

OPS-I5-1235U & OPS-I7-1255U

User Manual



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1. INTRODUCTION

1.1 PRODUCT SHOW

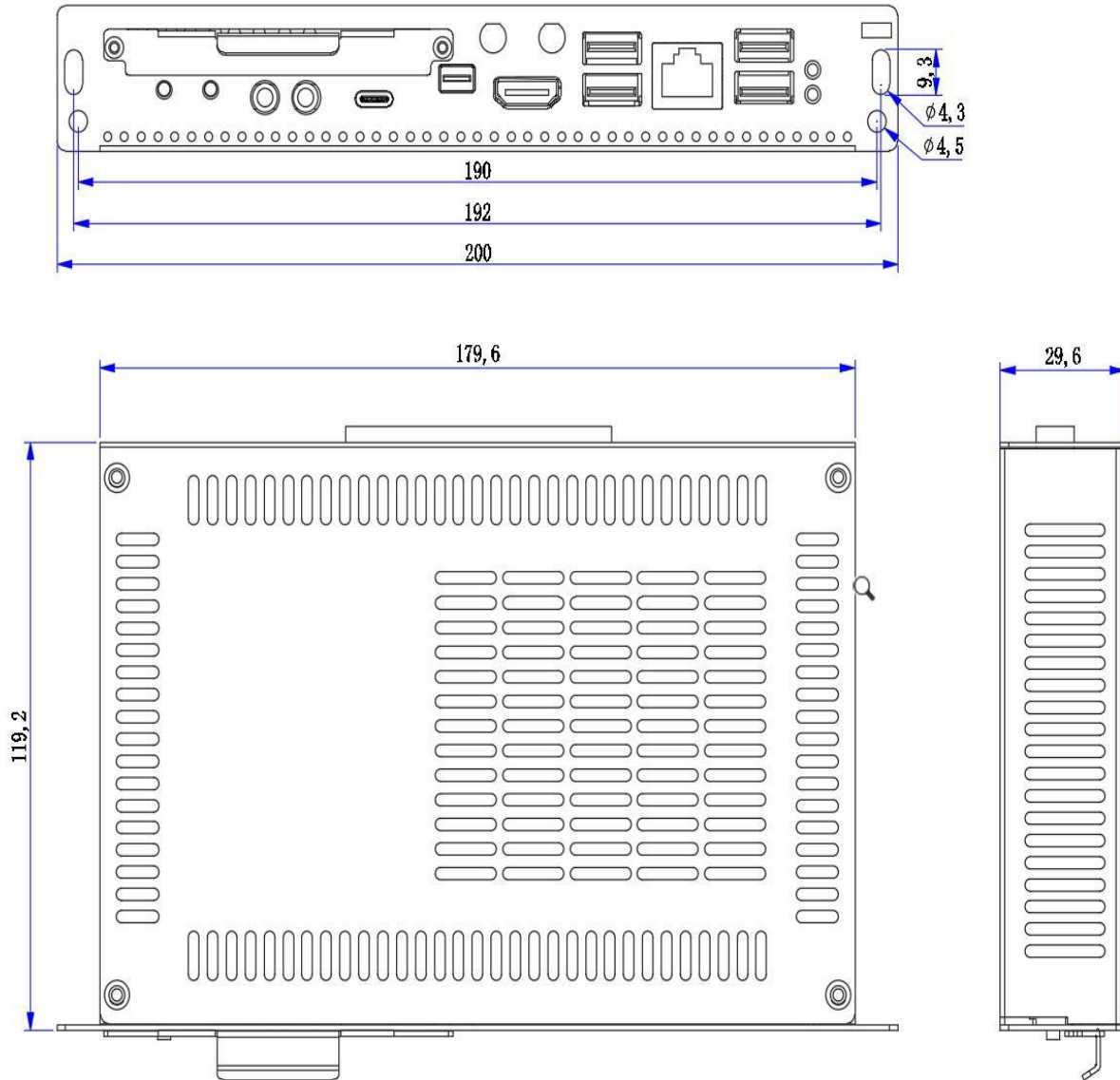


1.2 SPECIFICATIONS

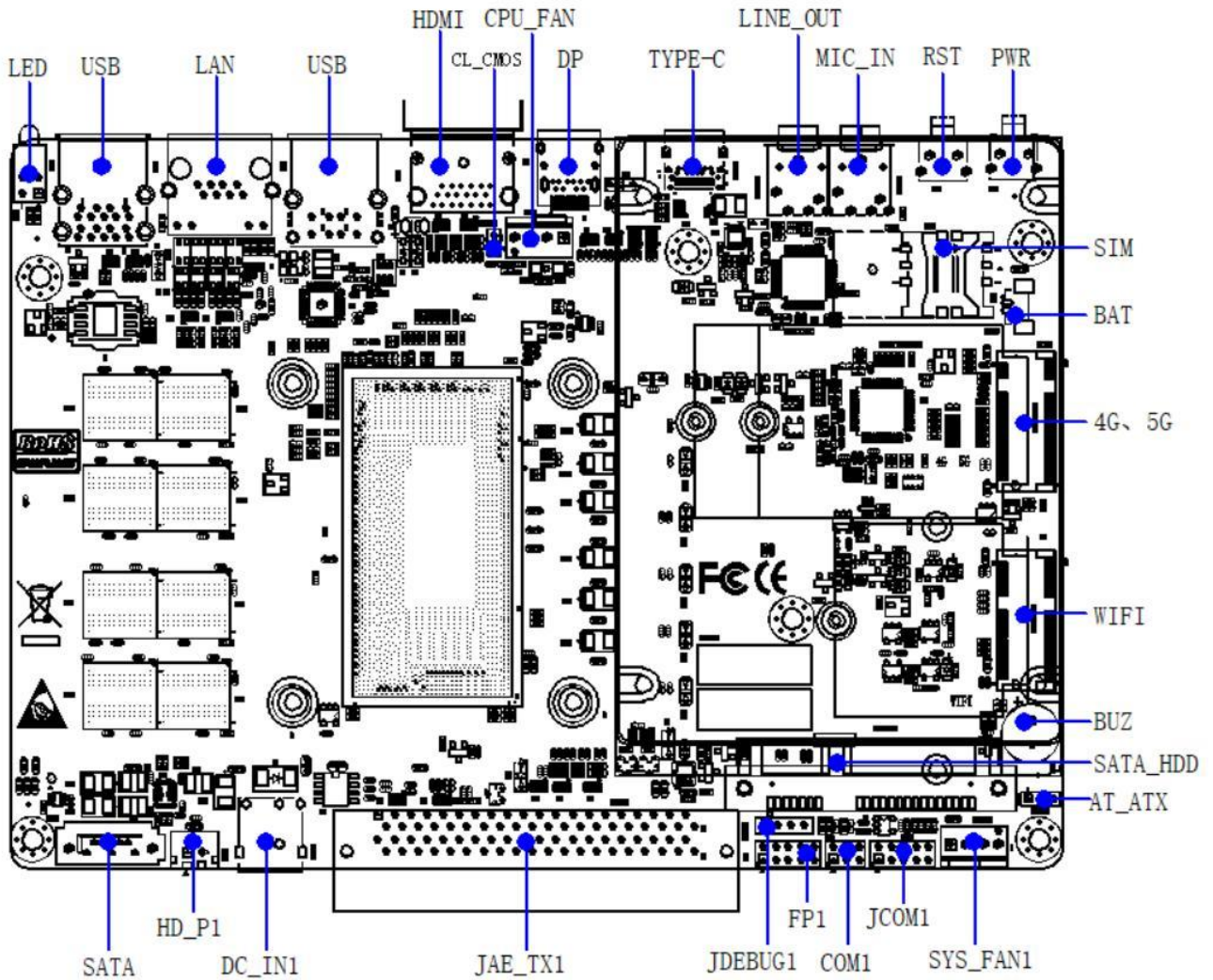
Processor	Onboard Intel Core Alder Lake-U/-P; Raptor Lake-U/-P series processor, TDP 28W
	EFI BIOS
TPM 2.0	Built in the CPU by default, customizable for external TPM2.0
RAM	1*DDR5 SO-DIMM, up to 16GB, customizable for 32GB memory
	Alder Lake series: up to 4800MHz, Raptor Lake series: up to 5200MHz
Storage	1*M.2 M-Key 2280 slot, supports NVMe PCIe 3.0 x4 protocol by default, customizable for SATA3.0 protocol
	1 × 2.5inch HDD interface; 1 × SATA3.0 interface, 2Pin5V
Display	1*HDMI2.0 interface, supports 4096×2160@60hz;
	1*Mini DP port, supports 4096 × 2160@60hz;
	1*Type-C port, supports USB3.2 and DP4K@60Hz;
	Supports synchronous or asynchronous display
I/O	1*Mini DP, 1*HDMI2.0, 2*USB3.0, 2*USB2.0
	1*LAN (RTL8111 Network, optional Intel219)
	1*Power indicator, 1*HDD indicator, 1*Switch, 1*Reset button (Optional one-click restore)
	1*Type-C, 1*Mic-in, 1*Line-out, 1*DC Jack power port
Expansion Interface/Function	1*M.2 E-Key (PCIe 3.0 + USB2.0 protocol, support WiFi/BT module)
	1*M.2 B-Key (USB2.0 + USB3.0 protocol, support 4G/5G module)
	1 set*RS232 pin headers, 2x5Pin, 2.0mm pitch
	1*4Pin CPU smart temperature control FAN, 1*4Pin, PWM SYS FAN
Power	DC 12-19V, more than 120W
JAE80PIN Interface Expansion	HDMI2.0/DP1.4 output, automatic identification and switching
	2 × USB2.0, 1 × USB3.0, 1 × TTL
System Support	Windows 10, Windows11, Linux
Color	Black
Dimensions	180x119x30mm
Weight	750g (net weight); gross weight: 800g

2. INSTALLATION INSTRUCTION

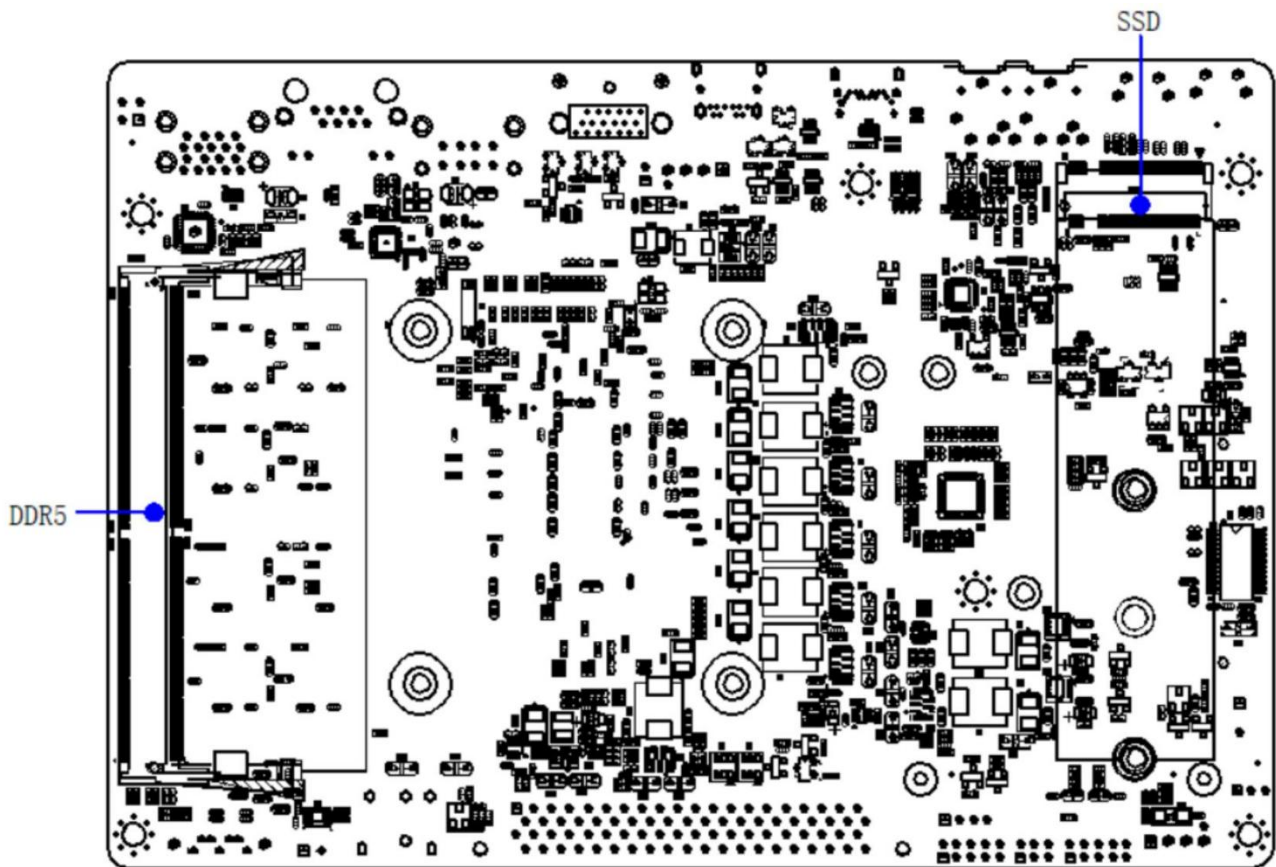
2.1 OVERALL DIMENSIONS



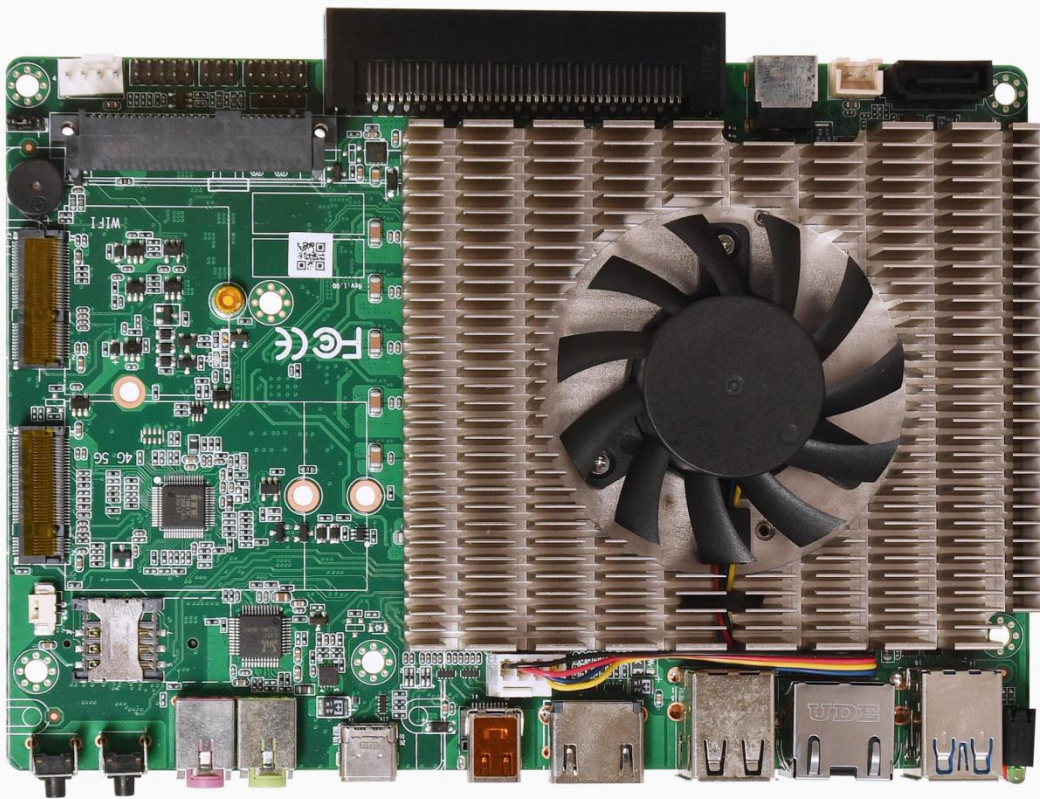
2.2 ONBOARD RESOURCES-FRONT SIDE



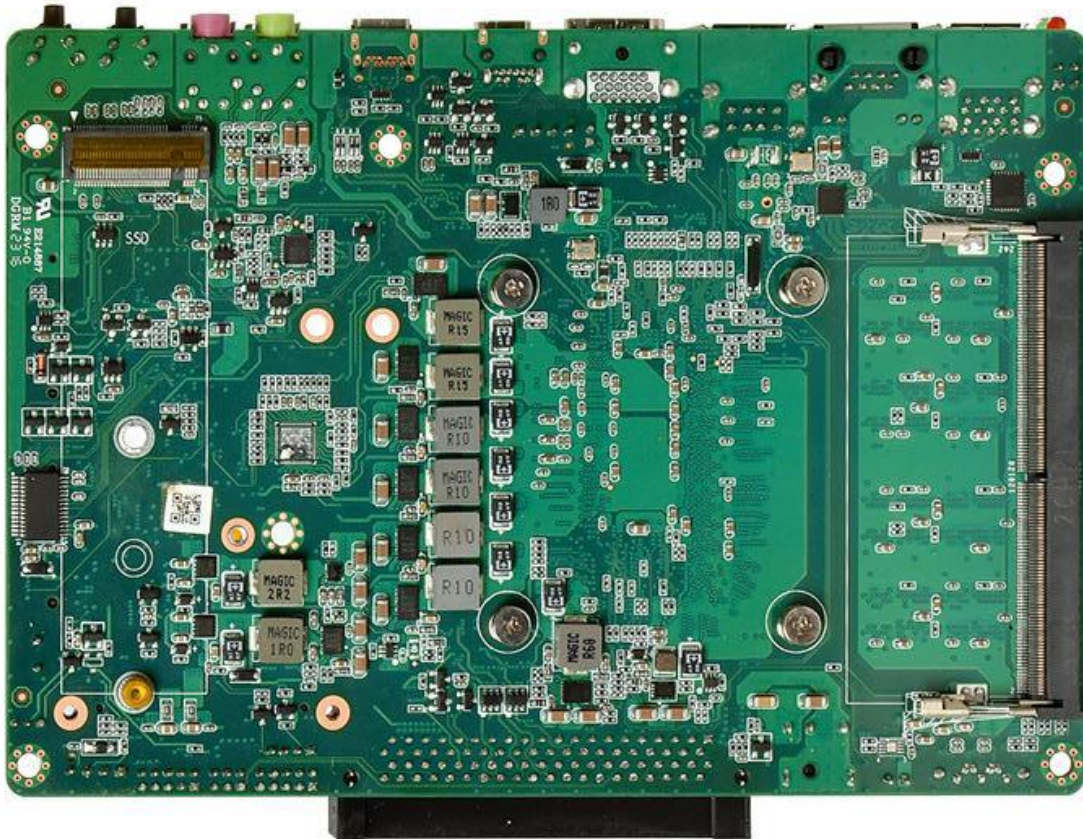
2.3 ONBOARD RESOURCE-BACK SIDE



2.3 PRODUCT SHOW-FRONT SIDE



2.4 PRODUCT SHOW-BACK SIDE



3. PIN DEFINITION

3.1 CL_CMOS

CL_CMOS is the CMOS clear jumper, using a 1x2 pin with a 2.0mm pitch.

RTC1	Functions
Close	Clear RTC CMOS
Open	Default setting

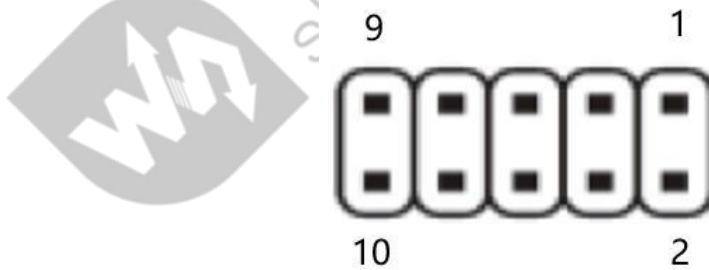
3.2 AT/ATX

AT/ATX is the jumper for selecting the power-on mode. When Pins 1-2 are closed, upon powering up the supply, the board is on.

Jumper Selection	Power-on Mode
Pin 1-2, Close; Pin 2-3, Open	AT power-on mode
Pin 2-3, Close; Pin 1-2, Open	AT power-on mode

3.3 FP1

FP1 is the controller board interface, adopts 2x5Pin with 2mm pitch. Pin definition is shown below:



F_PANEL1	Pin Definition
1,3	Hard flash drive read/write indicator positive and negative signal pin
2, 4	Main power indicator positive and negative signal pin
5, 7	Main board reset signal positive and negative pin
6, 8	Main board power on/off signal positive and negative pin
9, 10	Buzzer interface

3.4 CPU_FAN1, SYS_FAN1

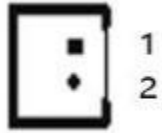
FAN interface supports up to 0.3A. The pin definition is shown below:

PIN	Signal Name	PIN	Signal Name
1	GND	2	5VCC
3	FANPWM	4	FANTACH

Note: CPU_FAN supports 5V and SYS_FAN supports 12V. CPU_FAN supports automatic speed adjustment. The maximum fan voltage is equal to the input power supply voltage. When the input power supply voltage is high, pay attention to choose the appropriate fan. SYS_FAN does not support automatic speed adjustment.

3.5 HD_P1

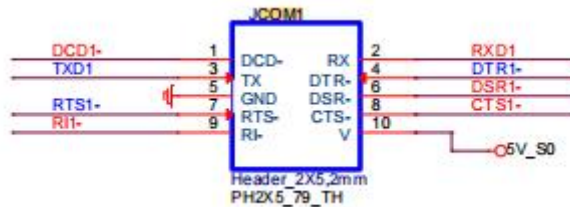
1x SATA device power port, adopts CJT company's A2501WV-2P device or other compatible devices. The pin definition is shown below:



PIN	Signal Name	PIN	Signal Name
1	VCC 5V	2	GND

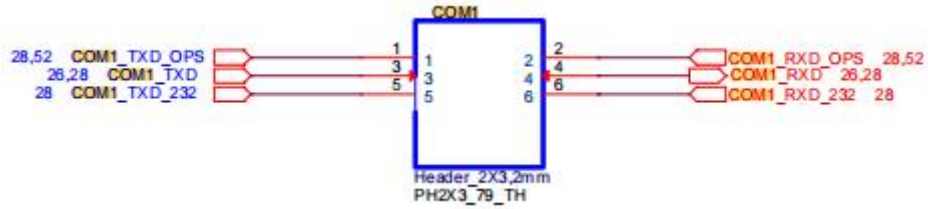
3.6 JCOM1

JCOM1 is 2x5Pin, using a 2x5 pin with a 2.0mm pitch. The pin definition is shown below:



3.7 COM1

2x3Pin, with a 2.54 pitch, the pin definition is show below:



3.8 DC IN

DC IN, external power input for stand-alone use (not connected via JAE connector), DC JACK 12-19V, 90W.

3.9 NGFF-KEY-B SLOT

Support 4/5G module, 4G screw must be removed when using 5G module.

3.10 E-KEY SLOT

PCIe+USB2.0 protocol, support WiFi/BT module.

3.11 M-KEY SLOT

Support M.2 2280 size storage, options for NVMe PCIe 4.0 x4 protocol and SATA3.0 protocol, please pay attention to it when placing your order.

4. BIOS PARAMETER SETTING

4.1 HOW TO ENTER BIOS

1. Power on the system or restart it.
2. Upon booting, when the screen displays self-check information, press the F2 key to enter the BIOS SETUP interface, or press F12 to enter the boot disk selection interface.

4.1.1 KEY FUNCTIONS IN BIOS

- →←: select screen
- ↑↓: select item
- Enter: select
- +/-: change Opt.
- F1: general help
- F3: previous values
- F9: optimized defaults
- F10: save & exit
- ESC: exit

4.1.2 PRECAUTIONS

1. BIOS setting can directly affect the computer's functions and using.
2. The wrong setting will cause the damage,
3. If it can not be booted by the wrong setting, please restore to the factory default mode.

4.2 MAIN



- System date: set the system date
- System time: set the system time

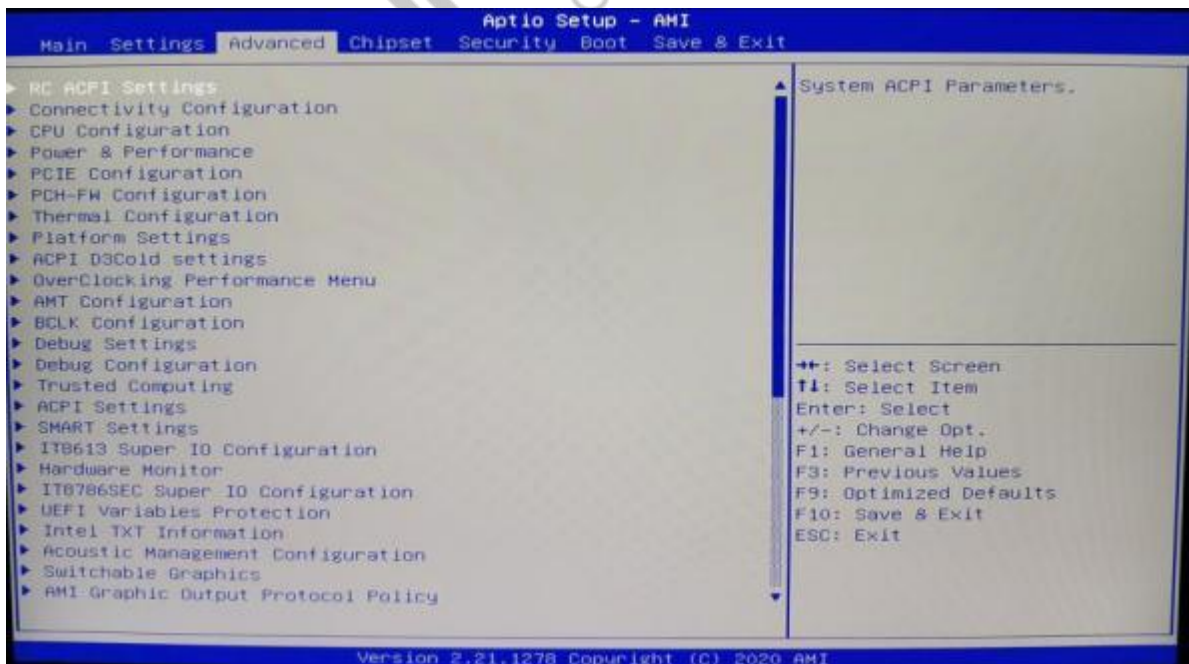
The black font section contains read-only information, including BIOS ID, version, and manufacturer. Detailed CPU information includes the CPU manufacturer, model, frequency, as well as memory information and more.

4.3 SETTINGS



- SS RTC Wake Setting: SS real-time wake setting
- AC Power Loss Setting: Auto power-on upon incoming call.
- Special Setting

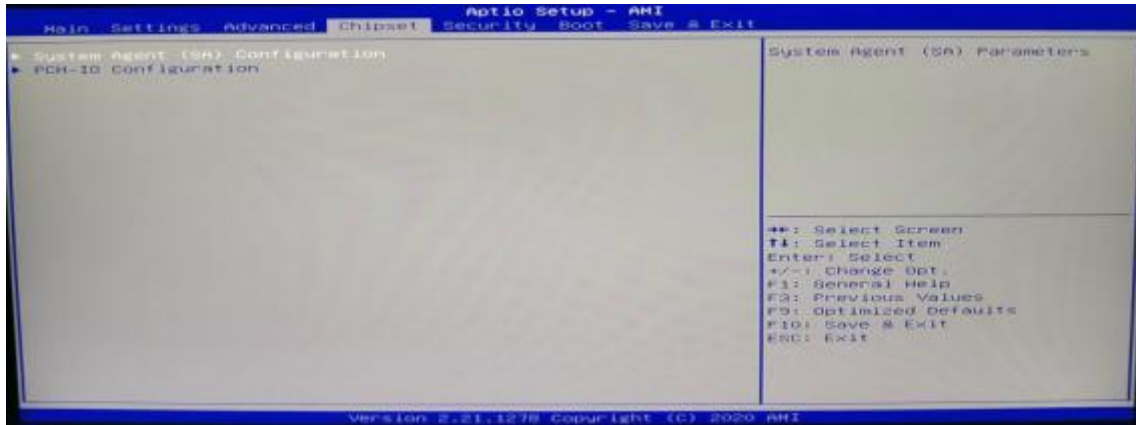
4.4 ADVANCED



- RC ACPI Settings: RC ACPI setting
- Connectivity Configuration
- CPU Configuration: CPU model, frequency, threads, cache, and related information and settings.
- Power & Performance: Common configuration options for CPU Turbo Boost, power consumption, etc.
- PCIE Configuration
- PCH-FM Configuration
- Thermal Configuration
- Platform Settings: Serial console redirection
- ACPI D3Cold Settings
- OverClocking Performance Menu
- AMT Configuration Release
- BCLK Configuration
- Debug Settings
- Debug Configuration
- Trusted Computing: computing configuration
- ACPI Settings: advanced configuration and power management port
- IT8613 Super IO Configuration: Super IO configuration
- Hardware Monitor: display CPU temperature, fan speed and the auto-setting of the fan speed

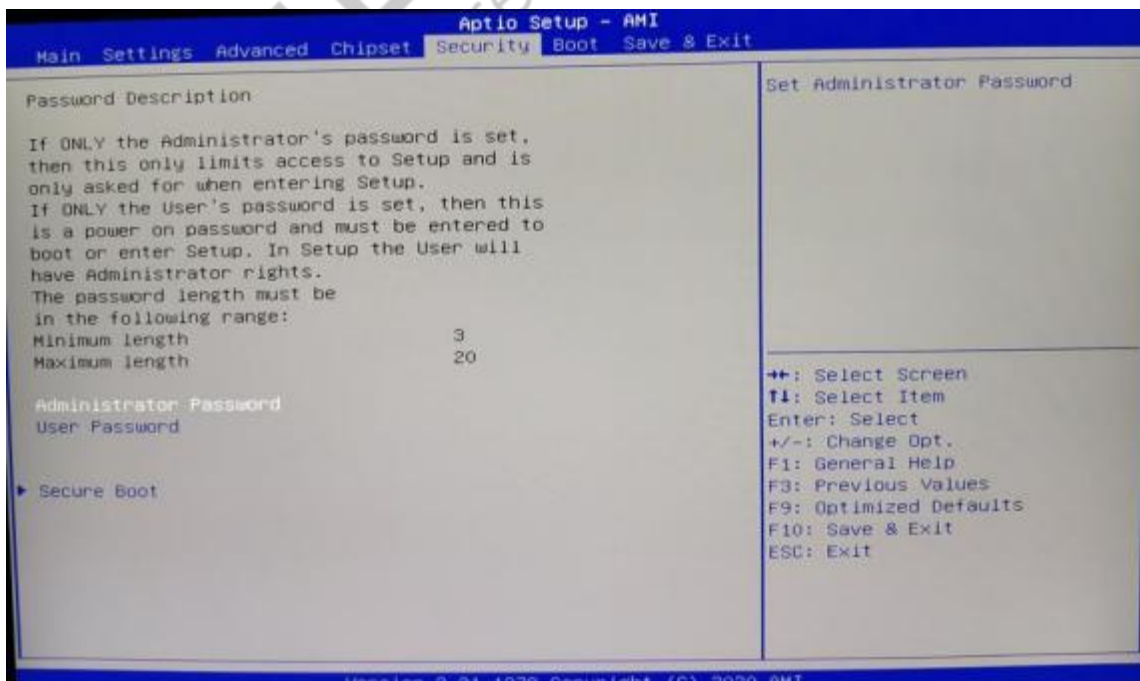
- IT8786SEC Super IO Configuration: Super IO configuration
- UEFI Variables Protection

4.5 CHIPSET



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

4.6 SECURITY



- Administrator password: This command line is used to set the superuser password.
- User password: set the password for regular users.

Note: The password must be a minimum of 3 characters and a maximum of 20 characters. In case of a forgotten password, short-circuit the JCMOS pins for 5 seconds or remove the BAT1, short-circuiting the positive and negative terminals for 5 seconds to clear the password.

- Secure Boot menu

4.7 BOOT



- Setup Prompt Timeout: Self-check interface stay time settings
- Bootup Numclock State: Option to turn on the Num Lock light upon startup
- Quiet Boot: this project allows you to display the supplier logo on the startup screen.

- Boot Option Priorities
- Boot Option #1: The setting for the first boot option.
- Boot Option #2: The setting for the second boot option.
- Fast Boot

4.8 SAVE&EXIT



- Save Changes and Exit
- Discard Changes and Exit
- Save Changes and Reset
- Discard Changes and Reset
- Save Changes
- Discard Changes
- Restore Defaults

- Save as User Defaults:
- Restore User Defaults
- Boot Override



Appendix: Troubleshooting Analysis and Solutions

Failure	Solutions
Failure to Power On After Powering Up	<ol style="list-style-type: none"> 1. Check if the power connection cable is properly connected. 2. Verify if the power supply meets the board's power requirements. 3. Plug the memory module again. 4. Replace the memory module. 5. Try clearing the board CMOS following the manual instructions. 6. Check for any external cards. Remove them and check if the system boots normally.
Monitor Not Displaying After Powering On	<ol style="list-style-type: none"> 1. Check if the monitor is powered on. 2. Ensure the power cables are correctly connected to both the monitor and the system unit. 3. Check if the monitor cable is properly connected to the system unit and the monitor. 4. Check the brightness control of the display. Increase brightness using the control. Refer to the monitor manual for detailed instructions. The monitor might be in "power-saving" mode. Press any key on the keyboard.
BIOS Setup Settings Cannot Be Saved	<ol style="list-style-type: none"> 1. Check if the CMOS battery voltage is below 2.8V. If it is low, replace the battery and reconfigure the settings. 2. If the BIOS settings are incorrect, adjust the time and date in the BIOS Setup as indicated by the boot screen (DEL key).
Boot Device Not Found Error	<ol style="list-style-type: none"> 1. Ensure the hard drive power and data cables are properly connected. 2. Check if the hard drive has any physical damage. 3. Verify if the operating system is correctly installed on the hard drive
Blue Screen or System Freeze During System Startup	<ol style="list-style-type: none"> 1. Check if the memory modules and external cards are loose. 2. Try removing newly installed hardware, uninstalling drivers, or software. 3. Attempt to replace the memory.
Slow System Startup	<ol style="list-style-type: none"> 1. Use third-party software to check for bad

	<p>sectors on the hard drive.</p> <ol style="list-style-type: none">2. Check if the remaining space in the system partition is insufficient.3. Verify if the CPU cooling fan is functioning properly.
Automatic System Restart	<ol style="list-style-type: none">1. Check if the CPU cooling fan is operating properly.2. Verify if the industrial computer's reset button was accidentally triggered.3. Use antivirus software to check for virus infections in the system.4. Check if the memory modules and external cards are loose.5. Confirm if the power supply's load capacity is adequate, try replacing the power supply if necessary.
USB Device Not Detected	<ol style="list-style-type: none">1. Check if the USB device requires separate power.2. Ensure there are no poor contacts in the USB interface.3. Verify if the USB controller is enabled in the BIOS Setup.

