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TMC 7200



Version 1.1 Nov. 2020

USER MANUAL

TMC7200

7" Integrated Handy POS with Intel[®] Atom[®] Z8550 Quad Core[™] CPU

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Manual Version 1.1

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DISCLAIMER

This user's manual is meant to assist users in installing and setting up the system. The information contained in this document is subject to change without any notice.

CE NOTICE

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 NOTICE

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.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.



CAUTION: Danger of explosion may occur when the battery is incorrectly replaced. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



WARNING: Some internal parts of the system may have high electrical voltage. We strongly recommend that only qualified engineers are allowed to service and disassemble the system. If any damages should occur on the system and are caused by unauthorized servicing, it will not be covered by the product warranty.

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Revision History

The revision history of TMC7200 User Manual is described below:

Version No.	Revision History	Date
1.0	Initial Release	08/2020
1.1	Add 4-slot Charging Dock & Rotatable Hand Strap	11/2020

1 Introduction

This chapter provides the introduction for the TMC7200 system as well as the framework of the user manual.

The following topic is included:

- About This Manual

1.1 About This Manual

Thank you for purchasing our TMC7200 system. The TMC7200 provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you how to install and set up the whole system. It contains 4 chapters. Users can configure the system according to their own needs. This user manual is intended for service personnel with strong hardware background. It is not intended for general users.

The following section outlines the structure of this user manual.

Chapter 1 Introduction

This chapter provides the introduction for the TMC7200 system as well as the framework of the user manual.

Chapter 2 Getting Started

This chapter describes the package contents and outlines the system specifications. Read the safety reminders carefully on how to take care of your system properly.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installations of the Intel Chipset Software Installation Utility, Audio Realtek Driver Utility, G-Sensor Driver Utility, Bluetooth Driver Utility.

Chapter 4 BIOS Setup

This chapter indicates how to change the BIOS configurations.

2 Getting Started

This chapter provides the information for the TMC7200 system.

The following topics are included:

- Package List
- System Diagrams
- Specifications
- Safety Precautions

2.1 Package List

If you discover any of the items listed below are damaged or lost, please contact your local distributor immediately.

Tablet:

Item	Q'ty
TMC7200(with battery)	1
Quick Reference Guide	1
Hand Strap	1
Wrist Strap	1
Card reader or MSR (Optional)	1
2D Scanner (Optional)	1
Retractable leash(Optional)	1
Rotatable Hand Strap(Optional)	1

Charging Dock

Item	Q'ty
TMC7000-CHARGER	1
Quick Reference Guide	1
AC Power Adapter	1
International Plug	1
Metal Plate	1

4-slots Charging Dock

Item	Q'ty
TMC7000-4 slots CHARGER	1

2.2 System Overview

Unit: mm



Tablet+ Charging dock



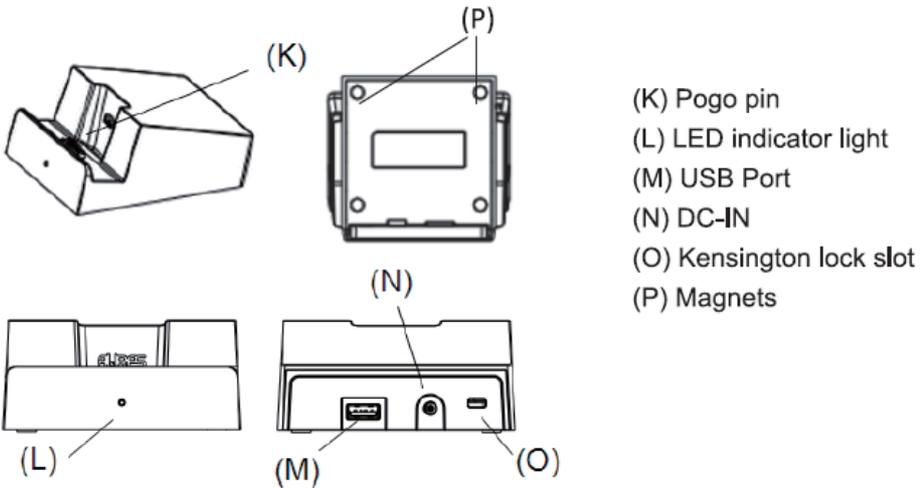
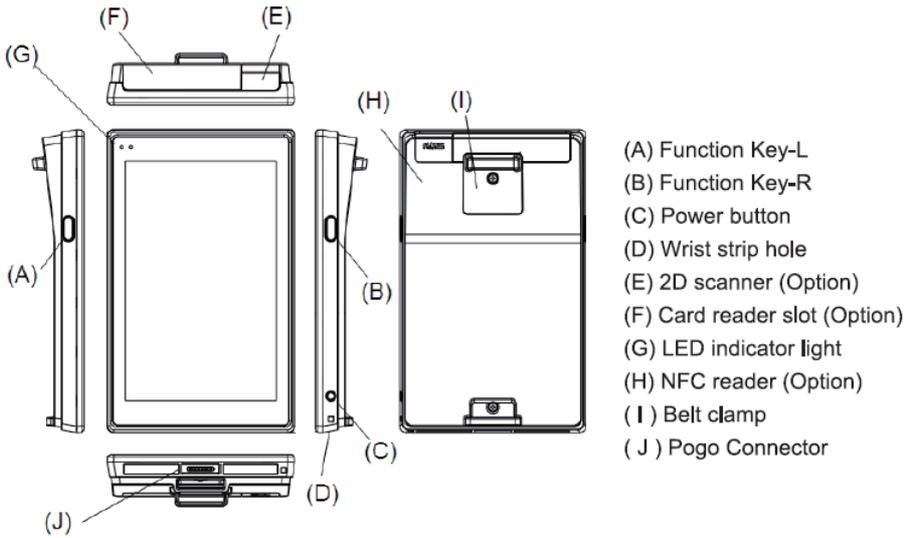
Tablet+ 4-slots Charging dock



Tablet+ Hand Strap+ MSR module



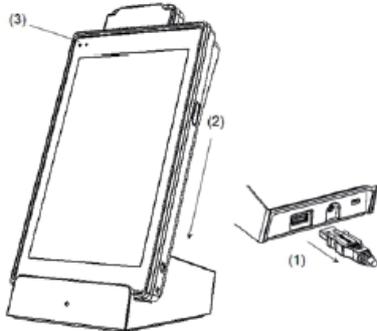
Tablet+ Rotatable Hand Strap+ MSR module



Starting

1. For your first use, please charge the TMC7200 tablet in its charging dock for at least one hour.
2. Press the Power Button to turn on the tablet.
3. Press and hold the Power Button to display the "Shut Down/Restart/Airplane Mode" menu.
4. Press 10 seconds the Power Button to force the restart.
5. You can use the Power Button to switch on or switch off the screen.
6. If Wake-On-Touch function is enabled, press twice the screen to switch it on.

Charging with the TMC7000-CHARGER



- (1) It's recommended to remove all the external devices such as mouse and USB devices connected through the USB port at the back of the TMC7000-CHARGER before charging.
- (2) Place the tablet in its charging cradle.
- (3) Make sure the tablet is charging (Please see below Chart for LED indication)

LED indicator light

	Tablet	Charging cradle
Power On	Constant GREEN	Constant RED
Charging	Blanking GREEN	-
Fully charged	Constant GREEN (The LED is off if the tablet is not turned on.)	-
Error	Constant RED	-
Temperature too high when charging	Constant YELLOW	-
Low Battery	Blanking YELLOW	-

Charging dock

The dock has magnets that allow to fix the base on a metal support (ex.: Cashdrawer)
A metal plate is delivered to use its magnets.

Connecting USB devices

You can connect peripheral devices, such as a USB keyboard and mouse, as well as other devices using the USB port on the back of the TMC7000-CHARGER.
We recommend to use an USB hub if you need to plug multiple devices at the same time.

Using the LCD Display

The TMC7200 is equipped with touch screen technology. Simply tap the screen you're

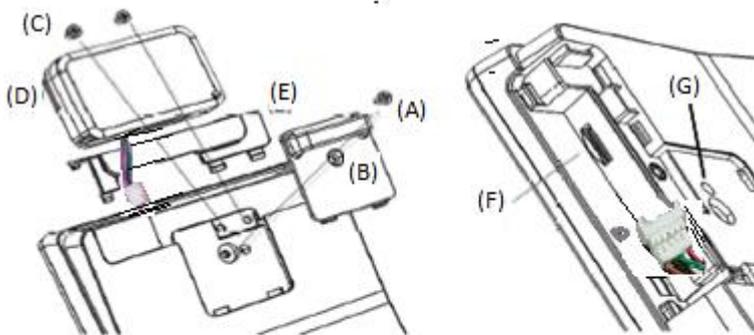
your finger to select icons and run applications. The firmware simulates the use of a mouse:

- Left click: tap the screen once.
- Right click: tap and hold the screen.
- A double click: tap the screen twice quickly.

Maintaining the LCD Display

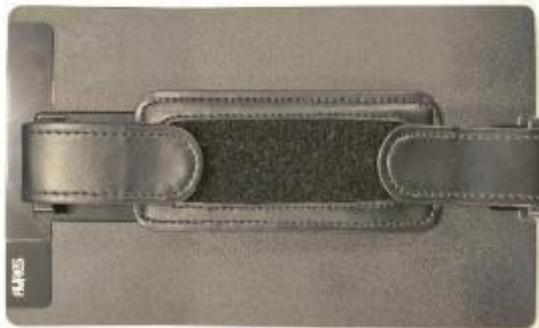
1. Do not scratch the surface of the screen with any hard objects.
2. Do not place anything on the screen.
3. Clean the LCD display only with a soft and dry fabrics.

SD card installation



1. Unscrew (A) and remove the belt clamp (B)
2. Unscrew (C) x 2 and remove the MSR (D) if installed and the cover (E)
3. Insert or replace the SD card at the push-and-pull connector port (F)
4. For hard reset, use a thin screwdriver and push the button on (G)

Handstrap installation



MSR module installation



Rotatable Hand Strap installation

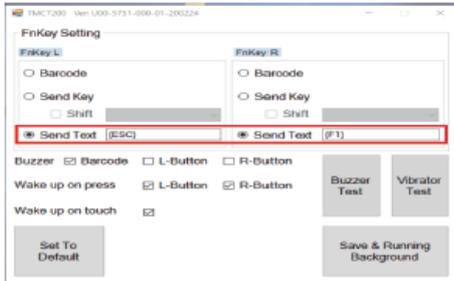


Setting up the Function Key Button and Wake-on-Touch

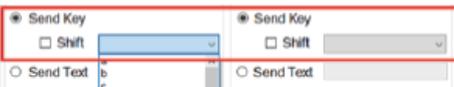
The function key buttons are located on the right and left side of the TMC7200. An utility is provided to program these key. See below description,



Click the Fnkey icon on the lower right corner of the menu bar to set the function key.



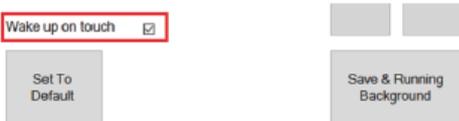
Send Text:
Select the radiobox (as shown in picture) and then type in the character to be sent.



Keycode emulation:
Select the radiobox (as shown in picture) and users can enable different functions such as barcode scan, wake up on touch, wake up on press, buzzer, etc.



Barcode scan:
Select the radiobox (as shown in picture) to enable the barcode scan function.



Tap the screen to wake up tablet:
You can wake up the tablet which is in sleep mode, tap the screen twice to wake up the tablet. Select the "Wake up on touch" checkbox to enable/disable this function.

Buzzer Barcode L-Button R-Button

Wake up on press L-Button R-Button

Enable Buzzer function:

You can enable the "buzzer" function for Barcode, L-Button and R-Button separately. If the "Barcode" checkbox is selected, the PC will make a beeping sound when the barcode scanner is working. Likewise, if the L-Button / R-Button checkbox is selected, a beeping sound will be heard when the L-Button or R-Button is pressed.

Buzzer Barcode L-Button R-Button

Wake up on press L-Button R-Button

Wake up on press:

You can wake up the tablet which is in sleep mode. Press the button on the left or right side to wake up the tablet. Select the "Wake up on press" checkbox to enable/disable this function.



Set To Default:

If you click the "Set To Default" button, all settings will be restored to factory defaults.



Save & Running Background:

Click "Save & Running Background" button to take effect.

In addition, if this function is enable you have 2 additional functions :

(1) Sleep indicator mode (enable by default)

When screen off, keep pressing during 3 seconds enabled L/R-buttons to :

- (i) activate sleep indicator mode (Tablet LED indicator will blink 3 times in green-yellow-green colors).
- (ii) disable Sleep Indicator mode (Tablet LED indicator will blink 2 times in green color).

(2) Shipping mode (disable by default)

When screen off, keep pressing during 10 seconds enabled L/R-buttons to :

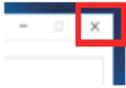
- (i) enable shipping mode (Tablet LED indicator will blink 2 times in Red).
- (ii) disable Shipping mode (Tablet LED indicator blink 2 times in Orange).

In shipping mode ON, and after shut down, the tablet is locked (it can not be started

when you press the power button).

To unlock the shipping mode, you have just to put on plugged charger => Tablet LED indicator will bright in Red during 8 seconds (Battery checking). And after that you can start tablet normally.

The shipping mode will be useful when you have to store the tablet during long period after each use, it saves battery.



Exit the program:

If you click the "x" checkbox on the upper-right corner of the program, you will exit the program and the scan function will be disabled.



Enable Buzzer Test and Vibrator Test Function:

Click "Buzzer Test" button to test buzzer function.

Click "Vibrator Test" button to test vibrator function.

2.3 Specifications

2.3.1 Tablet

Tablet System(TMC7200-7400)	
CPU Supports	➤ Intel® Atom® x5-Z8550 Quad Core™ 1.44GHz up to 2.4GHz
Memory	➤ LPDDR3 4GB on board
Storage	➤ eMMC 64GB on board
OS support	➤ Windows 10 IoT Ent 2019 LTSC (64 bits)
Power Requirement	➤ DC 12V/2A by by Pogo Pin
Vibrator	➤ Yes
Light sensor	➤ Yes
G-Sensor	➤ Yes
WiFi+BT	➤ Wi-Fi 802.11 a/b/g/n/ac& BT 4.1
Battery Capacity (Non replaceable)	➤ 3.7V, 7400mAh (1S2P)
Battery Operation	➤ 8 hours (refer to JEITA battery run time measurement)
Battery Charging time	➤ 5 hrs
Function Key-L&-R	➤ Support Barcode trigger/ Wake up on Touch/ Vibrator/ Buzzer/Send key/ Wake on press
Weight	➤ 470g (Pad only)
Dimension	➤ 118x192x26 mm (Wx Hx D)
Drop test	➤ 1.2m on concrete
Certification	➤ FCC/ CE/ RCM
Display	
LCD Panel	➤ 7" IPS display with 800 x 1280 resolution ➤ 400 cd/m2 (typical)
Touch Panel	➤ Anti-Fingerprint P-CAP Touch OCA direct bonding with LCD Panel for Sunlight Readability
Integrated Devices (Optional)	
Barcode Scanner	➤ 1D / 2D barcode scanner
NFC Module	➤ NXP N-P300
MSR module	➤ USB Encryption SecureHead MSR module with IDTech CPR 41960
Tablet I/O Ports	
Cradle Connector	➤ 1 x POGO pins for charging and data transmission

SD	➤ Micro SD up to 128GB
Environment	
Operating Temp.	➤ 0°C~ 35°C (32°F ~ 95°F)
Storage Temp.	➤ -20°C~ 60°C (-4°F~ 140°F)
Operating Humidity	➤ 10%~ 90%

2.3.2 Charging dock

Charging dock System(TMC7000-Charger)	
Kensington lock	➤ One slot
Power supply Adapter	➤ Input: 100~240V, 50/60 Hz; Output:12V/2A
Weight	➤ 362g
Dimension	➤ 100x 56x 108mm(Wx Hx D)

2.3.3 4-slots Charging dock

Charging dock System(TMC7000-4 slots Charger)	
Kensington lock	➤ 4 slots
Power supply Adapter	➤ Input: 100~240V, 50/60 Hz; Output:12V/5A
Weight	➤ 700g
Dimension	➤ 135x 54x 179mm(Wx Hx D)

Safety Precautions

Before operating this system, read the following information carefully to protect your systems from damages, and extend the life cycle of the system.

1. Check the Line Voltage
 - The operating voltage for the power supply should be within the range of 100V to 240V AC; otherwise the system may be damaged.
2. Environmental Conditions
 - Place your TMC7200 on a sturdy, level surface. Be sure to allow enough space around the system to have easy access needs.
 - Avoid installing your TMC7200 system in extremely hot or cold places.
 - Avoid direct sunlight exposure for a long period of time (for example, in a closed car in summer time. Also avoid the system from any heating device.). Or do not use TMC7200 when it has been left outdoors in a cold winter day.
 - Avoid moving the system rapidly from a hot place to a cold place, and vice versa, because condensation may occur inside the system.
 - Protect your TMC7200 from strong vibrations which may cause hard disk failure.
 - Do not place the system too close to any radio-active device. Radio-active device may cause signal interference.
 - Always shut down the operating system before turning off the power.
3. Handling
 - Avoid placing heavy objects on the top of the system.
 - Do not turn the system upside down. This may cause the hard drive to malfunction.
 - Do not allow any objects to fall into this device.
 - If water or other liquid spills into the device, unplug the power cord immediately. cradle
4. Good Care/Maintenance
 - When the outside case gets stained, remove the stains using neutral washing agent with a dry cloth.
 - Never use strong agents such as benzene and thinner to clean the surface of the case.
 - If heavy stains are present, moisten a cloth with diluted neutral washing agent or alcohol and then wipe thoroughly with a dry cloth.
 - If dust is accumulated on the case surface, remove it by using a special vacuum cleaner for computers.

3

Software Utilities

This chapter provides the detailed information that guides users to install driver utilities for the system. The following topics are included:

- Installing Intel® Chipset Software Installation Utility
- Installing Audio Realtek Software Installation Utility
- Installing G-Sensor Software Installation Utility
- Installing Bluetooth Software Installation Utility
- User Utility

3.1 Introduction

TMC7200 Driver Utilities have been stored in the Integrated Pad system:

File Path: C:\TMC7200_v1.0

	Purpose	Win10 64bit OS
C:\TMC7200_v1.0\DRIVER\ Platform\1_Main Chip Win10-64Bit	Intel® Chipset Device Software installer (Audio & BM&Camera & DPTF & GFX & GPIO & GPIO & I2C & MBI & PMIC & Sensor & TXEI & UART & WCE & TXE)	✓
C:\TMC7200_v1.0\DRIVER\ Platform\2_Audio\ Win10-64Bit	Realtek High Definition Audio System Software	✓
C:\TMC7200_v1.0\DRIVER\ Device\3_G-sensor\ Win10-64Bit	ST Microelectronics 3 Axis Digital Accelerometer Installer	✓
C:\TMC7200_v1.0\DRIVER\ Platform\4_WIFI&BlueTooth\ Win10-64Bit	AMPAK AP6356SDPR Software	✓

✓: Support

Note: After the OS installation is completed, the driver utilities will also be installed at the same time.

3.2 Installing Intel® Chipset Software Installation Utility

Introduction

The Intel® Chipset Software Installation Utility installs the Windows *.INF files to the target system. These files outline to the operating system how to configure the Intel chipset components in order to ensure that the following functions work properly:

- Core PCI and ISAPNP Services
- PCIe Support
- SATA Storage Support
- USB Support
- Identification of Intel® Chipset Components in the Device Manager

The utility pack is to be installed only for Windows® 10 series (32-bit). Please follow the steps below to install:

- 1** Enter the **C:\TMC7200_v1.0 > DRIVER > Platform > 1_Main Chip > Win10-64Bit > Installer > PlatformInstaller** folder where the Chipset driver is located.
- 2** Click **Setup.exe** file for driver installation.
- 3** Follow the on-screen instructions to install the driver.
- 4** Enter the **C:\TMC7200_v1.0 > DRIVER > Platform> 1_Main Chip > Win10-64Bit > Installer > SecInstaller** folder.
- 5** Click **SetupTXE.exe** file for driver installation.
- 6** Follow the on-screen instructions to install the driver.
- 7** Once the installation is completed, restart TMC7200 for the changes to take effects.

After the Chipset driver is installed, the following driver utilities will also be installed at the same time:

- Audio driver utility
- BM driver utility
- Camera driver utility
- DPTF driver utility
- GFX driver utility
- GPIO driver utility
- GPIOVirtual driver utility
- I2C driver utility
- MBI driver utility
- PMIC driver utility
- Sensor driver utility
- TXEI driver utility
- UART driver utility
- WCE driver utility

For more details on the installation procedure, refer to the **TMC7200 README V1.0.pdf** file located under **C:\TMC7200_v1.0**.

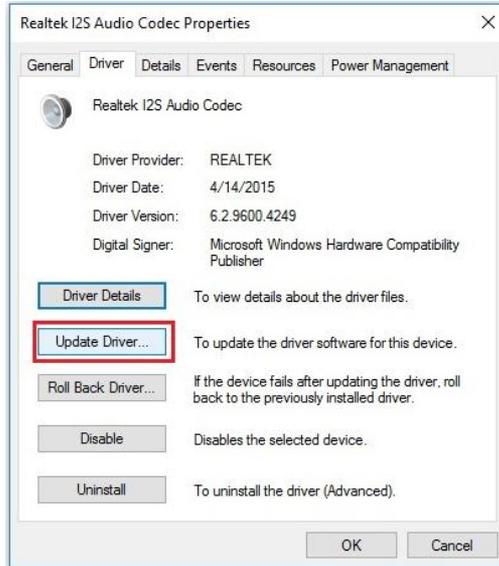
3.3 Installing Audio Realtek Software Installation Utility

After the default Audio driver utility has been installed in the procedure above, it will not function until you have installed Realtek ALC5640-VB-CG driver utilities. Please follow the steps below:

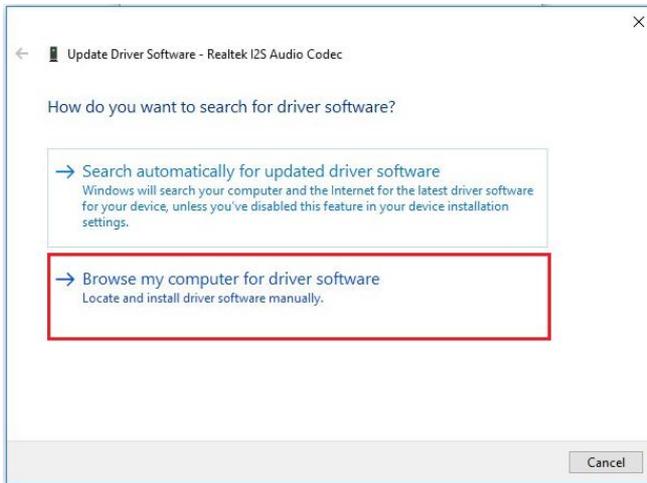
- 1 Enter the **C:\TMC7200_v1.0 > DRIVER > Platform > 2_Audio > Win10-64Bit > RTK_6_2_9600_4239_WHQL > x86** folder where the Audio Realtek ALC5640-VB-CG driver is located, and **rtii2sac.inf** file will be installed automatically.
- 2 From the bottom left corner of TMC7200 Pad, select  Start icon > **Windows System > Control Panel > Device Manager** to enter the Device Manager window, and select **DESKTOP-DMA0BT4 > Sound, video and game controllers > Realtek I2S Audio Codec**.



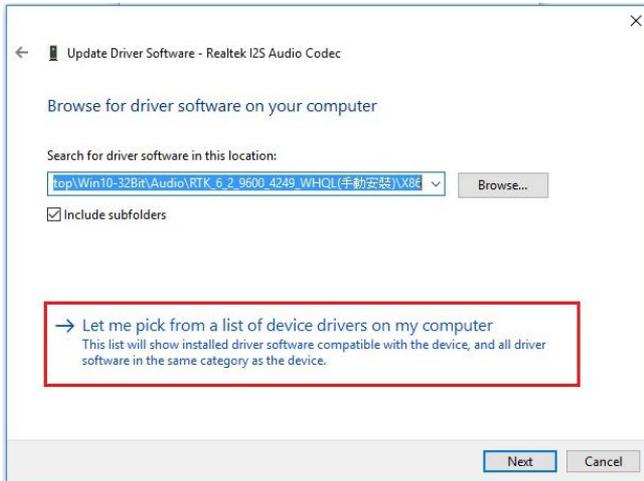
- 3 From **Realtek I2S Audio Codec Properties** window, click **Update Driver...** from the **Driver** tab to start updating the audio driver software for TMC7200.



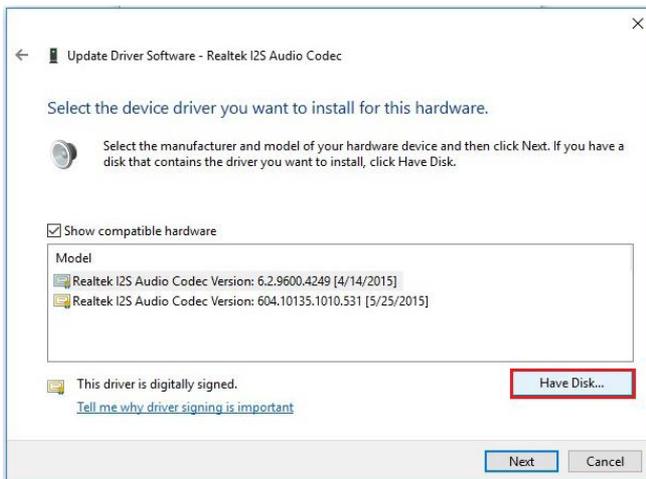
- 4 Click **Browse my computer for driver software** item.



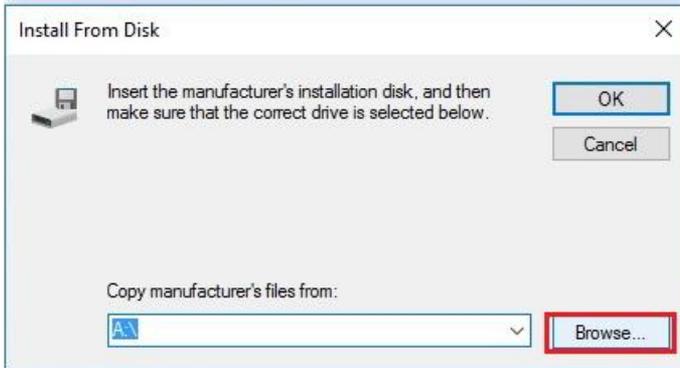
5 Click Let me pick from a list of device drivers on my computer.



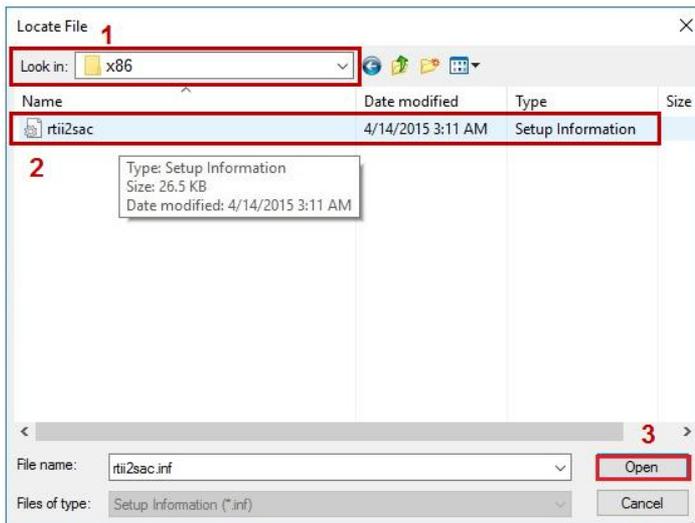
6 Click Have Disk....



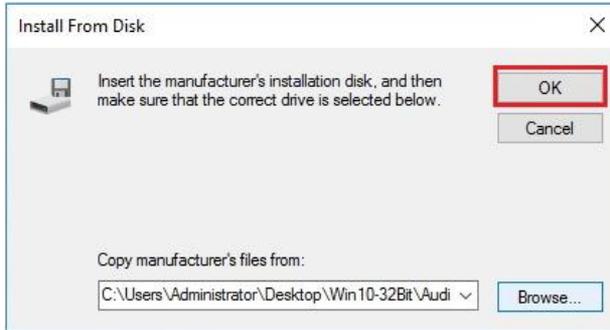
- 7 Click **Browse...** button to browse for the file directory where the Realtek I2S Audio Codec installation driver is located.



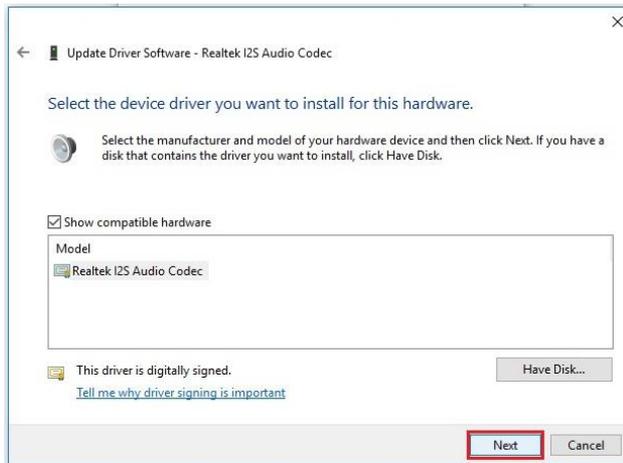
- 8 Select **C:\TMC7200_v1.0 > DRIVER > Platform > 2_Audio > Win10-64Bit > RTK_6_2_9600_4239_WHQL> x86**, select **rtii2sac.inf** file and click **Open** to open the file.



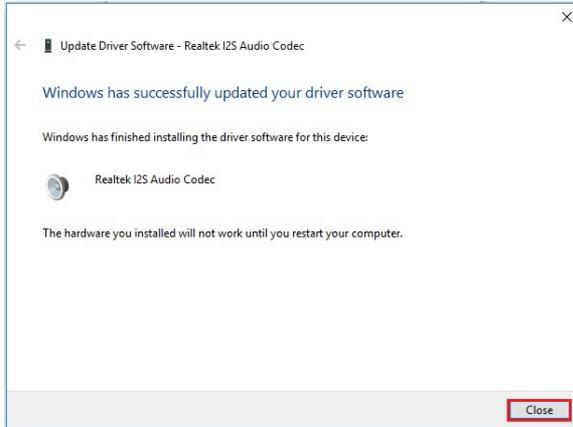
9 Click **OK**.



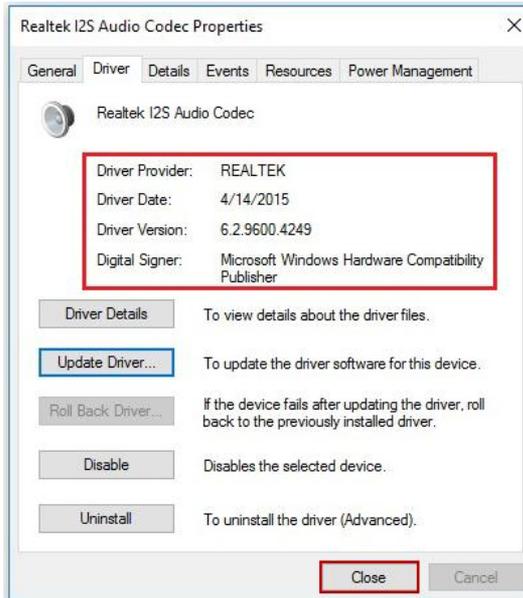
10 Click **Next** to continue the installation.



11 Windows has finished installing Realtek I2S Audio Codec driver software. Click **Close** to complete.



12 Go to **Realtek I2S Audio Codec Properties** window and select **Driver** tab, and you will see the Realtek audio driver utility has been updated. Click **Close** to exit.

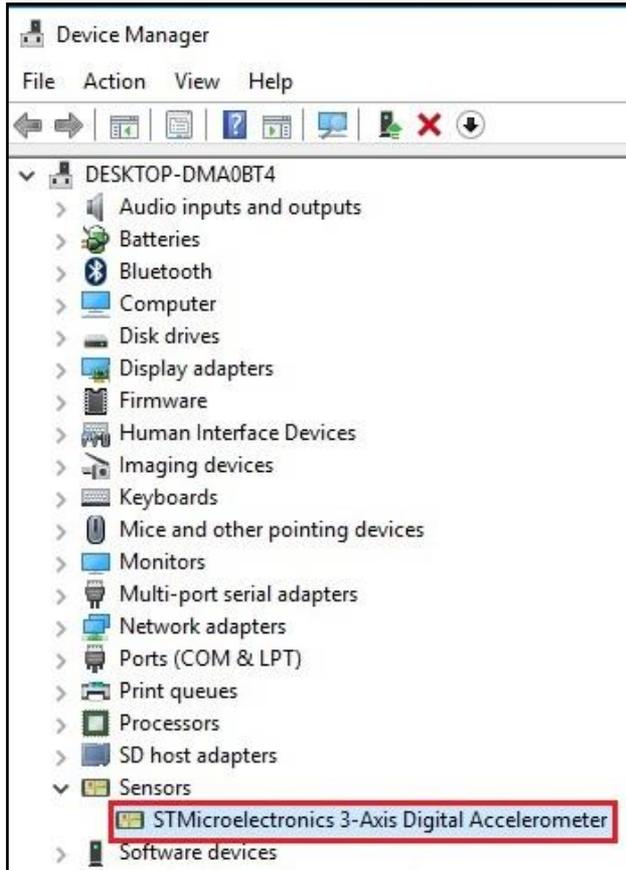


- 13** Once the installation is completed, restart TMC7200 for the changes to take effects, and the audio function can start to work normally.

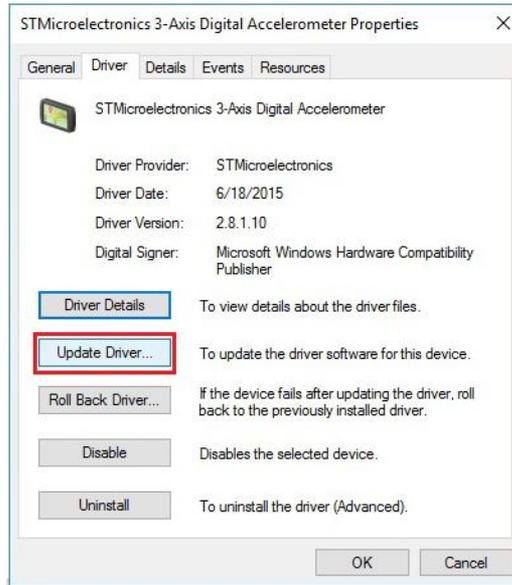
3.4 Installing G-Sensor Software Installation Utility

The G-Sensor driver utility provided allows users to turn the touch screen horizontally or vertically. Please follow the steps below to install G-Sensor driver utilities:

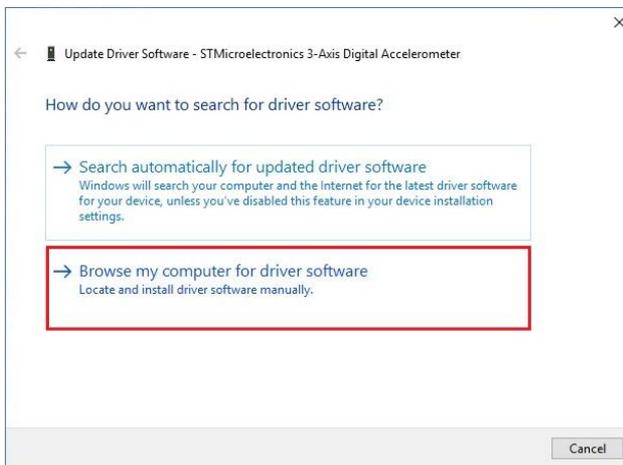
- 1 Enter the **C:\TMC7200_v1.0 >DRIVER > Platform > 3_G-sensor > Win10-64Bit > 1_4.22.0063_signed(STEP-1)** folder.
- 2 Click **setup.exe** file for driver installation.
- 3 Follow the on-screen instructions to install the driver.
- 4 Enter the **C:\TMC7200_v1.0 > DRIVER > Platform > 3_G-sensor > Win10-64Bit > 2_Accel_SPB_SensorAPI_2.8.1.10(STEP-2) > x86** folder, and the **ST_Accel.inf** file will be installed automatically.
- 5 From the bottom left corner of TMC7200 Pad, select  Start icon > **Windows System > Control Panel > Device Manager** to enter the Device Manager window, and select **DESKTOP-DMA0BT4 > Sensors > STMicroelectronics 3-Axis Digital Accelerometer**.



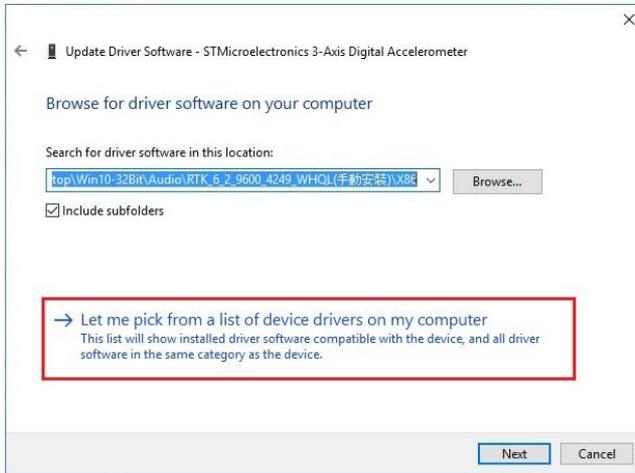
- From **STMicroelectronics 3-Axis Digital Accelerometer Properties** window, click **Update Driver...** from the **Driver** tab to start install the G-sensor driver software for TMC7200.



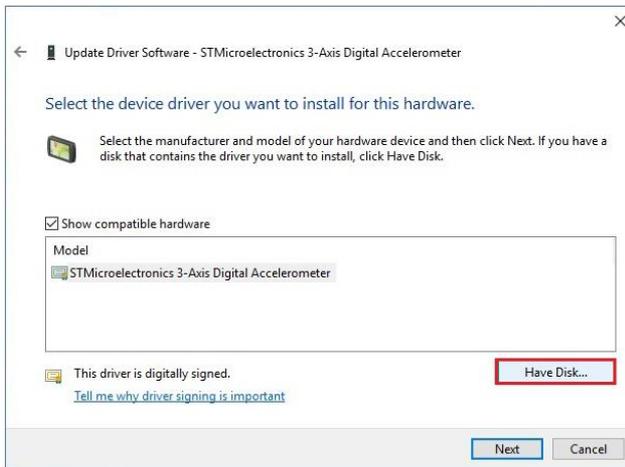
- Click **Browse my computer for driver software** item.



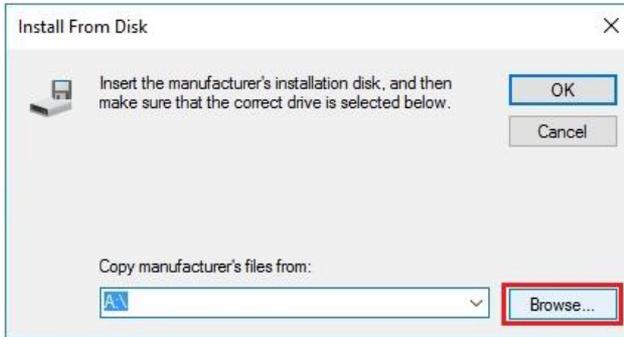
8 Click **Let me pick from a list of device drivers on my computer.**



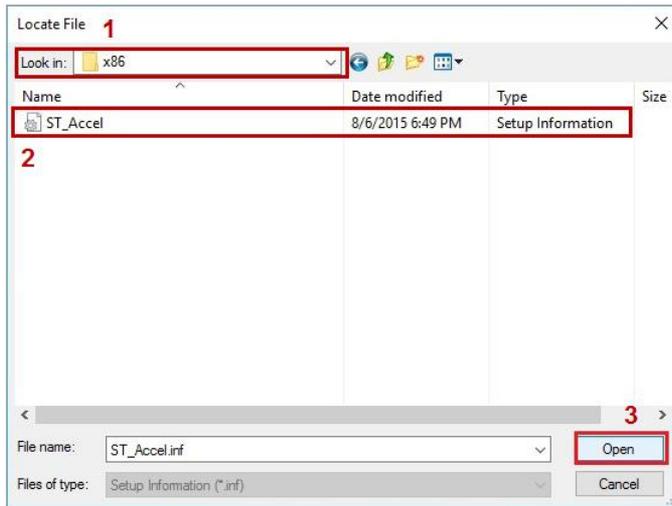
9 Click **Have Disk...** button.



10 Click **Browse...** button to browse for the file directory where the G-sensor installation driver is located.



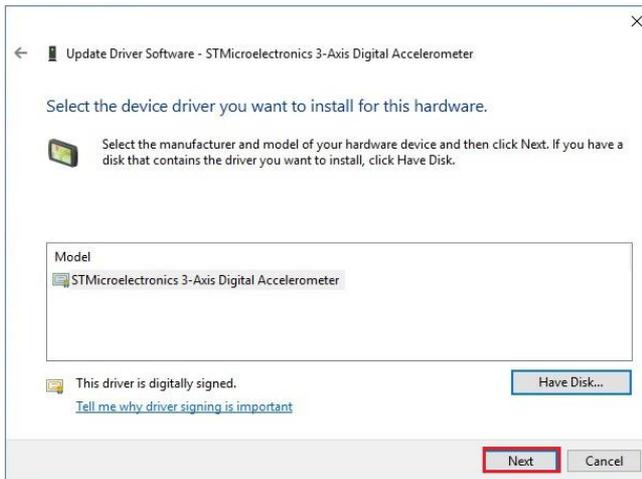
11 Select **C:\TMC7200_v1.0 > DRIVER > Device > G-sensor > Win10-64Bit > 2_Accel_SPB_SensorAPI_2.8.1.10(STEP-2) > x86** folder from the **Look in** drop-down box, and select **ST_Accel.inf** file. Click **Open** to open the file.



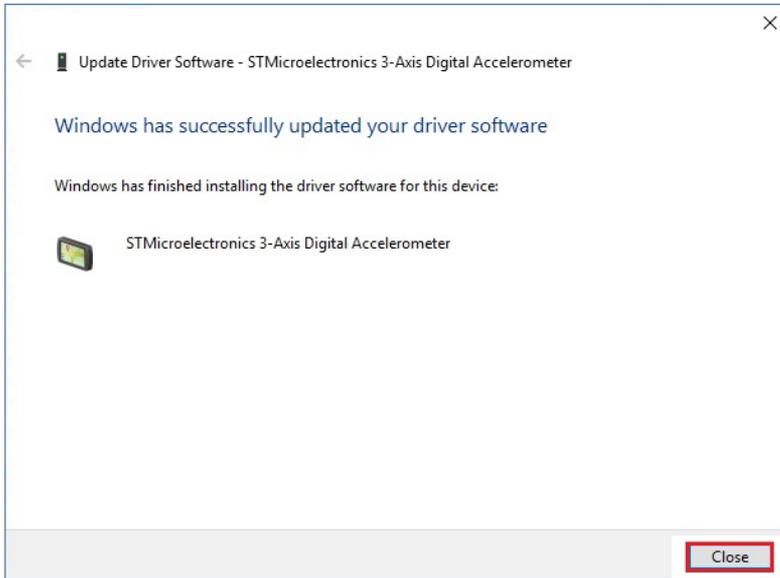
12 Click OK.



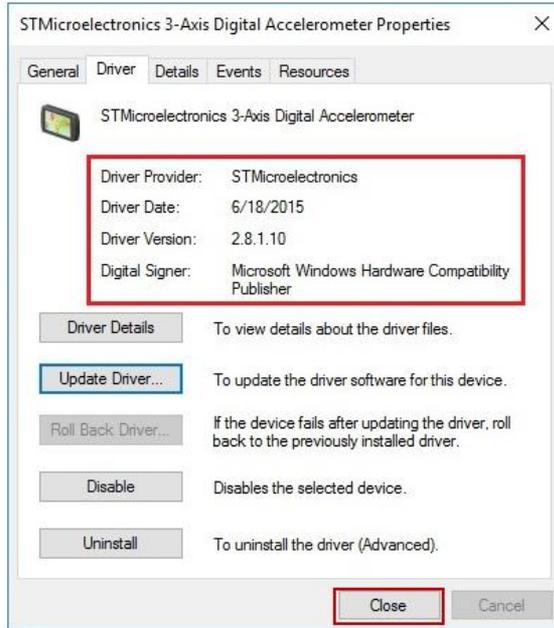
13 Click Next to continue the installation.



14 Windows has finished installing G-sensor driver software.
Click **Close** to complete.



15 Go to **STMicroelectronics 3-Axis Digital Accelerometer Properties** window and select **Driver** tab, and you will see the STMicroelectronics G-sensor driver utility has been updated. Click **Close** to exit.



16 Once the installation is completed, restart TMC7200 for the changes to take effects.

3.5 Installing WiFi and Bluetooth Software Installation Utility

4.5.1 Installing Wi-Fi Software Installation Utility

Please follow the steps below to install Bluetooth driver utilities:

- 1 Enter the C:\TMC7200_v1.0 > DRIVER > Platform > 4_Bluetooth > Win10-64Bit > AP6356SDPR\WiFi\x64\DHD_1.558.53.33_Win10_x64_HLK_driveronly folder..
- 2 Click the file "bcmwdidhpcie.inf" and then right-click the mouse and select "install" from the drop-down list.
- 3 Follow the on-screen instructions to install the Wi-Fi driver.
- 4 Once the installation is completed, restart TMC7200 for the changes to take effect.

4.5.2 Installing Bluetooth Software Installation Utility

Please follow the steps below to install Bluetooth driver utilities:

- 1 Enter the C:\MH-5102_v1.0 > DRIVER > Platform\4_WIFI&BlueTooth\Win10-64Bit\AP6356SDPR\BT\Signed_1152921504626572573_RS2_2E98_64bit folder.
- 2 Click the file "**BtwSerialBus.inf** " and then right-click the mouse and select "install" from the drop-down list.

4 BIOS SETUP

This chapter guides users how to configure the basic system configurations via the BIOS Setup Utilities. The information of the system configuration is saved in BIOS NVRAM so that the Setup information is retained when the system is powered off. The BIOS Setup Utilities consist of the following menu items:

- Accessing Setup Utilities
- Main Menu
- Advanced Menu
- Security Menu
- Boot Menu
- Exit Menu

4.1 Introduction

The board TMC7200 < CherryTrail > uses an Insyde BIOS that is stored in the Serial Peripheral Interface Flash Memory (SPI Flash) and can be updated. The SPI Flash contains the BIOS Setup program, Power-on Self-Test (POST), the PCI auto-configuration utility, LAN EEPROM information, and Plug and Play support.

Insyde BIOS firmware is based on the UEFI (Unified Extensible Firmware Interface) Specifications and the Intel Platform Innovation Framework for EFI. The UEFI specification defines an interface between an operating system and platform firmware. The interface consists of data tables that contain platform-related information, boot service calls, and runtime service calls that are available to the operating system and its loader. These provide standard environment for booting an operating system and running pre-boot applications.

The diagram below shows the Extensible Firmware Interface's location in the software stack.

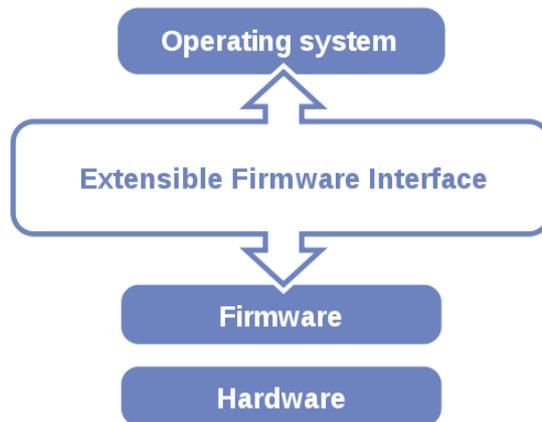


Figure 4-1. Extensible Firmware Interface Diagram

EFI BIOS provides an user interface that allows you to modify hardware configuration, e.g. change the system date and time, enable or disable a system component, determine bootable device priority, set up personal password, etc., which is convenient for engineers to perform modifications and customize the computer system and allows technicians to troubleshoot the occurred errors when the hardware is faulty.

The BIOS setup menu allows users to view and modify the BIOS settings for the computer. After the system is powered on, users can access the BIOS setup menu by pressing or <Esc> immediately while the POST message is running before the operating system is loading.

All the menu settings are described in details in this chapter.

4.2 Accessing Setup Utility

After the system is powered on, BIOS will enter the Power-On Self-Test (POST) routines and the POST message will be displayed:



Figure 4-2. POST Screen



Figure 4-3. Front Page Screen

Press <Esc> (the one that shares the decimal point at the bottom of the number keypad) to select SCU icon to access the Setup program. In a moment, the main menu of the Insyde Setup Utility will appear on the screen:



BIOS Setup Menu Initialization Screen

You may move the cursor by <←> and <↓> keys to highlight the individual menu items. As you highlight each item, a brief description of the highlighted selection will appear at the bottom of the screen.

The language of the BIOS setup menu interface and help messages are shown in US English. You may use <↑> or <↓> key to select among the items and press <Enter> to confirm and enter the sub-menu. The following table provides the list of the navigation keys that you can use while operating the BIOS setup menu.

BIOS Setup Navigation Key	Description
<←> and <→>	Select a different menu screen (move the cursor from the selected menu to the left or right).
<↑> and <↓>	Select a different item (move the cursor from the selected item upwards or downwards)
<Enter>	Execute the command or select the sub-menu.
<F1>	Help
<F5/F6>	Change values.
<F9>	Load the default configuration values.
<F10>	Save the current values and exit the BIOS setup menu.

BIOS Setup Navigation Key	Description
<Esc>	Close the sub-menu. Trigger the confirmation to exit BIOS setup menu.

4.3 Main

Menu Path *Main*

The **Main** menu allows you to view the BIOS Information, change the system date and time, and view the user access privilege level. Use tab to switch between date elements. Use <↑> or <↓> arrow keys to highlight the item and enter the value you want in each item. This screen also displays the BIOS version (project) and BIOS Build Date and Time.



Main Screen

BIOS Setting	Options	Description/Purpose
BIOS Version	No changeable options	Displays the BIOS Version.
Build Date	No changeable options	Displays the current Build Date.
Build Time	No changeable options	Displays the current Build Time.
Processor Type	No changeable options	SOC Type on the platform.
System Bus Speed	No changeable options	Displays Bus speed.
eMMC Total Size	No changeable options	Displays the eMMC total size.

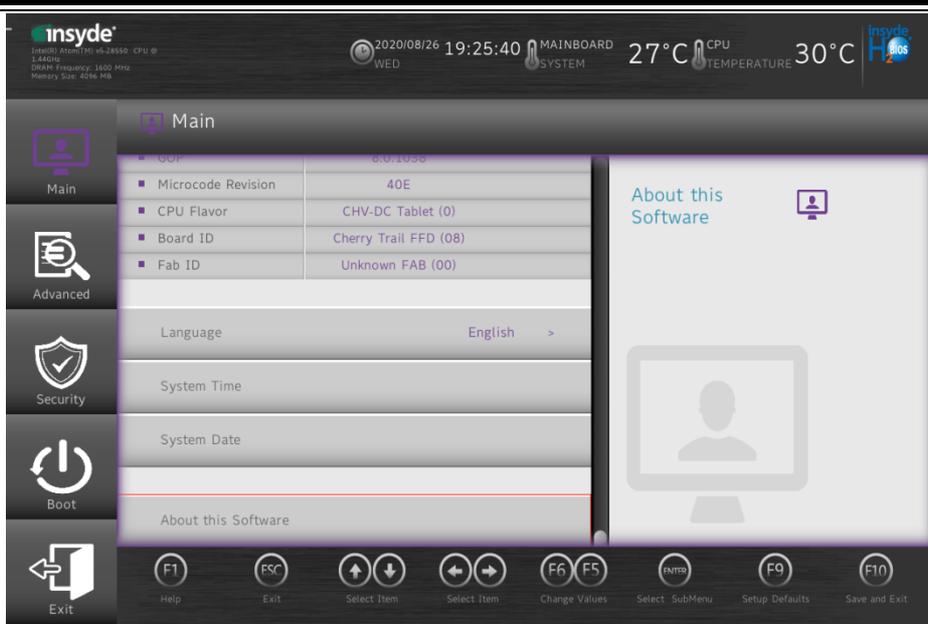
BIOS Setting	Options	Description/Purpose
MCU Version	No changeable options	Displays the MCU version.
Serial Number	No changeable options	Displays the Serial Number of motherboard
Percentage of Battery level	No changeable options	Displays battery level.
System Memory Speed	No changeable options	Displays Memory Speed.
Cache RAM	No changeable options	Displays Cache RAM size.
Total Memory	No changeable options	Displays Total memory size.
Channel A		
DIMM 0	No changeable options	Displays the DIMM 0 channel size.



Main Screen

BIOS Setting	Options	Description/Purpose
SODIMM 1	No changeable options	Displays the DODIMM 1 size.
Channel B		
SODIMM 0	No changeable options	Displays the DODIMM 0 size.

BIOS Setting	Options	Description/Purpose
SODIMM 1	No changeable options	Displays the DODIMM 1 size.
CHV SOC	No changeable options	Displays the CPU's stepping information.
MRC Version	No changeable options	Displays the MRC Version.
PUNIT FW	No changeable options	Displays the PUNIT FW Version.
PMC FW Patch	No changeable options	Displays the PMC FW Patch version.
TXE FW Version	No changeable options	Displays TXE FW Version.
GOP	No changeable options	Displays the GOP version.
Microcode Revision	No changeable options	Displays the Microcode FW version.
CPU Flavor	No changeable options	Displays the CPU's flavor type.



Main Screen

BIOS Setting	Options	Description/Purpose
Board ID	No changeable options	Displays the Board ID of the SoC.
Fab ID	No changeable options	Displays the Fab ID.
Language	- English - Francais - 中文 - 日文	Select the current default language used by the BIOS.
System Time	- hour - minute - Second	Specifies the current time.
System Date	- month - day - year	Specifies the current date.
About this Software	No changeable options	Displays this Software information.

4.4 Advanced

Menu Path *Advanced*

This menu provides advanced configurations for setting Security Configuration and Chipset Configuration.



Advanced Menu Screen

BIOS Setting	Options	Description/Purpose
Security Configuration	Sub-Menu	Security Configuration.
Chipset Configuration	Sub-Menu	Advanced Chipset Configuration Options.

4.4.1 Advanced – Security Configuration

Menu Path *Advanced > Security Configuration*

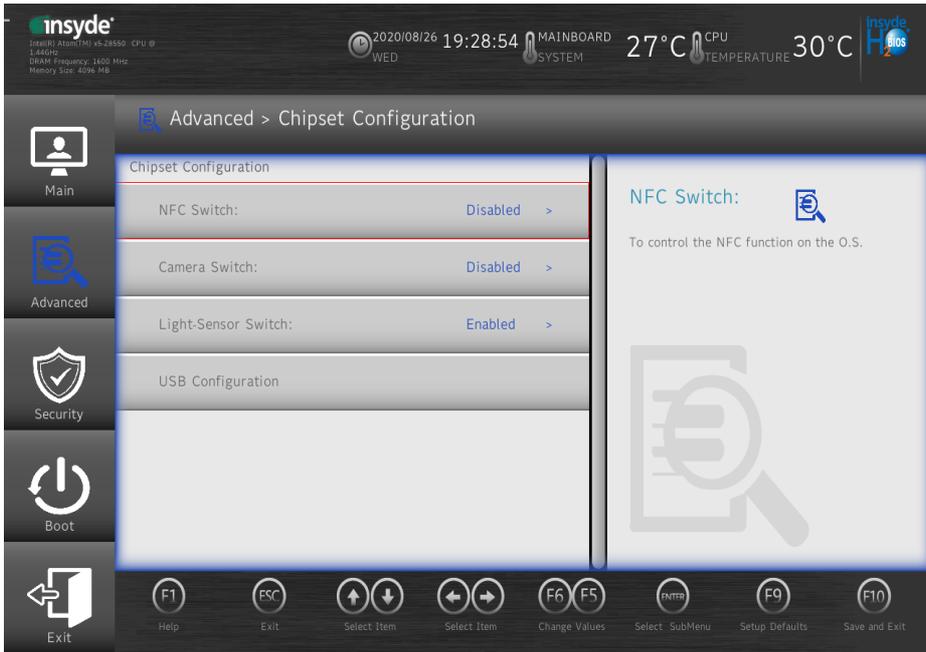


Security Configuration Screen

BIOS Setting	Options	Description/Purpose
TXE Configuration		
TXE FW version	No changeable options	TXE FW Version
TXE FW Capabilities	No changeable options	TXE FW Capabilities
TXE FW Features	No changeable options	TXE FW Features
TXE FW OEM Tag	No changeable options	TXE FW OEM Tag
TXE Firmware Mode	No changeable options	TXE Firmware Mode
Platform Trust Technology		
Measured Boot	- Enabled - Disabled	Measured Boot
Target TPM device	- fTPM - dTPM	Target TPM device

4.4.2 Advanced – Chipset Configuration

Menu Path *Advanced > Chipset Configuration*



Security Configuration Screen

BIOS Setting	Options	Description/Purpose
Chipset Configuration		
NFC Switch	- Enabled - Disabled	To control the NFC function on the O.S.
Camera Switch	- Enabled - Disabled	To control camera function on the O.S.
Light-Sensor Switch	- Enabled - Disabled	To control the Light-Sensor function on the O.S.
USB Configuration	Sub-Menu	USB Configuration Settings

4.4.3 Advanced – USB Configuration

Menu Path *Advanced > USB Configuration*



Security Configuration Screen

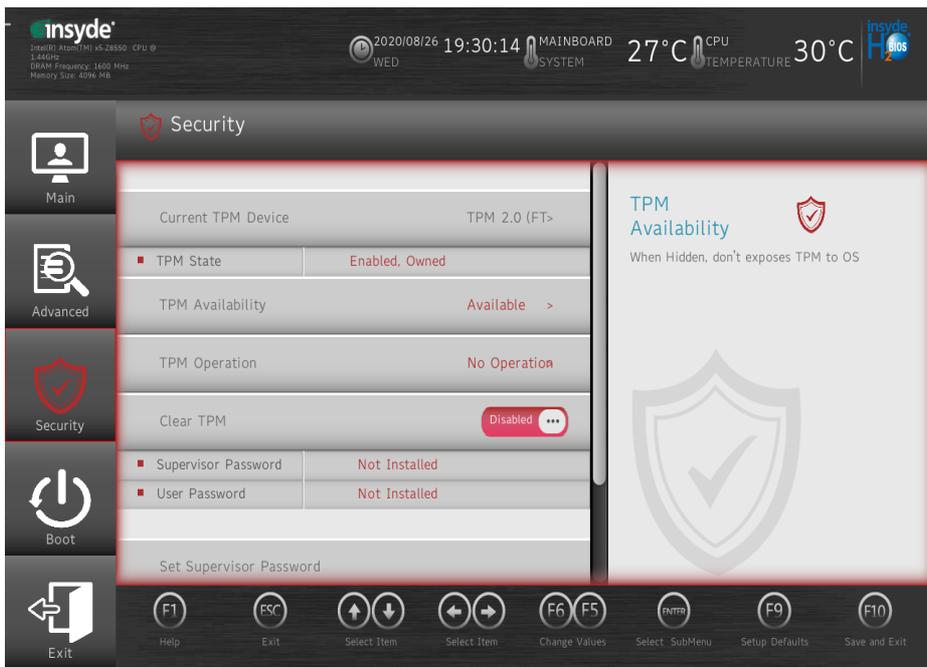
BIOS Setting	Options	Description/Purpose
USB Per-Post Control	- Enabled - Disabled	Control each of the USB ports (0 ~ 9) disabling.
USB Port #0	- Enabled - Disabled	Disable USB port #0.
USB Port #1	- Enabled - Disabled	Disable USB port #1.
USB Port #2	- Enabled - Disabled	Disable USB port #2.
USB Port #3	- Enabled - Disabled	Disable USB port #3.
USB Port #4	- Enabled - Disabled	Disable USB port #4.

4.5 Security

Menu Path *Security*

From the **Security** menu, you are allowed to create, change or clear the supervisor password. You will be asked to enter the configured supervisor password before you can access the Setup Utility.

By setting a supervisor password, you will prevent other users from changing your BIOS settings. You can configure a supervisor password and then configure a user password. A supervisor has much more privileges over the settings in the Setup utility than a user. Heed that a user password does not provide access to most of the features in the Setup utility.



Security Screen

BIOS Setting	Options	Description/Purpose
Current TPM Device		
TPM State	No changeable options	Displays the TPM state.
TPM Availability	- Available - Hidden	When Hidden, don't expos TPM to OS.

BIOS Setting	Options	Description/Purpose
TPM Operation	-No Operation -Disable -Enable	Enable: Enable Storage and Endorsement Hierarchy Disable: Disable Storage and Endorsement Hierarchy
Clear TPM	-Disabled -Enabled	Clear TPM. Removes all TPM context associated with a specific Owner.
Supervisor Password	No changeable options	Displays the Supervisor Password state.
User Password	No changeable options	Displays the User Password state.
Supervisor Password	Password can be 3-20 alphanumeric characters.	Specifies the administrator password.
User Password	Password can be 3-20 alphanumeric characters.	Specifies the user password.

4.6 Boot

Menu Path *Boot*

This menu provides control items for system boot configuration such as setting setup prompt timeout, enabling/disabling quick boot, quiet boot, Network Stack and PXE Boot capability, configuring ACPI (Advanced Configuration and Power Management Interface) settings and USB boot.



Boot Screen

BIOS Setting	Options	Description/Purpose
Quick Boot	- Enabled - Disabled	This will decrease the time needed to boot the system.
Quiet Boot	- Enabled - Disabled	Enabled or Disabled booting in Text Mode.
Network Stack	- Enabled - Disabled	Network Stack support Windows 8 BitLocker Unlock / UEFI IPv4 / IPv6 PXE / Legacy PXE OPROM.
PXE Boot capability	- Enabled - Disabled	Disabled: Support Network Stack. UEFI PXE: IPv4 / IPv6 Legacy: Legacy PXE OPROM only.

BIOS Setting	Options	Description/Purpose
ACPI Selection	- Acpi 1.0B - Acpi 3.0 - Acpi 4.0 - Acpi 5.0	Select booting to ACPI
USB Boot	- Enabled - Disabled	Disabled or Enabled booting to USB boot devices.
Timeout	- second	The number of seconds that the firmware will wait before booting the original default boot selection.

4.7 Save & Exit

Menu Path *Exit*

The **Exit** allows users to save or discard changed BIOS settings as well as load the optimized defaults for BIOS settings.



Exit Screen

BIOS Setting	Options	Description/Purpose
Exit Saving Changes	No changeable options	Exits and saves the changes in NVRAM.
Save Change without Exit	No changeable options	Save your changes and without exiting system.
Exit Discarding Changes	No changeable options	Exits without saving any changes made in BIOS settings.
Load Option Defaults	No changeable options	Loads the optimized defaults for BIOS settings.
Load Custom Defaults	No changeable options	Loads Custom Defaults.
Save Custom Defaults	No changeable options	Save Custom Defaults.
Discard Changes	No changeable options	Discard changes.