

User Manual

ECS SI mPC



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Version 1.0

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Regulatory Compliance Information

FCC Declaration of Conformity

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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

This device meets the government's requirements for exposure to radio waves.

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government, Industry Canada, and other national regulatory agencies.

Any special accessories needed for compliance must be specified in the instruction manual. Use only shielded and terminated cables to connect I/O devices to this equipment.



Warning!

Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.

MPE 警語

Exposure to Radio Frequency Radiation:

To comply with FCC RF exposure compliance requirements, a separation distance of at least 20cm must be maintained between the antenna of this device and all persons. This device must not be co-located or operating conjunction with any other antenna or transmitter.

CE, FCC, NCC RF 警語

USA RF: FCC Caution

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Canada RF: IC Caution

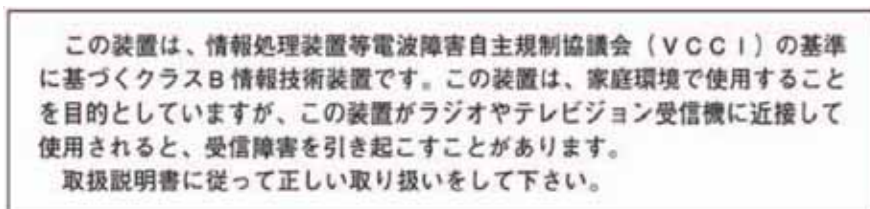
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

Taiwan RF: NCC Caution

本產品符合低功率電波輻射性管理辦法 第十二條、第十四條等條文規定

1. 經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。
2. 低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。前項合法通信，指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

Japan VCCI Statement



電磁波曝露量 MPE 標準値 $1\text{mW}/\text{cm}^2$ ，送測產品實測值為： $0.0941\text{mW}/\text{cm}^2$

CE mark. Declaring compliance to all the applicable European Union (EU) Directives.



Waste disposal instruction



廢電池請回收

Do not throw this electronic device into the trash can when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle it in European WEEE (waste electrical and electronic equipment) directive system or recycle system in Taiwan.

South Korea EMC: Class B Notice

가 (B)
가

South Korea RF: Warning statement

가

Korea Certification mark. Includes an adjacent MSIP
(Ministry of Science, ICT & future planning)
certification number.



Packing List

Before setting up the system, check that the items listed below are included and in good condition. If any items are missing, please contact your dealer immediately.

- ECS SI mPC x1
- Adapter x1
- User Manual x1
- Antenna x2 (Optional)
- VESA Mount Bracket x1 (Optional)

Warning!



*To prevent electric shock, Do not remove cover.
No user serviceable parts inside, refer servicing to qualified personnel.*

Attention!



*Pour éviter un choc électrique, ne pas retirer le couvercle.
Aucune pièce réparable par l'utilisateur, voir l'entretien à du personnel qualifié.*

Additional Information and Assistance

1. Visit the ECS websites at www.ECS.com.tw where you can find the latest information about the product.
2. Contact your distributor, sales representative, or ECS's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages
 - This equipment is a source of electromagnetic waves. Before use, please make sure that there are not EMI sensitive devices in its surrounding which may malfunction therefore

Warning!



1. *Input voltage rated 100-240V~, 50~60Hz, 0.9A max
Output Voltage rated 3.0A, 12Vdc*
2. *Maintenance: to properly maintain and clean the surfaces, use only approved products or clean with a dry applicator*

Attention!



1. *Tension de sortie Tension d'entrée nominale 100-240V~,
50-60Hz, 0.9A max, la note de 3.0A, 12Vdc*
2. *Entretien: bien entretenir et nettoyer les surfaces, utiliser uniquement des produits approuvés ou nettoyer avec un applicateur sec*

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warning on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. 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 and damaged.
 - f. The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. If your computer is losing time significantly or the BIOS configuration resets itself to be default, the battery may have no power.
17. **IMPROPER INSALLATION OF VESA MOUNTING CAN RESULT IN SERIOUS PERSONAL INJURY!** VESA mount installation should be performed by a professional technician; please contact the service technician or your retailer if you need this service.
18. Maintenance: to properly maintain and clean the surfaces, use only the approved products or clean with a dry applicator.

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Chapter 1

System Information

1.1 Introduction

The product has onboard Intel® Bay Trail-M SoC for personal micro desktop markets or educational usage.

Below is a brief summary of the computer's many feature:

NOTE:

The features listed in this section is for your reference only. The exact configuration of the system depends on the model purchased.

1.2 Specifications

Item	Description
CPU/SoC	Intel® Bay Trail-M SoC Celeron N2830 TDP 7.5W
Memory	1 x DDR3L SO-DIMM socket, Max 8GB
Expansion Slot	1 x Half-size mini-PCIe slot (supports mSATA, USB & PCIe signal)
Storage	1 x SATA 3GB/s Connector
Audio Chip	Realtek ALC283-CG
LAN Chip	10/100/1000 Mbps support (Ethernet port), Realtek RTL8111G
Front Port I/O	2 x USB 3.0 ports (Type-A) 1 x IR
Rear I/O	1 x HDMI port (A type) 1 x RJ45 LAN connector 2 x USB 2.0 ports 1 x 12V DC jack 1 x Audio jack (Mic In/Line out)
Internal I/O connectors & headers	1 x 4-pin CPU FAN 1 x Serial ATA 3Gb/s connector 1 x 5-pin SATA PWR connector 1 x 2-pin Battery connector 1 x 3-pin CLR CMOS 1 x Power ON LED 1 x Logo LED header 1 x 2-pin Wireless charger header (Not Support) 1 x 4-pin Speaker 1 x 8-pin NFC header
System BIOS	64Mb SPI ROM
Form Factor	mPC-A 116.6*112*45.6 mm 0.595L mPC-AH 116.6*112*55.6 mm 0.726L
Optional Device	Storage type: 2.5" HDD, Half-size mini-PCIe mSATA SSD, SATADOM WLAN: 802.11b/g/n + Bluetooth4.0 NFC: URAT interface Wireless Charger: Compatible with Qi (Not Support) Speaker: Internal speaker 1Wx2

Item	Description
Adapter	ASIAN POWER DEVICES INC. 12V, 3A, 36W WA-36A12FU-AAAM WA-36A12FG-AAAA WA-36A12FK-AAAA WA-36A12FS-AAAA WA-36A12FN-AAAA
	KUANTECH INCORPORATED COMPANY 12V, 3A, 36W KSAS0361200300D5 KSAS0361200300HU KSAS0361200300HE KSAS0361200300HK KSAS0361200300HA

1.3 Cleaning/Disinfecting

During normal use ECS SI mPC may become soiled and should, therefore, be cleaned regularly.

Steps:

1. Wipe ECS SI mPC with a clean cloth that has been moistened in the cleaning solution.
2. Prepare agent per manufacturer's instructions or hospital protocol.
3. Wipe thoroughly with a clean cloth.

Caution! Do not immerse or rinse ECS SI mPC or its peripherals. If you accidentally spill liquid on the device, disconnect the unit from the power source. Contact your Biomed personnel regarding the continued safety of the unit before placing it back in operation.



Do not spray cleaning agent on the chassis.

Do not use disinfectants that contain phenol.

Do not autoclave or clean ECS SI mPC or its peripherals with strong aromatic, chlorinated, ketone, ether, or other solvents, sharp tools or abrasives. Never immerse electrical connectors in water or other liquids.

Attention! Ne pas immerger ou rincer ECS SI mPC ou ses périphériques. Si vous renversez par accident un liquide sur l'appareil, débranchez l'appareil de la source d'alimentation. Contactez votre Biomed concernant la sécurité continue de l'unité avant de la remettre en service.



Ne pas pulvériser l'agent de nettoyage sur le châssis.

Ne pas utiliser de désinfectants contenant du phénol.

Ne pas passer à l'autoclave ou ECS SI mPC propre ou ses périphériques avec fortes, cétone, éther, ou d'autres solvants, des outils tranchants ou abrasifs aromatiques chlorés. Ne jamais plonger connecteurs électriques dans l'eau ou d'autres liquides.

Chapter 2

Getting Started

2.1 System Tour

Before you start to set up system, take a moment to become familiar with the location and purposes of the controls, drives, connections and ports, which are illustrated in the figures below.

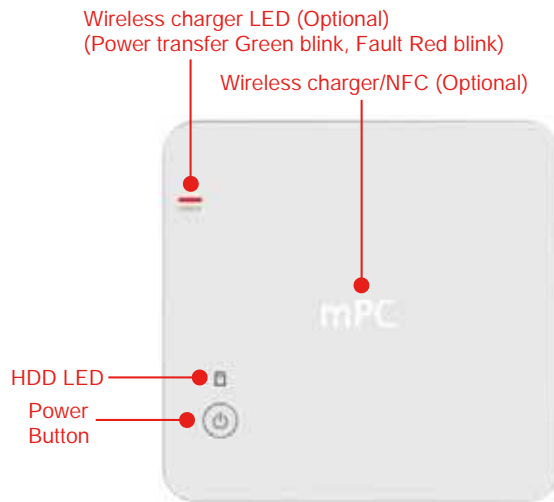


Figure 2.1 Top View

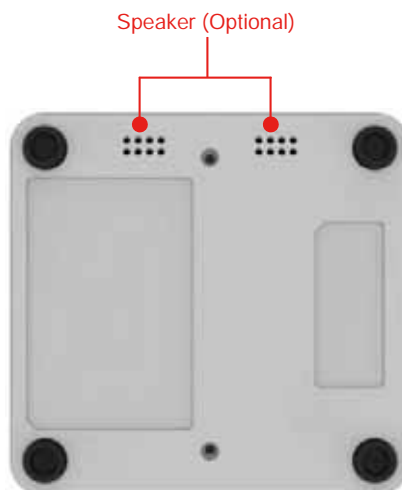


Figure 2.2 Bottom View

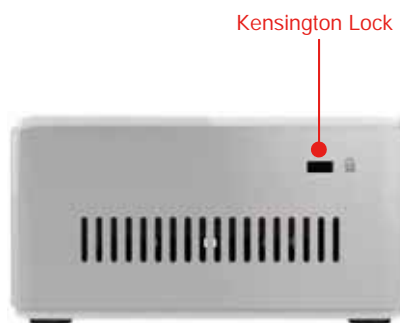


Figure 2.3 Side View

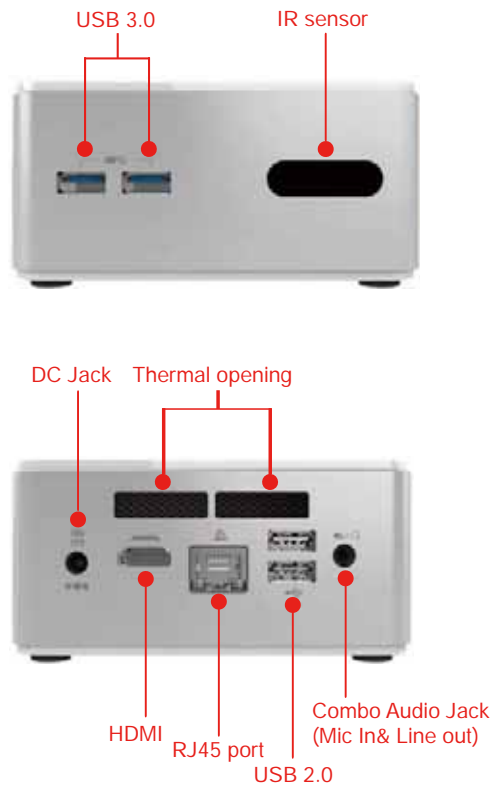
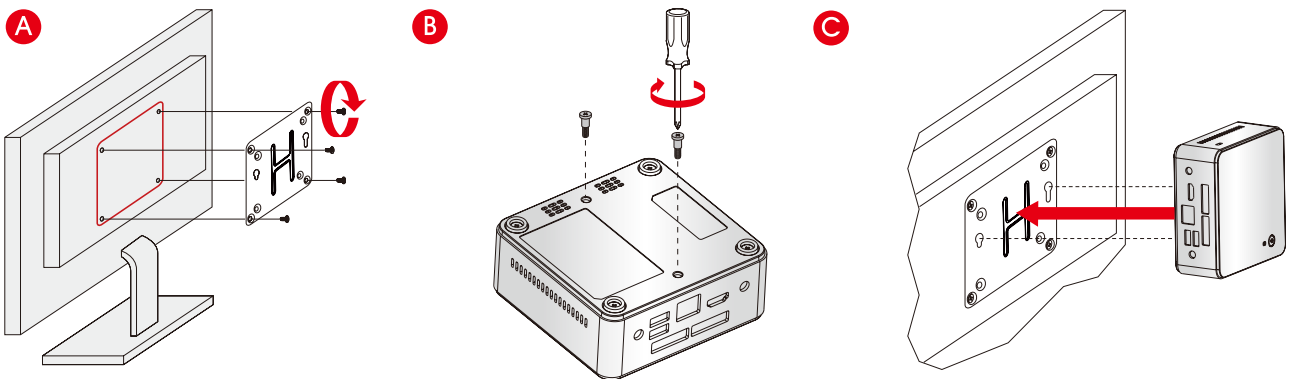


Figure 2.4 IO Side View

Install the VESA Mount



2.2 Distribution Description

The operating system is based on Windows .1 64bit / FreeDOS.

2.3 Powering the System

Connecting a 12V adapter to the DC-In jack, the system will start up automatically.



Figure 1: Location of DC-In jack.

Chapter 3

Hardware Installation

3.1 other oard Introduction

other oard Components

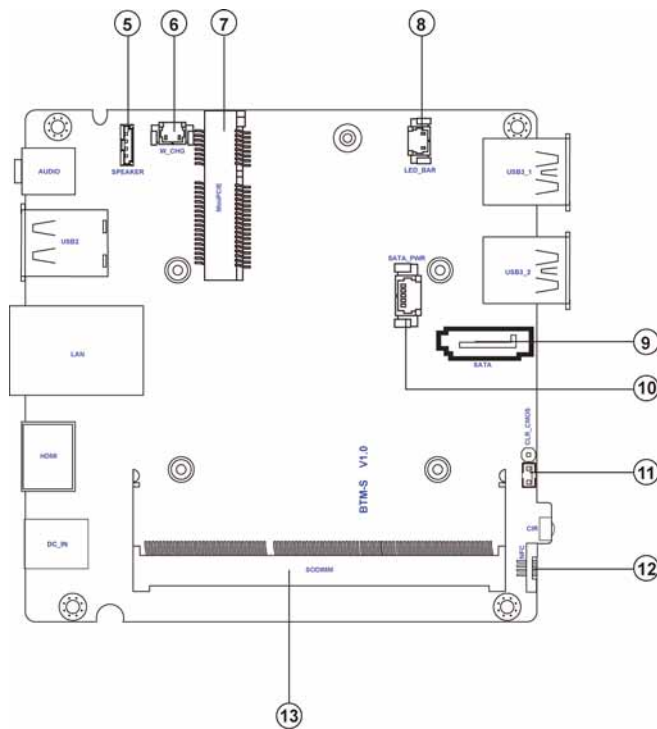
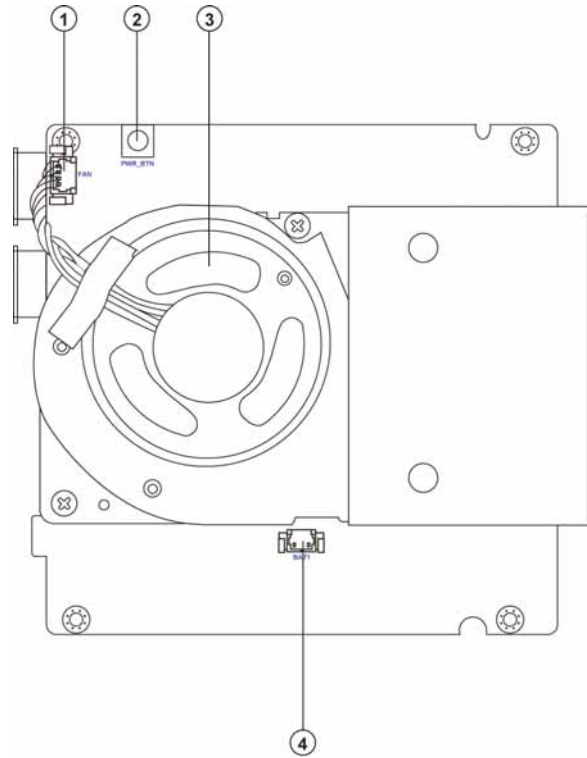
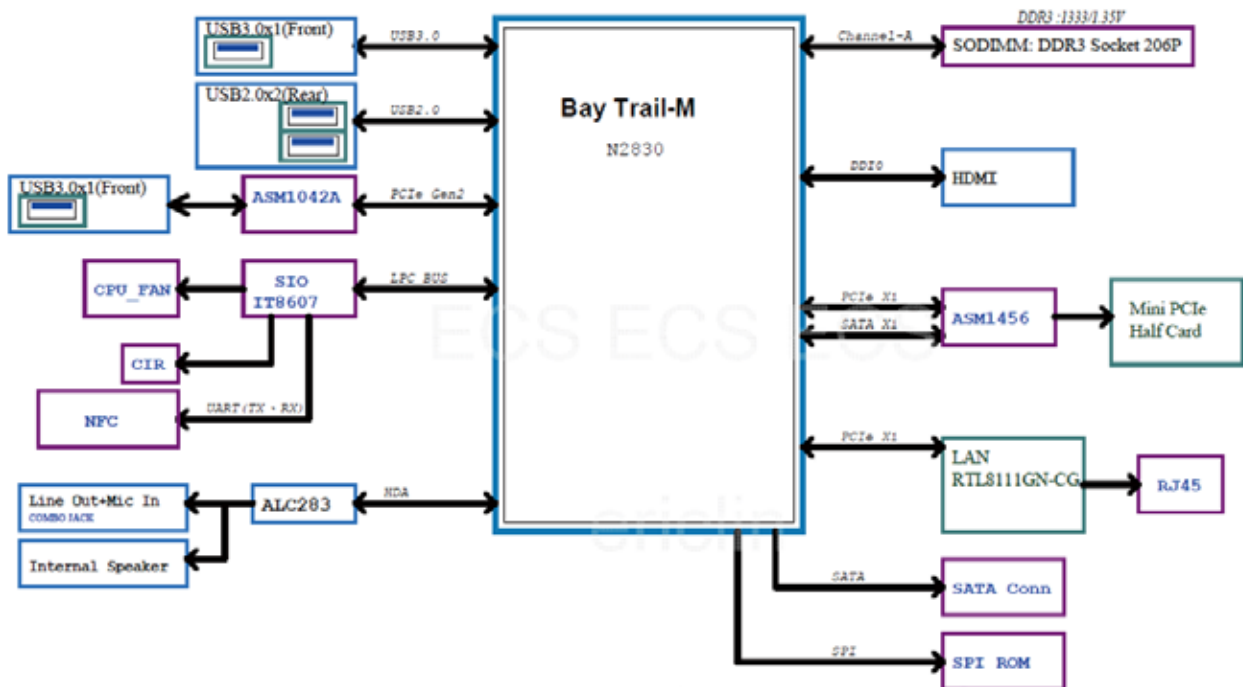


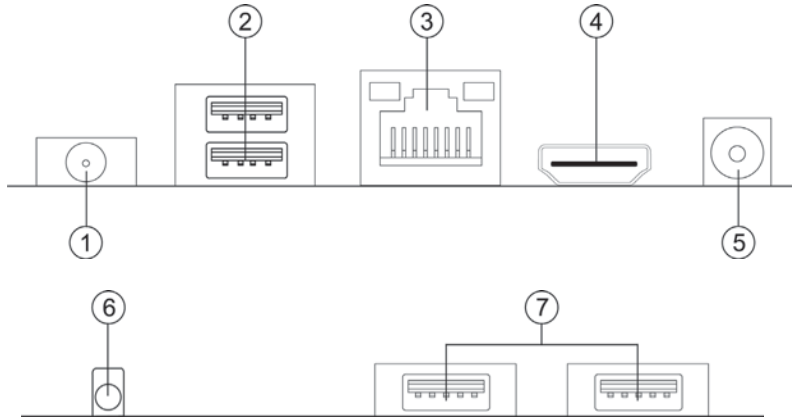
Table of Contents

Bay	Components
1. FAN	System cooling fan connector
2. PWR_BTN	Power button
3. System Fan	System Fan
4. BAT1	Battery connector
5. SPEAKER	Speaker connector
5. W_CHG	Wireless charger connector
6. MiniPCIE	1 M.2 slot (half card supports mSATA, USB & PCIe signal)
7. LED_BAR	Logo LED connector
8. SATA	Serial ATA connector
9. SATA_PWR	SATA power connector
10. CLR_CMOS	Clear CMOS jumper
11. NFC	NFC connector
12. SODIMM	204-pin DDR3 SDRAM SO-DIMM

Block Diagram



I/O ports



1. Combo audio jack In/Line Out

Use the combo audio jack to connect the microphone, speaker or headphone.

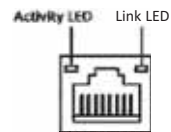
2. SB2. USB 2.0 ports

Use the USB 2.0 ports to connect USB 2.0 devices.

3. LAN port

Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

LED	Status	Description
Activity LED	OFF	No data
	Orange blinking	Active
Link LED	OFF	No link
	Green	Link



4. Display port

Connect the display device to the HDMI port.

5. DC 12V jack

Connect the DC IN jack to the power adapter.

6. CI

It is customer IR sensor.

7. SB3. USB 3.0 ports

Use the USB 3.0 ports to connect USB 3.0 devices.

3.2 Installing the other oard

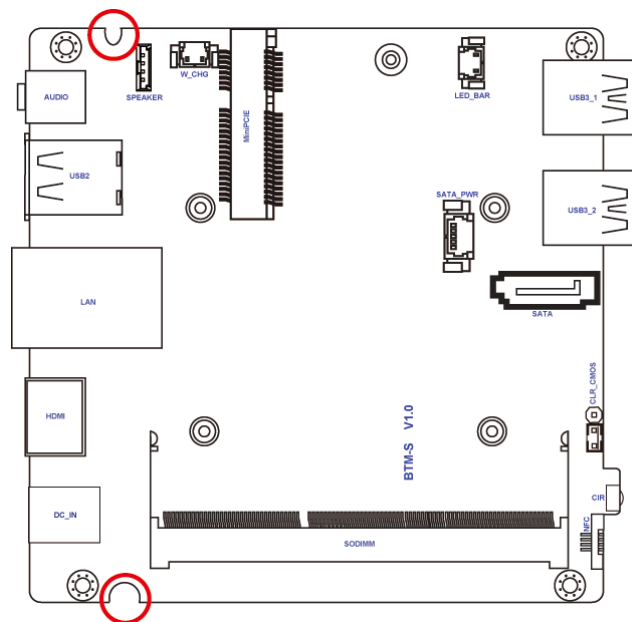
1. Safety Instructions

Follow these safety precautions when installing the motherboard:

- Wear a grounding strap attached to a grounded device to avoid damage from static electricity.
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard.
- Leave components in the static-proof bags.
- Always remove the AC power by unplugging the power cord from the power outlet before or removing the motherboard or other hardware components.

2. Installing the mother oard in a Chassis

1. Aim four locating holes of the BTM-S motherboard.
2. Use four screws to secure the motherboard.



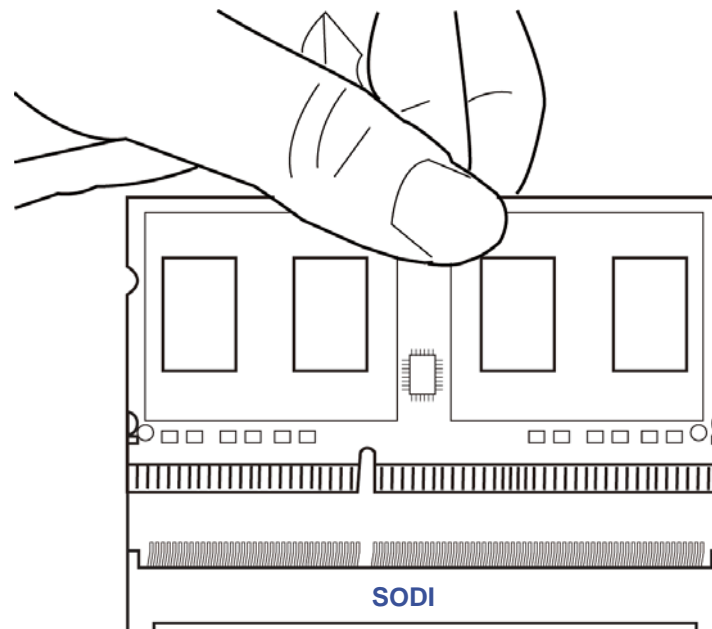
Do not over-tighten the screws as this can stress the motherboard.

3. Installing hardware

Installing Memory Modules

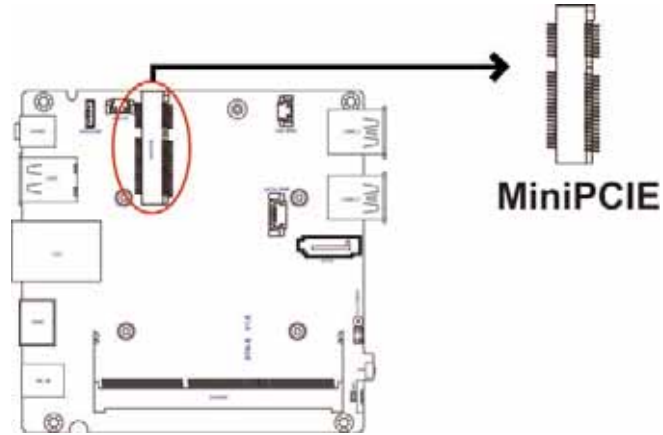
- This motherboard accommodates one memory module. It can support one 204-pin DDR3L 1333/1066 MHz.
- Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.
- You must install at least one module in any of the four slots. Total memory capacity is 8 GB.
- Refer to the following to install the memory modules.

Install the DIMM module into the slot and press it firmly down until it seats correctly. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.



Installin A on Ca s

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



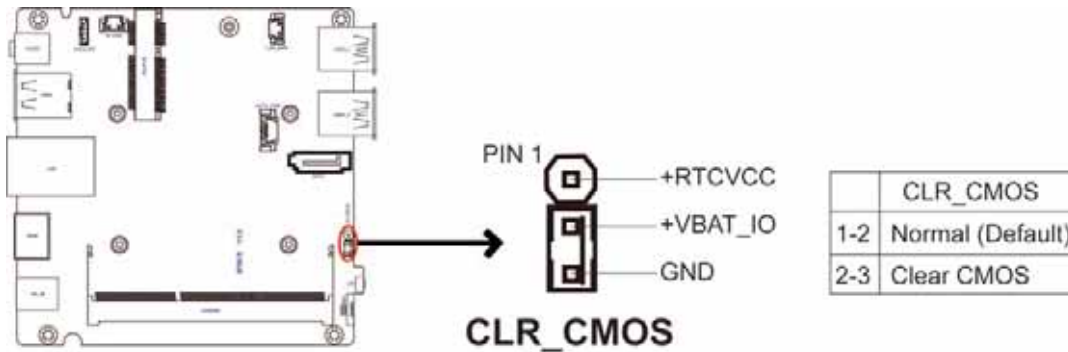
ini CI Slot The mini PCI Express x1 slot is for extending usage which supports half-card, and it supports mSATA, USB & PCIe signal.



Before installing an add on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Check the Settings

This section explains how to set jumpers for correct configuration of the motherboard.

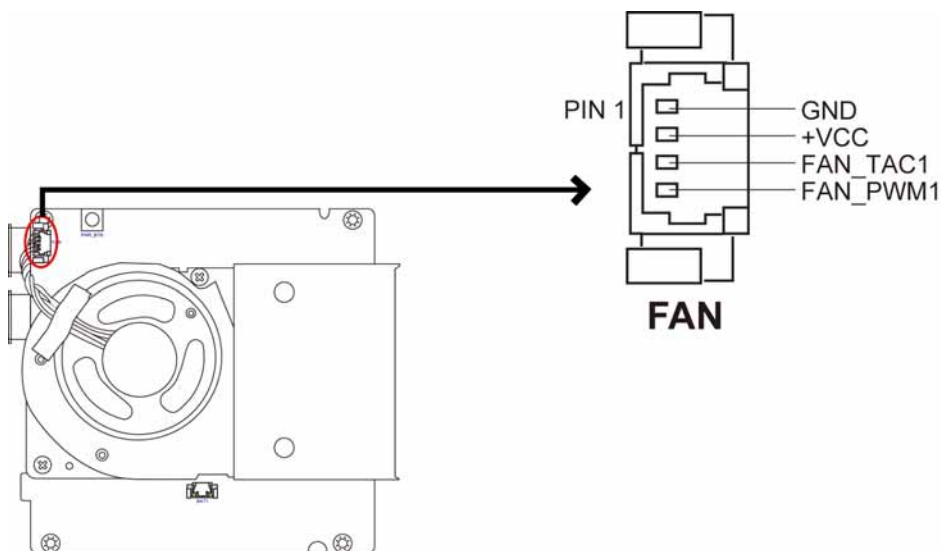


Connect the Motherboard's Devices

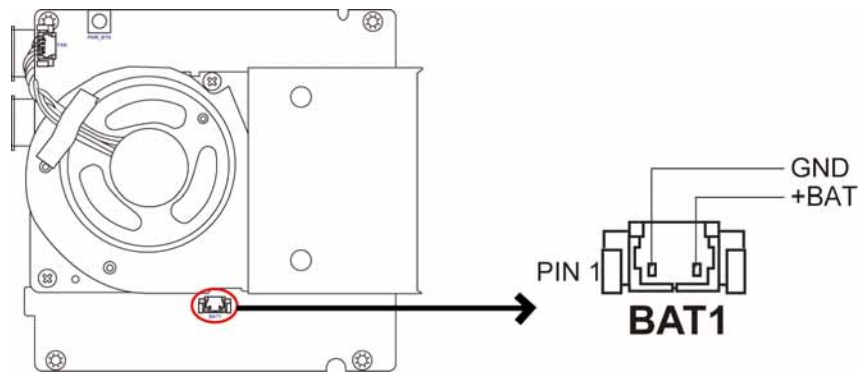
Refer to the following for information on connecting the motherboard's devices.

1. F System cooling fan connector

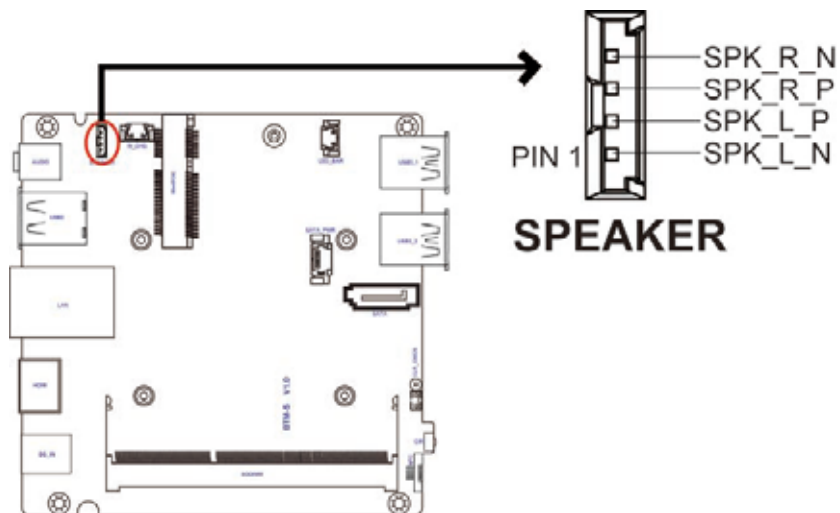
Connect the system cooling fan to the FAN connector.



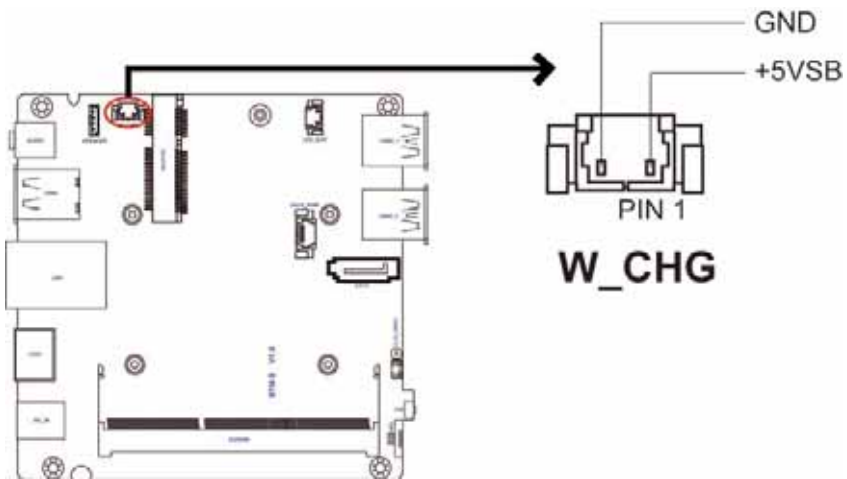
2. B T1 Battery connector



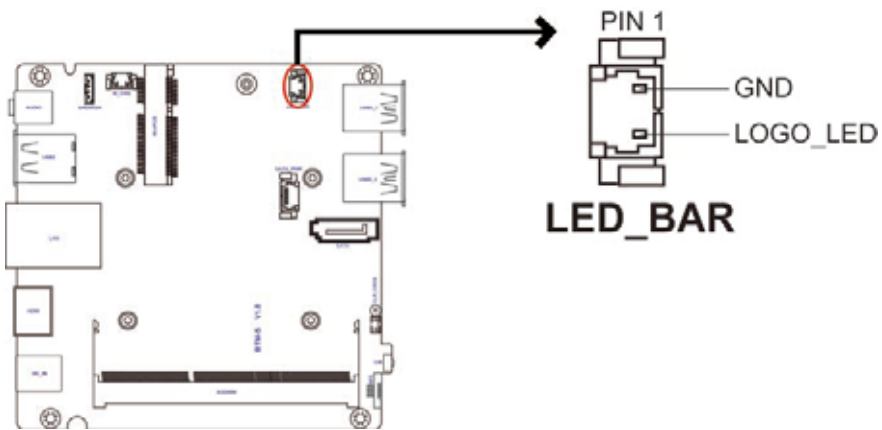
3. S Speaker connector



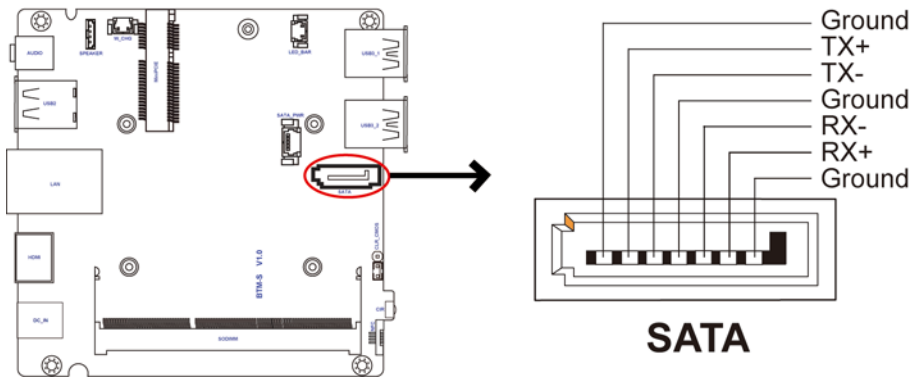
4. C G ireless charger connector



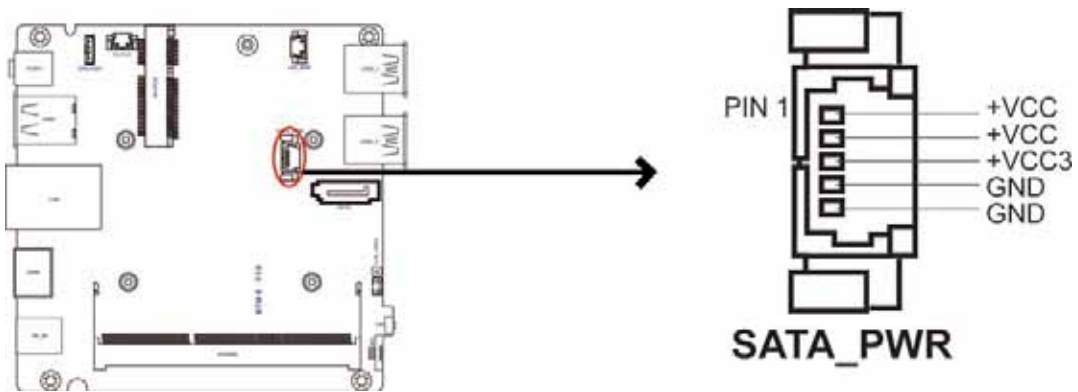
. D B ogo D connector



. S T Serial T connector



. S T S T power connector



8. NFC: NFC connector

