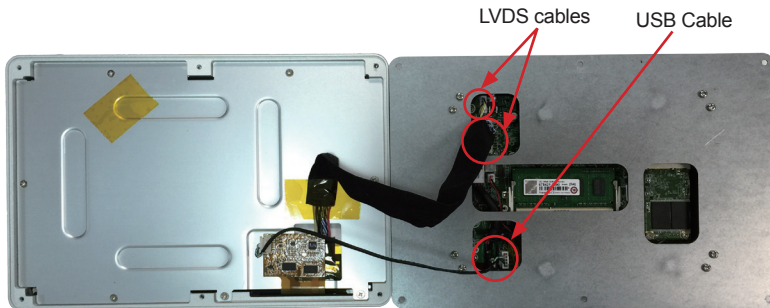
3. Loosen and remove the eight screws securing the metal plate and the case. Then remove the metal plate.
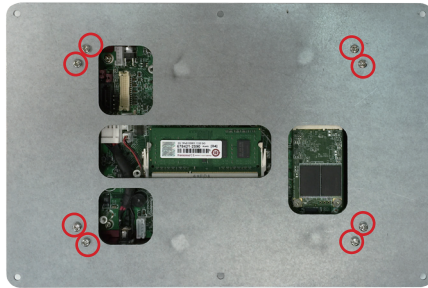
4. The inside of the computer comes to view. Then you can make connections or configure jumper settings as required.

Memory module socket

mSATA module socket

Mini card socket
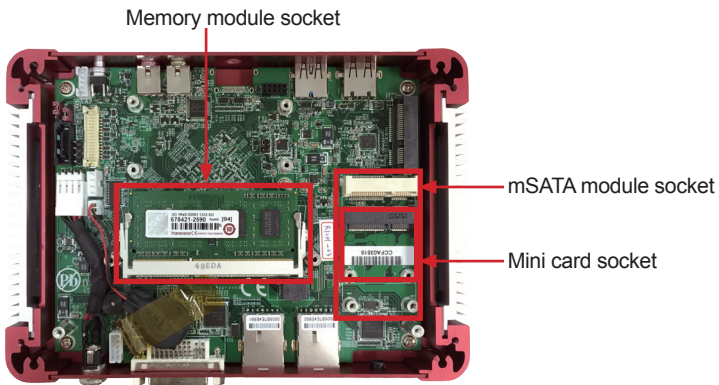
4.1.2. Reassemble the Computer

After you make required jumper settings and connections, follow through the guide below to reassemble the computer.

1. Orientate the metal plate as shown below to ensure the LVDS connectors are accessible. Fasten the metal plate to the case by screwing the eight screws.
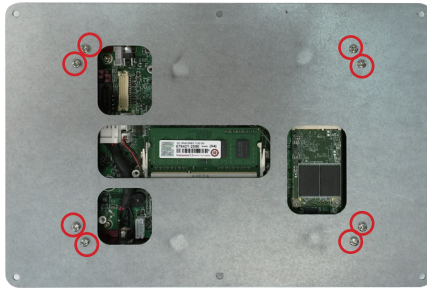
2. Connect the LVDS and USB cables from the LCD panel to the case assembly. Make sure the LCD module is positioned towards the bottom side as shown below.

LVDS cables   USB Cable

LCD module towards the bottom side

Bottom of the case
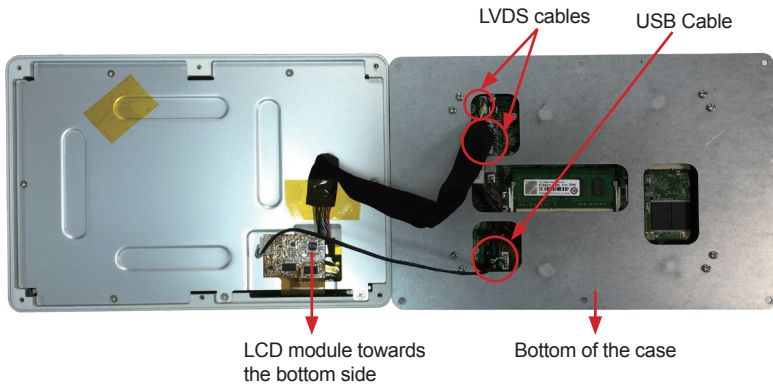
3. Turn over the case and fasten the six screws securing the LCD panel assembly and the case.
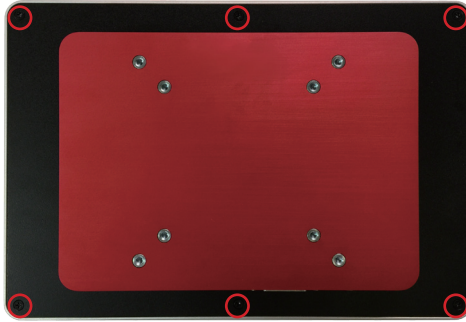
4.2. Use Onboard Jumpers and Connectors

The computer's main board comes with some connectors to connect devices and also some jumpers to alter hardware configuration. To access the jumpers and connectors, follow through the guide as described in 4.1.1. Disassemble the Computer on page 38.

Then adjust the jumpers or use the connectors on the board as described in 3.2.1. Jumpers on page 15 and 3.2.2. Connectors on page 19.

After you make required settings or connections, re-assembly the panel PC as described in 4.1.2. Reassemble the Computer on page 40.

4.3. Install Hardware

The following sections will guide you through the basic hardware installation for the computer. Remember to turn off the panel PC before installing/removing inner hardware.

4.3.1. Install mSATA Storage

To install an mSATA storage module to the computer:

1. Access the inside of the computer as described in <u>4.1.1. Disassemble the Computer</u> on page <u>38</u>.

2. Find the socket for mSATA module as the picture below shows.

Socket for mSATA module
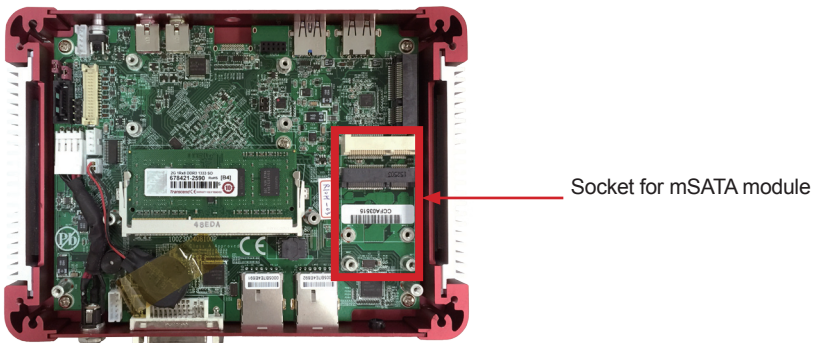
3. Align the notches on the mSATA card with the notches in the mSATA socket. By a slanted angle, fully insert the mSATA card until it cannot be inserted any more.

The notches of mSATA module must match the socket keys for a correct installation.

4. Press down the end of the mSATA card and then fix the card in place using two screws.
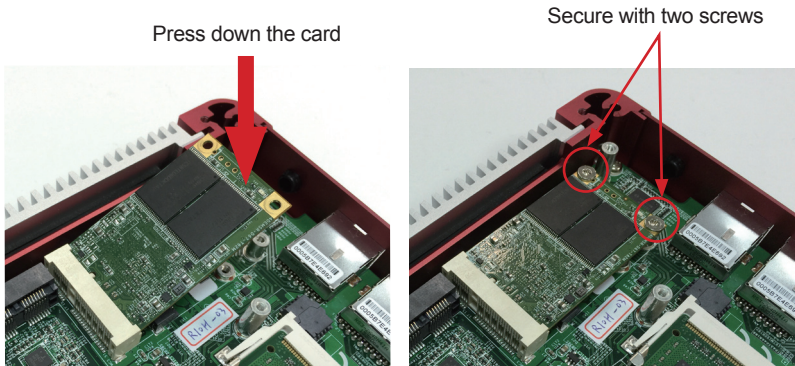
Press down the card

Secure with two screws

5. After you compete the installation, re-assembly the computer as described in 4.1.2. Reassemble the Computer on page 40.

4.3.2. Install Memory Module

The main board has one dual inline memory module (DIMM) socket. Load the computer with a memory module to make the computer run programs. The memory module for the computer's SO-DIMM socket should be a 204-pin DDR3 with a "key notch" off the centre among the pins, which enables the memory module for particular applications. There are another two notches at each left and right side of the memory module to help fix the module in the socket.

side notch

side notch

key notch
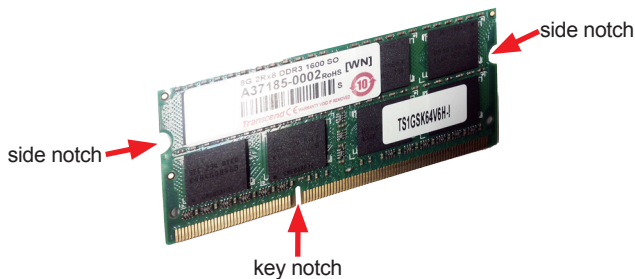
To install a memory module:

The computer is pre-installed with a memory module. In case you need to replace or upgrade the module, follow the steps below:

1. Access the inside of the computer as described in .

2. To remove the existing memory module for replacement with a new one, carefully release the latches on the side of the module holder. Then gently slide the module out of the socket.

Release the latches
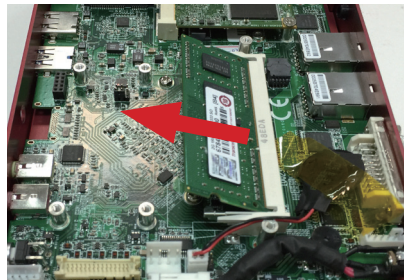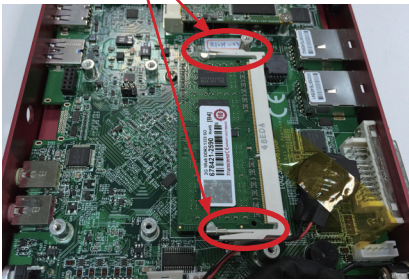
3. Align your new memory module with the socket; notches of the memory module must match the socket keys for a correct installation.

The notch of SO-DIMM socket
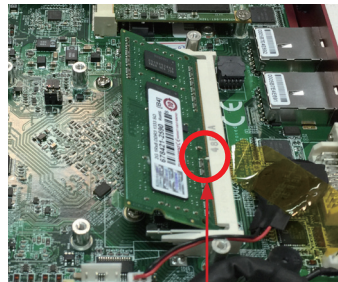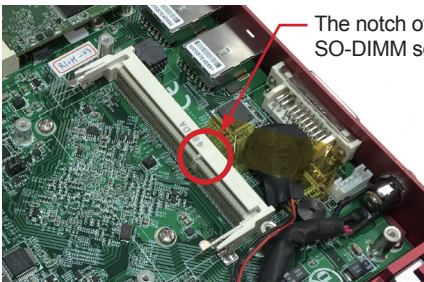
Align the notch on the memory module with the notch in the memory socket.

4. By a slanted angle, fully insert the memory module until it cannot be inserted any more.
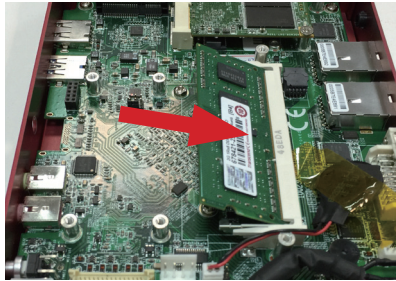
5. Press down the memory module until it is auto-locked in place.
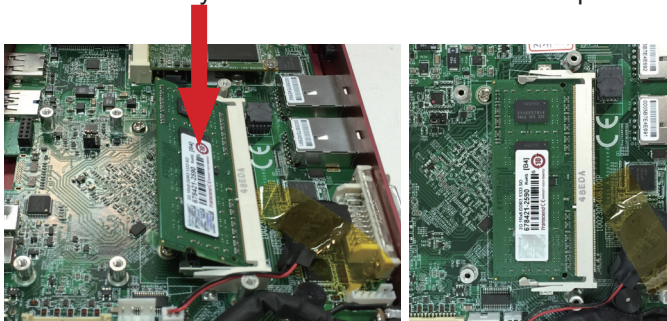
6. After you compete the installation, reassembly the computer as described in 4.1.2. Reassemble the Computer on page 40.

4.3.3. Install Wi-Fi Module

The computer comes with one Mini-card socket to load the computer with a wireless module of PCI Express Mini-card form factor:

- To install the Wi-Fi module, see Appendix A: Wi-Fi Module Hardware Installation.

4.4. Mount the Computer

The computer supports 75mm and 100mm VESA mount so you can attach the computer to a VESA mount kit. The installtions of ASLAN-W810C and ASLAN-W812C are similar and the following descriptions will use ASLAN-W810C as example.

To integrate the computer to a VESA arm:

1. Find the VESA mounting holes on the rear of the computer.

100 x 100mm VESA mounting holes

75 x 75mm VESA mounting holes
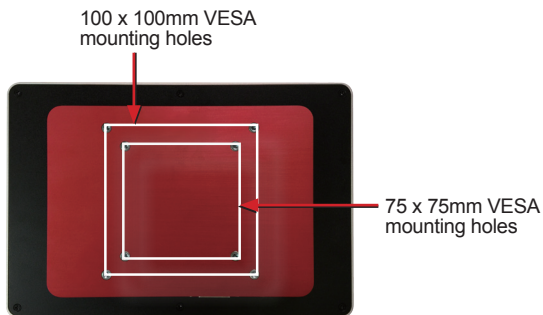
2. Attach your VESA mount kit to the rear of the computer by matching the mounting holes with the VESA mount kit.

3. Fix the assembly with four screws.

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Chapter 5

BIOS

The BIOS Setup utility for the computer is featured by American Megatrends Inc to configure the system settings stored in the system's BIOS ROM. The BIOS is activated once the computer powers on. When the computer is off, the battery on the main board supplies power to BIOS RAM. The BIOS of ASLAN-W810C and ASLAN-W812C are similar and the following descriptions will use ASLAN-W810C as example.

To enter the BIOS Setup utility, keep hitting the "Del" key upon powering on the computer.

```
                       InsydeH20 Setup Utility                          Rev. 5.0
  Main   Advanced   Security   Power   Boot   Exit

 InsydeH20 Version          ASLAN-W810C R1.00          Select the current default language
 Project Name               ASLAN-W810C                used by the InsydeH20.
 Board Revision             [7]
 Build Date                 01/08/2016
 Build Time                 13:36:29

 Processor                  Intel(R) Celeron(R) CPU N2930 @1.83GHz
 System Bus Speed           83 MHz
 System Memory Speed        1333 MHz
 Cache RAM                  1024 KB
 Total Memory               2048 MB
 Channel A - SODIMM 0       2048 MB
 Channel B - SODIMM 0       [Not Installed]

 Platform firmware Information
 VLV  SOC                   0E (C0 Stepping)
 MRC Version                1.42
 PUNIT FW                   0x26
 PMC FW Patch               0x4_45
 TXE FW Version             1.1.0.1089
 IGD VBIOS Version          3842
 Microcode Revision         831
 CPU Flavor                 VLV Mobile (3)
 Board ID                   BALEY BAY (20)
 Fab ID                     FAB3 (03)

 Language                   <English>
 System Time                [10:04:19]
 System Date                [03/30/2016]

 F1    Help        ↑↓  Select Item    F5/F6  Change Values    F9   Setup Defaults
 ESC   Exit        ↔   Select Menu    Enter  Select ► SubMenu  F10  Save and Exit
```

The BIOS featured menus are:

Menu	Description
Main	See 5.1. Main on page 52.
Advanced	See 5.2. Advanced on page 54.
Security	See 5.3. Security on page 59.
Power	See 5.4. Power on page 60.
Boot	See 5.5. Boot on page 61.
Exit	See 5.6. Exit on page 63.

Key Commands

The BIOS Setup utility relies on a keyboard to receive user's instructions. Hit the following keys to navigate within the utility and configure the utility.

Keystroke	Function
← →	Moves left/right between the top menus.
↓ ↑	Moves up/down between highlight items.
Enter	Selects an highlighted item/field.
Esc	▶ On the top menus: Use **Esc** to quit the utility without saving changes to CMOS. (The screen will prompt a message asking you to select **OK** or **Cancel** to exit discarding changes. ▶ On the submenus: Use **Esc** to quit current screen and return to the top menu.
F5	Increases current value to the next higher value or switches between available options.
F6	Decreases current value to the next lower value or switches between available options.
F1	Opens the **Help** of the BIOS Setup utility.
F9	Restore the Setup Default (The screen then prompts a message asking you to select **OK** or **Cancel** to restore to default.)
F10	Exits the utility saving the changes that have been made. (The screen then prompts a message asking you to select **OK** or **Cancel** to exit saving changes.)

Note: Pay attention to the "WARNING" that shows at the left pane onscreen when making any change to the BIOS settings.

This BIOS Setup utility is updated from time to time to improve system performance and hence the screenshots hereinafter may not fully comply with what you actually have onscreen.

5.1. Main

The **Main** menu features the settings of **System Date** and **System Time** and displays some BIOS info and system info.

```
                          InsydeH20 Setup Utility                        Rev. 5.0
    Main   Advanced   Security   Power   Boot   Exit

 InsydeH20 Version              ASLAN-W810C R1.00          Select the current default language
 Project Name                  ASLAN-W810C                used by the InsydeH20.
 Board Revision                [7]
 Build Date                    01/08/2016
 Build Time                    13:36:29


 Processor                     Intel(R) Celeron(R) CPU N2930 @1.83GHz
 System Bus Speed              83 MHz
 System Memory Speed           1333 MHz
 Cache RAM                     1024 KB
 Total Memory                  2048 MB
 Channel A - SODIMM 0          2048 MB
 Channel B - SODIMM 0          [Not Installed]

 Platform firmware Information
 VLV  SOC                      0E (C0 Stepping)
 MRC Version                   1.42
 PUNIT FW                      0x26
 PMC FW Patch                  0x4_45
 TXE FW Version                1.1.0.1089
 IGD VBIOS Version             3842
 Microcode Revision            831
 CPU Flavor                    VLV Mobile (3)
 Board ID                      BALEY BAY (20)
 Fab ID                        FAB3 (03)

 Language                      <English>
 System Time                   [10:04:19]
 System Date                   [03/30/2016]



 F1    Help         ↑↓  Select Item    F5/F6   Change Values      F9    Setup Defaults
 ESC   Exit         ↔   Select Menu    Enter   Select ► SubMenu   F10   Save and Exit
```

The BIOS info displayed:

Info	Description
InsydeH20 Version	Displays the computer's BIOS version.
Project Name	Displays the model of the computer.
Board Revision	Displays the revision information of the board.
Build Date	Displays the BIOS build date.
Build Time	Displays the BIOS build time.
Processor	Displays the processor installed on the main board.
System Bus Speed	Displays the bus speed of the processor.
System Memory Speed	Displays the memory speed.
Cache RAM	Displays the size of the cache RAM.
Total Memory	Displays the total memory installed on the main board.

Channel A	Displays the memory installed on the Channel A SODIMM.
Channel B	Displays the memory installed on the Channel B SODIMM.
Platform firmware Information	Displays the platform firmware Information.

The featured settings are:

Setting	Description
Language	Sets the language used by the BIOS.
System Time	Sets system time.
System Date	Sets system date.

5.2. Advanced

Access the **Advanced** menu to manage the computer's system configuration.

```
                          InsydeH20 Setup Utility                         Rev. 5.0
     Main   Advanced   Security   Power    Boot   Exit

  ►Boot Configuration                                    Configures Boot Settings.
  ►PCI Express Configuration
  ►USB Configuration
  ►LPSS & SCC Configuration
  ►Video Configuration
  ►SATA Configuration
  ►LM90 Thermal Sensor

  F1    Help      ↑↓  Select Item    F5/F6  Change Values      F9   Setup Defaults
  ESC   Exit      ←→  Select Menu     Enter  Select ► SubMenu   F10  Save and Exit
```
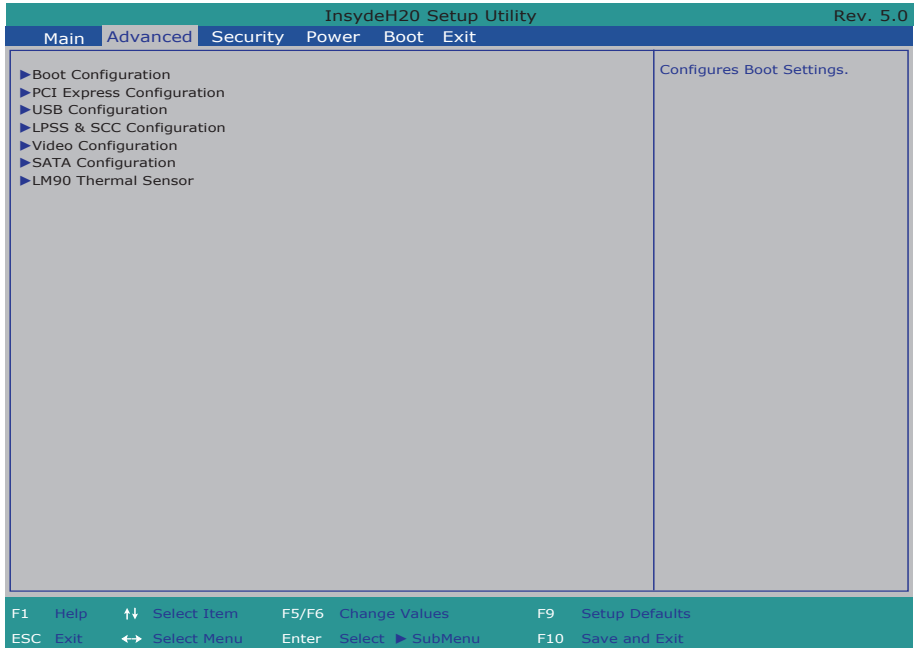
The featured settings and submenus are:

Setting	Description
Boot Configuration	See 5.2.1. Boot Configuration on page 55.
PCI Express Configuration	See 5.2.2. PCI Express Configuration on page 55.
USB Configuration	See 5.2.3. USB Configuration on page 55.
LPSS & SCC Configuration	See 5.2.4. LPSS & SCC Configuration on page 56.
Video Configuration	See 5.2.5. Video Configuration on page 56.
SATA Configuration	See 5.2.6. SATA Configuration on page 57.
LM90 Thermal Sensor	See 5.2.7. LM90 Thermal Sensor on page 58.

5.2.1. Boot Configuration

Setting	Description
Numlock	Select Power-on state for Num lock.

5.2.2. PCI Express Configuration

Configures PCI Express by the following settings:

Setting	Description
PCI Express Root Port 1/2/3/4	▶ PCI Express Root Port Enables/disables this PCIe port. ▶ PCIe Port Speed Options are: Auto (default), Gen 1, Gen 2 ▶ PCIe Port ASPM Support Automatically enable ASPM based on reported capabilities and known issues. Options are: Disabled : disables ASPM L0s : force all links to L0s state L1 : force all links to L1 state L0sL1 : force all links to L0s+L1 state Auto : BIOS auto configure (default)

5.2.3. USB Configuration

Select this submenu to view the status of the USB ports and configure USB features.
The featured settings are:

Setting	Description
USB BIOS Support	Enables/Disables USB keyboard/mouse/storage support under UEFI and DOS environment. It will support UEFI environment only if set to UEFI only.
XHCI Pre-Boot Mode Support	Enables/Disables XHCI Pre-Boot mode support
xHCI Mode	Set the mode of operation of xHCI controller Options are Disabled/Enabled/Auto(default)/Smart Auto/Best Auto
Win 7 Uninstall XHCI driver workaround	Enables/Disables Win 7 Uninstall XHCI driver workaround. When enabled, Win 7 USB (EHCI) still can work after uninstall XHCI driver, but WHCK test will fail.
XCHI Controller	Enables/Disables XHCI controller
USB2 Link Power Management	Enables/Disables USB2 Link Power Management.
EHCI Controller	Enables/Disables EHCI controller
USB EHCI debug	Enables/Disables PCH EHCI debug capability.

5.2.4. LPSS & SCC Configuration

Setting	Description
LPSS & SCC Devices Mode	Sets LPSS & SCC Devices as ACPI or PCI mode.
OS Selection	Sets the OS. Options are Windows (default) /Android. Do not select Android as it is not supported by ASLAN-W810/812C.

5.2.5. Video Configuration

Select this submenu to configure the Video settings:

5.2.5.1 Video Configuration

Setting	Description
Logo & SCU Resolution	Set Logo & SCU Resolution. Options are Auto/640 x480/800 x 600/1024 x 768
Multi EDID Support	Enables/Disables Multi EDID Support for BIOS Video [INT10] driver.

5.2.5.2 VBT Hook Configuration

Setting	Description
Configure CRT as	Sets the option of CRT. Options are Default / CRT / No Device
Configure DDI0 as	Sets the option of DDI0. Options are Default/DisplayPort/ HDMI/DVI /DisplayPort with HDMI/DVI Compatible / No Device
Configure DDI1 as	Sets the option of DDI1. Options are Default/ LVDS/ DisplayPort/ HDMI/DVI /DisplayPort with HDMI/DVI Compatible / No Device
Configure eDP Panel Number as	Sets the option of VBIOS eDP Panel Number. Options are 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16
LFP EDID Support	Enables/Disables LFP EDID Support
EFP EDID Support	Enables/Disables EFP EDID Support

5.2.5.3 PTN3460 (eDP to LVDS) Configuration

Setting	Description
PTN3460 Output Format	Set the Output Format of PTN3460. Options are (00) VESA (24bpp) / (01) VESA or JEIDA (18bpp) / (10) JEIDA (24bpp) / (11) JEIDA (24bpp)
PTN3460 Channel Control	Sets the Channel mode of PTN3460. Options are Single/Dual
PTN3460 EDID Table	Sets the EDID Table of PTN3460

5.2.6. SATA Configuration

Select this submenu to configure the SATA controller.

Setting	Description
SATA Controller(s)	Enables/disables the present SATA controller. ▶ **Enabled** is the default.
Chipset SATA Mode	Configures how to run the SATA drives. ▶ Options available are **AHCI** (default) and **IDE**.
SATA Speed	Sets SATA speed. ▶ Options available are **Gen1** and **Gen2** (default).
SATA Port 0 Hot Plug Capability	Enables/disables hot-pluggable feature for the SATA port. ▶ **Disabled** is the default.
SATA Port 1 Hot Plug Capability	
SATA Port 0 Connect to an ODD	Enables/disables the SATA port connected to an ODD. If enabled, when you connect an ODD to a SATA port.
SATA Port 1 Connect to an ODD	The software auto detection for media insert and tray will be enabled. ▶ **Disabled** is the default.
Serial ATA Port 0	Delivers the SATA port Media information
Serial ATA Port 1	

5.2.7. LM90 Thermal Sensor

Displays the LM90 thermal sensor information.

Setting	Description
Local Temperature	Displays Local Temperature
Remote Temperature	Displays Remote Temperature
Thermal Status	Display Thermal Status

5.3. Security

The **Security** menu sets up the password for the system's supervisor account. Once the supervisor password is set up, this BIOS Setup utility is limited to access and will ask for the password each time any access is attempted.

InsydeH20 Setup Utility					Rev. 5.0
Main	Advanced	Security	Power	Boot	Exit

Supervisor Password   Not Installed

Set Supervisor Password

Install or Change the password and the length of password must be greater than one character.

F1	Help	↑↓	Select Item	F5/F6	Change Values	F9	Setup Defaults
ESC	Exit	↔	Select Menu	Enter	Select ▶ SubMenu	F10	Save and Exit
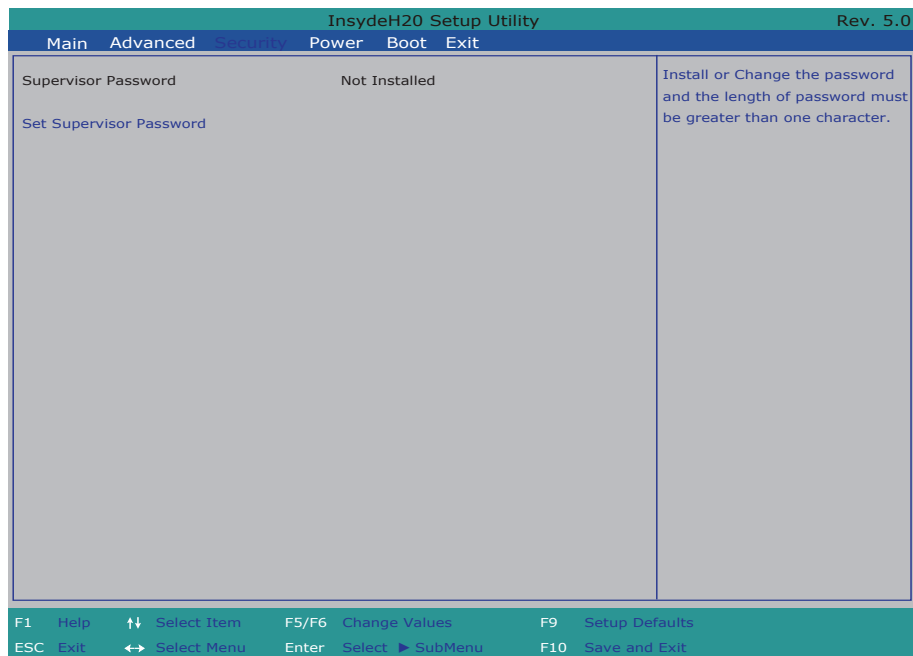
The featured setting is:

Setting	Description
Set Supervisor Password	To set up an administrator password: 1. Select **Set Administrator Password**. An **Set Administrator Password** dialog then pops up onscreen. 2. Enter your desired password that is no less than 3 characters and no more than 20 characters. 3. Hit [Enter] key to submit.

5.4. Power

The Power menu sets up the power option of system.

```
                           InsydeH20 Setup Utility                    Rev. 5.0
    Main    Advanced   Security   Power   Boot   Exit

                                                          Determines the action taken
                                                          when the system power is off
    Wake on PME                      <Enabled>            and a PCI Power Management
    Power on after Power Fail        <Enabled>            Enable wake up event occurs.
    S5 Wake on RTC                   <Disabled>

    F1    Help       ↑↓  Select Item    F5/F6  Change Values      F9    Setup Defaults
    ESC   Exit       ↔  Select Menu     Enter  Select ► SubMenu   F10   Save and Exit
```
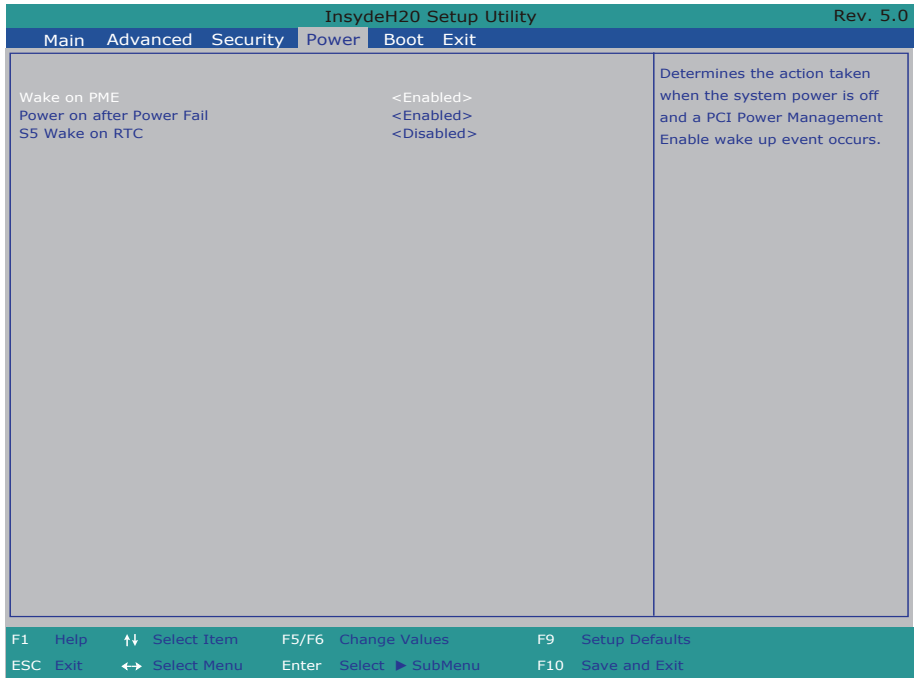
Setting	Description
Wake on PME	Enables or disables Wake on PME. Determines the action taken when the system power is off and a PCI Power Management Enable wake up event occurs.
Power On After Power Fail	Specify what state to go to when power is reapplied after a power failure.
Power On After Power Fail	Wake on RTC from S5 state, by day of Month or fix time of every day. Options are Disabled(default) / By Every Day / By Day of Month.

5.5. Boot

The **Boot** menu configures how to boot up the system such as the configuration of boot device priority.

```
                        InsydeH20 Setup Utility                    Rev. 5.0
   Main    Advanced   Security   Power   Boot   Exit

 Boot Type                        <Dual Boot Type>          Select boot type to Dual type.
 Network Stack                    <Disabled>                Legacy type or UEFI type
 PXE Boot capability              <Disabled>
 ACPI Selection                   <ACPI 4.0>
 EFI/Legacy Device Order          <Smart Mode>

 ▶EFI
 ▶Legacy




 F1    Help         ↑↓  Select Item    F5/F6  Change Values      F9    Setup Defaults
 ESC   Exit         ↔   Select Menu    Enter  Select ▶ SubMenu   F10   Save and Exit
```
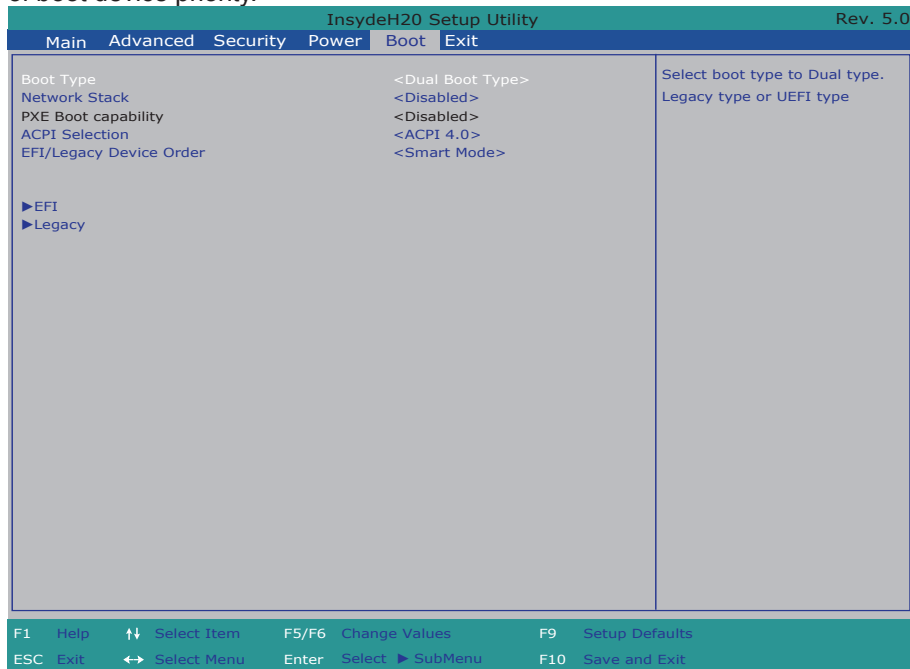
The featured settings are:

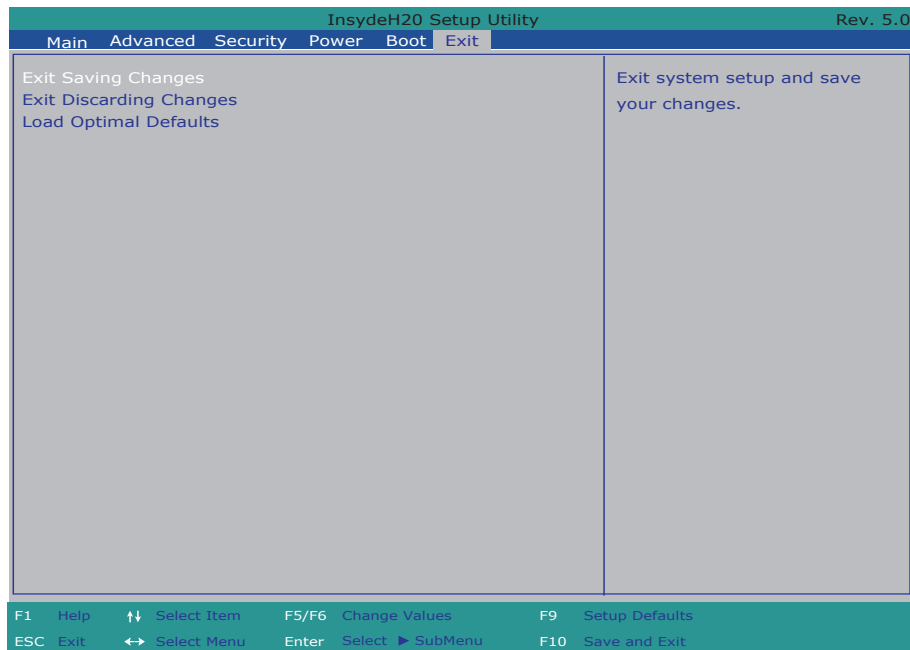| Setting	Description
Boot Type	Sets Boot Type. Options are Dual Boot Type (default), Legacy Boot Type and UEFI Boot Type.
Network Stack	Disables (default) or enables Network Stack Support, including Windows 8 BitLocker Unlock, UEFI IPv4/IPv6 PXE and Legacy PXE OPROM.
PXE Boot Capability	Disables or enables PXE boot capability.
APCI Selection	Sets booting to Acpi 3.0/Acpi 1.0B Options are Acpi 1.0B/Acpi 3.0/Acpi 4.0/Acpi 5.0
EFI/Legacy Device Order	Determines EFI device first or legacy device first. Options are EFI device first, Legacy device first and Smart Mode (default).
EFI	Displays Internal EFI Shell.

Legacy	Sets boot device priority.
Normal Boot Menu	Selects Normal Boot Option Priority or Advance Boot Option Priority.
Boot Type Order	Changes boot type order.
Hard Disk Drive	Changes CD/DVD-ROM drive boot order.

5.6. Exit

The **Exit** menu features a handful of commands to launch actions from the BIOS Setup utility regarding saving changes, quitting the utility and recovering defaults.

InsydeH20 Setup Utility					Rev. 5.0
Main	Advanced	Security	Power	Boot	Exit

```
Exit Saving Changes                                    Exit system setup and save
Exit Discarding Changes                                your changes.
Load Optimal Defaults
```

F1	Help	↑↓	Select Item	F5/F6	Change Values	F9	Setup Defaults
ESC	Exit	↔	Select Menu	Enter	Select ► SubMenu	F10	Save and Exit

The features settings are:

Setting	Description
Exit Saving Changes	Exit system setup after saving the changes. ► Enter the item and then a dialog box pops up: **Exit Saving Changes?**
Exit Discarding Changes	Exit system setup without saving any changes. ► Enter the item and then a dialog box pops up: **Exit Discarding Changes?**
Load Optimal Defaults	Restore/Load Default values for all the setup options. ► Enter the item and then a dialog box pops up: **Load Optimized Defaults?**

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Appendices

Appendix A: Wi-Fi Module Hardware Installation

To use Wi-Fi, hardware-wise the computer needs a Wi-Fi module installed, and software-wise the computer needs the device driver and an application program. This appendix will guide you to install the Wi-Fi module and the device driver.

1. Access the inside of the computer as described in 4.1.1. Disassemble the Computer on page 38.

2. The mini-card socket for installing the Wi-Fi module is beneath the mSATA socket. If mSATA module has been installed, you will need to remove the mSATA module first.

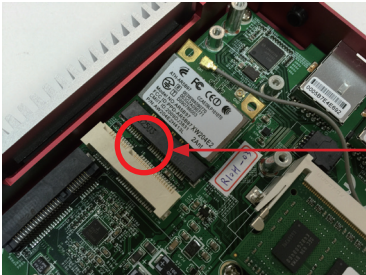Mini-card socket for Wi-Fi module
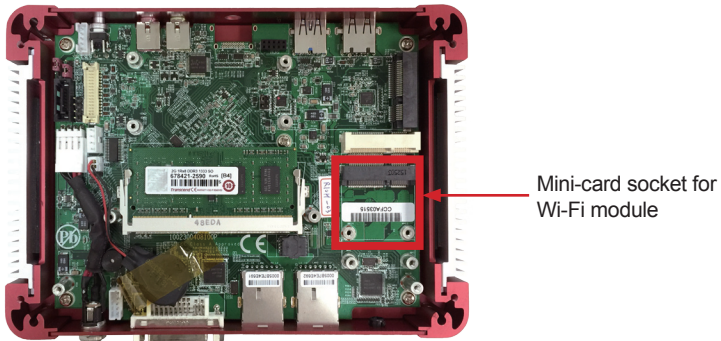
3. Prepare the Wi-Fi module kit. The module is a half-size module of PCI Express Mini-card form factor, with two small connectors for wireless antenna cables.

Connector for attaching antenna cable

Antenna cable

Nut

Washer

SMA end
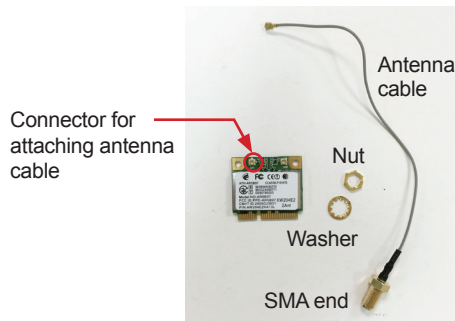
4. Connect the antenna cable's connector to the connector on the mini-card labeled "CH1".

CH1 connector
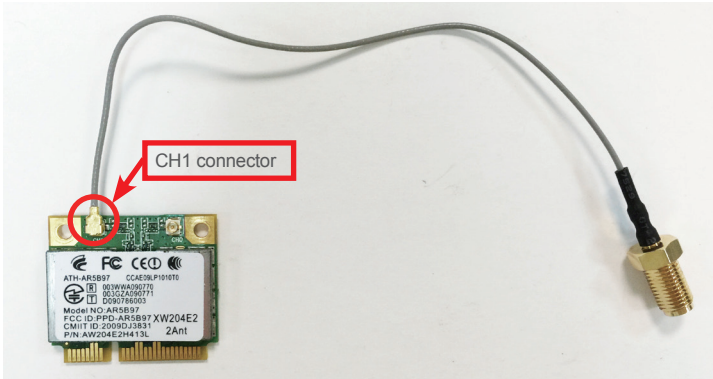
5. Align the Wi-Fi module with the socket; notches of the Wi-Fi module must match the socket keys for a correct installation.
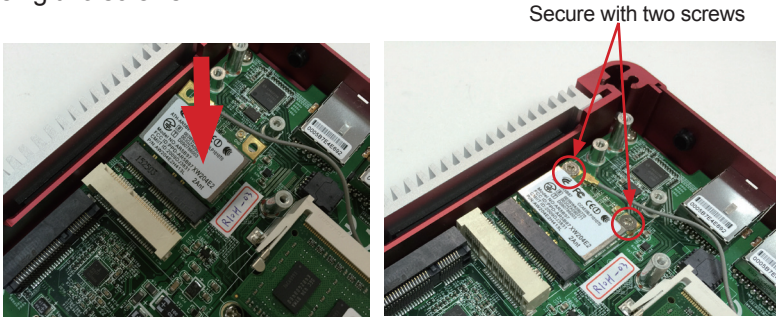

Align the notch on the Wi-Fi module with the notch in the mini-card socket.

6. By a slanted angle, fully insert the Wi-Fi mini-card until it cannot be inserted any more.

7.   Press down the end of the Wi-Fi mini-card and then fix the card in place using two screws.

Secure with two screws

8.   Thread the SMA end of antenna cable through the ANT hole. Note that the SMA connector comes in the form of a threaded bolt, with one flat side. Make sure to align the connector's flat side with the hole's flat side.

Flat side of the connector
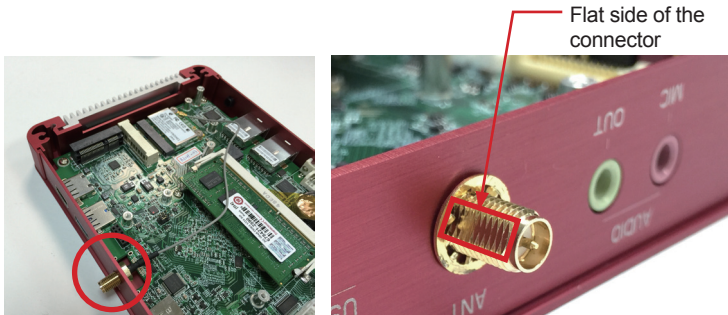
9.   Mount the washer first and then the nut to the SMA connector. Rotate the washer to fix the antenna cable to the case.

10. Restore the mSATA module as described in .

11. Reassembly the compuer as described in .

12. Prepare the external antenna. Screw and tightly fasten the antenna to the SMA connector. Then swivel the antenna to an angle of best signals.