

FMT-661M

User's Manual



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Chapter 1. About this Manual



1.1 Introduction

This is a user manual about FMT-661M, which mainly includes introduction, application environment of the product, description of appearance, product characteristics, technical parameters, setting of common functions, machine installation, matters needing attention and after-sales common problem diagnosis. This manual is designed to help users solve problems encountered in the process of use, please be sure to read this manual in detail, so as to better use the FMT-661M.

1.2 User and Product Safety

- Never use strong pressure onto the screen or subject it to severe impact, as the LCD panel could become cracked and possibility cause personal injury. If the LCD panel is broken, never touch the liquid inside because the liquid irritates the skin.
- Although the VT has passed the test of IP65 standard for water and dust resistance, avoid prolonged exposure to rain or other concentrated moisture. Such condition exceeds the IP65 standard, and could result in water or other contaminants entering into the VT.
- Use only the original approved AC/DC Adapter with the VT. Use of an unapproved AC/DC Adapter could result in electrical problems, or even cause a fire or electrical shock to the user.
- Do not disassemble the VT. Servicing should be done by supplier only. If the VT or accessories gets damaged due to wrong handling or unauthorized repair, warranty is void. In case the warranty seals are broken, warranty is void too.
- Make regularly back-up of all important data.
- Under no circumstance will supplier be liable for any direct, indirect, consequential or incidental damages baring out of the use or inability to use the hardware and software and/or any data loss, even if supplier has been informed about the possibility of such damages.

1.3 Recycling & disposal instructions



Do not throw this product in the home waste bin.



1.4 Regulatory information



For CE, FCC, RoHS and other Document of Conformities, consult the Contact Window of Darveen Computer.

1.5 Product application scenario

The FMT-661M is a ruggedized vehicle-mounted computer with an Intel Alder Lake-N97 processor and Windows 11 OS, offering full Windows computing power in a mobile environment. It is designed for warehousing, logistics, and container trucks.

Chapter 2. Getting Started



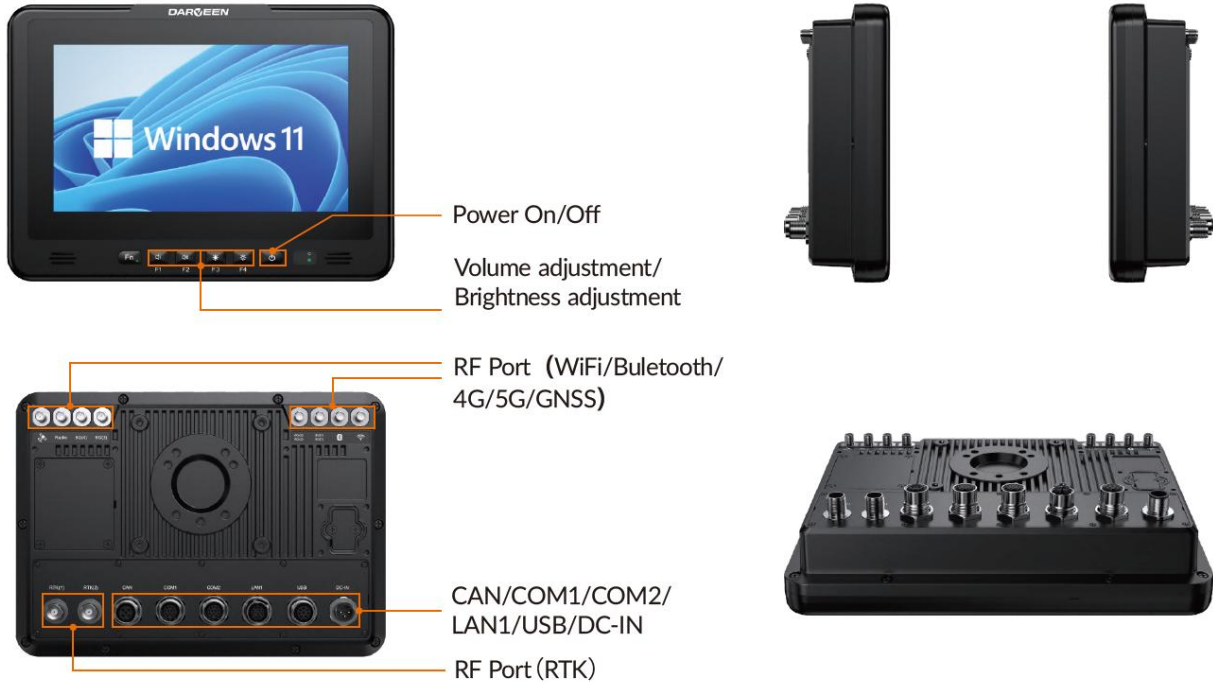
2.1 Overview

The FMT-661M is a newly designed fleet management terminal with Intel Alder Lake-N97 processor and Windows 11 OS, offering full Windows computing power in a mobile environment. It features a 8-inch industrial P-cap touch screen, Wi-Fi 7, Bluetooth 5.4, 4G/5G, GNSS, and 8 to 36V DC input, making it suitable for warehousing, logistics, and container trucks. It meets MIL-STD-810H for anti-shock/vibration and IP65 for dust/water resistance, allowing operation in demanding environments. These features as:

- 8" TFT-LCD with p-cap capacitive touch screen
- Rugged aluminum enclosure and fanless design
- Wide range 8 to 36VDC power input
- Flexible expansion capability for Wi-Fi 7, Bluetooth 5.4, LTE, 5G, GNSS, CAN2.0B
- Robust and durable M12 I/O interfaces
- IP65 protection against water and dust
- MIL-STD-810H vibration testing standards compliant

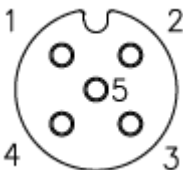
2.2 General Information

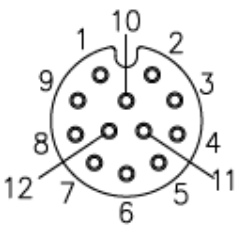
2.2.1 General View

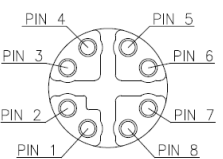


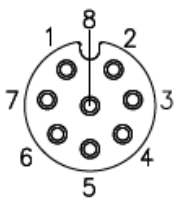
2.2.2 I/O Ports



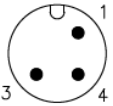
CAN	Pin Number	Definition	Female
M12-A-5P-F	1	CAN_H1	
	2	CAN_L1	
	3	CAN_GND	
	4	CAN_H2	
	5	CAN_L2	

COM1/COM2	Pin Number	Definition	Female
M12-A-12P-F	1	RS232_DCD	
	2	RS232_RXD	
	3	RS232_TXD	
	4	RS232_DTR	
	5	RS232_GND	
	6	RS232_DSR	
	7	RS232_RTS	
	8	RS232_CTS	
	9	RS232_RI	
	10	NC	
	11	NC	
	12	NC	

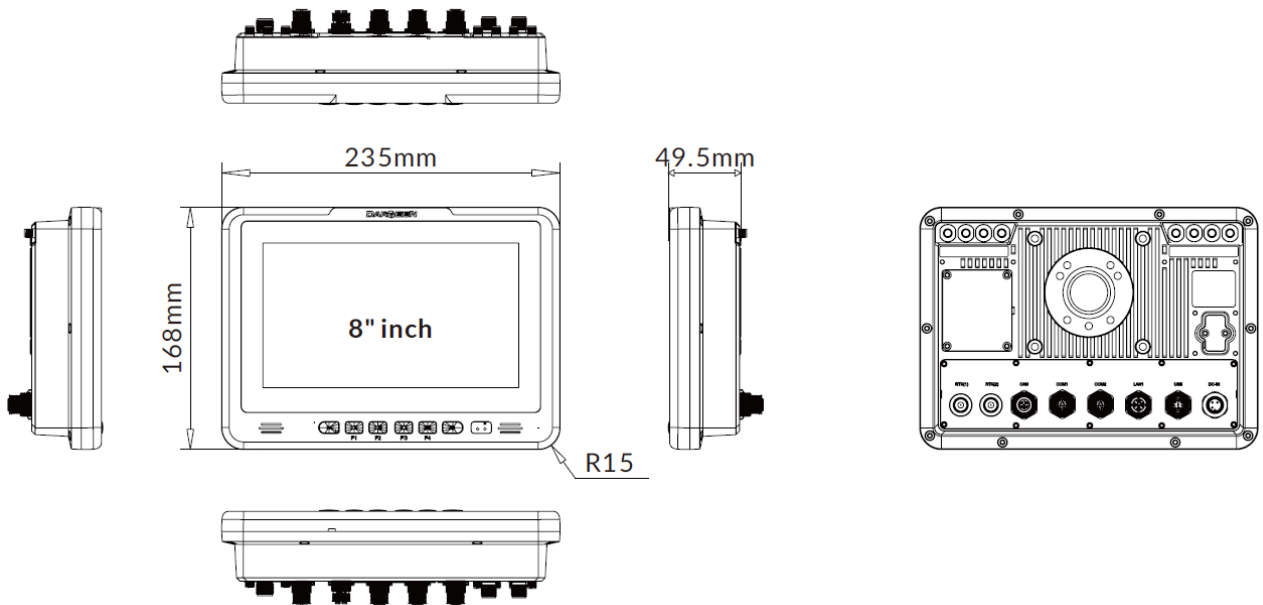
LAN	Pin Number	Definition	Female
M12-X-8P-F	1	TX_D1+	
	2	TX_D1-	
	3	RX_D1+	
	4	BI_D3+	
	5	BI_D3-	
	6	RX_D1-	
	7	BI_D4+	
	8	BI_D4-	

USB	Pin Number	Definition	Female
M12-A-8P-F	1	USB1_VCC	
	2	USB1_D-	
	3	USB1_D+	
	4	USB1_GND	
	5	USB2_VCC	

	6	USB2_D-	
	7	USB2_D+	
	8	USB2_GND	

DC-IN	Pin Number	Definition	Female
M12-A-3P-M	1	DC+	
	3	DC-	
	4	NC	

2.2.3 Dimensions



2.4 Specifications

The FMT-661M detailed specifications as follows. Unless otherwise noted, all the specifications are subject to change without prior notification.

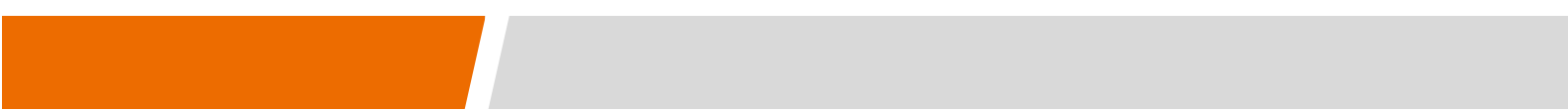
FMT-661M	
Processor	- Intel® Alder Lake-N97, Intel 7, 4-core, up to 3.6GHz
Memory	- 4GB DDR4-2666 SO-DIMM (up to 16GB)
Storage	- 128GB M.2 SSD (up to 2TB)
Operating System	- Windows 11 IoT Enterprise LTSC - Windows 11 Pro
Display	- 8 inch (16:9) - 750 cd/m ² - 1280 x 720
Touch Panel	- Projected capacitive multi touch
Input / Output Ports	- 2x USB 2.0 (M12) - 2x RS-232 (M12) - 1x LAN (M12) - 1x SIM slot 2x SIM slots (optional) - 2x CAN2.0B (M12, optional) - 4x SMA connectors, for Wi-Fi, Bluetooth, 4G, GPS (optional) 7x SMA connectors, for Wi-Fi, Bluetooth, 5G, GPS (optional) 2x TNC connectors, for RTK (optional)
Speaker	- 8Ω/1W, dual studio speakers
Wi-Fi	- Wi-Fi 6E: 802.11a/b/g/n/ac/ax, 2.4G/5G/6G (optional) - Wi-Fi 7: 802.11a/b/g/n/ac/ax/be, 2.4G/5G/6G (optional)
Cellular	- 4G LTE (Optional) - 5G NSA/SA (Optional)

Bluetooth	- Bluetooth 5.3 (Depend on Wi-Fi 6E, optional) - Bluetooth 5.4 (Depend on Wi-Fi 7, optional)
GNSS	- GPS, GLONASS, Galileo, BeiDou (Optional, Ublox NEO M8N)
Keyboard	- Power On/Off - Brightness and volume adjustment - F1-F4 user-defined function keys - Power LED indicator
Power System	- DC Input: 8~36V DC - Power Consumption: 18W Typ. - Mode: ATX (default), AT
Dimensions and Weight	- Dimensions (W x D x H): 235 x 168 x 49.5 mm (9.25 x 6.61 x 1.95 inches) - Weight (N.W.): 1.55 kg (3.42 lbs)
Material	- Die-casting Aluminum with Heavy Duty Metal
Certification	- CE, FCC

2.5 Environment Standard

Operating Temperature	-30~60°C (-22~140°F)
Storage Temperature	-40~70°C (-40~158°F)
Mounting Mode	VESA 75
Relative Humidity	95% @ 70°C (158°F), non-condensing
Shock	MIL-STD-810H Method 514.8 Procedure I
Vibration	MIL-STD-810H Method 516.8 Procedure I
Water & Dust proof	IP65 compliant

Chapter3. Configuration



3.1 Button Operation Usage

3.1.1 Turn on the FMT-661M

Press the power button to turn on the FMT-661M. If the FMT-661M does not power on, check the power supply has been connected normally and you should try again.

When the FMT-661M is powered on, its operating system starts up. A splash screen of Darveen logo appears for a short period of time followed by the Windows 11 desktop window.



Power Button

3.1.2 Adjust brightness and volume

When the FMT-661M is powered on and login Windows system, you can adjust screen brightness manually by pressing the button on the front of FMT-661M.



Increasing brightness



Decreasing brightness



Increasing volume



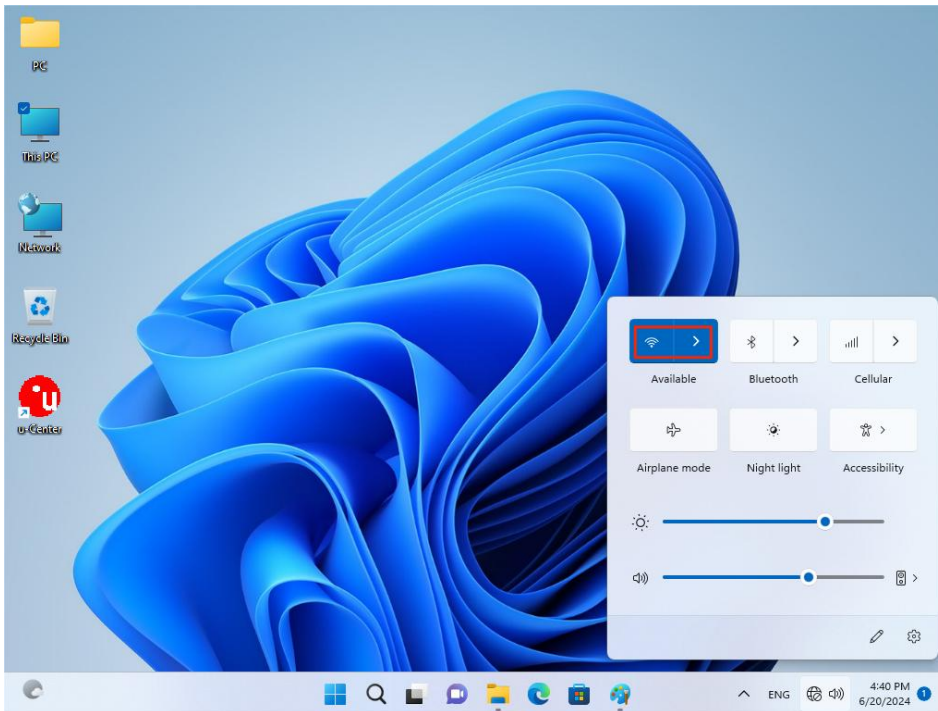
Decreasing volume

3.1.3 Button definition

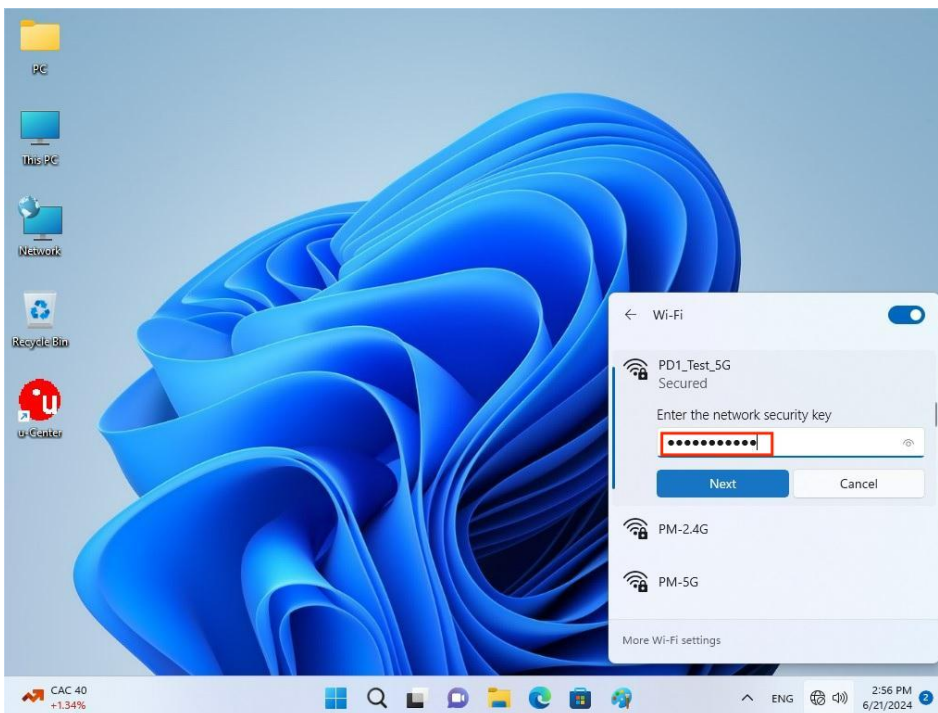
Button	Define
F1	Help
F2	Rename
F3	Search / Find
F4	Address Bar List / Repeat Last Action

3.2 WiFi

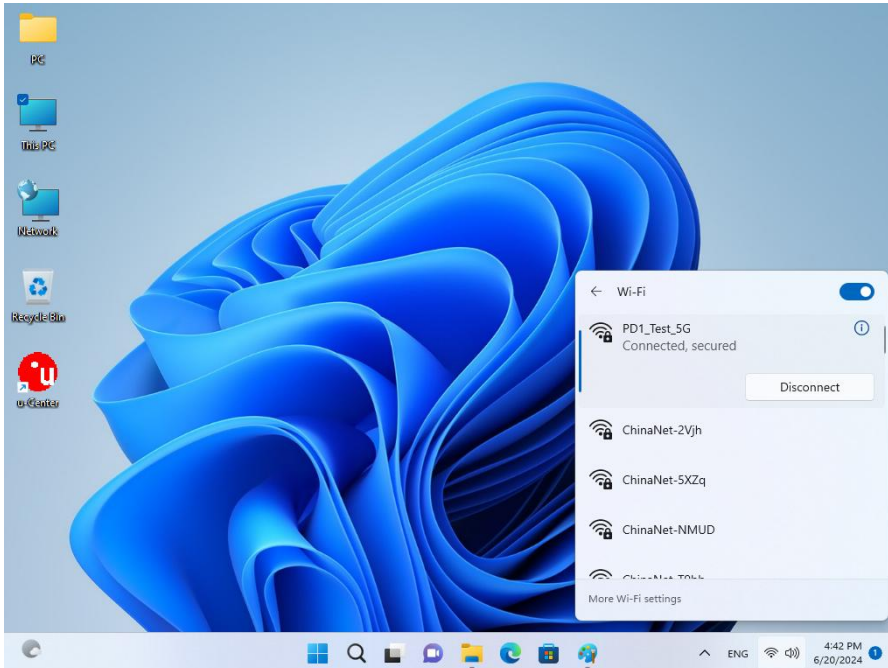
1. Click the network signal icon in the lower right corner of the desktop, select the Expand button and view the list of wireless signals.



2. Select the WiFi signal you want to connect to and enter the correct password.



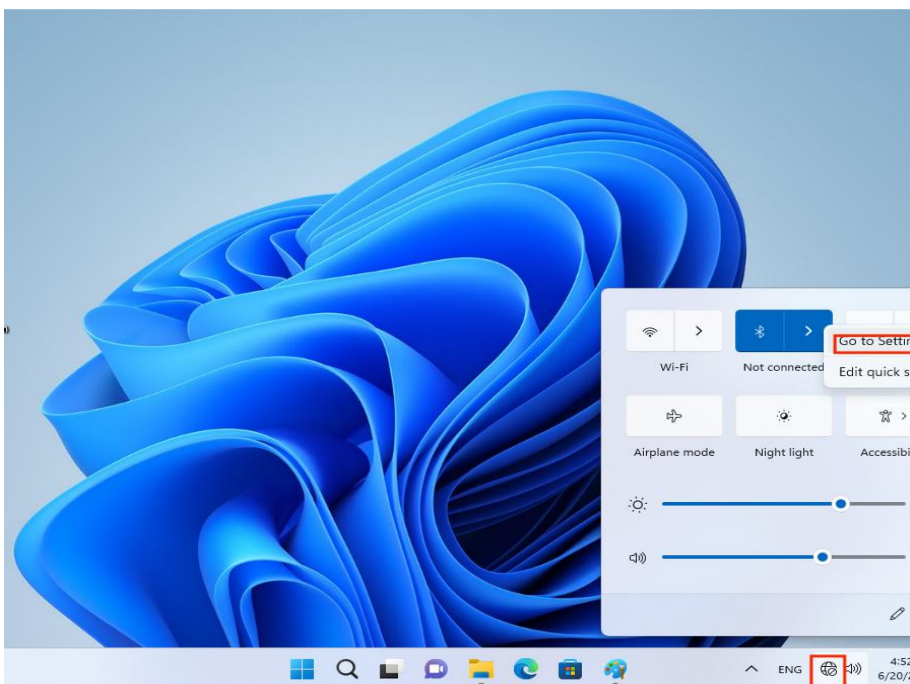
3.The wireless network is properly connected and you can use the wireless network to surf the Internet.



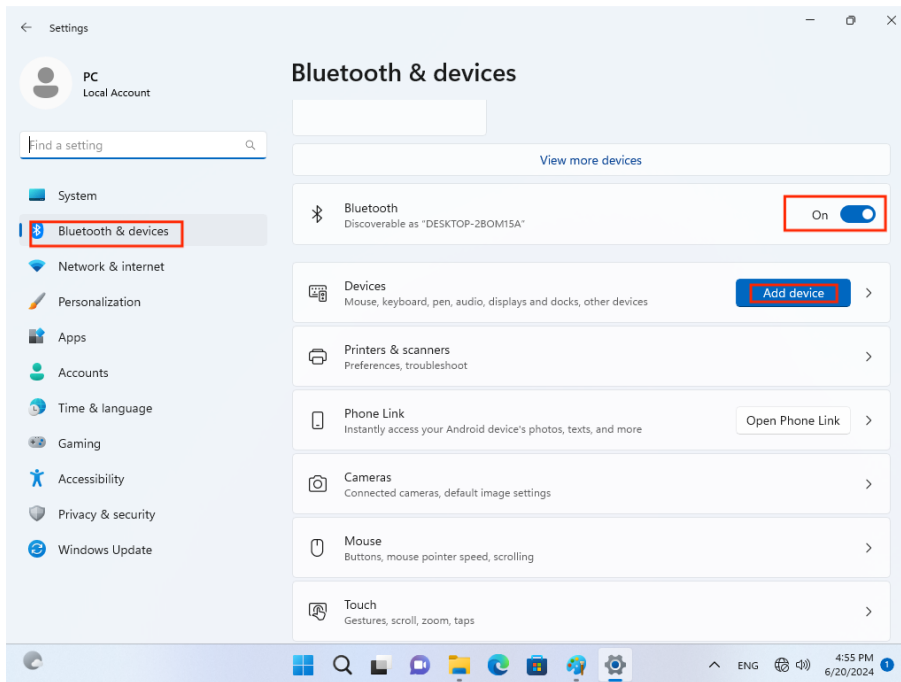
3.3 Bluetooth

3.3.1 Turn on the Bluetooth

1.Tap the network signal icon in the lower right corner of the screen,Click the right mouse button on the Bluetooth icon to enter the Bluetooth setting interface.

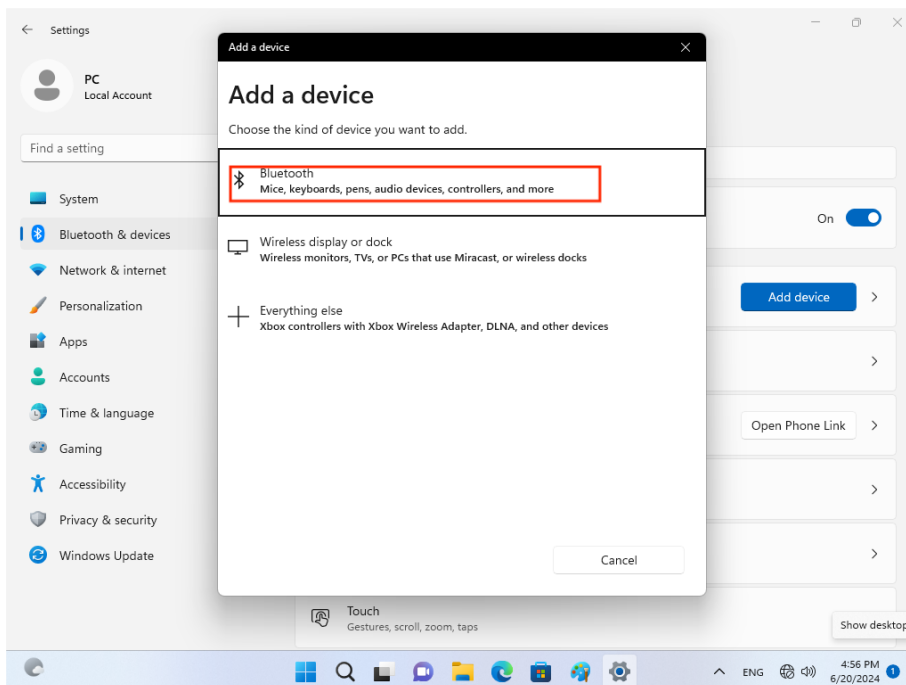


2. In the **"Bluetooth & devices"**, Turn on the **"Bluetooth"**.

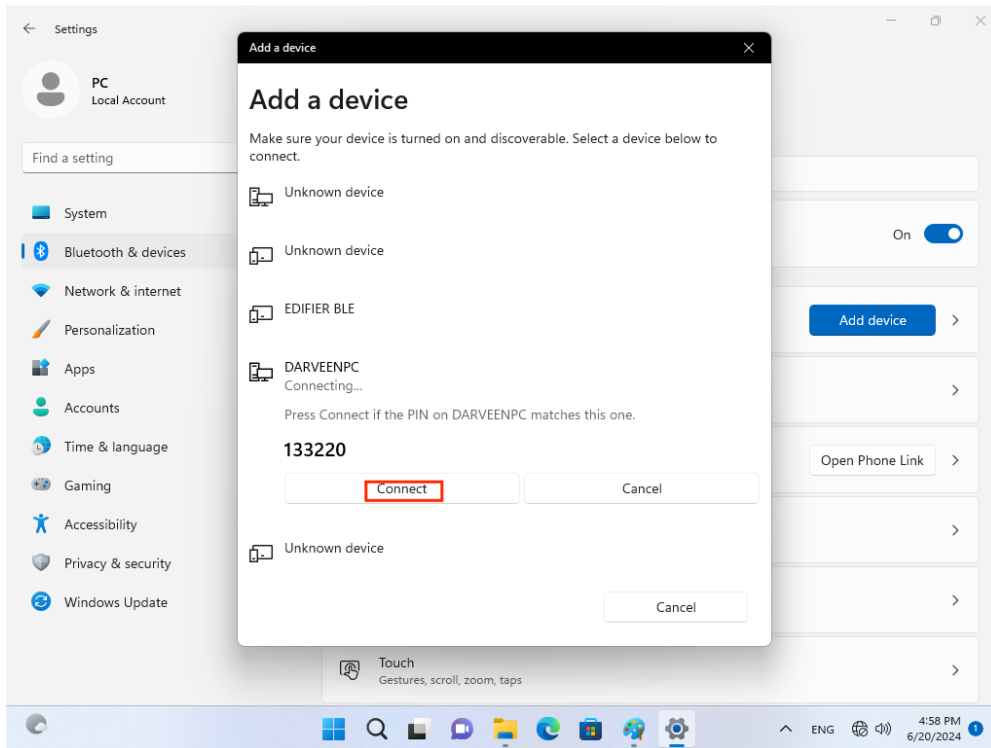


3.3.2 Connect to the Bluetooth

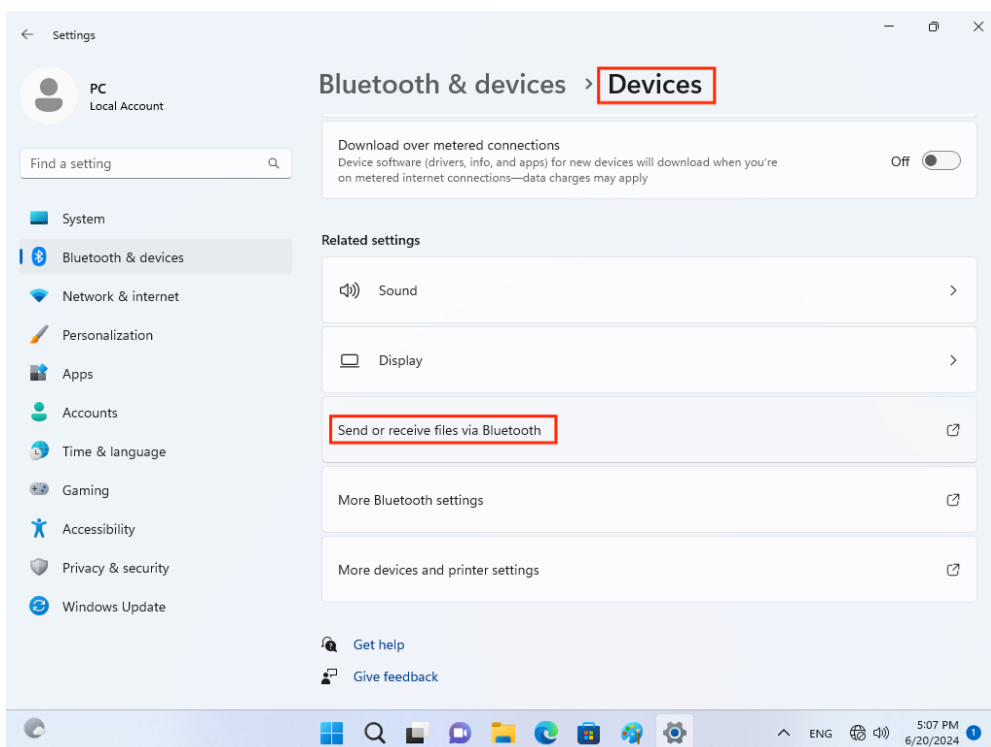
1. Click **"Add device"** and select the type of the Bluetooth device to be added.



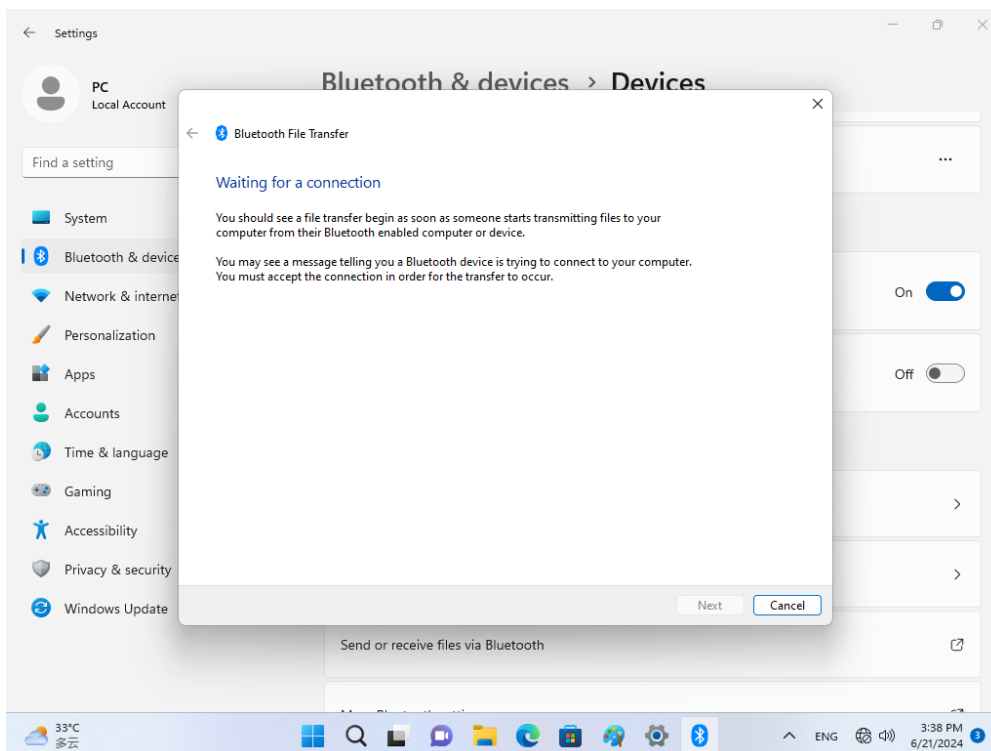
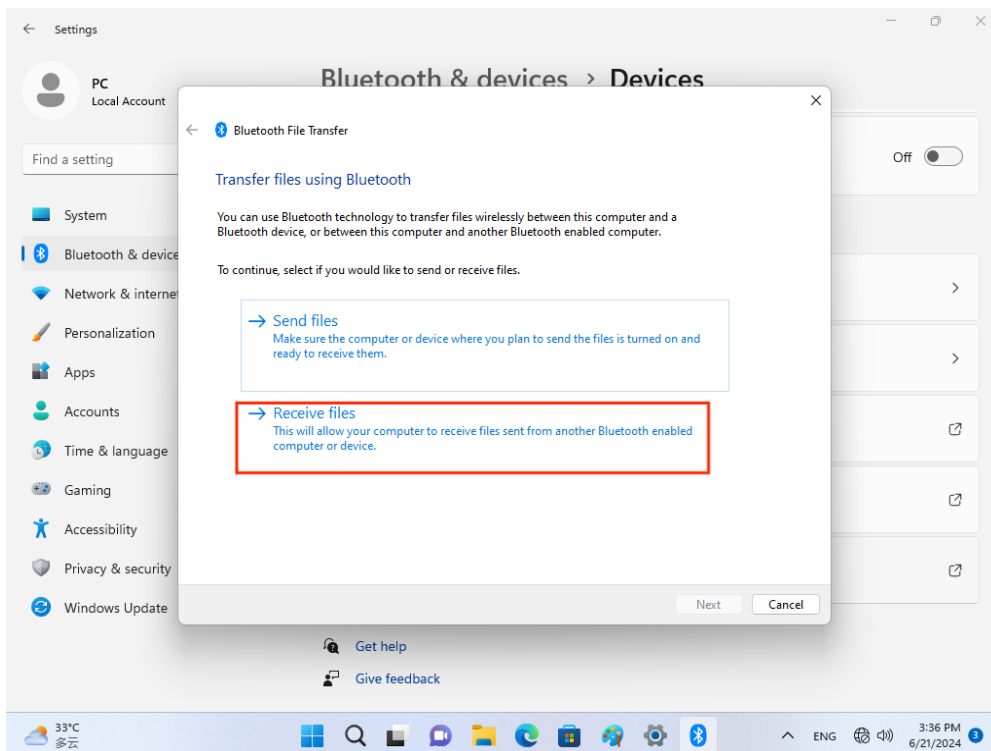
2. Click the Bluetooth device to be connected, and you will see a matching PIN pop up. After confirming that FMT-661M is the same as the matching PIN on the device to be connected, click **"Connect"** to match successfully, and then you can start to use Bluetooth to send and receive files.



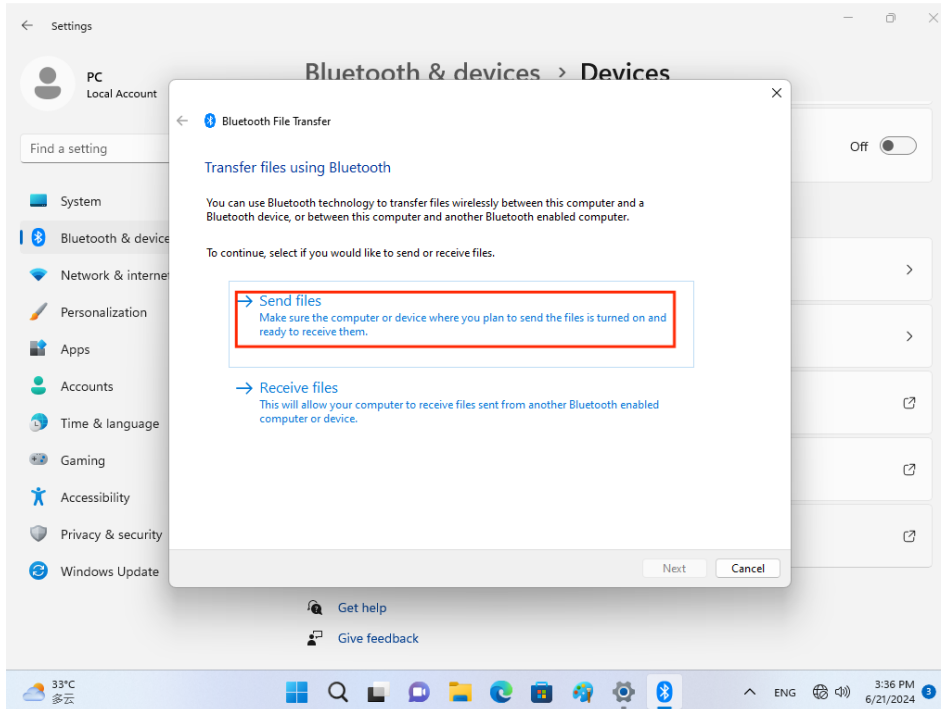
3. In the **"Bluetooth & devices"** interface, click **"Send or receive files via Bluetooth"** to open the Bluetooth file transfer interface.



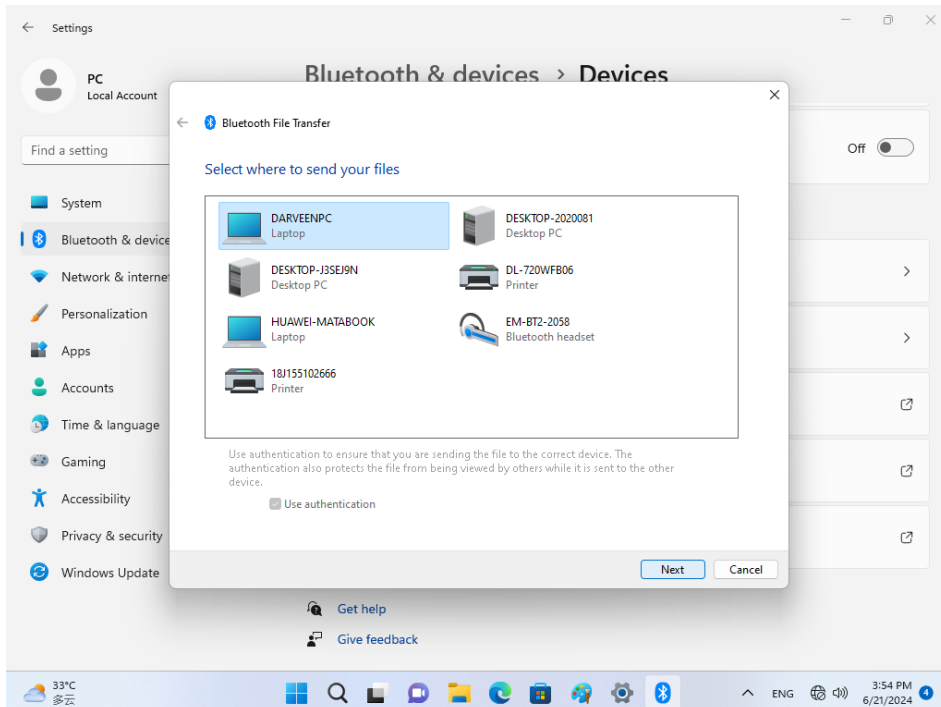
4. Receive the files. Before other devices send files to FMT-661M, click "**Receive File**" below to wait for the files to be received.



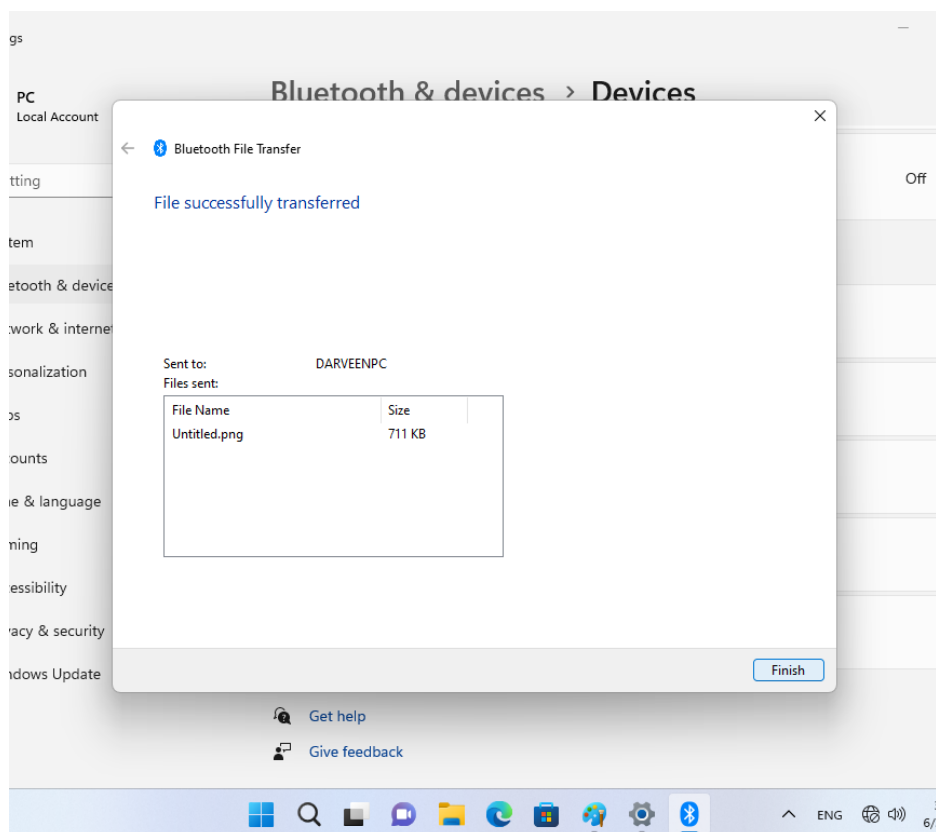
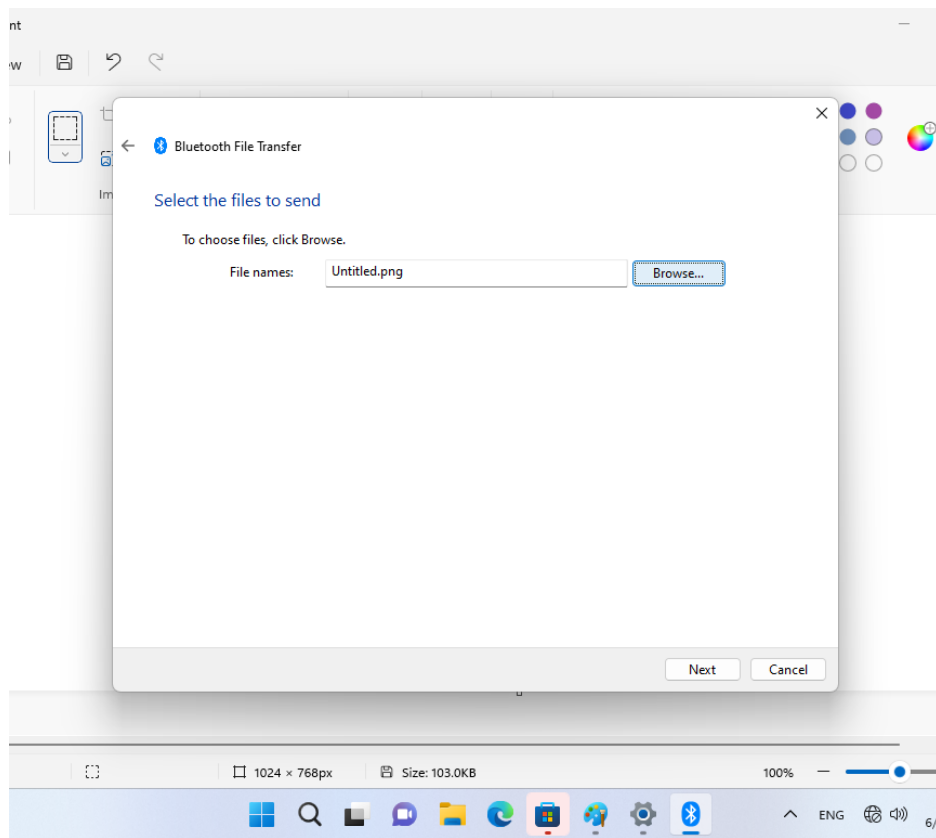
5. Send files. Before sending the file of FMT-661M to other devices, please click "**Send File**".



6. Select the device you want to send to and click "**Next**".



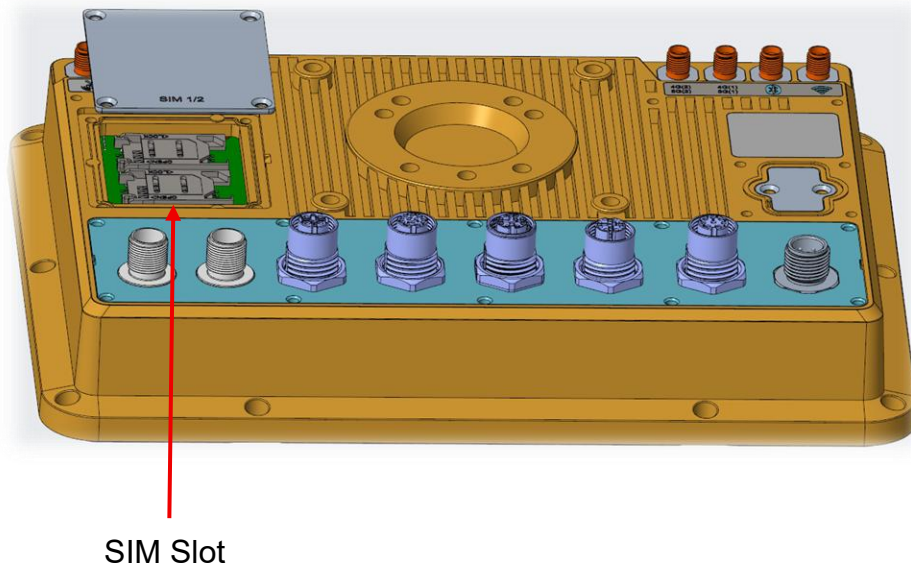
7. Click "**Browse**" and select the file to be sent, and wait for the file to be sent.



3.4 4G/5G

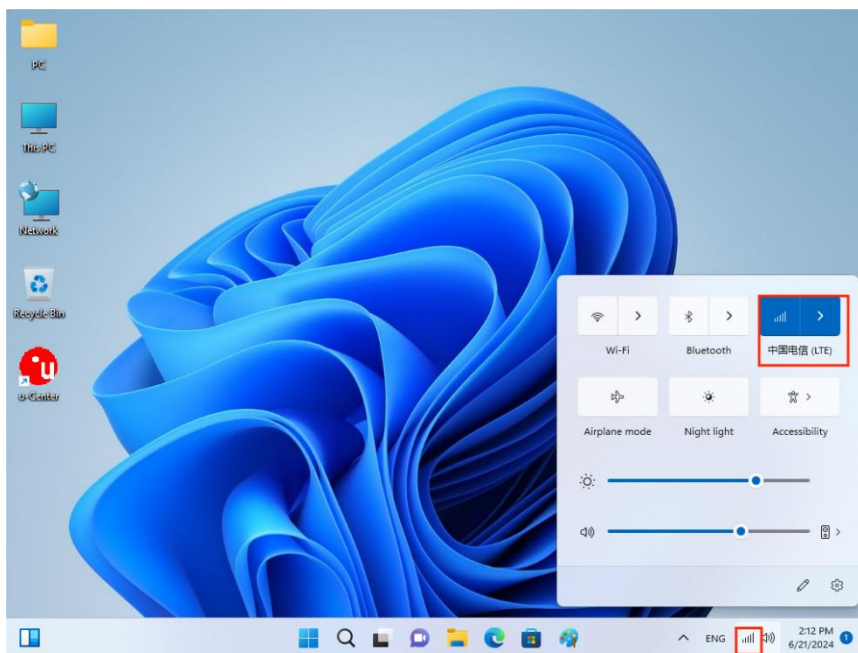
3.4.1 Installation of SIM Card

1. Insert the SIM card into the FMT-661M. The SIM card slot is flip style. The SIM card slot position is as follows.



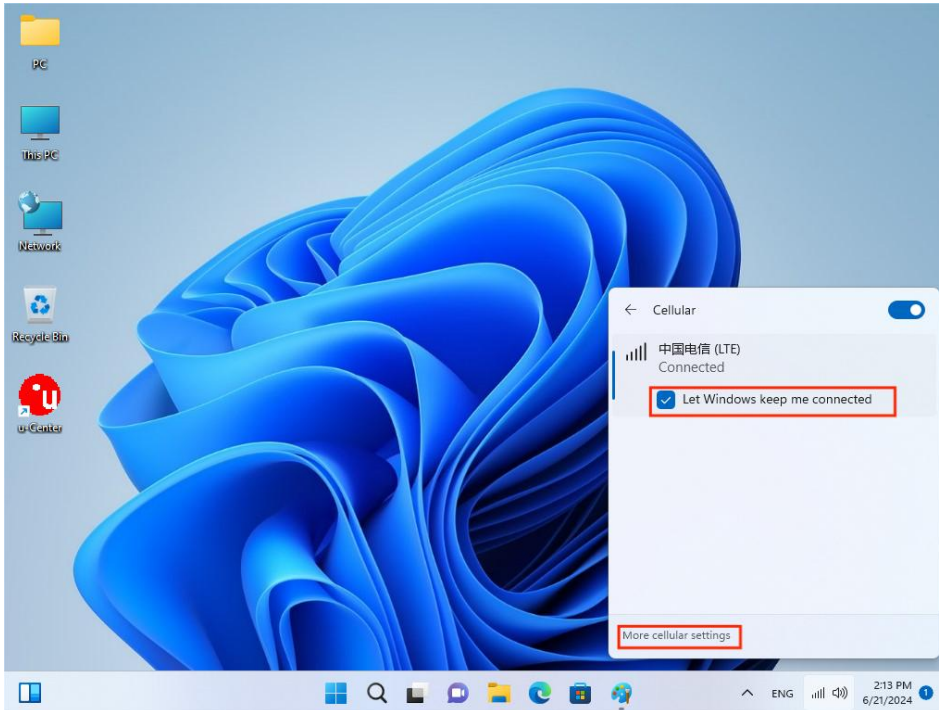
Note: Please ensure that the machine is completely powered off before inserting and removing the SIM card.

2. Click the network icon in the lower right corner of the desktop, and left click the mobile network icon to enable the mobile network connection function.

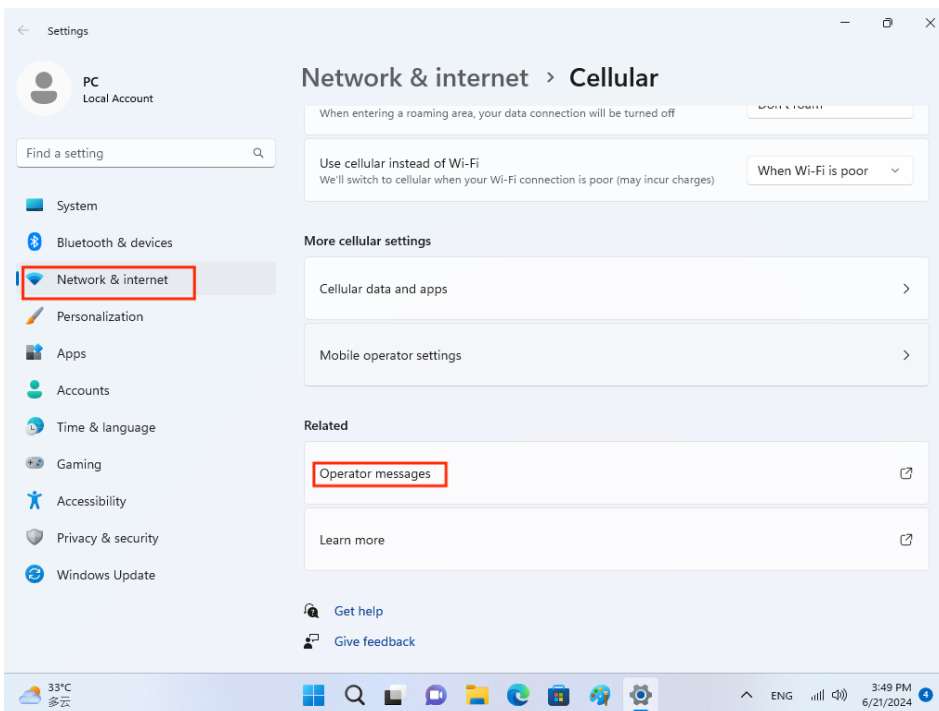


3.4.2 4G/5G setting

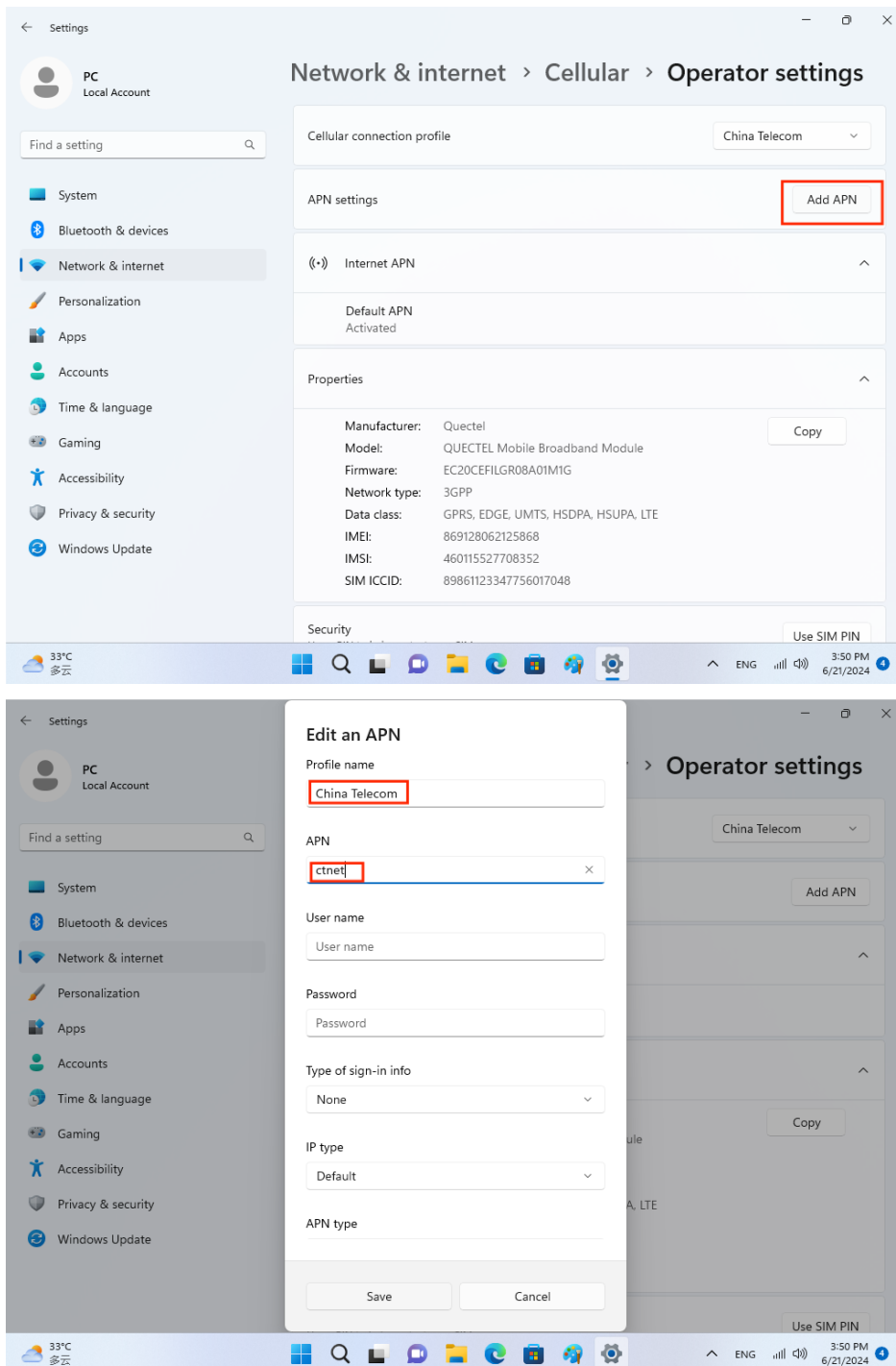
1.If the network connection is normal after the SIM card is installed, select **“Allow Windows to keep me connected”** to complete the connection.



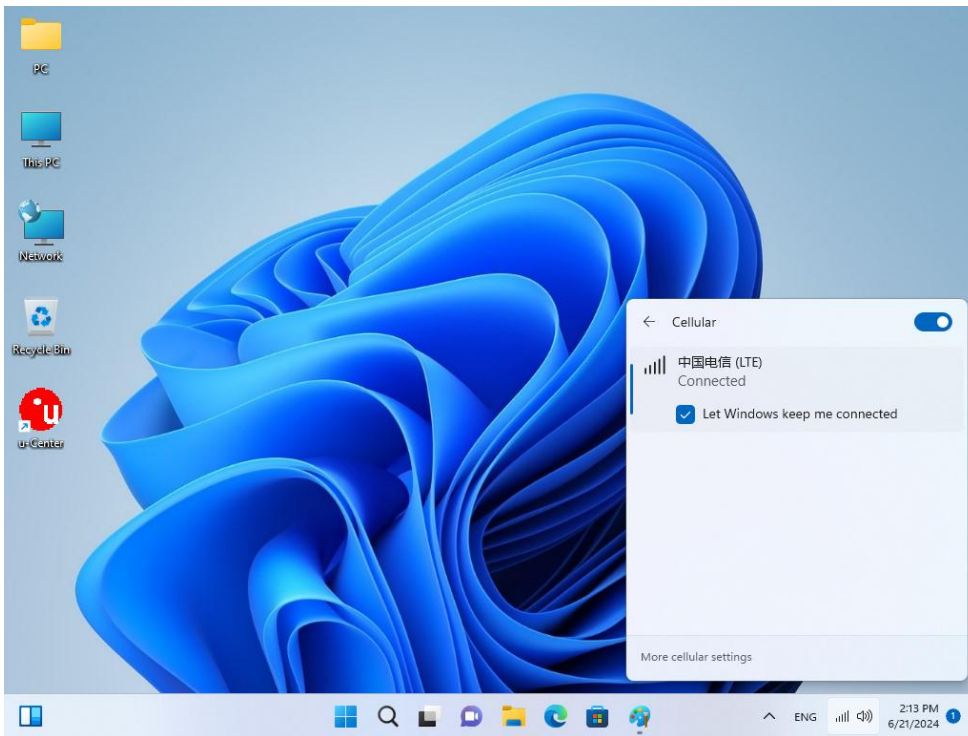
2.If the connection is not successful, click **"More operator settings"** in the figure below to enter the **"Network &Internet"** .



3. Select **"Add APN"**, enter the APN corresponding to the SIM card of each operator in the interface of editing access point, and save the APN of each operator is different. The APN of China Mobile is generally **"cmnet"**, China Unicom is **"3gnet"**, and China Telecom is **"ctnet"**. After the APN is set, the power off and restart, You can connect to your mobile network and surf the Internet normally.



4. If the connection is successful, the following information is displayed.



3.5 GPS

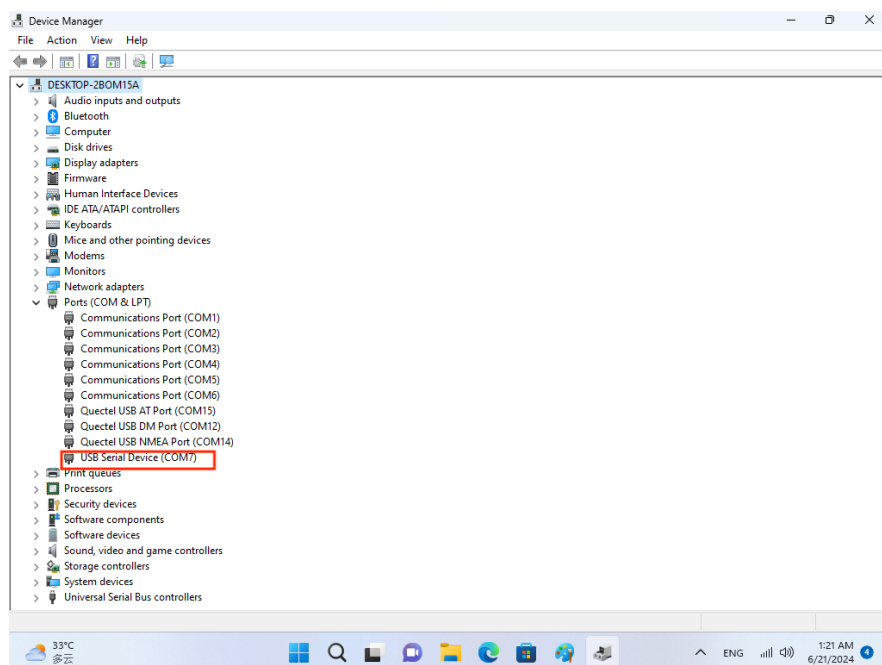
3.5.1 Guidelines for the Use of GPS

1. Install GPS antenna on antenna interface (GPS label) of FMT-661M. You can buy antennas with better signals. Install those on the antenna interface.

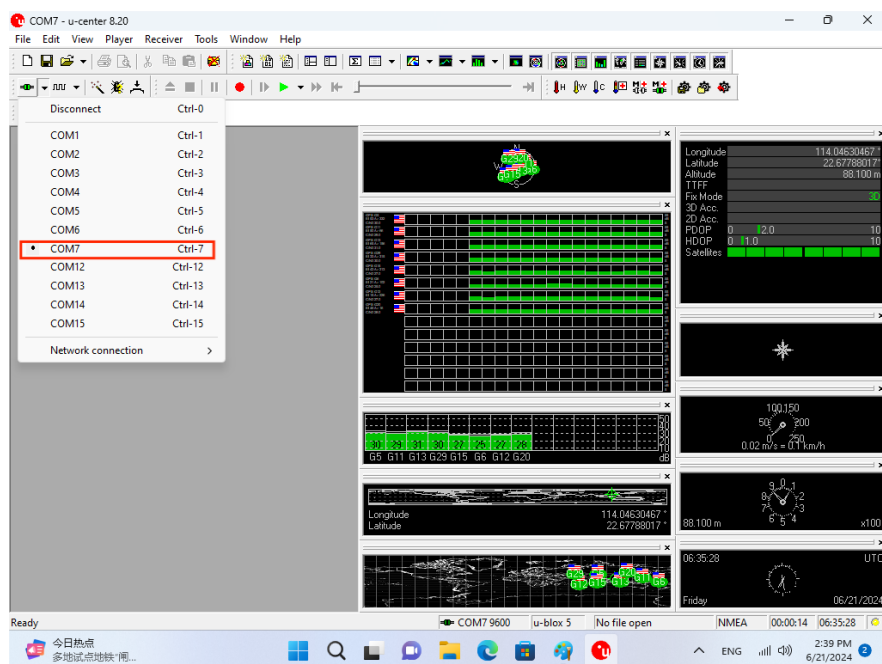


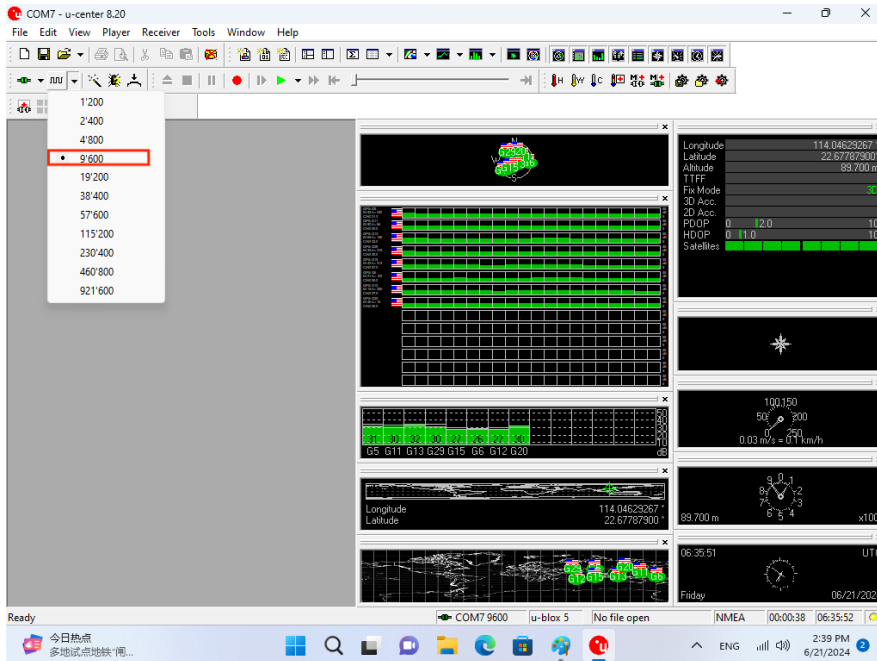
3.5.2 GPS Connection

1.You can get GPS information by this serial port.Select the COM, which you can view the virtual COM number of the GPS module in the “**Device Manager**”.

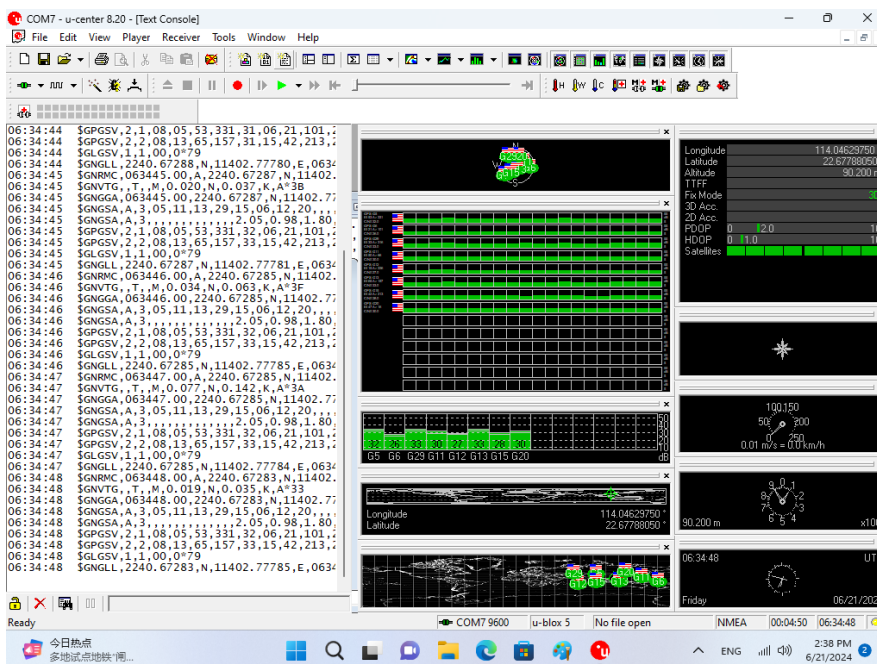
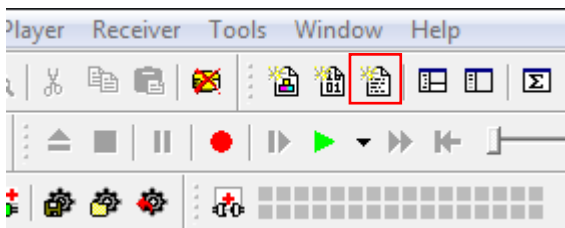


2.The GPS module receives the signal and transmits it to the windows system by COM port. The baud rate is **9600bps**.





3.If the device is working correctly, the display will show information about the satellite constellation, signal to noise ratio, time.



Chapter4. Accessories and Power connection



4.1 Check the package

Open the package and check all the parts are inside without shortage and damage.

Different configuration include different accessories.

4G version:

Part Number	Name	Description	Quantity	Picture
A.01.001.001219	FMT-661M-D9EAK-A01 Main Unit	FMT-661M, CTP(750), N97, 4GB DDR4, 128GB M.2 2280 SATA SSD, WiFi6E(AX210), Bluetooth(AX210), 4G(EC20), GPS(UG-M80), SMA(1)-WiFi, SMA(2)-Bluetooth, SMA(3)-4G_M, SMA(8)-GPS	1	
A.02.002.000096	Power cord	0P to 3P, M12-3P-Female, 2.0meters, RBY, 90°, 3CZ01029316	1	
A.02.004.000061	Rod antenna	SMA(Male), 3dB, for Wi-Fi, Bluetooth, 4G	3	
A.02.004.000031	GPS antenna	SMA(Male), 3.0 meters, for GPS/Beidou	1	
A.03.004.000270	M12-USB(A) cable	500mm, M12/8P(M) to USB(F)x2, CZ0102945	1	
A.03.004.001380	M12-LAN(RJ45) cable	500mm, M12-8P(X-Code(M)) to RJ45(F), 3CZ01029306	1	
A.03.004.001381	M12-COM(DB9) cable	500mm, M12/12P(M) to DB9(M) Connector, 3CZ01029305	2	

4.2 Power Connection

4.2.1 Power Options

Before using the FMT-661M, choose different power adapters for different vehicle power.

Power Options including:

- **12 VDC Vehicles** (8-36VDC Direct Connection) – Direct connection to vehicle power.
- **24 VDC Vehicles** (8-36VDC Direct Connection) – Direct connection to vehicle power.
- **48 VDC Vehicles** – Requires the use of a DC-DC power supply.
- **80 VDC Vehicles** – Requires the use of a DC-DC power supply.
- **External AC/DC Power Supply** – For use when DC power supply is not available to power the FMT-661M, such as in an office environment.

4.2.2 Power Cable Identification

PC-03M-20-ACC

Power cable with straight connector and 4 wires, 2 meters long:

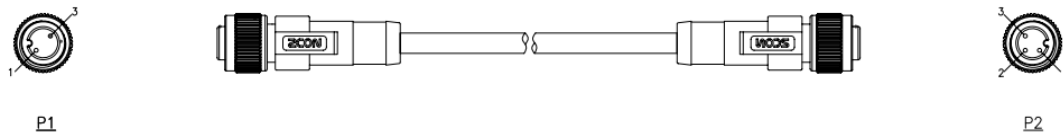


M12 Connector	Wire Color	Connection
P1	Red	DC+ (8-36 VDC)
P2	Yellow Green	Ignition (by request)
P3	Black	DC-
Case	Black	Ground

Note: PC-03M-20-ACC cable is use for direct connection from vehicle power to FMT-661M or DC-DC power input.

PC-23MM-20

Power cable with straight connector, 2 meters long:

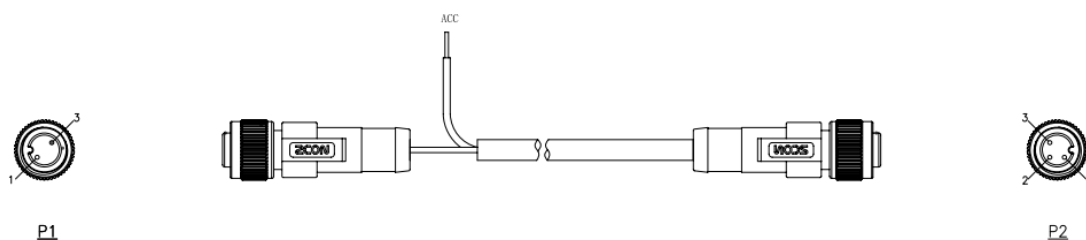


M12 Connector(P1)	M12 Connector(P2)	Connection
P1	P1	DC+ (8-36 VDC)
(NC)	P2	Ignition Input (Optional)
P3	P3	DC-
Case	Case	Ground

Note: PC-23MM-20 cable is use for connection from FMT-661M to DC-DC power output, just without power ignition function.

PC-23MM-20-ACC

Power cable with straight connector and 1 wire, 2 meters long:



M12 Connector(P1)	M12 Connector(P2)	Connection
P1	P1	DC+ (8-36V DC)
(Yellow)	P2	Ignition Input (Optional)
P3	P3	DC-
Case	Case	Ground

Note: PC-23MM-20 cable is use for connection from FMT-661M to DC-DC power output, also with power ignition function.

4.2.3 External Power Adapter Options

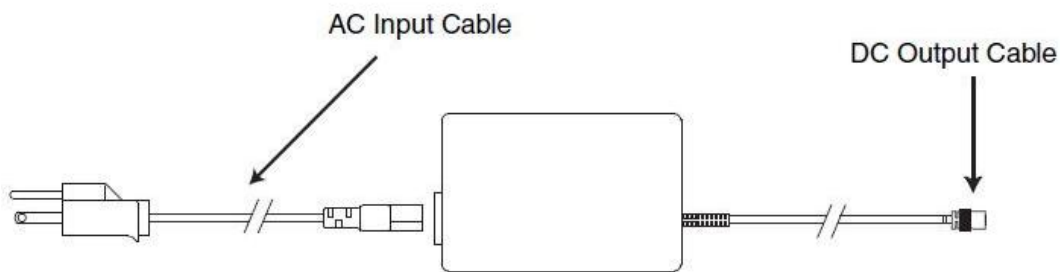
1. External AC-DC Power Supply

PWR220A12-M12

The optional external AC/DC power supply is for use in environments, such as an office, where DC power is not available.

PWR220A12-M12 is support 100V-240V ac input, provide 12V DC and 5A power output, the power connector is an M12 male type which can meet IP65 dust and water proof.

Note: The Darveen-approved AC/DC Power Supply and Adapter Cable are only intended for use in a 25°C (77°F) maximum ambient temperature environment.



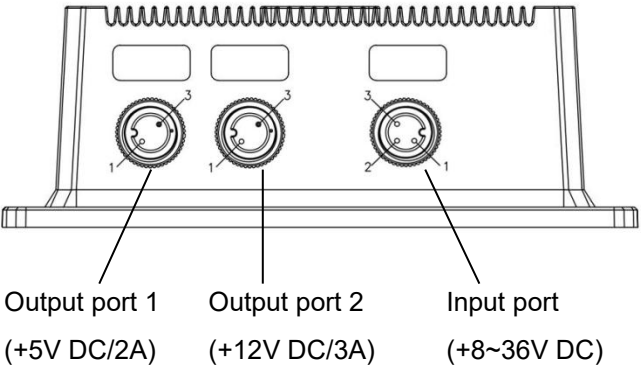
Connect External AC/DC Power Supply

1. Connect the provided detachable cord set (all others must order cable separately) to the external power supply.
2. Plug cord set into appropriate, grounded, electrical supply receptacle (AC mains).
3. Connect the watertight connector end of the Adapter Cable to the FMT-661M Power Connector by aligning the connector pins to the power connector; push down on the watertight connector and twist it to fasten securely.
4. Press the Power Button on the front of the FMT-661M to turn on the FMT-661M.

2. External DC-DC Power Supply

PWR836D512-M12

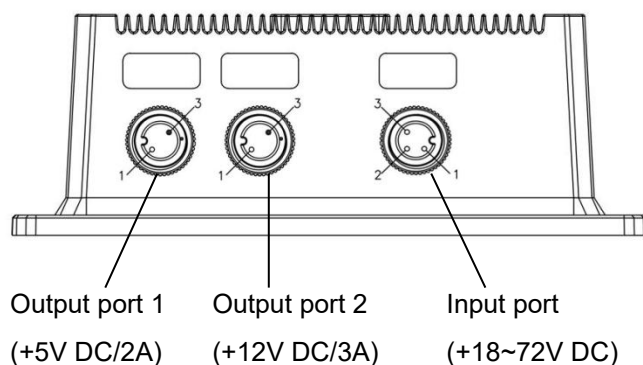
PWR836D512-M12 is an optional external DC/DC power supply, that is for use in vehicles provided 12V DC or 24V DC power. The power input and output connectors are M12 male type which can meet IP65 dust and water proof.



Input Port		Output Port 1		Output Port 2	
Pin	Signal	Pin	Signal	Pin	Signal
1	DC In+ (8-36 VDC)	1	DC Out+ (+5V/2A)	1	DC Out+ (+12V/3A)
2	NC	3	DC Out-	3	DC Out-
3	DC In-				

PWR1872D512-M12

PWR1872D512-M12 is an optional external DC/DC power supply, that is electronic isolation for use in the vehicles provided 48V DC power. The power input and output connectors are M12 male type which can meet IP65 dust and water proof.



Input Port		Output Port 1		Output Port 2	
Pin	Signal	Pin	Signal	Pin	Signal
1	DC In+ (18-72 VDC)	1	DC Out+ (+5V/2A)	1	DC Out+ (+12V/3A)
2	NC	3	DC Out-	3	DC Out-
3	DC In-				

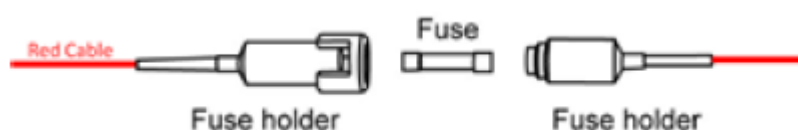
4.2.4 12-24 VDC Vehicles (8-36VDC Direct Connection)



Fuse Requirements:

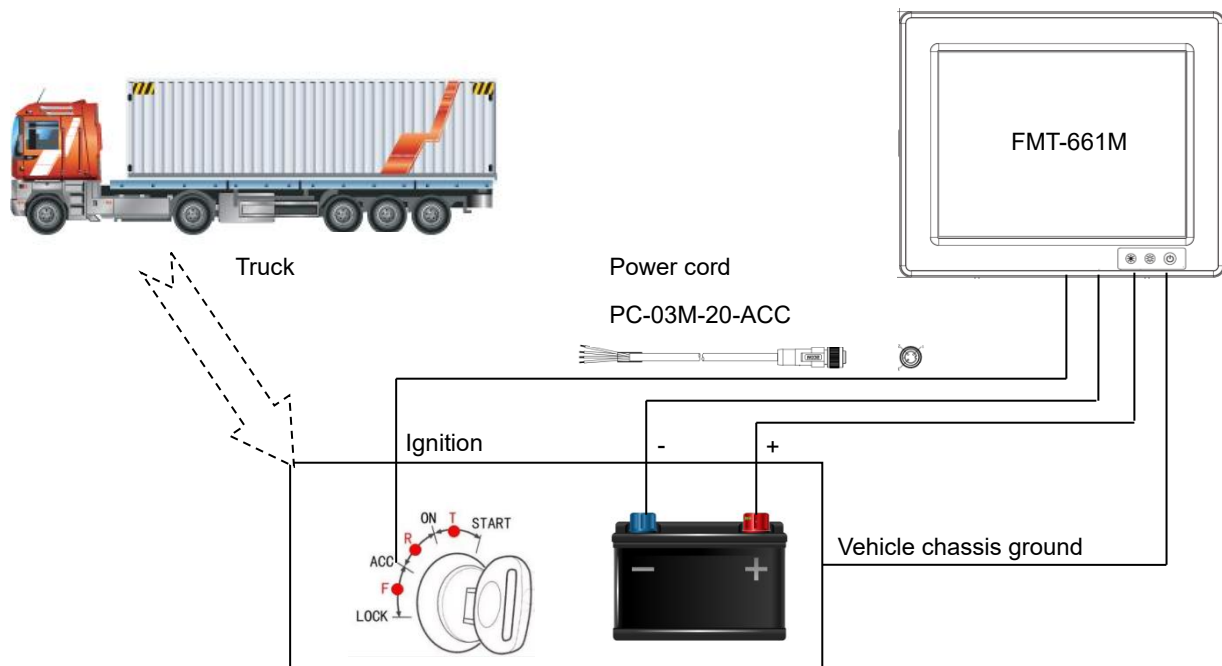
WARNING - For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery's positive (+) terminal. The fused circuit requires a maximum time delay (slow blow) fuse with a current rating as noted below.

- For **12V DC** input, use a 10A slow blow fuse that has a DC voltage rating greater than 12VDC.
- For **24V DC** input, use a 6A slow blow fuse that has a DC voltage rating greater than 24VDC.



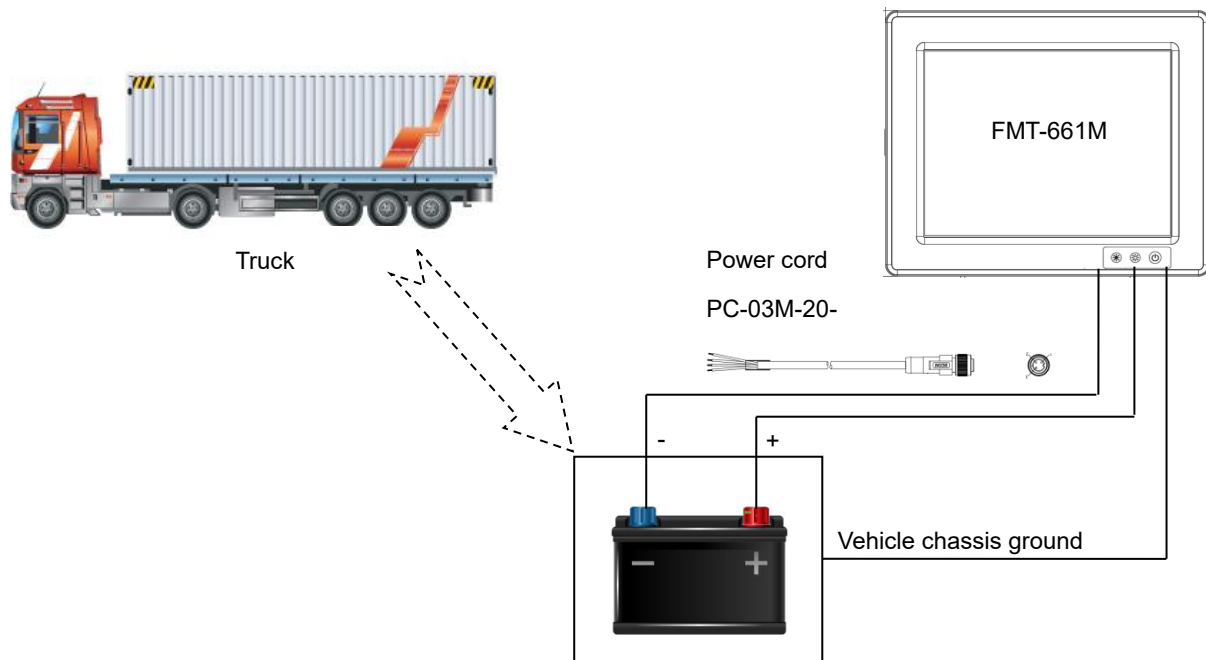
1. Connected vehicle directly.**(1) Use the ignition ON/OFF function.**

Connect the watertight connector end of the power cable to the FMT-661M power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.



(2) Without the ignition ON/OFF function.

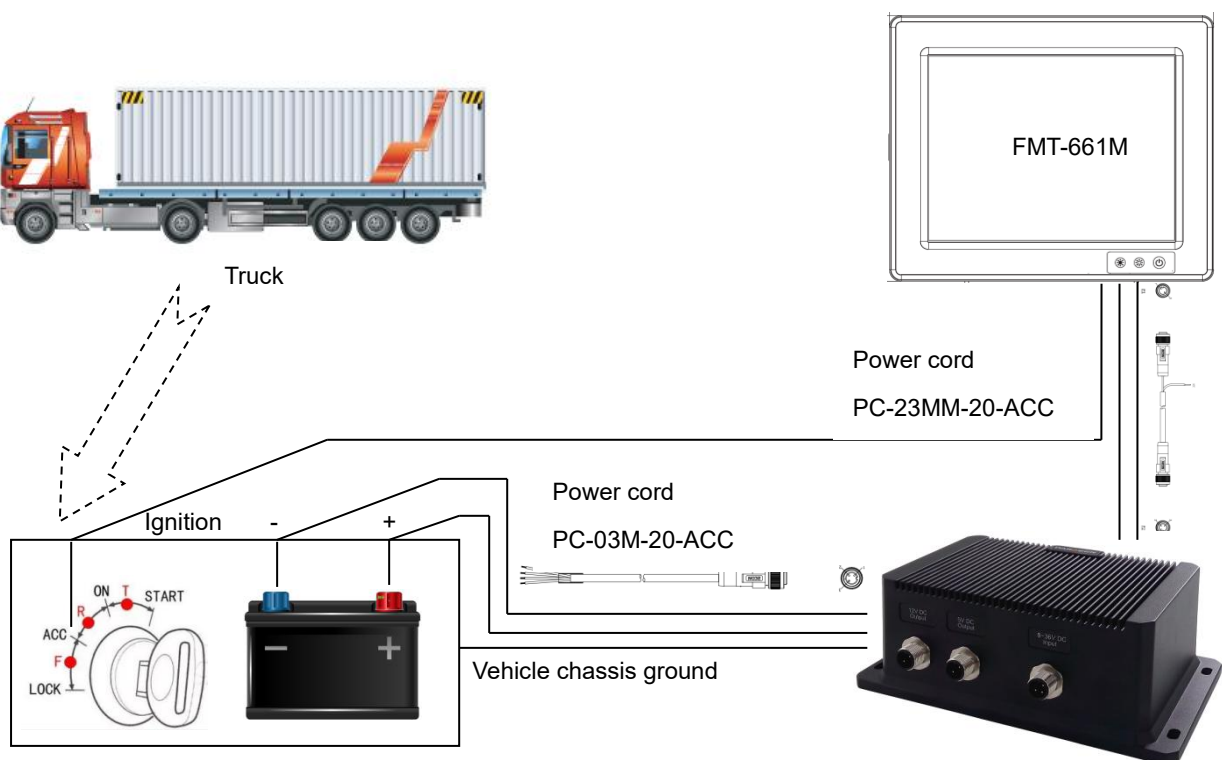
- a. Cut off the yellow wire (Ignition wire) on the power cord (PN: PC-03M-20-ACC);
- b. Connect the watertight connector end of the power cable to the FMT-661M power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.



2. Connected vehicle via DC-DC power adapter.

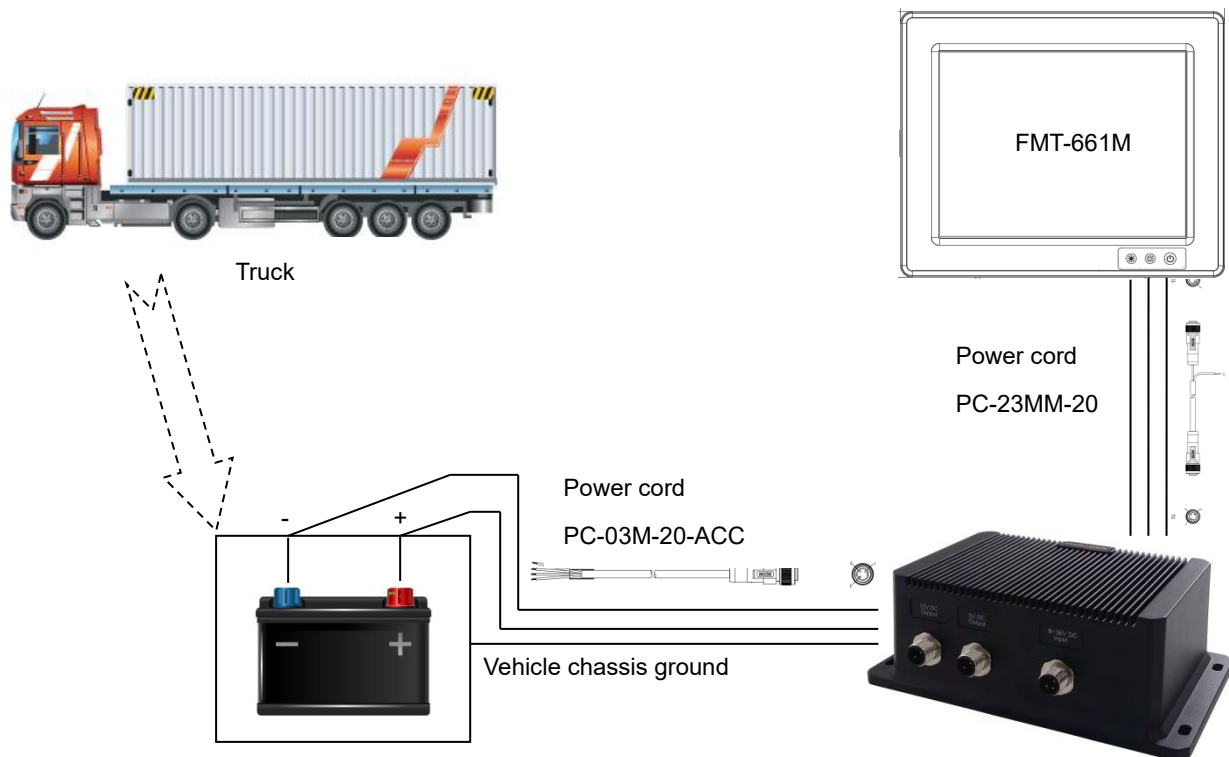
(1) Use the ignition ON/OFF function.

- a. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR836D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- b. Connect the watertight connector end of the power cable (PC-23MM-20-ACC) to FMT-661M and PWR836D512-M12, then connect the yellow wire (ignition wire) to the vehicle ignition signal pin.



(2) Without the ignition ON/OFF function.

- a. Cut off the yellow wire (Ignition wire) on the power cord (PN: PC-03M-20-ACC);
- b. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR836D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- c. Connect the watertight connector end of the power cable (PC-23MM-20) to FMT-661M and PWR836D512-M12.

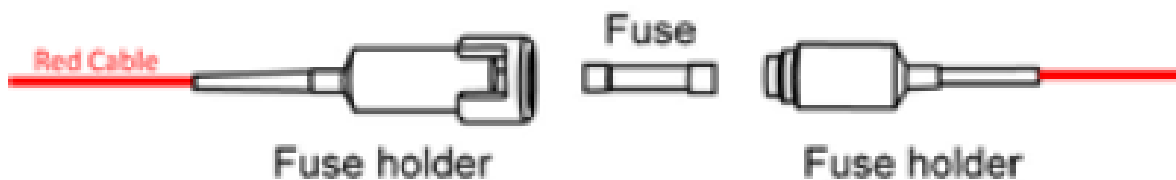


4.2.5 48V DC Vehicles (Connected via DC/DC power)

**Fuse Requirements:**

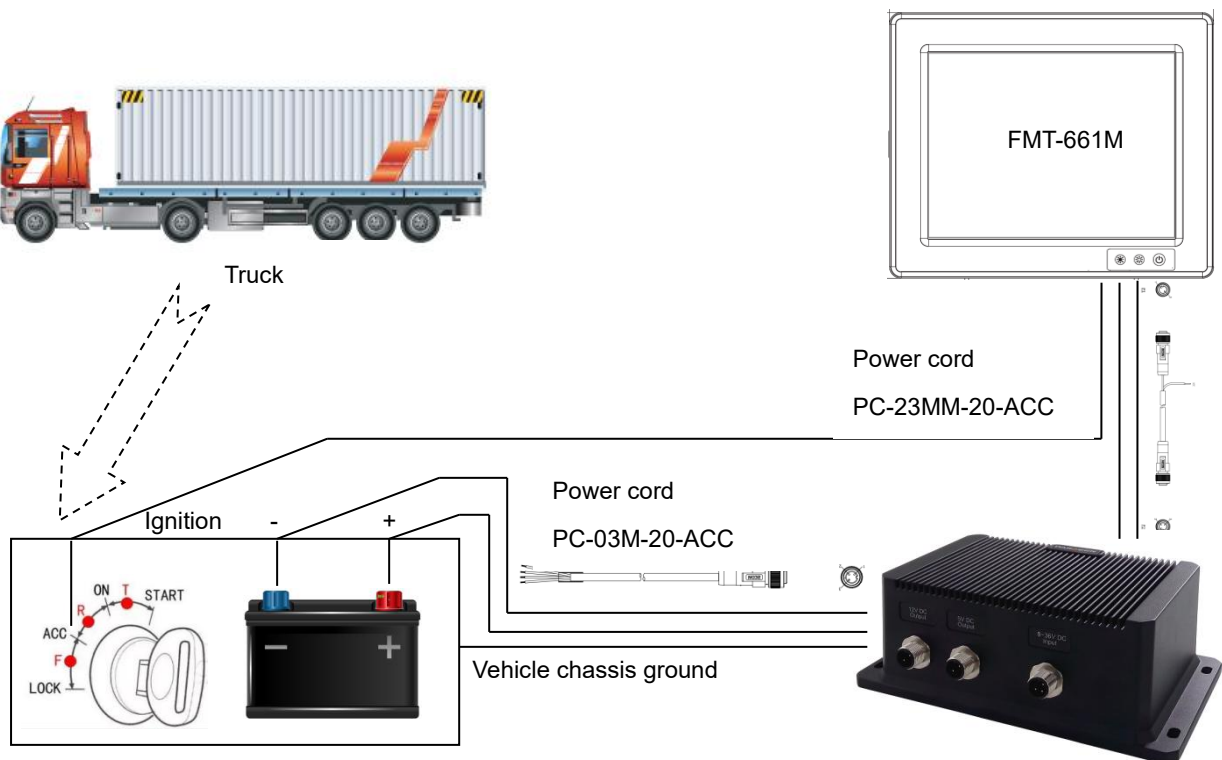
WARNING - For proper and safe installation, the input power cable must be connected to a fused circuit on the vehicle. If the supply connection is made directly to the battery, the fuse should be installed in the positive lead within 5 inches of the battery's positive (+) terminal. The fused circuit requires a maximum time delay (slow blow) fuse with a current rating as noted below.

- For **48VDC** input, use a 3A slow blow fuse that has a DC voltage rating greater than 48VDC.



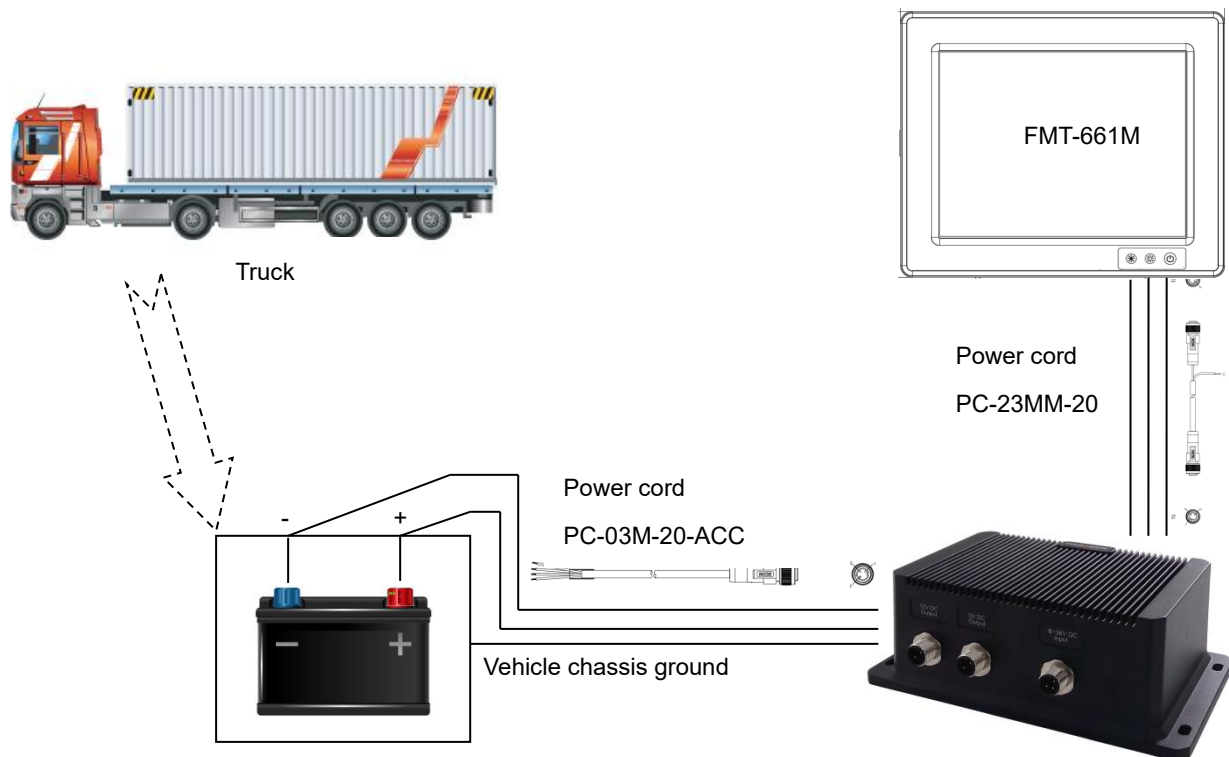
(1) Use the ignition ON/OFF function.

- c. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR1872D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- d. Connect the watertight connector end of the power cable (PC-23MM-20-ACC) to FMT-661M and PWR1872D512-M12, then connect the yellow wire (ignition wire) to the vehicle ignition signal pin.



(2) Without the ignition ON/OFF function.

- d. Cut off the yellow wire (Ignition wire) on the power cord (PN: PC-03M-20-ACC);
- e. Connect the watertight connector end of the power cable (PC-03M-20-ACC) to the PWR1872D512-M12 power connector by aligning the connector pins to the power connector, push down on the watertight connector and twist it to fasten securely.
- f. Connect the watertight connector end of the power cable (PC-23MM-20) to FMT-661M and PWR1872D512-M12.



Chapter5. BIOS Setup



5.1 Operations after POST Screen

After CMOS discharge or BIOS flashing operation, press [Delete] key to enter CMOS Setup.



After optimizing and exiting CMOS Setup, the POST screen displayed for the first time is as follows and includes basic information on BIOS, CPU, memory, and storage devices.

5.2 BIOS Setup Utility

Press [Delete] key to enter BIOS Setup utility during POST, and then a main menu containing system summary information will appear.

In the BIOS Setup Utility, the meaning of different font colors and signs is as follow:

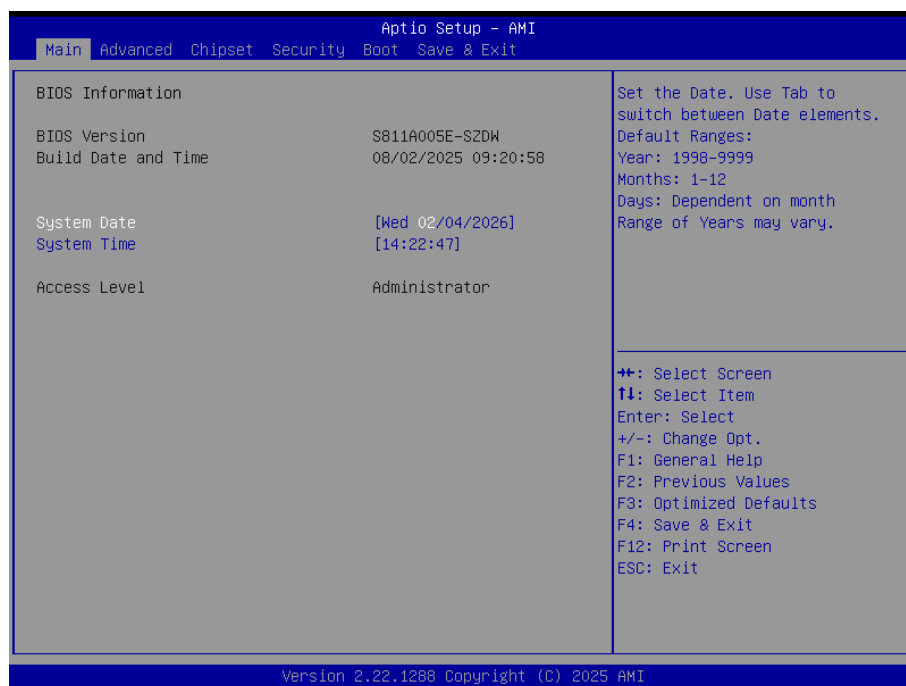
Color/Sign	Meaning
Blue	Items allowed to be set or changed
Black	Items that cannot be set or changed
White	Items currently selected
►	There are submenu pages for this option

The operation keys are described as follows:

Control button	
→ ←	Select Screen
↑ ↓	Select Item
<Enter>	Select
+/-	Change Option
F1	General Help
F2	Previous Values
F3	Optimized Defaults
F4	Save & Exit

F12	Print Screen
<Esc>	Exit

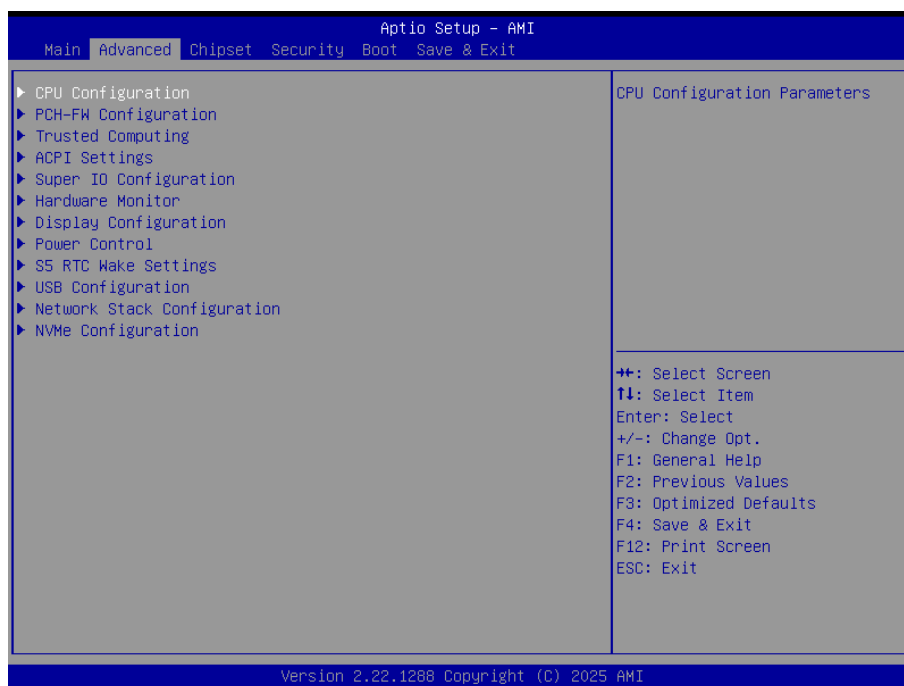
5.3 Main Settings



This menu contains the following information:

- BIOS Version
Display BIOS version information.
- Build Date and Time
Display BIOS date and time.
- System Date
Set the date. Use Tab to switch between date elements. Default ranges:
Year: 1998-9999
Months: 1-12
Days: dependent on month
Range of years may vary.
- System Time
Set the time. Use Tab to switch between time elements.
- Access Level
Display the current access level to BIOS Setup Utility.

5.4 Advanced Settings

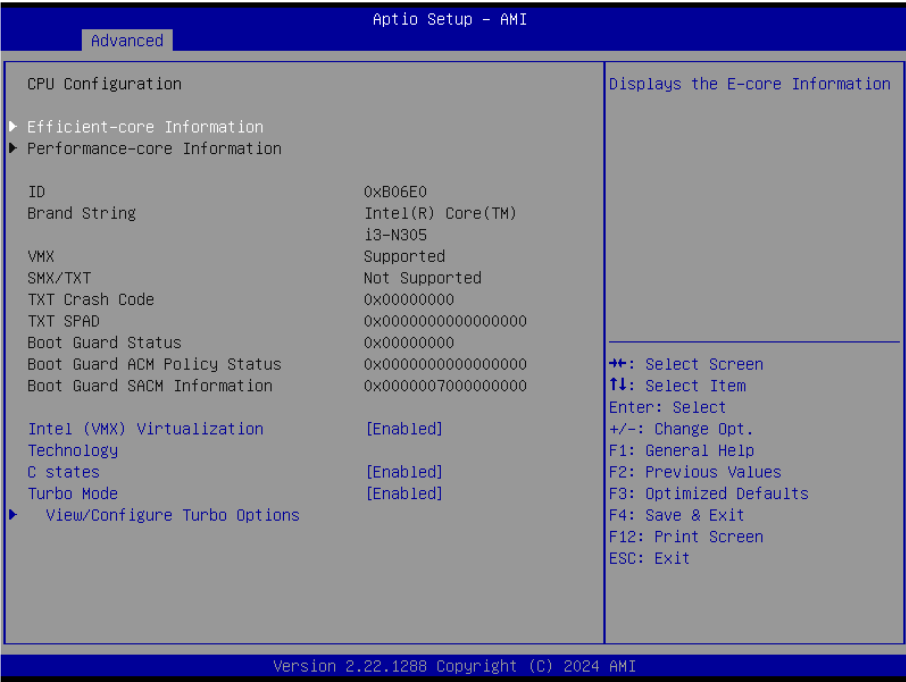


This menu contains the following information:

- CPU Configuration
CPU configuration parameters.
- PCH-FW Configuration
Configure Management Engine Technology Parameters.
- Trusted Computing
Trusted Computing Settings.
- ACPI Settings
System ACPI Parameters.
- Super IO Configuration
System Super IO Chip Parameters.
- Hardware Monitor
Monitor hardware status.
- Display Configuration
Display Configuration Parameters.
- Power Control
Power Button Control Settings.
- S5 RTC Wake Setting
Enable system to wake from S5 using RTC alarm.
- USB Configuration
USB Configuration Parameters.

- Network Stack Configuration
Network Stack Settings.
- NVMe Configuration
NVMe Device Options Settings.

5.4.1 CPU Configuration



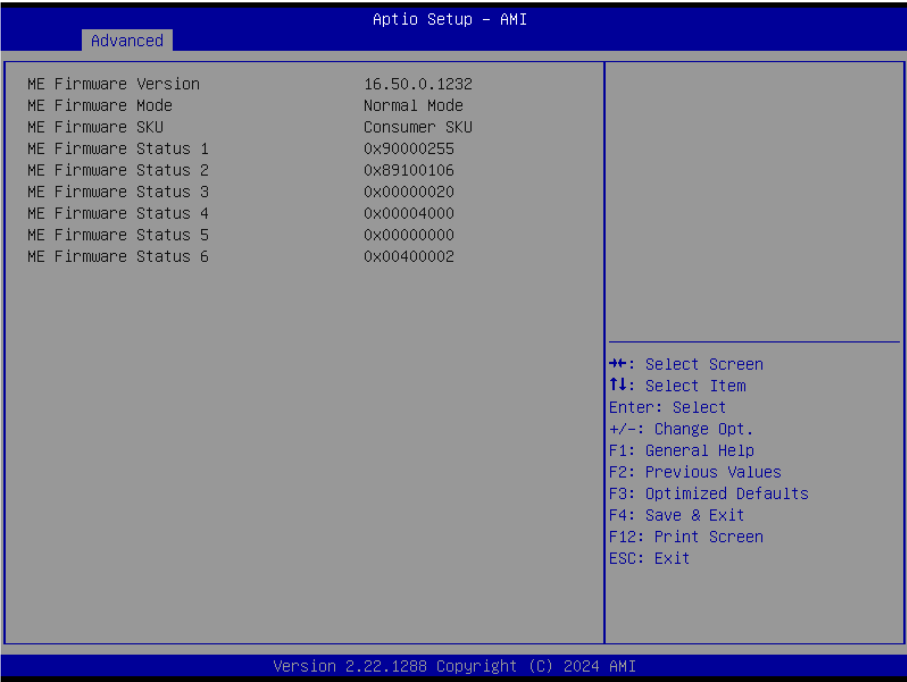
This menu contains the following information:

- Efficient-core Information
Display the E-core Information.
- Performance-core Information
Display the P-core Information.
- ID
Display the Processor ID.
- Brand String
Display the Brand String.
- VMX
VMX (Virtual-Machine Extensions) supported or Not.
- SMX/TXT
SMX (Safer Mode Extensions) /TXT (Trusted Execution Technology) Supported or Not.
- TXT Crash Code
Display the TXT Crash Code.
- TXT SPAD
Display the TXT SPAD.
- Boot Guard Status
Display the Boot Guard Status .
- Boot Guard ACM Policy Status
Display the Boot Guard ACM Policy Status.
- Boot Guard SACM Information

Display the Boot Guard SACM Information.

- Intel (VMX) Virtualization Technology
When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.
- C states
Enable or disable CPU Power Management. Allows CPU to go to C states when it's not 100% utilized.
- Turbo Mode
Enable or disable processor Turbo Mode (requires EMTTM enabled too). AUTO means enabled.
- View/Configure Turbo Options
View/Configure Turbo Options.

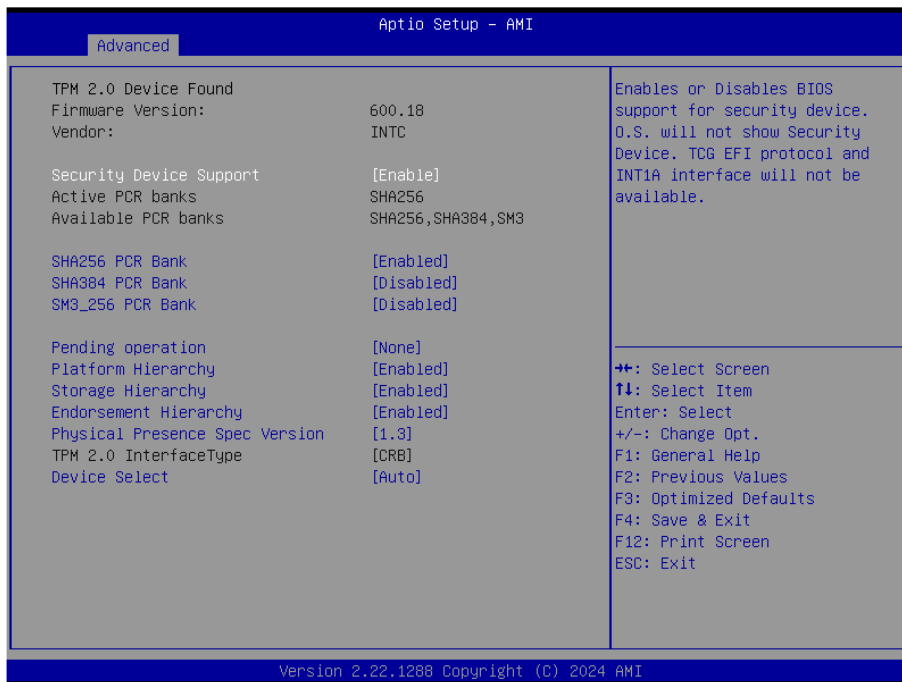
5.4.2 PCH-FW Configuration



The menu contains the following information:

- ME Firmware
Display the ME Firmware information.

5.4.3 Trusted Computing



This menu contains the following information:

- **TPM 2.0 Device information**
Display the information of the TPM 2.0 Device.
- **Security Device Support**
Enable or Disable BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.
- **SHA256 PCR Bank**
Enable or disable SHA256 PCR Bank.
- **SHA384 PCR Bank SM3_256 PCR Bank**
Enable or disable SHA384 PCR Bank SM3_256 PCR Bank.
- **Pending operation**
Schedule an operation for the security device.
Note: Your computer will reboot during restart in order to change state of security device.
- **Platform Hierarchy**
Enable or disable Platform Hierarchy.
- **Storage Hierarchy**
Enable or disable Storage Hierarchy.
- **Endorsement Hierarchy**
Enable or disable Endorsement Hierarchy.
- **Physical Presence Spec Version**
Select to Tell O.S. to support PPI Spec Version 1.2 or 1.3. Note some HCK tests

might not support 1.3.

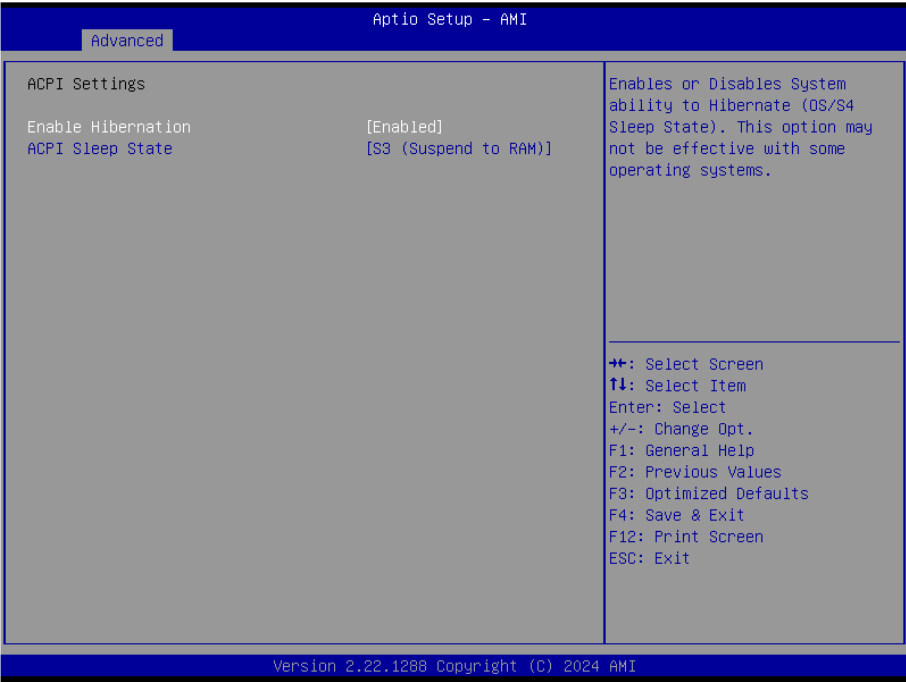
- TPM 2.0 Interface Type

Select the TPM 2.0 Interface Type, default CRB.

- Device Select

TPM 1.2 will restrict support to TPM 1.2 devices, TPM 2.0 will restrict support to TPM 2.0 devices. Auto will support both with the default set to TPM 2.0 devices if not found, TPM 1.2 devices will be enumerated.

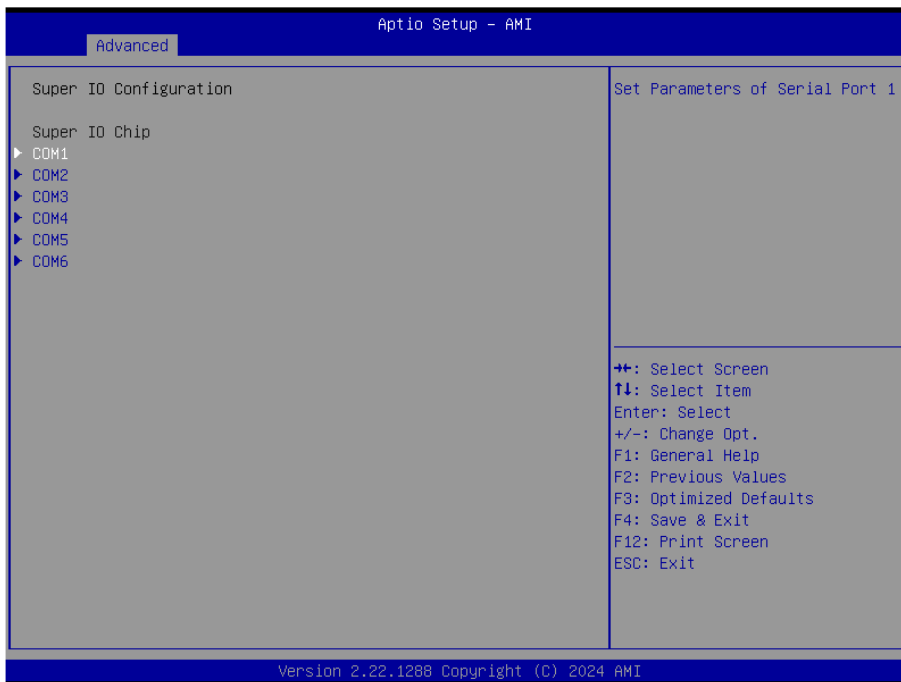
5.4.4 ACPI Settings



This menu contains the following information:

- **Enable Hibernation**
Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may not be effective with some operating systems.
- **ACPI Sleep State**
Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.

5.4.5 Super IO Configuration



This menu contains the following information:

- COM x
Set Parameters of Serial Port x:

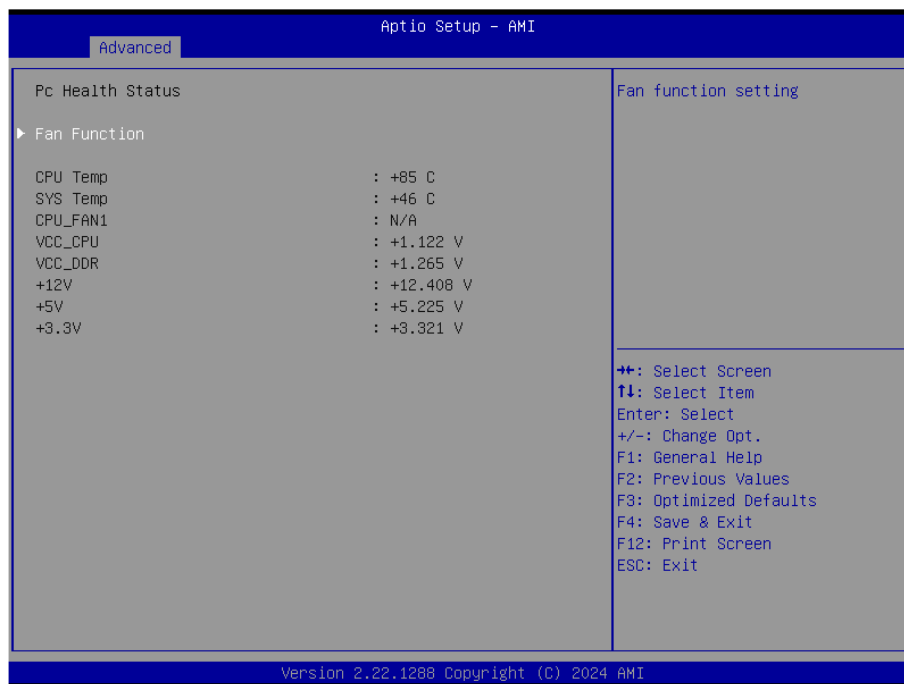
The options after entering the interface settings above are as follows.

Serial Port: Enable/Disable Serial Port (COM).

Device Settings: Display the Current Device Settings.

Change Settings: If the board supported, this menu shows. Select an optimal setting for Super IO Device.

5.4.6 Hardware Monitor



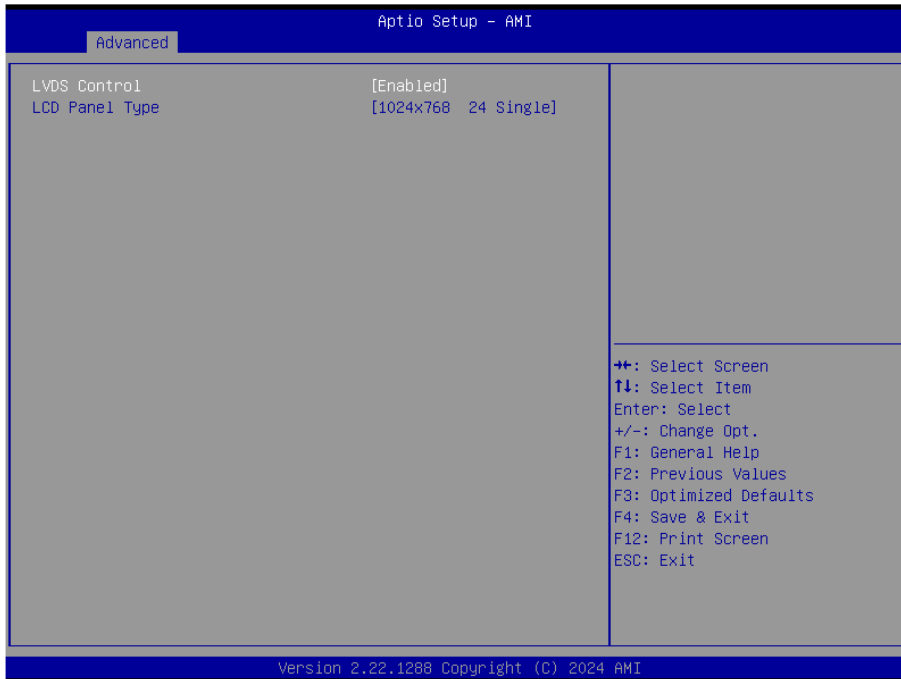
This menu contains the following information:

- Fan Function (If the board supported, this menu shows.)
Fan Function Settings.

CPU_FAN1 Mode: CPU_FAN1 Mode Select. Full on Mode; Automatic Mode;

- CPU Temp
Displays CPU Temperature.
- SYS Temp
Displays System Temperature.
- CPU_FAN1
Displays CPU FAN Speed.
- VCC_CPU
Displays CPU Core Voltage Value.
- VCC_DDR
Displays Memory Voltage Value.
- +12V
Displays +12 Voltage Value.
- +5V
Displays +5 Voltage Value.
- +3.3V
Displays +3.3 Voltage Value.

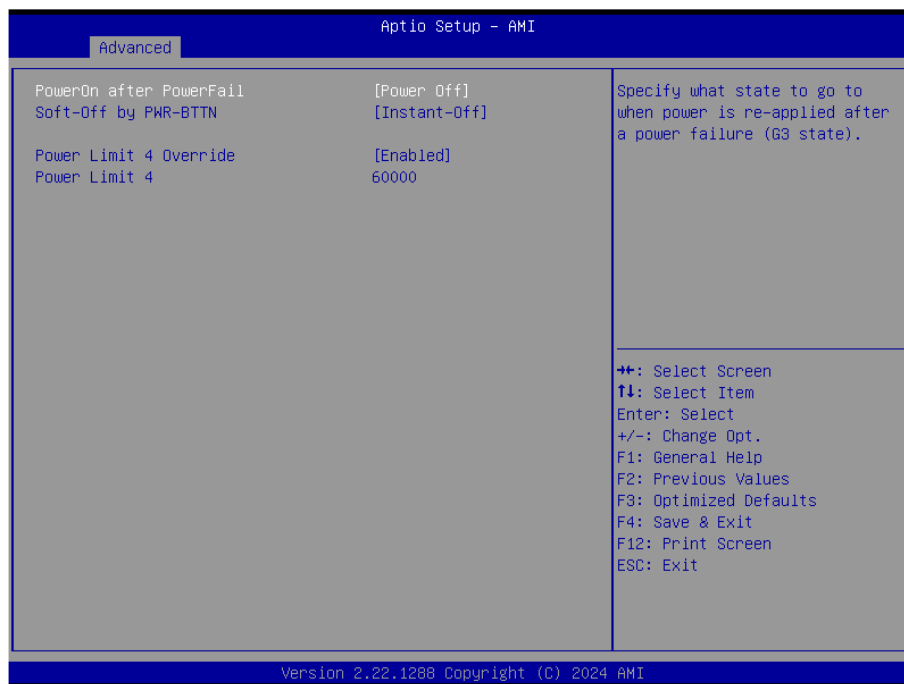
5.4.7 Display Configuration



This menu contains the following information:

- LVDS Control
Enabled or disabled LVDS.
- LCD Panel Type
Select LCD Panel Type.

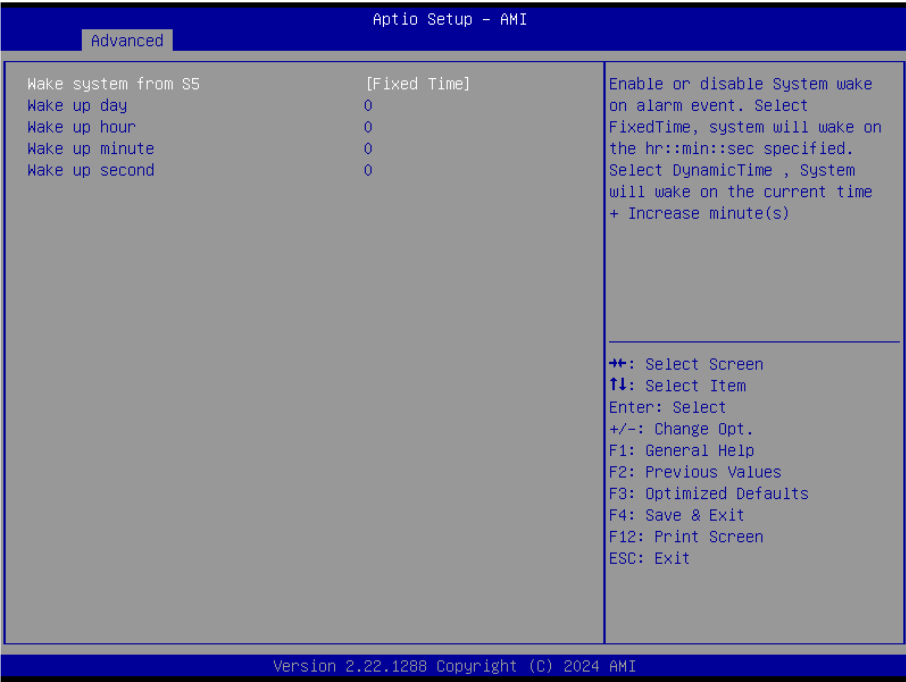
5.4.8 Power Control



This menu contains the following information:

- **PowerOn after PowerFail**
Specify what state to go to when power is re-applied after a power failure (G3 state).
- **Soft-Off by PWR-BTTN**
Select the mode of Soft-Off by PWR-BTTN, Instant-Off/Delay 4 Sec.
- **Power Limit 4 override**
Enable or disable Power Limit 4 override. If this option is disabled, BIOS will leave the default values for power Limit 4.
- **Power Limit 4**
Power Limit 4 in Milli Watts. BIOS will round to the nearest 1/8w when programming. For 12.50w, enter 12500. If the value is 0, BIOS leaves default value.

5.4.9 S5 RTC Wake Settings



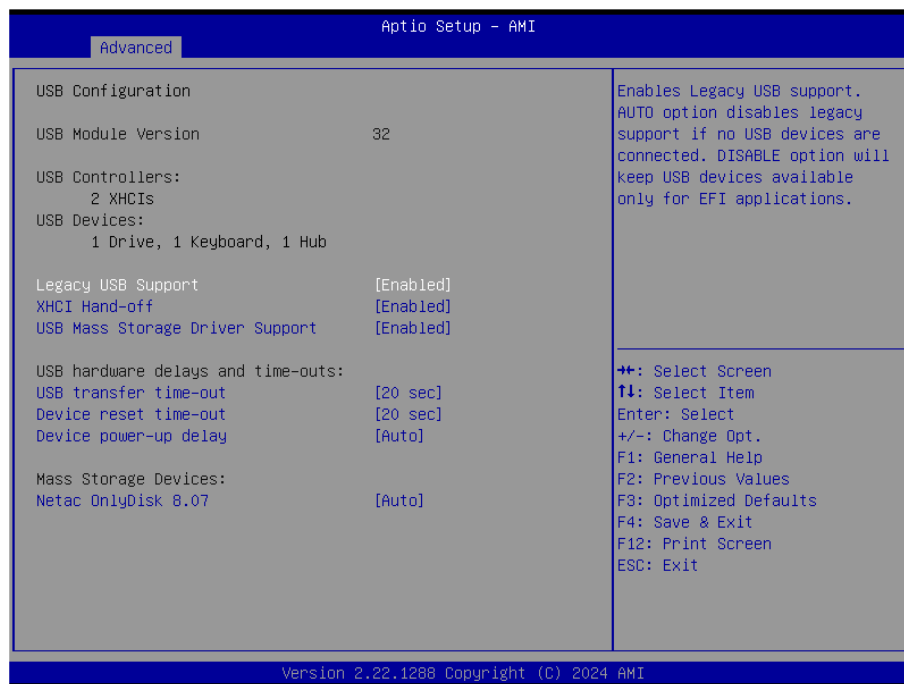
This menu contains the following information:

- Wake a system form S5
Enable or disable System wake on alarm event. Select Fixed Time, system will wake on the hr::min::sec specified. Select Dynamic Time, System will wake on the current time + Increase minute(s).

Fixed Time:

- 1) Select “Advanced - S5 RTC Wake Settings - Wake system from S5”;
- 2) Change it from Disabled to Fixed Time;
- 3) Set the point in time to customize the boot settings in the “wake up day, wake up hour, wake up minute, wake up second” that appears. Such as day: 2, hour: 13, minute:0, second:0, means 2nd of each month at 13 o'clock on the boot. When day is 0, it means that the point in time set every day is turned on.

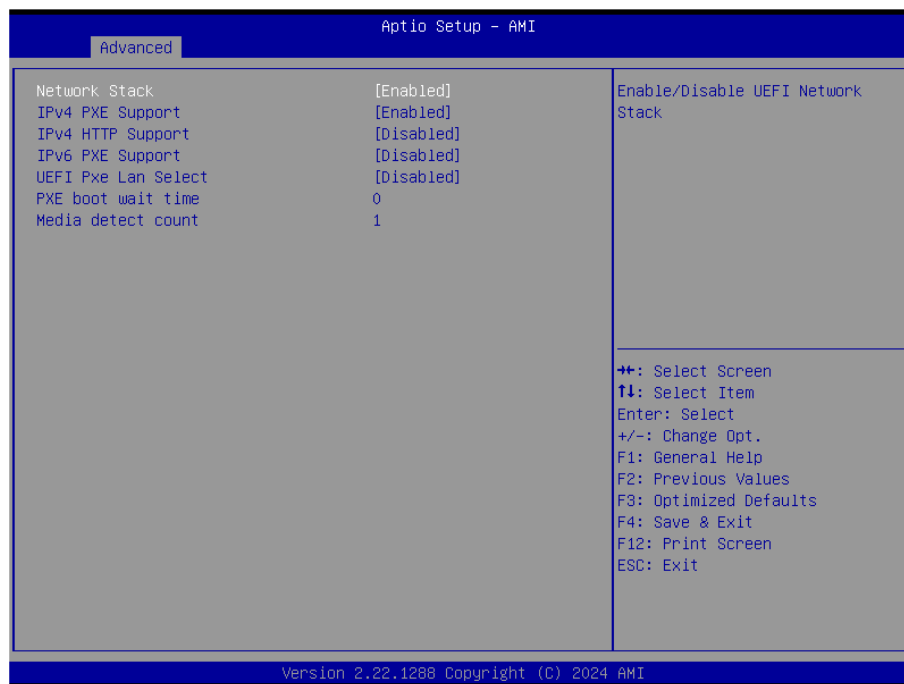
5.4.10 USB Configuration



This menu contains the following information:

- **USB Module Version**
Display the USB Module Version.
- **USB Controllers**
Display the USB Controllers.
- **USB Devices**
Display the USB Devices.
- **Legacy USB Support**
Enable Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications.
- **XHCI Hand-off**
This is a workaround for Oses without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
- **USB Mass Storage Driver Support**
Enable/Disable USB Mass Storage Driver Support.
- **USB hardware delays and time-outs:**
 - USB transfer time-out: The time-out value for control, Bulk, and Interrupt transfers.
 - Device reset time-out: USB mass storage device Start Unit command time-out.
 - Device power-up delay: Maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100ms, for a Hub port the delay is taken from Hub descriptor.

5.4.11 Network Stack Configuration



This menu contains the following information:

- **Network Stack**
Enable or disable UEFI Network Stack.
- **Ipv4 PXE Support**
Enable or disable Ipv4 PXE boot support. If disabled, Ipv4 PXE boot support will not be available.
- **Ipv4 HTTP Support**
Enable or disable Ipv4 HTTP boot support. If disabled, Ipv4 HTTP boot support will not be available.
- **Ipv6 PXE Support**
Enable or disable Ipv6 PXE boot support. If disabled, Ipv6 PXE boot support will not be available.
- **UEFI Pxe Lan Select**
UEFI Pxe Lan Select.
- **PXE boot wait time**
Wait time in seconds to press ESC key to abort the PXE boot. Use either +/- or numeric keys to set the value.
- **Media detect count**
Number of times the presence of media will be checked. Use either +/- or numeric keys to set the value.

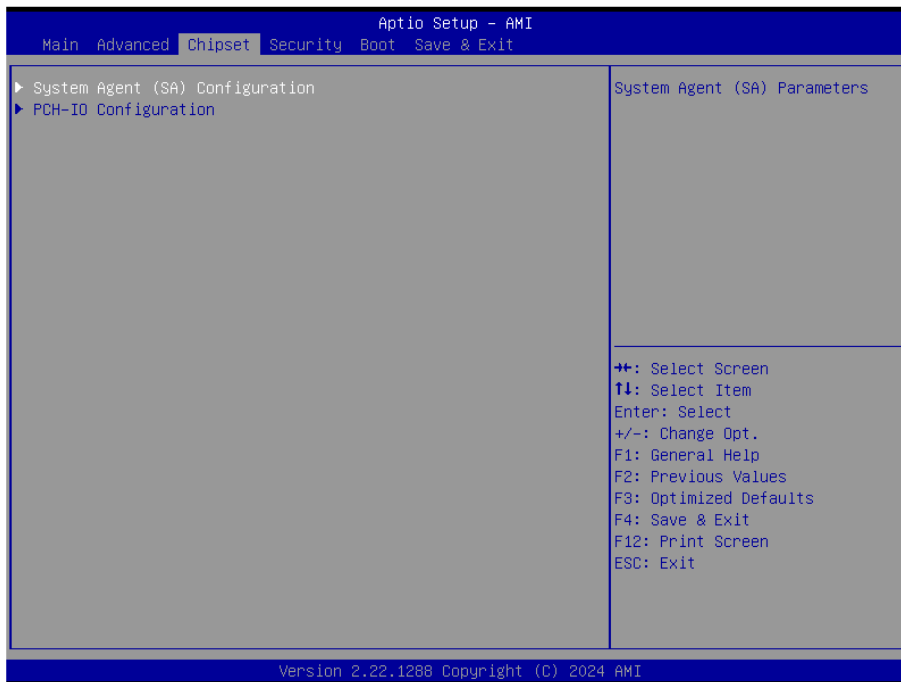
5.4.12 NVMe Configuration



This menu contains the following information:

- **Self Test Option**
Select either Short or Extended Self Test. Short option will take couple of minutes and extended option will take several minutes to complete.
- **Self Test Action**
Select either to test Controller alone or Controller and Name Space. Selecting Controller and Namespace option will take lot longer to complete the test.
- **Run Device Self Test**
Perform device self test for the corresponding Option and Action selected by user. Pressing 'Esc' key will abort the test. Result shown below is the recent result logged in the device.

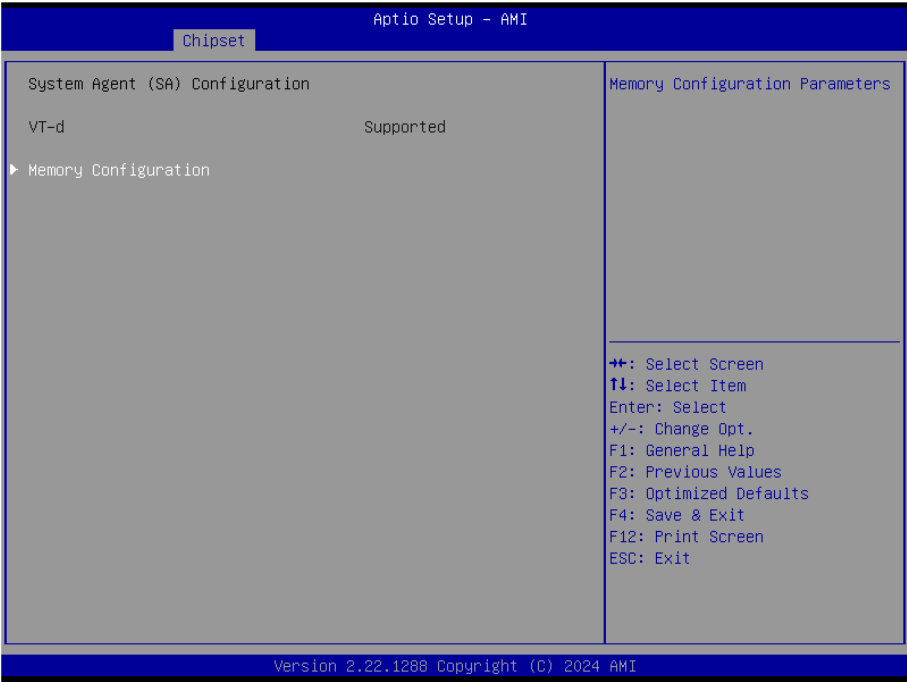
5.5 Chipset



This menu contains the following information:

- System Agent (SA) Configuration
 - System Agent (SA) Parameters.
- PCH-IO Configuration
 - PCH Parameters.

5.5.1 System Agent (SA) Configuration



This menu contains the following information:

- Memory Configuration
Memory Configuration Parameters.

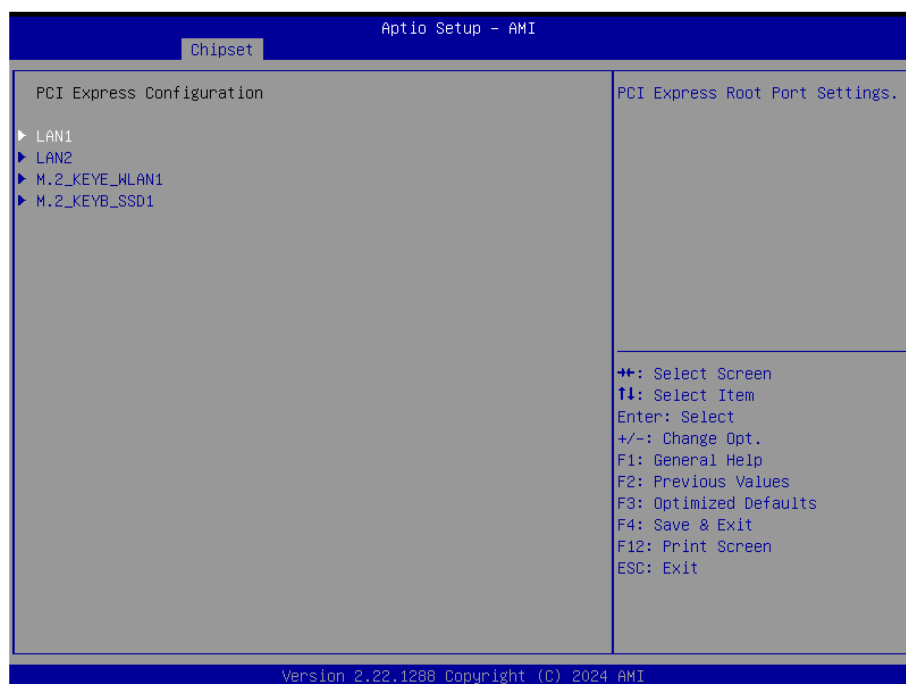
5.5.2 PCH-IO Configuration



This menu contains the following information:

- PCI Express Configuration
PCI Express Configuration settings.
- SATA Configuration
SATA Device Configuration settings.
- USB Configuration
USB Configuration settings.
- I2C Touch Panel
Indicates what type of I2C Touch Panel is connected to this Serial Io controller.

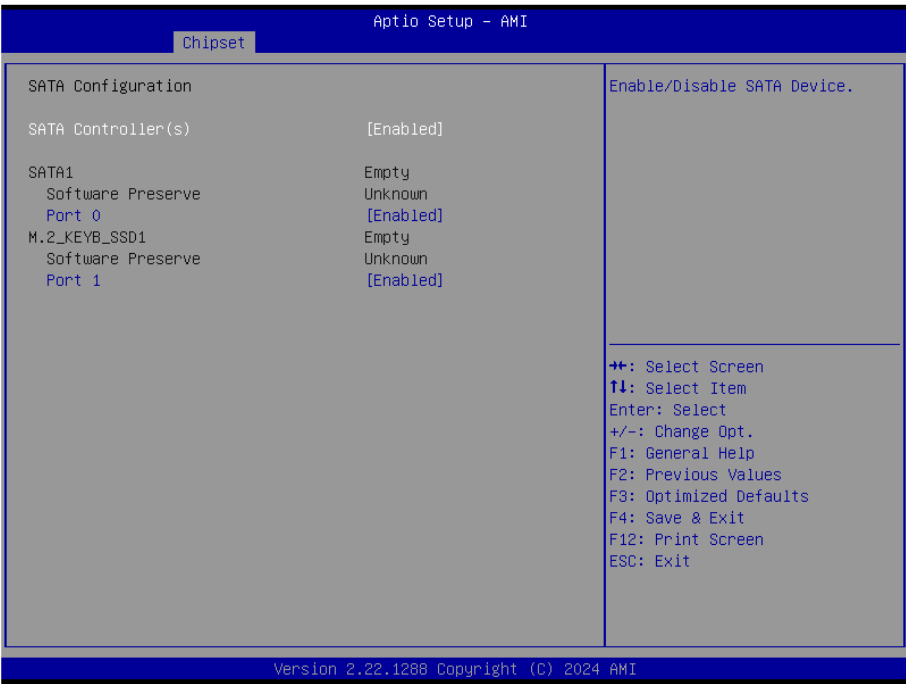
5.5.2.1 PCI Express Configuration



This menu contains the following information:

- LAN1
PCI Express Root Port Settings.
The options after entering the interface settings above are as follows.
LAN1: Control the PCI Express Root Port.
- LAN2
PCI Express Root Port Settings.
The options after entering the interface settings above are as follows.
LAN2: Control the PCI Express Root Port.
- M.2_KEYE_WLAN1
PCI Express Root Port Settings.
The options after entering the interface settings above are as follows.
M.2_KEYE_WLAN1: Control the PCI Express Root Port.
- M.2_KEYB_SSD1
PCI Express Root Port Settings.
The options after entering the interface settings above are as follows.
M.2_KEYB_SSD1: Control the PCI Express Root Port.

5.5.2.2 SATA Configuration



This menu contains the following information:

- SATA Controller(s)
 - Enable or Disable SATA Device.
- SATA1
 - Port 0
 - Enable or Disable SATA Port.
- M.2_KEYB_SSD1
 - Port 1
 - Enable or Disable SATA Port.

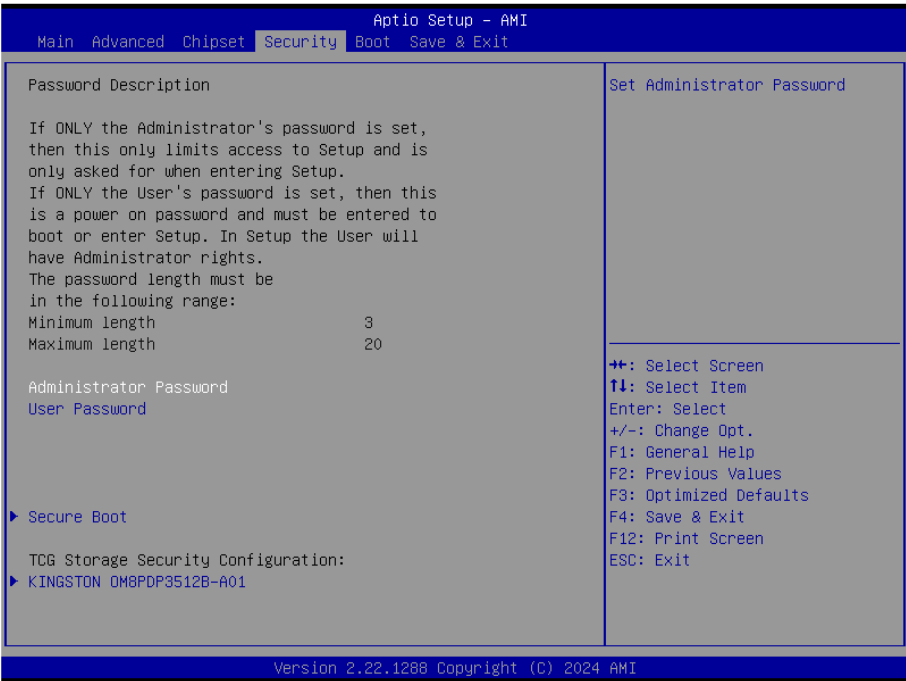
5.5.2.3 USB Configuration



This menu contains the following information:

- **USB Port Disable Override**
Selectively Enable or Disable the corresponding USB port from reporting a Device Connection to the controller.

5.6 Security



This menu contains the following information:

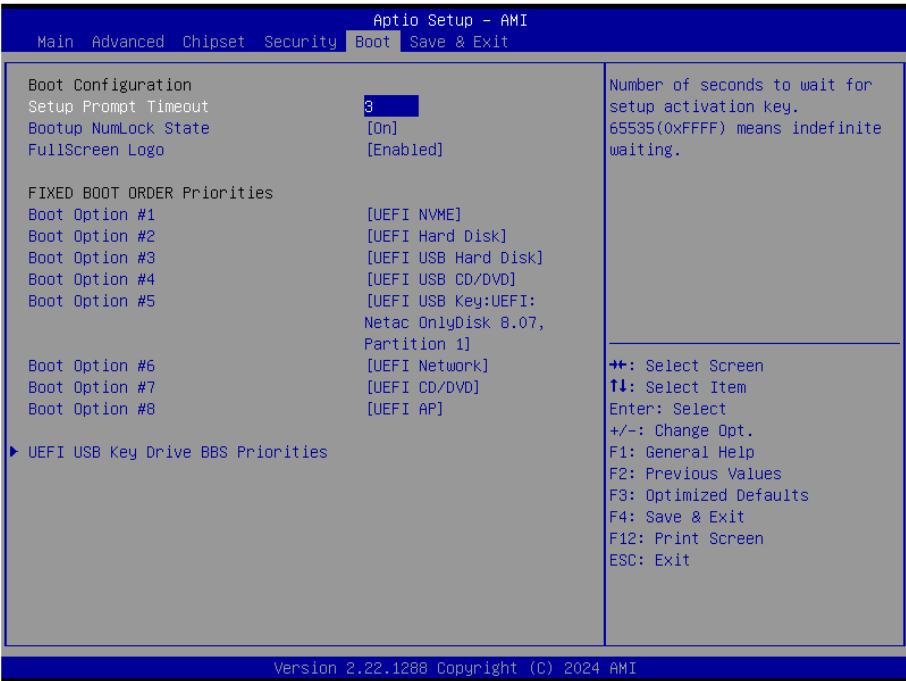
- Administrator Password
Set Administrator Password.
- User Password
Set User Password.
- Secure Boot
Secure Boot configuration.

The options after entering the interface settings above are as follows.

Secure Boot: Secure Boot feature is Active if Secure Boot is Enabled, Platform Key (PK), is enrolled and the system is in user mode. The mode change requires platform reset.

Secure Boot Mode: Secure Boot mode options: Standard or Custom. In Custom mode, Secure Boot Policy variables can be configured by a physically present user without full authentication.

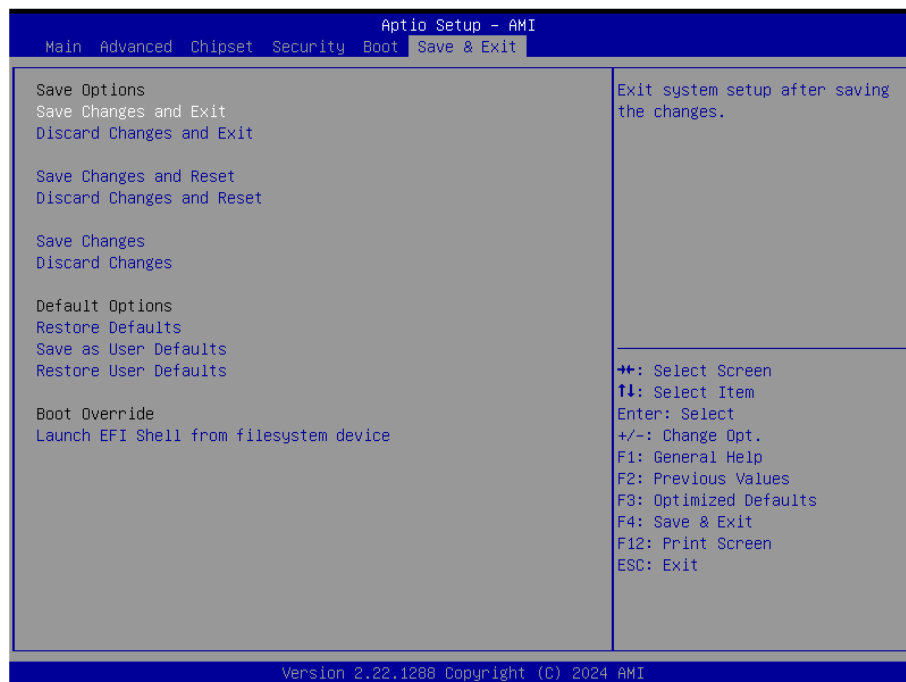
5.7 Boot



This menu contains the following information:

- Setup Prompt Timeout
Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
- Bootup NumLock State
Select the keyboard NumLock state.
- Full Screen Logo
Enable or disable Full Screen Logo.
- FIXED BOOT ORDER Priorities
Display Boot order, and allow to set Hard Drive/USB/XXX boot order in this group.

5.8 Save & Exit



This menu contains the following information:

Save Options

- **Save Changes and Exit**
Exit system setup after saving the changes.
- **Discard Changes and Exit**
Exit system setup without saving any changes.
- **Save Changes and Reset**
Reset the system after saving the changes.
- **Discard Changes and Reset**
Reset system setup without saving any changes.
- **Save Changes**
Save Changes done so far to any of the setup options.
- **Discard Changes**
Discard Changes done so far to any of the setup options.

Default Options

- **Restore Defaults**
Restore/Load Default values for all the setup options.
- **Save as User Defaults**
Save the changes done so far as User Defaults.
- **Restore User Defaults**
Restore the User Defaults to all the setup options.

Boot Override

- Launch EFI Shell from filesystem device
Attempts to Launch EFI Shell applications (Shell.efi) from one of the available filesystem devices.

Chapter6. Installation and FAQ



6.1 Installation

FMT-661M is mainly used in the warehousing forklift, logistics, container trucks and so on. In order to adapt to its operating environment, there are a variety of mounting methods, including boom mounting, VESA mounting, wall mounting, etc.



6.2 FAQ

Q1: Does the on-board terminal support ACC ignition signal delay switch?

A: FMT-661M car terminal optional ACC ignition signal intelligent switch machine functions. Under the function of the ACC mode, when the on-board computer off, if the detected signal when the ACC will automatic startup latency for 10 seconds, and car terminal in the boot state, if detected the ACC will delay 10/30/120 seconds after the automatic shutdown, without artificial operation in the process of the on-board computer; When ACC is selected, the power interface of the on-board terminal will be changed to 3Pin, positive pole, negative pole, ACC detection pole. Generally, positive and negative pole are connected to vehicle batteries, and ACC detection pole is connected to ignition signal.

Q2: Why is it necessary to add a DC-DC power adapter for the installation of forklifts, trailers, front cranes and stacker?

A: The car always has a peak value at startup. In order to avoid burning out the equipment power board, the power adapter of DC-DC is needed to stabilize the voltage. The current equipment installed power board supports the voltage of 8-36V

Description:

For these battery models, there are three voltage output specifications, as follows:

- 1, trailer battery output voltage: 12V
2. Battery output voltage of front lifting and stacking machine: 24V
3. Forklift battery output voltage: 48V

Q3:How to ensure the normal use of the FMT-661M under the impact of high strength vibration?

A:1.FMT-661M shell is made of strong aluminum alloy.

2.The FMT-661M's built-in electronic modules offer excellent shock resistance, such as a gauge LCD screen and a shock-resistant solid-state drive (SSD), enabling the FMT-661M to withstand harsh vibration.

6.3 Warranty and after service

Should this VT be malfunctioned, please contact your original retailer providing information about the product name, the serial number, and the details about the problem.



Darveen Co., Ltd.

Email: sales@darveen.com

www.darveen.com

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