MIX-ASLD1

Industrial Motherboard

E24136
First Edition
August 2024

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Contents

Chapter 1

Product overview

1.1 Package contents

Check your industrial motherboard package for the following items.

- ☑ 1 x Industrial Motherboard
- ☑ 1 x SATA Cable
- ☑ 1 x I/O Shield

NOTE: If any of the above items is damaged or missing, contact your distributor or sales representative immediately.

1.2 Features

- Built-in Intel® N97 4C 12W SoC onboard Processor (formerly Alder Lake-N Processor, compatible with Amston Lake)
- 1 x DDR5 4800 MHz SO-DIMM (max. 16GB)
- 1 x SATA 6.0 Gb/s port
- 1 x M.2 2280 M-key slot
- 1 x M.2 2230 E-key slot (PCIe 3.0 x1 / USB 2.0 / CNVi) for WiFi/Bluetooth
- 1 x M.2 3042/3052 B-key slot (PCIe 3.0 x1 / USB 3.2) for 5G/LTE
- 1 x DisplayPort up to 4096 x 2160 @ 60 / 30 Hz

1.3   Specifications

SYSTEM	
Form Factor	Mini ITX Form Factor, 6.7" x 6.7" (170 mm x 170 mm)
CPU	Built-in Intel® N97 4C 12W SoC onboard Processor (formerly Alder Lake-N Processor, compatible with Amston Lake)
Memory	1 x SO-DIMM, Max. 16GB, DDR5 4800 MHz, non-ECC, un-buffered memory
I/O Chipset	NCT6126D
Ethernet	1 x PoE LAN port (i210AT) + 7 x 1G LAN ports (LAN Controllers: 1 x Intel® i350-AM4 + 3 x i210AT)
TPM	TPM 2.0 onboard (Infineon SLB9672)
BIOS	256Mbit Flash ROM, AMI BIOS, UEFI
Wake on LAN/PXE	Yes (WOL with i210 ports/PXE)
Watchdog Timer	1~255 steps by software program
H/W Monitor	Temperature Monitor on CPU/System
	Voltage Monitor on Vcore/5V/3.3V/12V
	Fan Monitor on Chassis
Smart Fan Control	System Fan
Power State	S3, S4, S5
Expansion Slots	1 x M.2 2230 E-key slot (PCIe 3.0 x1 / USB 2.0 / CNVi) for WiFi/Bluetooth
	1 x M.2 3042/3052 B-key slot (PCIe 3.0 x1 / USB 3.2) for 5G/LTE
	1 x Nano-SIM Card slot (B-Key, push type)
Battery	1 x DC 12V / 10A
Power Requirement	ATX
Weight	1.1 lb (0.5 kg)
Operating Temperature	32°F~140°F (0°C~60°C)
Operating Humidity	90% RH at 60°C, non-condensing
Certificate	CE & FCC Class A
GRAPHICS	
Graphics Chipset	Integrated Graphics
Graphics Multi-display	N/A
HDMI™	N/A
DisplayPort	Up to 4096 x 2160 @ 60 / 30 Hz

(continued on the next page)

Internal I/O	
Storage	1 x SATA 6.0 Gb/s port
	1 x M.2 2280 M-key slot (Auto Detect, PCIe x1 & SATA Mode)
USB	2 x USB 2.0 headers (2,54mm pitch, 2 x 5-pins headers) support 4 x USB 2.0 ports
Fan	1 x Chassis Fan header (4-pin)
DIO	1 x 8-bit Digital I/O interface (In/Out programmable)
Others	1 x Chassis Intrusion jumper
	1 x AT/ATX Mode Selection jumper
	1 x Front Panel header
	1 x Clear CMOS jumper
	1 x Buzzer on board
	1 x 3-pin Intel® ME jumper
	1 x Optional Onboard OOB Management chip (configurable via BOM)
	1 x Vertical DisplayPort (configurable via BOM)
	1 x 5-pin I2C header (reserved)
	1 x 5-pin SMBUS header
Rear I/O	
USB	1 x USB 3.2 Gen 1 port (vertical)
LAN	1 x PoE (Type 1 IEEE 802.3AT, 30Wx 1, for 1G PoE/PSE)
	7 x RJ-45 for LAN (1G)
Console	1 x RJ-45 port
Power	1 x DC-IN jack
Others	1 x Nano-SIM Card slot
	1 x Software Reset button
Others	
OS Support	Windows® 11 64 bit, Windows® 10 64 bit, Linux Ubuntu 22.04

NOTE: Specifications are subject to change without notice.

Chapter 2

Motherboard information

2.1   Before you proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.

CAUTION!

- Unplug the power cord from the wall socket before touching any component.

- Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.

- Hold components by the edges to avoid touching the ICs on them.

- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, or components.

2.2 Motherboard layout

NOTE: Place four screws into the holes indicated by circles to secure the motherboard to the chassis.

CAUTION! Do not overtighten the screws! Doing so can damage the motherboard.
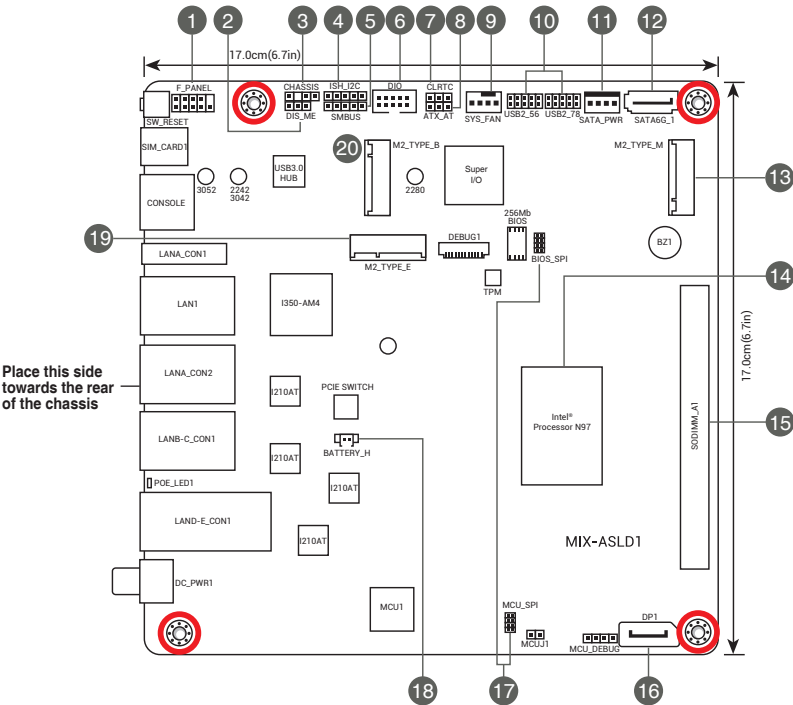
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2.3.1 Component side
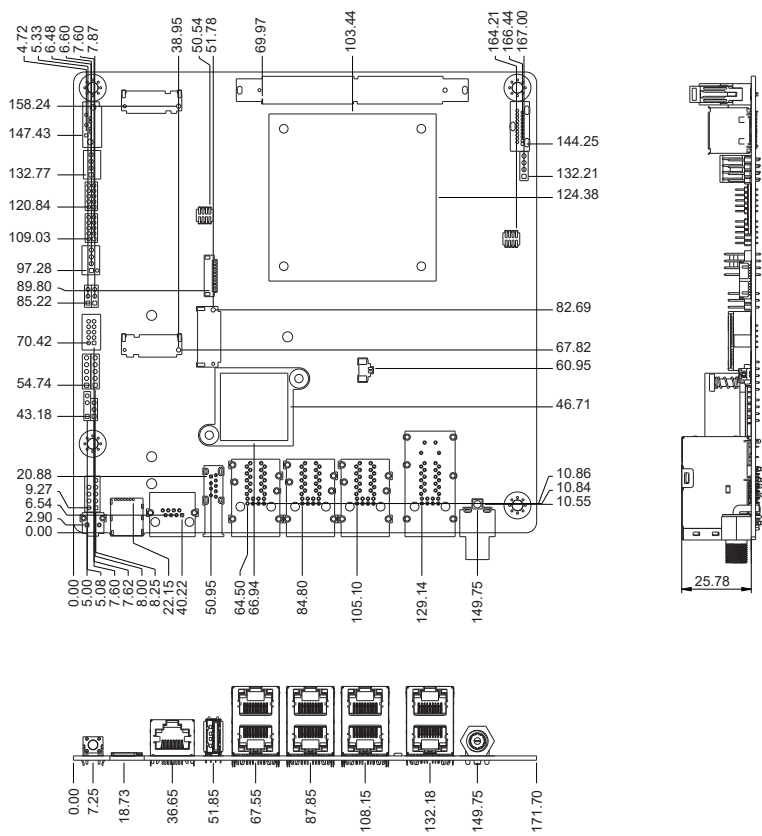
2.3.2 Solder side
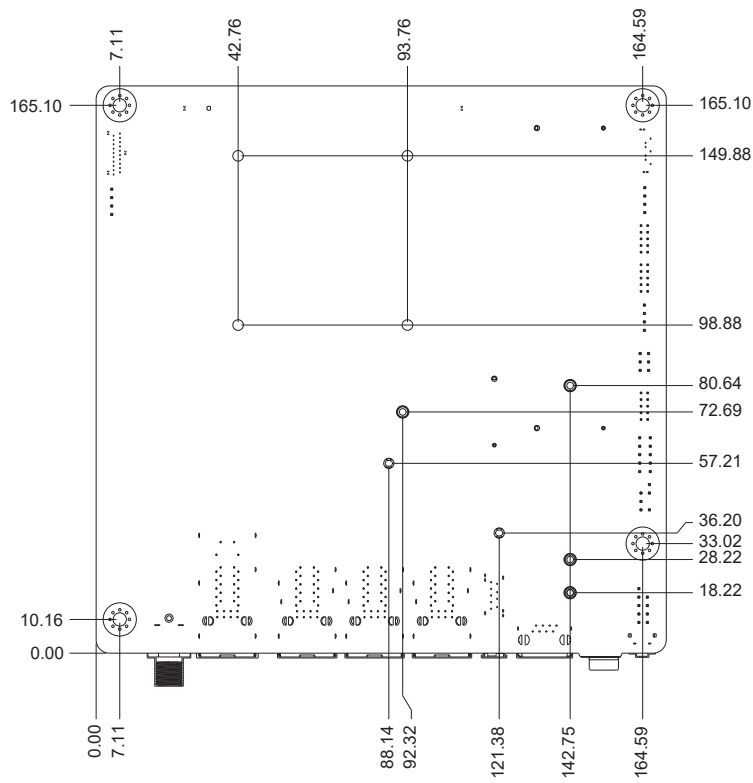
2.4   Central Processing Unit (CPU)

The motherboard comes with a Built-in Intel® N97 4C 12W SoC onboard Processor.

Intel®
Processor N97
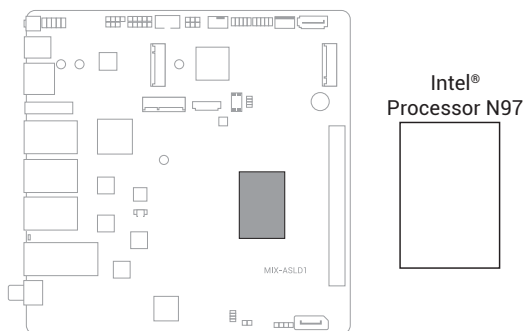
2.5   System memory

The motherboard comes with a Small Outline Dual Inline Memory Modules (SO-DIMM) slot designed for a DDR5 (Double Data Rate 5) memory module.

> ⚠️ **CAUTION!** A DDR5 memory module is notched differently from a DDR, DDR2, DDR3, or DDR4 module. DO NOT install a DDR, DDR2, DDR3, or DDR4 memory module to the DDR5 slot.
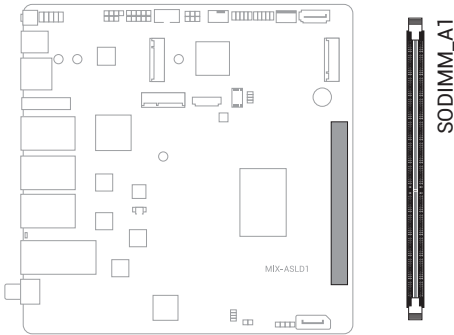
2.6   Jumpers

1.   Clear CMOS jumper (2-pin CLRTC)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.
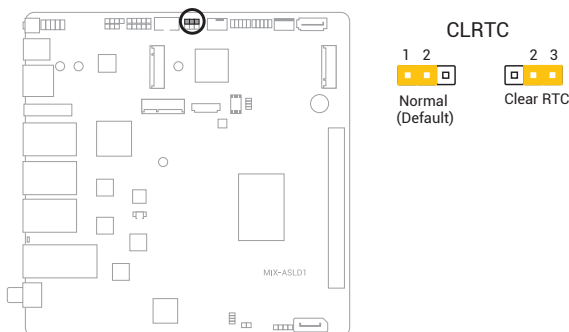
To erase the RTC RAM:

1.   Turn OFF the computer and unplug the power cord.

2.   Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.

3.   Plug the power cord and turn ON the computer.

4.   Hold down the **<Del>** key during the boot process and enter BIOS setup to reenter data.

⚠ **CAUTION!** Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!

2. AT/ATX Mode Selection jumper (3-pin ATX_AT)
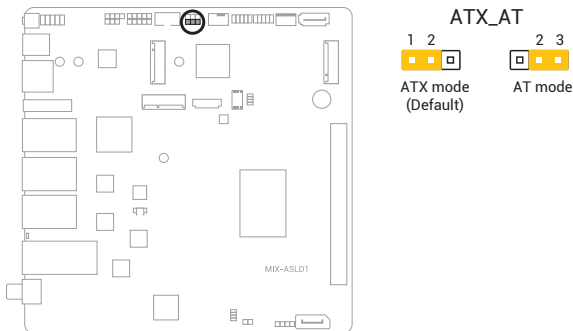
Pins	Description
1-2 (Default)	ATX mode
2-3	AT mode

NOTE: Jumper setting of **ATX_AT** should be consistent with the setting of **Power Mode** in BIOS. Refer to section **3.3.10 Power Management** in Chapter 3.

3. **Intel® ME jumper (3-pin DIS_ME)**

   This jumper allows you to force the Intel® Management Engine (ME) to boot from recovery mode when ME becomes corrupted.

DIS_ME

1 2   2 3

Enable   Disable
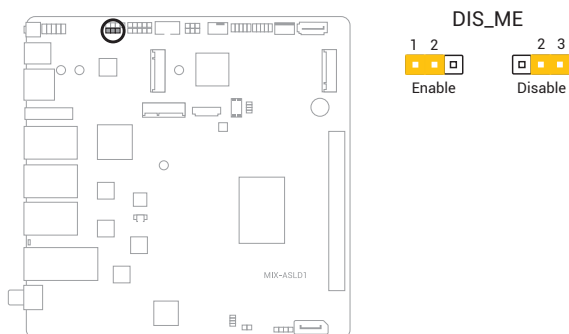
4. **Chassis Intrusion jumper (4-1 pin CHASSIS)**

   This header is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

CHASSIS

PIN1

+5VSB   CASEOPEN   GND
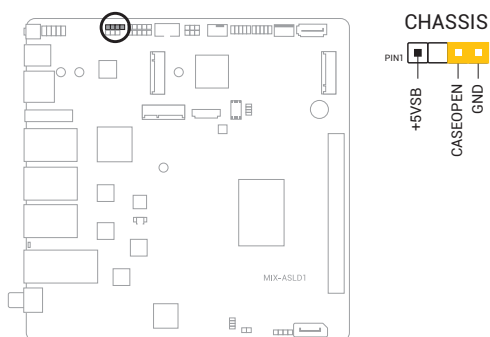
Connector type	HEADER 4p, K2, 2.54mm pitch

2.7 Connectors

2.7.1 Rear panel connectors
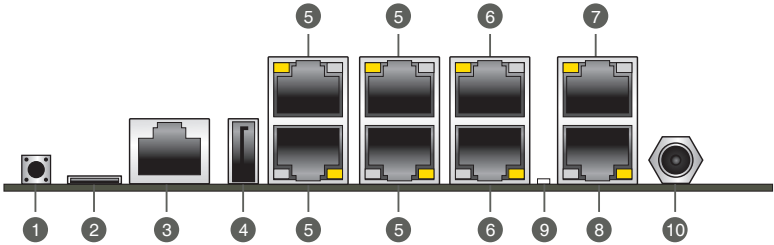
1. **Software Reset button.** This button allows you to restart the software without powering down the entire system. It is used to reset the device to a stable state if the software becomes unresponsive. The function of this button can be designed based on customer needs.

2. **Nano-SIM Card slot.** This slot connects to a Nano-SIM card.

3. **Console port.** This port provides direct access to the device's command-line interface (CLI) for configuration and management. Connect a console cable to a computer or terminal to perform administrative tasks.

4. **USB 3.2 Gen 1 (up to 5Gbps) port (Type-A).** This 9-pin Universal Serial Bus (USB) port is for USB 3.2 Gen 1 devices.

5. **LAN (RJ-45) ports (Intel® i350-AM4).** These ports allow Gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.

6. **LAN (RJ-45) ports (Intel® i210AT).** These ports allow Gigabit connection to a Local Area Network (LAN) through a network hub and support Wake on LAN functionality. Refer to the table below for the LAN port LED indications.

7. **LAN (RJ-45) port with OOB support (Intel® i210AT).** This port allows Gigabit connection to a Local Area Network (LAN) through a network hub and supports Out-Of-Band (OOB) management and Wake on LAN functionality. Refer to the table below for the LAN port LED indications.

8. **PoE LAN port (Intel® i210AT).** This Ethernet port supports both Power over Ethernet (PoE) and Wake on LAN functionality, with Power Sourcing Equipment (PSE) up to 30W. Refer to the table below for the LAN port LED indications.

LAN port LED indications

ACT/LINK LED		SPEED LED	
Status	Description	Status	Description
OFF	No link	OFF	10 Mbps connection
YELLOW	Linked	ORANGE	100 Mbps connection
BLINKING	Data activity	GREEN	1 Gbps connection
YELLOW (Blinking then steady)	Ready to wake up from S5 mode (i210AT ports only)		
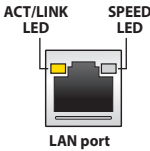
9.   **PoE LED.** This LED indicates the status of the PoE functionality. A slow blink (once every 2 seconds) indicates that the PoE LAN port is in standby mode. A steady light indicates that the PoE LAN port is active.

10. **DC-IN Power jack.** Insert the power adapter into this port.

2.7.2   Internal connectors

1.   System Management Bus header (4-pin SMBUS)

The System Management Bus (SMBus) header allows you to connect a SMBus device. This header is generally used for communication with the system and power management-related tasks.

SMBUS

PIN1

GND
SML_SMI (ALARM)
SML_DATA
SML_CLK
+3V

MIX-ASLD1
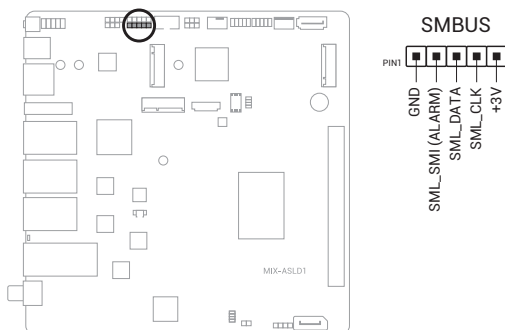
2.   ISH_I2C header (5-pin ISH_I2C)

This header allows you to connect an I2C interface.

ISH_I2C

PIN1

GND
NMI#(ALARM)
I2C5_SDA_H
I2C5_SCL_H
+3V

MIX-ASLD1
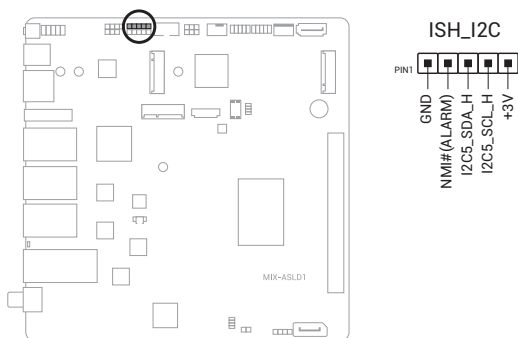
3. System Fan header (4-pin SYS_FAN)

Connect the fan cable to the fan header on the motherboard, ensuring that the black wire of each cable matches the ground pin of the header.

SYS_FAN

PIN 1

FAN_PWM
FAN_IN
+12V
GND

MIX-ASLD1
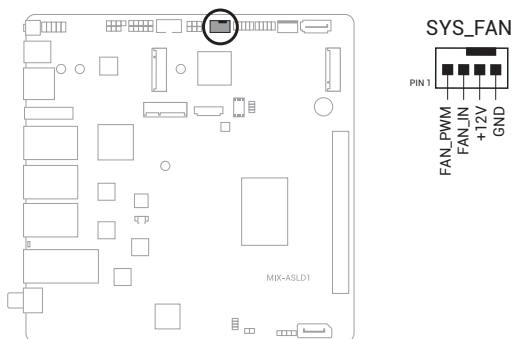
CAUTION! Do not forget to connect the fan cable to the fan header. Insufficient air flow inside the system may damage the motherboard components. This is not a jumper! Do not place a jumper cap on the fan header!

MIX-ASLD1

4. Digital I/O header (10-pin DIO)

This header includes 8 I/O lines (In/Out programmable). All of the Digital I/O lines are programmable and each I/O pin can be individually programmed to support various devices.
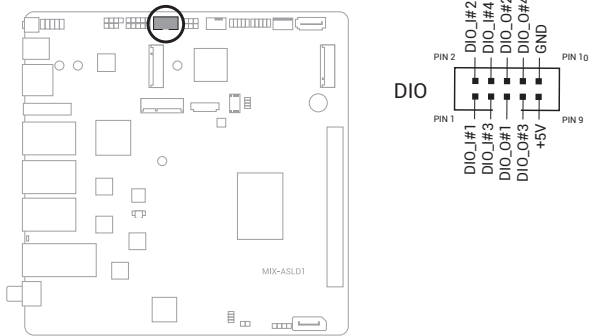
To configure the I/O pins in BIOS, go to the Advanced tab > Digital IO Port Configuration. See section **3.3.11 Digital IO Port Configuration** for details.

5. Battery connector (2-pin BATTERY_H)

This connector is for the lithium CMOS battery.
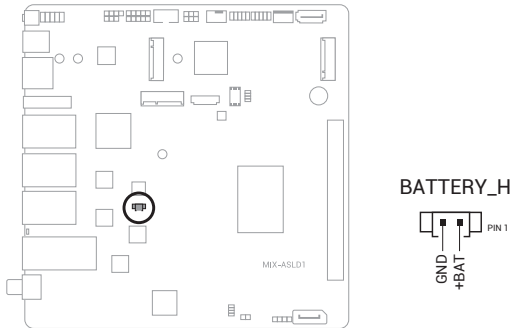
6. System Panel header (10-1 pin F_PANEL)

This header supports several chassis-mounted functions.
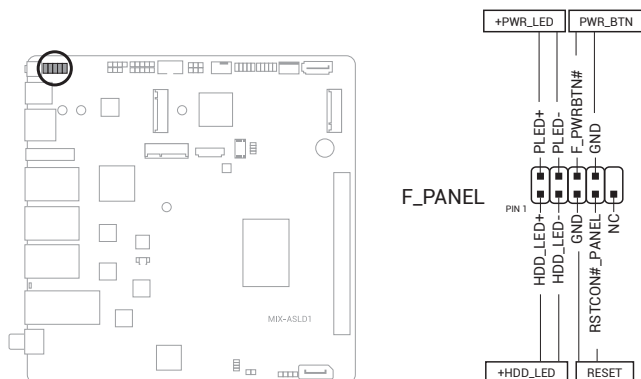
- **System Power LED header (2-pin +PWR_LED-)**

    The 2-pin pin headers allow you to connect the System Power LED. The System Power LED lights up when the system is connected to a power source, or when you turn on the system power, and blinks when the system is in sleep mode.

- **Storage Device Activity LED header (2-pin +HDD_LED-)**

    The 2-pin header allows you to connect the Storage Device Activity LED. The Storage Device Activity LED lights up or blinks when data is read from or written to the storage device or storage device add-on card.

- **Power Button/Soft-off Button header (2-pin PWR_BTN)**

    The 2-pin header allows you to connect the system power button. Press the power button to power up the system, or put the system into sleep or soft-off mode (depending on the operating system settings).

- **Reset button header (2-pin RESET)**

    The 2-pin header allows you to connect the chassis-mounted reset button. Press the reset button to reboot the system.

7. Serial ATA 6.0Gb/s port (7-pin SATA6G_1)

These ports connect to Serial ATA 6.0 Gb/s hard disk drives via Serial ATA 6.0 Gb/s signal cables.

SATA6G_1
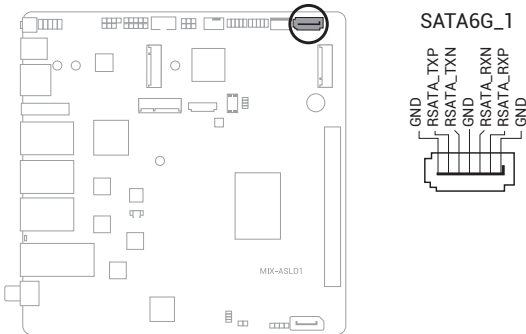
IMPORTANT: When using hot-plug and NCQ, set the SATA VMD controller item in the BIOS to [Disabled]. See section **3.3.4 SATA Configuration** for details.

8. DisplayPort (DP1)

This port is for a DisplayPort-compatible device.

DP1
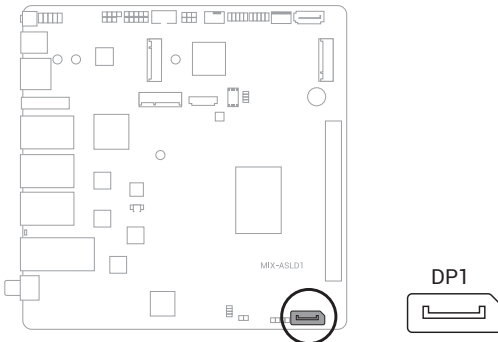
9. **USB 2.0 headers (10-pin USB_P56, USB_P78)**

   These headers are for USB 2.0 ports. Connect USB cables to these headers. These USB headers comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

   A USB2_56
   B USB2_78
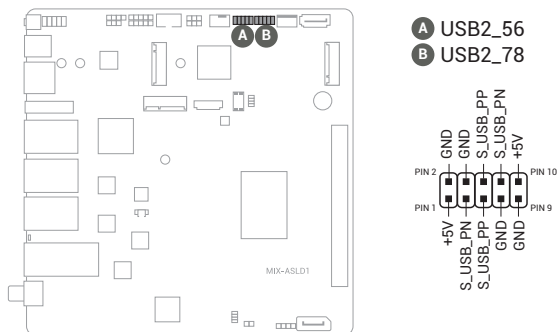
   CAUTION! Never connect a 1394 cable to the USB headers. Doing so will damage the motherboard.

   NOTE: The USB cables are purchased separately.

10. **SATA Power header (4-pin SATA_PWR)**

    This header is for the SATA power cable. The power cable plug is designed to fit this header in only one orientation. Find the proper orientation and push down firmly until the header completely fit.

    SATA_PWR
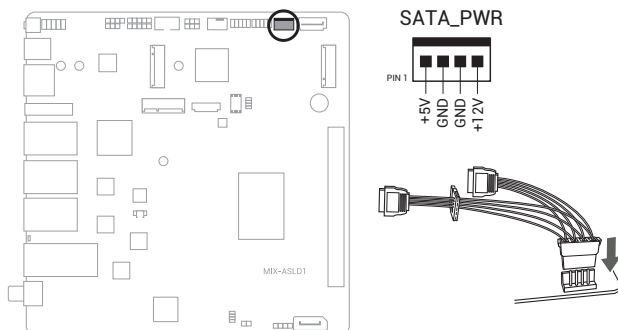
    The SATA power header supports 1A current to the maximum.

11. M.2 B-key slot (M2_TYPE_B)

The M.2 B-key slot allows you to install a 5G or LTE module.
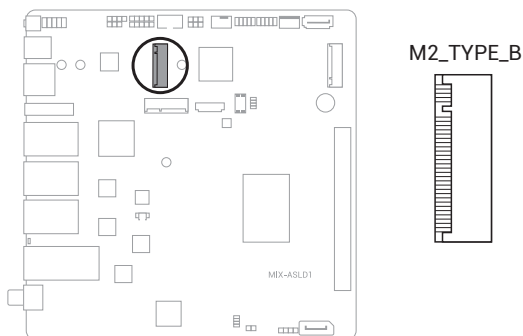
M2_TYPE_B

NOTES:

- The M.2 module is purchased separately.
- The M.2 B-key slot supports PCIe 3.0 x1 and USB 3.2 modes, designed for type 3042/3052 devices.

12. M.2 M-key slot (M2_TYPE_M1)

The M.2 M-key slot allows you to install an M.2 SSD module.

M2_TYPE_M
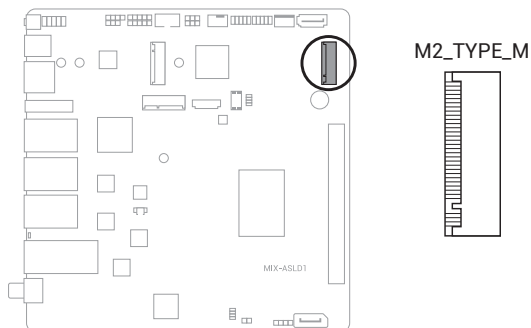
NOTES:

- The M.2 module is purchased separately.
- The M.2 M-key slot supports PCIe x1 and SATA modes, and is designed for type 2280 storage devices.

13. M.2 E-Key slot

The M.2 E-key slot allows you to install an M.2 Wi-Fi or Bluetooth module.

M2_TYPE_E
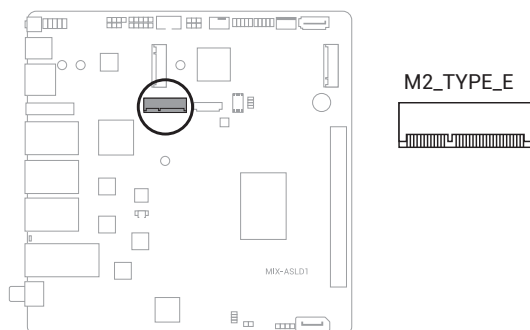
NOTES:

- The M.2 module is purchased separately.
- The M.2 E-key slot supports PCIe 3.0 x1, USB 2.0 and CNVi modes, and is designed for type 2230 devices.

14. SPI Programming header for AAEON (4-pin BIOS_SPI, 4-pin MCU_SPI)

This header allows for in-system programming of both the BIOS and the microcontroller via the Serial Peripheral Interface (SPI).

A BIOS_SPI

B MCU_SPI

```
        PIN 8      PIN 7
   (NC) ─■ ■─ (NC)
SPI_SI_F ─■ ■─ SPI_SO_F
SPI_CLK_F ─■ ■─ SPI_CS0_N_F
   GND ─■ ■─ +3V_SPI
        PIN 2      PIN 1
```
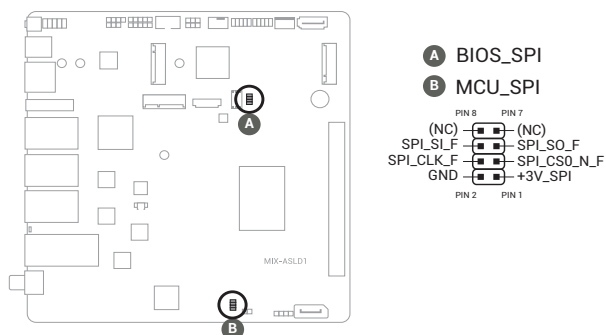
Chapter 3

BIOS setup

3.1   BIOS setup program

Use the BIOS Setup program to configure its parameters. The BIOS screens include navigation keys and brief online help to guide you in using the BIOS Setup program.

Entering BIOS Setup at startup

To enter BIOS Setup at startup:

Press <Delete> during the Power-On Self Test (POST). If you do not press <Delete>, POST continues with its routine.

Entering BIOS Setup after POST

To enter BIOS Setup after POST:

• Press **<Ctrl>**+**<Alt>**+**<Del>** simultaneously.

• Press the reset button on the system chassis.

• Press the power button to turn the system off then back on. Do this option only if you failed to enter BIOS Setup using the first two options.

CAUTION! Using the power button, reset button, or the <Ctrl>+<Alt>+<Del> keys to reboot a running operating system can cause damage to your data or system. Always shut down the system properly from the operating system.

IMPORTANT:

• The default BIOS settings for this motherboard apply to most working conditions and ensures optimal performance. If the system becomes unstable after changing any BIOS settings, load the default settings to regain system stability. Select the option **Restore Defaults** under the Save & Exit Menu. See section **3.7 Save & Exit**.

• The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

3.1.1   BIOS menu screen

3.1.2   Menu bar

The menu bar on top of the screen has the following main items:

Main	For changing the basic system configuration.
Advanced	For changing the advanced system settings.
Chipset	For viewing and changing chipset settings.
Security	For setting up BIOS security settings.
Boot	For changing the system boot configuration.
Save & Exit	For selecting the exit options and loading default settings.

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

3.2   Main menu

The Main menu provides you an overview of the basic system information, and allows you to set the system date, time, language, and security settings.

3.2.1   System Date [Day MM/DD/YYYY]

Allows you to set the system date.

3.2.2   System Time [HH:MM:SS]

Allows you to set the system time.

3.3　Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

⚠️ **CAUTION!** Be cautious when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

Case Open Warning [Disabled]

Allows you to enable or disable the case open detecting function. Configuration options: [Disabled] [Enabled] [Clear]

3.3.1　CPU Configuration

The items in this menu show CPU-related information the BIOS automatically detects.

✎ **IMPORTANT:** The items shown in the submenu may be different depending on the type of CPU installed.

Efficient-core Information

The item displays the E-Core information.

Intel (VMX) Virtualization Technology [Enabled]

[Enabled]	Allows a hardware platform to run multiple operating systems separately and simultaneously, enabling one system to virtually function as several systems.
[Disabled]	Disables this function.

3.3.2　Trusted Computing

Security Device Support [Enable]

Allows you to enable or disable BIOS support for security devices. Configuration options: [Disable] [Enable]

SHA256 PCR Bank [Enabled]

Allows you to enable or disable SHA256 PCR Bank. Configuration options: [Disabled] [Enabled]

SHA384 PCR Bank [Disabled]

Allows you to enable or disable SHA384 PCR Bank. Configuration options: [Disabled] [Enabled]

Pending operation [None]

Allows you to schedule an operation for the Security Device. Configuration options: [None] [TPM Clear]

> **NOTE:** The computer reboots during restart in order to change the state of the Security Device.

Platform Hierarchy [Enabled]

Allows you to enable or disable Platform Hierarchy. Configuration options: [Enabled] [Disabled]

Storage Hierarchy [Enabled]

Allows you to enable or disable Storage Hierarchy. Configuration options: [Enabled] [Disabled]

Endorsement Hierarchy [Enabled]

Allows you to enable or disable Endorsement Hierarchy. Configuration options: [Enabled] [Disabled]

Physical Presence Spec Version [1.3]

Selects to tell operating system to support PPI S pec Version 1.2 or 1.3. Some HCK tests might not support 1.3. Configuration options: [1.2] [1.3]

Device Select [Auto]

Allows you to select the TPM device. Configuration options: [TPM1.2] [TPM2.0] [Auto]

3.3.3   PTT Configuration

This item allows you to set the PTT configuration.

TPM Device Selection [dTPM]
Allows you to select TPM device.

[dTPM]   Disables PTT in SkuMgr.

[PTT]   Enables PTT in SkuMgr.

> **NOTE:** When PTT is disabled, all data saved on it will be lost.

3.3.4   SATA Configuration

The BIOS automatically detects the presence of SATA devices. The Serial ATA
Ports listed will display **Empty** if there are no Serial devices connected to the ports.

SATA Controller(s) [Enabled]

Allows you to enable or disable SATA devices.
Configuration options: [Enabled] [Disabled].

> **NOTE:** The following items appear only when you set **SATA Controller(s)** to
> [Enabled].

M.2 SATA Port

Port 0 [Enabled]

Allows you to enable / disable the SATA port.
Configuration options: [Disabled] [Enabled]

Hot Plug [Disabled]

Allows you to enable / disable the SATA Hot Plug Support.
Configuration options: [Disabled] [Enabled]

SATA6G_ 1

Port 1 [Enabled]

Allows you to enable / disable the SATA port.
Configuration options: [Disabled] [Enabled]

Hot Plug [Disabled]

Allows you to enable / disable the SATA Hot Plug Support.
Configuration options: [Disabled] [Enabled]

3.3.5   USB Configuration

> **NOTE:** The USB Devices item lists auto-detected values. If no USB device is
> detected, the item shows None.

USB Mass Storage Driver Support [Enabled]
Allows you to enable or disable USB Mass Storage Driver Support. Configuration
options: [Disabled] [Enabled]

3.3.6   Hardware Monitor

The items in this menu allow you to configure the smart fan.

Smart Fan Function

System Smart Fan1 Setting

Fan Mode [Smart Fan IV]

Allows you to select the FAN mode. Configuration options: [Manual Mode] [Thermal Cruise] [Speed Cruise] [Smart Fan IV]

> **NOTE:** The following item appears only when you set **System Smart Fan Control** to [Manual Mode].

Manual PWM [128]

Allows you to set the Manual PWM value.

> **NOTE:** The fan will work with this Manual PWM Value (0~255 for 10% ~100%).

> **NOTE:** The following items appear only when you set **Fan Control Mode** to [Thermal Cruise Mode].

Critical temperature [60]

Input value range: [0~255]

Enable critical duty [Disabled]
Configuration options: [Disabled] [Enabled]

Critical duty value [10]

Input value range: [0~127]

Fan target temperature [40]

Input value range: [0~127]

Tolerance value [0]

Input value range: [0~7]

Stop duty [Disabled]

Configuration options: [Disabled] [Enabled]

Stop value [10]

Input value range: [0~127]

Startup value [1]

Input value range: [0~127]

Stop time [60]

Input value range: [0~127]

> **NOTE:** The following items appear only when you set **Fan Mode** to [Speed Cruise].

Fan step up value [1]

Input value range: [0~15]

Fan step down value [1]

Input value range: [0~15]

Target speed count [2000]

Input value range: [0~4095]

Tolerance value [0]
Input value range: [0~63]

> **NOTE:** The following items appear only when you set **Fan Mode** to [Smart Fan IV].

Temperature 1 [25] / Temperature 2 [35] / Temperature 3 [45] / Temperature 4 [55]

Determines the temperature value for the Smart Fan IV mode.
Input value range: [0~255]

FD/RPM 1 [140] / FD/RPM 2 [170] / FD/RPM 3 [200] / FD/RPM 4 [230]

Determines the Fan Duty / RPM value.
Input value range: [0~255]

Critical temperature [60]

Input value range: [0~255]

Critical tolerance [0]
Input value range: [0~7]

Enable critical duty [Disabled]
Configuration options: [Disabled] [Enabled]

Tolerance value [0]
Input value range: [0~7]

RPM Mode [Disabled]

Allows you to enable or disable Smart Fan IV Close Loop Fan Control RPM Mode. Configuration options: [Disabled] [Enabled]

3.3.7   Console Configuration

Console Redirection [Enabled]

Allows you enable or disable the console redirection feature. Configuration options: [Enabled] [Disabled]

Bits per second [115200]

Allows you to select serial port transmission speed. The speed must be matched on the other side. Long or noisy lines may require lower speeds. Configuration options: [9600] [19200] [38400] [57600] [115200]

3.3.8   PCH-FW Configuration

The items listed in this screen display firmware related information.

Firmware Update Configuration

Me FW Image Re-Flash [Disabled]

Allows you to enable or disable Me firmware Image Re-Flash function. Configuration options: [Disabled] [Enabled]

FW Update [Disabled]

Allows you to enable or disable ME FW Update function. Configuration options: [Disabled] [Enabled]

3.3.9   NVMe Configuration

The NVMe Configuration menu displays the NVMe controller and drive information of the devices connected and allows you to configure NVMe device options settings.

3.3.10   Power Management

Restore AC Power Loss [Always Off]

[Last State]   The system goes into either off or on state, whatever the system state was.

[Always On]   The system goes into on state after an AC power loss.

[Always Off]   The system goes into off state after an AC power loss.

RTC Wake system from S5 [Disabled]

[Disabled]   Disables system wake up from S5.

[Fixed Time]   The system will wake up at the specified hr::min::sec.

[Dynamic Time]   The system will wake up at the current time plus a specified

3.3.11 Digital IO Port Configuration

The items listed in this screen configure Digital IO settings.

DIO Port1~DIO Port4 [Output]

Configuration options: [Input] [Output]

> **NOTE:** The following item appears only when you set **DIO Port1/2/3/4** to [Output].

Output Level [High]

Configuration options: [High] [Low]

DIO Port5~DIO Port8 [Input]

Configuration options: [Input] [Output]

3.4 Chipset menu

The Chipset menu items allow you to change the settings for the chipset.

3.4.1 System Agent (SA) Configuration

Primary Display [Auto]

Allows you to select which of the IGFX/PEG/PCI Graphics devices should be the primary display or select HG for Hybrid Gfx.

Configuration options: [Auto] [IGFX]

3.4.2 PCH-IO Configuration

HD Audio [Enabled]

This item controls the detection of HD Audio devices. Configuration options: [Disabled] [Enabled]

3.5 Security menu

The Security menu items allow you to change the system security settings.

3.5.1 Administrator Password

If you have set an administrator password, we recommend that you enter the administrator password for accessing the system. Otherwise, you might be able to see or change only selected fields in the BIOS setup program.

To set an administrator password:

1. Select the **Administrator Password** item and press <Enter>.

2. From the **Create New Password** box, key in a password, then press <Enter>.

3. Confirm the password when prompted.

To change an administrator password:

1. Select the **Administrator Password** item and press <Enter>.

2. From the **Enter Current Password** box, key in the current password, then press <Enter>.

3. From the **Create New Password** box, key in a new password, then press <Enter>.

4. Confirm the password when prompted.

To clear the administrator password, follow the same steps as in changing an administrator password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **Administrator Password** item on top of the screen shows **Not Installed**.

3.5.2 User Password

If you have set a user password, you must enter the user password for accessing the system. The User Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a user password:

1. Select the **User Password** item and press <Enter>.

2. From the **Create New Password** box, key in a password, then press <Enter>.

3. Confirm the password when prompted. To change a user password:

To change a user password:

1.   Select the **User Password** item and press <Enter>.

2.   From the **Enter Current Password** box, key in the current password, then press <Enter>.

3.   From the **Create New Password** box, key in a new password, then press <Enter>.

4.   Confirm the password when prompted.

To clear the user password, follow the same steps as in changing a user password, but press <Enter> when prompted to create/confirm the password. After you clear the password, the **User Password** item on top of the screen shows **Not Installed**.

3.5.3   Secure Boot

Secure Boot feature is active when Secure Boot is set to [Enabled], Platform Key (PK) is enrolled and the system is running in User mode. Changing the mode requires platform reset. Configuration options: [Disabled] [Enabled]

Secure Boot Mode
Allows you to select Secure Boot Mode. When set to [Custom], Secure Boot Policy variables can be configured by a physically present user without full authentication. Configuration options: [Standard] [Custom]

Restore Factory Keys

Allows you to install factory default secure boot key databases.

Restore to Setup mode

Allows you to delete all secure boot key databases from NVRAM.

Key Management
Allows you to modify Secure Boot Policy variables without full authentication.

Factory Key Provision

Allows you to install factory default Secure Boot keys when the system is in Setup mode. Configuration options: [Enabled] [Disabled]

Restore Factory Keys
Configuration options: [Yes] [No]

Reset To Setup Mode
Configuration options: [Yes] [No]

Enroll Efi Image

Export Secure Boot variables

Platform Key (PK)
Configuration options: [Details] [Export] [Update] [Delete]

Key Exchange Keys / Authorized Signatures / Forbidden Signatures
Configuration options: [Details] [Export] [Update] [Append] [Delete]

Authorized TimeStamps / OsRecovery Signatures
Configuration options: [Update] [Append]

3.6   Boot menu

The Boot menu items allow you to change the system boot options.

3.6.1   Boot Configuration

Quiet Boot [Enabled]

This item enables/disables Quiet Boot. Configuration options: [Disabled] [Enabled]

Network Stack [Disabled]

This item allows user to disable or enable the UEFI network stack. Configuration
options: [Disabled] [Enabled]

3.6.2   FIXED BOOT ORDER Priorities

Boot Option #1~#10

This item allows you to set the system boot order. Configuration options: [USB
Key] [USB Hard Disk] [Hard Disk] [NVME] [Network] [USB Lan] [CD/DVD] [USB
CD/DVD] [USB Floppy] [SD] [Disabled]

3.7   Save & Exit menu

Save Changes and Reset

Once you are finished making your selections, choose this option from the Save
& Exit menu to ensure the values you selected are saved. When you select this
option, a confirmation window appears. Select Yes to save changes and reset.

Discard Changes and Exit

This option allows you to exit the Setup program without saving your changes.
When you select this option or if you press <Esc>, a confirmation window appears.
Select Yes to discard changes and exit.

Restore Defaults

Save or restore User Defaults to all setup options.

Appendix

Notices

Federal Communications Commission Statement

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

- This device may not cause harmful interference.
- This device must accept any interference received including interference that may cause undesired operation.

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

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

WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

DO NOT throw the motherboard in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

電子信息產品污染控制標示：圖中之數字為產品之環保使用期限。僅指電子信息產品中含有的有毒有害物質或元素不致發生外洩或突變從而對環境造成污染或對人身、財產造成嚴重損害的期限。

有毒有害物質或元素的名稱及含量說明標示：

部件名稱	有害物質或元素					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六　價　鉻 (Cr(VI))	多 溴 聯 苯 (PBB)	多溴二苯醚 (PBDE)
印刷電路板及其電子組件	×	○	○	○	○	○
外部信號連接頭及線材	×	○	○	○	○	○

○：表示該有毒有害物質在該部件所有均質材料中的含量均在 SJ/T 11363-2006 標准規定的限量要求以下。

×：表示該有毒有害物質至少在該部件的某一均質材料中的含量超出 SJ/T 11363-2006 標准規定的限量要求，然該部件仍符合歐盟指令 2002/95/EC 的規范。

備註：此產品所標示之環保使用期限，係指在一般正常使用狀況下。