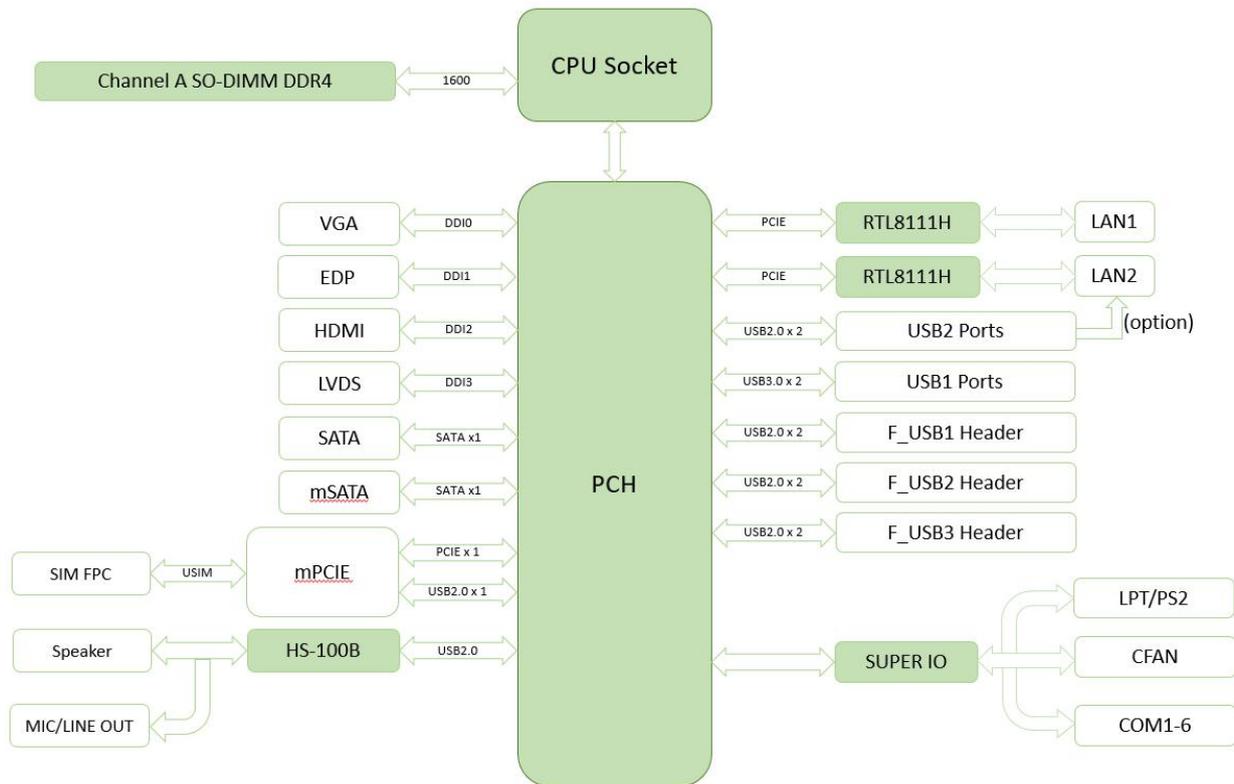


Specification

Chapter 1: Introduction

Block Diagram

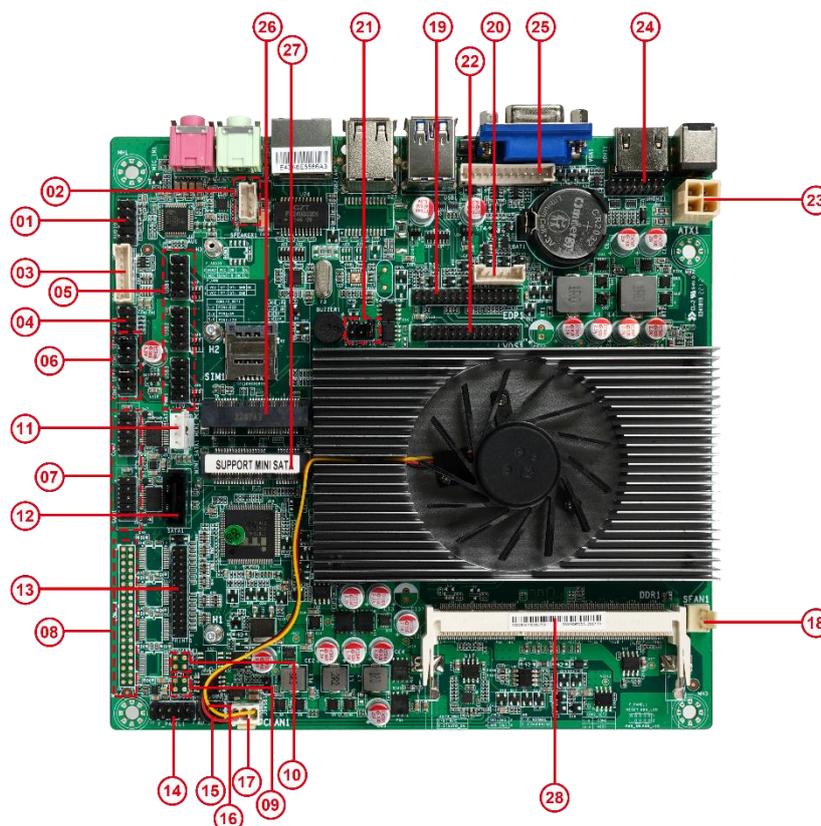


1.2. Motherboard specifications

Motherboard size	- ITX 170mmX170mm
CPU	- Intel® Ivy Bridge i3-3217U/i5-3317U
Memory	Onboard 1x 204-pin DDR3 SO-DIMM memory slot - The maximum supported memory is 8GB
Expansion slot	1*mPCIE (supporting Wifi + Bluetooth/4G module) - 1*SIM card slot
Backplane interface	-1*DC -1*HDMI -1*VGA -1*CLR_CMOS -2*USB3.2 Gen1 (5Gbps) -2*USB2.0 (1*LAN2) -1*LAN1 -1*LINE-OUT -1*MIC-IN

Built in interface	<ul style="list-style-type: none"> -1*F_AUDIO -1*SPEAKER -1*PS/2 -1*GPIO -3*F_USB (6*USB2.0) -1*INCN -1*LVDS -1*EDP2 -1*COM232 -1*SATA -1*SATA_PWR -1*PRINT -1*CFAN -1*F_PANEL -1*SYS_FAN -1*4Pin ATX -1*HDMI -1*JVGA
BIOS	- AMI BIOS
Power management	<p>Supports Advanced Configuration and Power Interface (ACPI) for advanced power management</p> <ul style="list-style-type: none"> - Supports Wake on LAN (WOL) for S3 and S4 states, as well as power-on boot
Display	Supports synchronous/asynchronous dual display (HDMI/VGA/LVDS/EDP1)
Backlight adjustment	<ul style="list-style-type: none"> - Display configuration and backlight adjustment method: - Display configuration: LVDS+EDP1+HDMI+VGA - Backlight adjustment method: Adjusted through the LVDS system, and adjusted under EDP1 Bios
Network	- 1 x Realtek 8111H/8111G Gigabit Ethernet
Audio	<ul style="list-style-type: none"> - Onboard HS-100B USB audio decoding controller; power amplifier NS4251 3W@4Ω MAX It is recommended that the customer use speakers with 4 ohms and 3 watts or 8 ohms and 2 watts
I/O chip	- ITE8784E-I
power supply	- 4 PIN ATX / DC 12V
environment	<ul style="list-style-type: none"> - operation temperature: 0°C~50°C - ambient humidity: 0%~95%
operating system	Windows 7 /Windows 10 /Linux

1.3、 Mainboard layout structure diagram

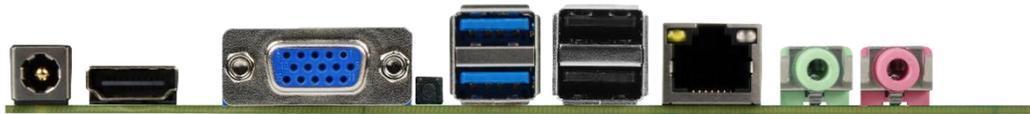


The illustration is for reference only. Please refer to the actual product.

Ltem		描述
1	F_AUDIO	Front audio pin connector
2	SPEAKER	Power amplifier pin interface
3	JPS2	Built-in PS/2 socket
4	GPIO	GPIO interface
5	F_USB1/2/3	Built in USB 2.0 pin
6	COM1/2_SET1	Voltage selection jump pin for COM1/2
7	COM1/2	Built in serial port plug
8	COM3-6	1 * 4COM serial port plug
9	COM2_SET2	COM2 RS232/485 selects skipping needle
10	J485E	RS485 data receiving and sending skipping pin
11	SATA_PWR	SATA power supply pin interface
12	SATA	SATA socket
13	LPT	Built in printing port pins
14	F_PANEL	Front panel switch pin
15	JME	ME flashing selection skipping needle
16	AUTO_ON	Automatic power on selection skipping needle
17	CPU_FAN	CPU cooling fan pin

18	SYS_FAN	System cooling fan pin
19	LVDS	LVDS screen display pin interface
20	INCN	LVDS boost board interface socket
21	LVDS_JP1	LVDS voltage selection jump pin
22	EDP1	EDP screen displays pin interface
23	ATX_IN	4PIN ATX power socket
24	JHDMI	Built in HDMI pin interface
25	JVGA	Built in VGA pin interface
26	MINI_PCIE	MPCIe slot
27	MINI_SATA	MSATA slot
28	SODIMM	1 * SO-DIMM DDR3 memory slot

1.3.1、Rear IO interface



Item	describe
DCIN	Power supply 12V
HDMI	High definition digital signal output display
VGA	D-Sub, Analog signal output display
CLR_CMOS	CMOS clear button (power off, press and hold for 4 seconds Clear_CMOS)
USB1	2*USB3.2 Gen 1 (5Gbps)
USB2	2 * USB 2.0 (optional 1 * LAN2)
LAN1	Link LED: Long green light, indicating that the network is connected
	Active LED: flashing orange, indicating data transmission
Audio	Audio outputµphone input (HP1&MIC1)

Chapter 2: Motherboard Installation

-  **Safety precautions:**
- **Do not tear off the serial number and agent warranty stickers on the motherboard before installation, otherwise it will affect the standard for determining the product warranty period.**
- **Before installing or removing the motherboard and other hardware devices, be sure to turn off the power and unplug the power cord from the socket.**
- **When installing other hardware devices into the socket inside the motherboard, please confirm that the connectors and sockets are tightly connected.**
- **When taking the motherboard, please try not to touch the metal wiring parts to avoid short circuits in the circuit.**
- **It is best to wear an anti-static wristband when taking out the motherboard, central processing unit (CPU), or memory module. If there is no anti-static wristband, please make sure your hands are dry and touch metal objects first to eliminate static electricity.**
- **Before installing the motherboard, please place it in an anti-static pad or bag.**
- **When you need to unplug the motherboard power socket, please confirm that the power supply is turned off.**
- **Before turning on the power, please ensure that the voltage value of the power supply is set to the standard voltage value in the window where it is located.**
- **Before turning on the power, please ensure that all hardware device cables and power cords are properly connected.**
- **Do not let screws come into contact with the circuits or parts on the motherboard to avoid damage or malfunction.**
- **Please ensure that there are no screws or metal products left on the motherboard or inside the computer case.**
- **Do not place the computer host on an uneven surface.**
- **Do not place the computer host in an environment with excessively high temperature.**
- **If the power is turned on during installation, it may cause damage to the motherboard, other devices, or yourself.**
- **If you are unfamiliar with the installation process or encounter any technical issues while using this product, please consult a professional technician.**

2.1、 Memory installation

This motherboard provides one 204 pin DDR3 SO-DIMM memory slot.

Before starting to install memory, please pay attention to the following information:

1. Please confirm that the memory you purchased is compatible with the specifications supported by this motherboard.
2. Before installing or removing memory, please make sure that the computer's power is turned off to avoid damage.
3. The memory design has foolproof markings. If you insert it in the wrong direction, the memory cannot be inserted. Please change the insertion direction immediately.

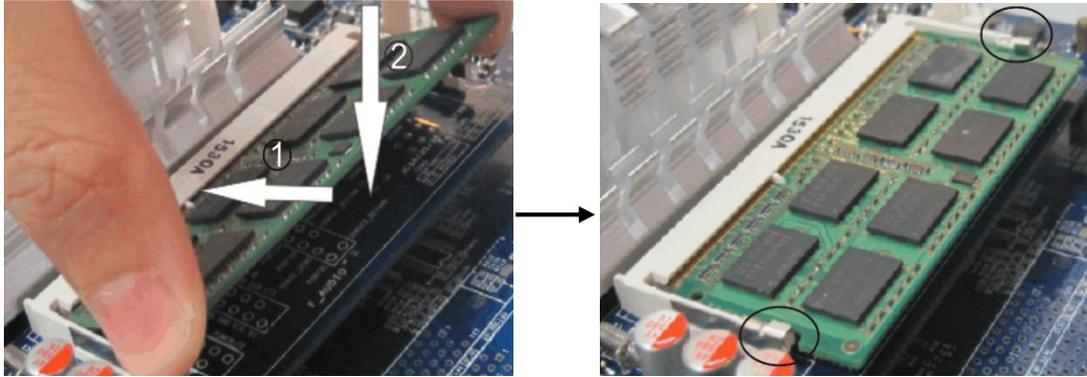
Install memory:

1. Before installing or removing memory, please turn off the power and unplug the AC power cord.
2. Be careful to hold the two ends of the memory module and do not touch the metal contacts on top.
3. Align the gold finger of the memory module with the slot of the memory module, and pay attention to the convex starting point of the slot on the concave hole of the gold finger in the direction;
4. Insert the memory module into the memory slot at a 30 degree angle, and then press it down until you

hear a "click" sound, indicating that the memory has been successfully installed and can be used. (Note: Do not apply too much pressure to the memory module to avoid damaging it)

5. To remove the memory module, push the tenons on both ends of the DIMM slot outward and then remove the memory module.

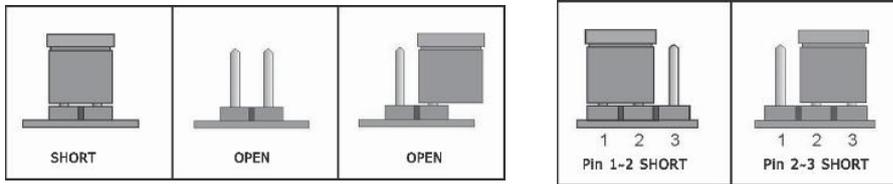
The installation diagram is for reference only:



2.2、 Jumper instructions

2-pin connector: Insert the jumper cap into two pins to close it (short circuit).

3-pin connector: The jumper cap can be inserted into pins 1-2 or 2-3 to close it (short circuit).



How to identify the position of the first pin of the jumper?

1. Please carefully check the motherboard. Any pins marked with "1" or white thick lines are considered as pin 1 positions.
2. Observing the solder pads on the backplane, typically square solder pads are the first pins.

2.3、 Setting of each pin and jumper;

1.Front audio interface: F_AUDIO

The motherboard provides one 2 * 5PIN (N8) front audio interface (pin spacing: 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	MIC_L	2	GND
	3	MIC_R	4	DET#
	5	LINE_OUT_R	6	MIC_JD
	7	GND	8	/
	9	LINE_OUT_L	10	Lin_JD

2.Built in amplifier interface: SPEAKER

The motherboard provides one 1 * 4Pin Speaker built-in amplifier pin interface (pin spacing: 2.00mm), with pin definitions as follows:

Graphic	Pin	Definition
	1	AMP_OUT_R+
	2	AMP_OUT_R-
	3	AMP_OUT_L-
	4	AMP_OUT_L+

3.Built in PS/2 keyboard and mouse interface: JPS2

The most common mouse interface is a specialized interface for mice and keyboards, which is a 6-pin circular interface. But the mouse only uses 4 pins to transmit data and power, and the other 2 are empty pins.

The motherboard provides one 1 * 7PIN PS/2 socket (pin spacing: 2.00mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	KB_DATA	2	KB_CLK
	3	GND	4	MS_DATA
	5	MS_CLK	6	GND
	7	+V5S	8	/

4.GPIO contact pin

The motherboard provides one 2 * 3pin GPIO pin (pin spacing: 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	VCC +5V	2	GND
	3	GPIO0	4	GPIO1
	5	GPIO36	6	GPIO37

5.Built in USB interfaces: F0USB1, F0USB2, F0USB3

The motherboard provides three 2 * 5pin (N9) built-in USB ports (pin spacing: 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	VCC +5V	2	VCC +5V
	3	USB1 Date-	4	USB2 Date-
	5	USB1 Date+	6	USB2 Date+
	7	GND	8	GND
	9	/	10	NC

6.COM1, COM2 voltage selection jump pin: COM1_SET1, COM_2SET1

The motherboard provides two 2 * 3Pin COM1_SET1 and COM2_SET1 jumper pins (pin spacing: 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition
	1-2 (Default)	3.3V
	3-4	+5V
	5-6	+12V

7-8.Built in serial ports: COM1, COM2

The motherboard provides one 2 * 20PIN four in one COM interface (pin spacing: 2.00mm), which can be understood as merging four 2 * 5Pin ordinary COM pin interfaces together. And 2 ordinary 2 * 5Pin COM pins (pin spacing: 2.54mm), the pin definitions are as follows:

Graphic	Pin	Definition	Pin	Definition
	1	DCD	2	RXD
	3	TXD	4	DTR
	5	GND	6	DSR
	7	RTS	8	CTS
	9	RI	10	/

9.RS232/485 selection skipping needle: COM_2SET2

The motherboard provides one 2 * 2Pin RS232/485 selector pin (pin spacing 2.54mm), with pin definitions as follows:

(1) When COM_2SET2 jumps to 3-4, it is necessary to set this serial port to RS485 mode in the BIOS at the same time (refer to BIOS settings section 3.2.8 I/O serial port settings in the manual). At this time, J485E1 outputs RS485 signal, and COM2 has no function.

Graphic	Pin	Definition
	1-2	RS232
	3-4	RS485

10.RS485 data receiving and sending jumper for COM2: J485E

The motherboard provides one 2 * 2pin J485E wiring pin (pin spacing 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition
	1	485+
	2	485-
	3	GND
	4	GND

11.SATA power interface: JSATA_PWR

The motherboard provides one 1 * 4pin SATA_PWR pin (pin spacing 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition
	1	+5V
	2	GND
	3	GND
	4	+12V

1 * 4pin SATA_PWR pins (with a pitch of 2.00mm) can be selected, and the pin definitions are as follows:

Graphic	Pin	Definition
	1	+5V
	2	GND
	3	GND
	4	+12V

12.SATA interface: SATA

The motherboard provides one 1 * 7pin SATA socket, with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	TX+
	3	TX-	4	GND
	5	RX-	6	RX+
	7	GND	/	/

13.Built in printing port: LPT

The motherboard provides one 2 * 13Pin built-in printing pin (pin spacing: 2.00mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	STB	2	AFD
	3	PD0	4	LPT_ERR
	5	PD1	6	INIT

	7	PD2	8	SLIN
	9	PD3	10	GND
	11	PD4	12	GND
	13	PD5	14	GND
	15	PD6	16	GND
	17	PD7	18	GND
	19	LPT_ACK	20	GND
	21	LPT_BUSY	22	GND
	23	LPT_PE	24	GND
	25	LPT_SLCT	26	none

14. Front panel switch pin: F_PANEL

The motherboard provides one 2 * 5Pin F-PANEL interface (pin spacing: 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	HDD LED+(硬盘灯+)	2	PWR LED +
	3	HDD LED-(硬盘灯-)	4	PWR LED -
	5	GND	6	POWER-SW (开关)
	7	RESET-SW (复位)	8	GND
	9	GND	10	/

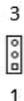
15. ME flashing jump needle: JME

The motherboard provides one 1 * 3-pin ME flashing jumper (foot distance: 2.54mm), defined as follows:

Graphic	Pin	Definition
	1-2 (Default)	NORMAL
	2-3	OVERRIDE

16. Automatic power on jump pin: AUTO-ON

The motherboard provides one 1 * 3-pin automatic power on jump pin (foot distance: 2.54mm), defined as follows:

Graphic	Pin	Definition
	1-2 (Default)	NORMAL
	2-3	AUTO_ON

17-18. Power socket for cooling fan: CFAN, SYS_SAN

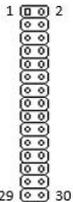
The motherboard provides one 1 * 3-pin (CFAN) and one 1 * 3-pin (SYSFAN) cooling fan interface (pin spacing: 2.54mm), with pin definitions as follows:

Graphic	Pin	Definition
	1	Ground

	2	+12V
	3	Sense

19.LVDS display pin interface

The motherboard provides one 2 * 15Pin LVDS pin interface (pin spacing: 2.0mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	VCC	2	VCC
	3	VCC	4	GND
	5	GND	6	GND
	7	LVDS_A_DATA0-	8	LVDS_A_DATA0+
	9	LVDS_A_DATA1-	10	LVDS_A_DATA1+
	11	LVDS_A_DATA2-	12	LVDS_A_DATA2+
	13	GND	14	GND
	15	LVDS_A_CLK-	16	LVDS_A_CLK+
	17	LVDS_A_DATA3-	18	LVDS_A_DATA3+
	19	LVDS_B_DATA0-	20	LVDS_B_DATA0+
	21	LVDS_B_DATA1-	22	LVDS_B_DATA1+
	23	LVDS_B_DATA2-	24	LVDS_B_DATA2+
	25	GND	26	GND
	27	LVDS_B_CLK-	28	LVDS_B_CLK+
	29	LVDS_B_DATA3-	30	LVDS_B_DATA3+

20.LVDS pressure plate socket: INCN

The motherboard provides one 1 * 6-pin LVDS boost board pin interface (pin spacing: 2.00mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	+12V	2	+12V
	3	LVDS_BKL_EN 背光开关	4	BKL_CTRL 背光亮度
	5	GND	6	GND

21.Screen voltage control interface: LVDS_JP1

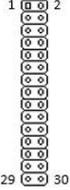
The motherboard provides one 2 * 3pin LVDS voltage control pin interface (pin spacing: 2.00mm). The definition of pins is as follows:

Graphic	Pin	Definition
	1-2	+3.3V
	3-4	+5V
	5-6	+12V

22.EDP display pin interface: EDP 1

The motherboard provides one 2 * 15 pin EDP pin interface (pin spacing: 2.0mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
---------	-----	------------	-----	------------

	1	VCC_EDP	2	VCC_EDP
	3	GND	4	GND
	5	TX0_DP	6	TX0_DN
	7	GND	8	GND
	9	TX1_DP	10	TX1_DN
	11	GND	12	GND
	13	TX2_DP	14	TX2_DN
	15	GND	16	GND
	17	TX3_DP	18	TX3_DN
	19	GND	20	GND
	21	AUX_DP	22	AUX_DN
	23	GND	24	HPD_EDP
	25	EDP_BKLT_CTL	26	EDP_BKLT_EN
	27	GND	28	GND
	29	BLPWR	30	BLPWR

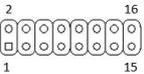
23. ATX power socket: ATX_IN

The motherboard provides one 1 * 4pin power socket, with pin definitions as follows:

Graphic	Pin	Definition
	1	GND
	2	GND
	3	+12V
	4	+12V

24. Built in HDMI pin: JHDMI

The motherboard provides one 2 * 8Pin built-in HDMI pin interface (pin spacing: 2.00mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	HDMI_TXD2_P	2	HDMI_DDC_CLK_R
	3	HDMI_TXD2_N	4	HDMI_DDC_DATA_R
	5	HDMI_TXD1_P	6	NC
	7	HDMI_TXD1_N	8	HPD_CONN
	9	HDMI_TXD0_P	10	+5V_HDMI
	11	HDMI_TXD0_N	12	GND
	13	HDMI_TXC0P	14	GND
	15	HDMI_TXC0N	16	GND

25. Built in VGA display interface: JVGA

The motherboard provides one 1 * 12 pin VGA pin interface (pin spacing: 2.00mm), with pin definitions as follows:

Graphic	Pin	Definition	Pin	Definition
	1	GND	2	VGA_VSYNC (场同步)

	3	VGA_HSYNC(行同步)	4	GND
	5	VGA_RED (红)	6	GND
	7	VGA_GRN (绿)	8	GND
	9	VGA_BLUE (蓝)	10	GND
	11	VGA_5VDDA (数据)	12	VGA_5VDDCLK(时钟)

Chapter 3: BIOS Settings

3.1 BIOS Description

This motherboard uses AMI BIOS. The full name of BIOS is Basic Input Output System. It is stored in a ROM (Read Only Memory) chip on the computer motherboard. When you turn on your computer, BIOS is the first program to run, which mainly has the following functions:

- A、 Power On Self Test (POST) is used to check if the computer is functioning properly.
- B、 Initialize and detect some external devices, and load and run your operating system.
- C、 Provide the lowest and most basic control for your computer hardware.
- D、 Manage your computer through SETUP in BIOS.

The BIOS data is stored in a CMOSRO RAM chip on the motherboard, maintained by a 3.3V button battery, which contains important system information and the BIOS Setup program for setting system parameters. When the system is running normally, there is no need to modify the BIOS. If CMOS data is lost due to other reasons, the BIOS needs to be reset.

Note:

Improper BIOS settings can directly damage the computer's hardware and even burn the motherboard. It is recommended that unfamiliar users carefully modify the settings.

Due to the continuous upgrade of BIOS in the motherboard, the relevant BIOS information in this manual is for reference only, so we cannot guarantee the consistency between the BIOS information in this manual and the actual BIOS information on the motherboard

3.2、 BIOS setting

When the motherboard is powered on or the system is restarted, the following prompt will appear on the Post interface. Press DEL to enter BIOS Setup



You can use the up, down, left, and right keys to move options, press the <Enter> key to select, and use

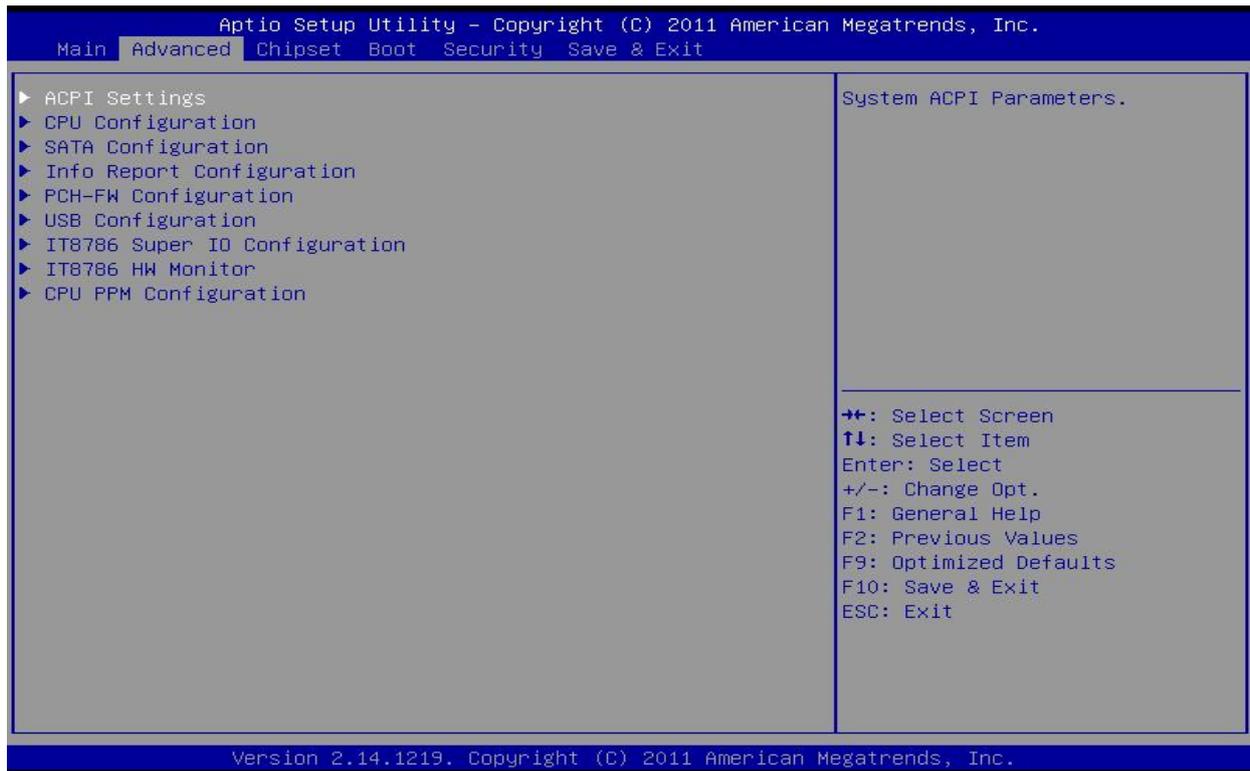
Page Up and Page Down to change options. Press the <F1> key for help, press the <Esc> key to exit. Please refer to the table below for a detailed introduction.

Control keys	Function Description
← / →	Move the left and right arrows to select the screen
↑/↓	Move the up and down arrows to select the up and down items
+ / -	Increase/decrease values or change selection options
<Enter>	Select this option to enter the submenu
<ESC>	Return to the main screen, or end the CMOS SETUP program from the main screen
<F1>	Display relevant auxiliary instructions
<F2>	Restore the previously set values
<F9>	Load the optimal value setting (BIOS initial value)
<F10>	Save the changed CMOS settings and restart

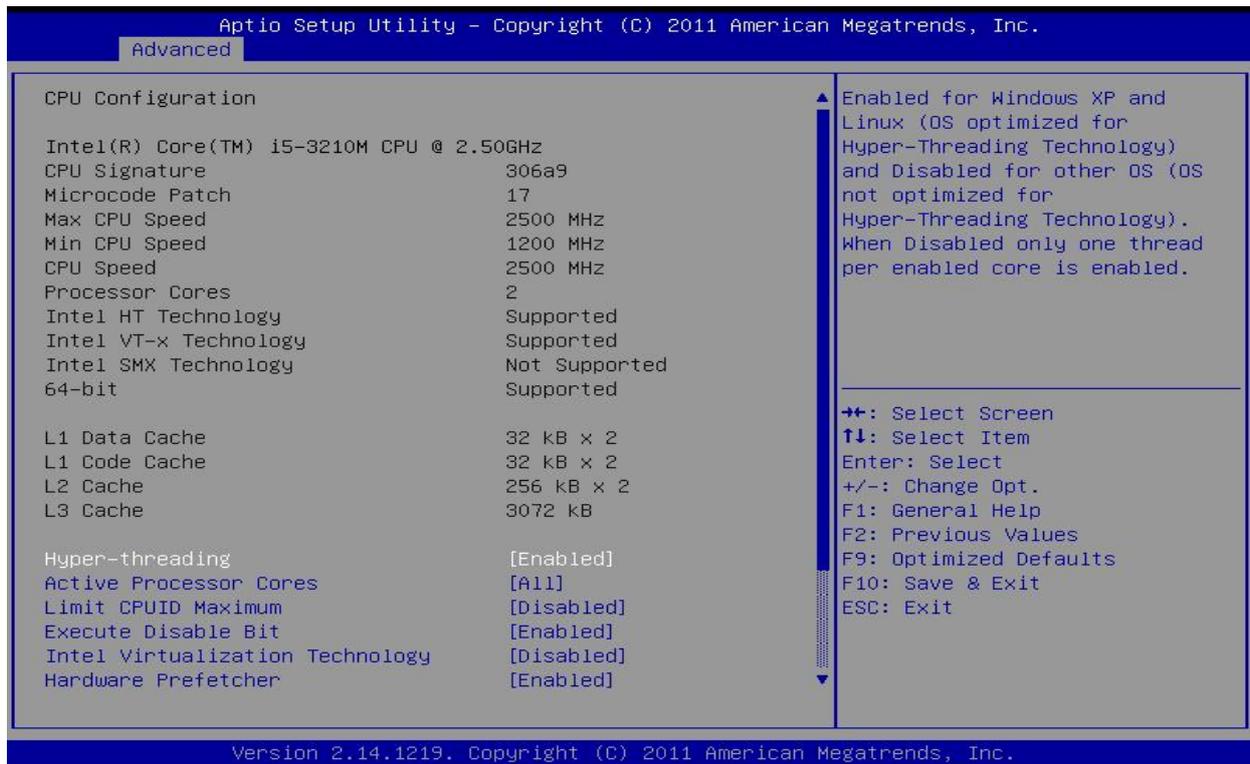
3.2.1、 Main menu information(Main)

The screenshot displays the Aptio Setup Utility main menu. At the top, it reads 'Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.' and shows a navigation bar with 'Main' selected. The main area is divided into two columns. The left column lists system information: MotherBoard Information (Model: Z0-S2000UT-2C1L, BIOS Revision: F3, Build Date and Time: 06/17/2021 15:39:48), CPU Information (Intel(R) Core(TM) i5-3210M CPU @ 2.50GHz, Core Frequency: 2500 MHz, Core Count: 2), Memory Information (Working Frequency: 1600 Mhz, Total Memory: 4096 MB, Channel Mode: Single Channel, Slot 1: 4096 MB, Slot 2: Not Install), System Date/Time ([Mon 08/08/2022] [15:41:59]), and Access Level (Administrator). The right column contains instructions: 'Set the Time. Use Tab to switch between Time elements.' and a list of navigation keys: '+': Select Screen, '↑↓': Select Item, 'Enter': Select, '+/-': Change Opt., 'F1': General Help, 'F2': Previous Values, 'F9': Optimized Defaults, 'F10': Save & Exit, and 'ESC': Exit. At the bottom, it shows 'Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.'

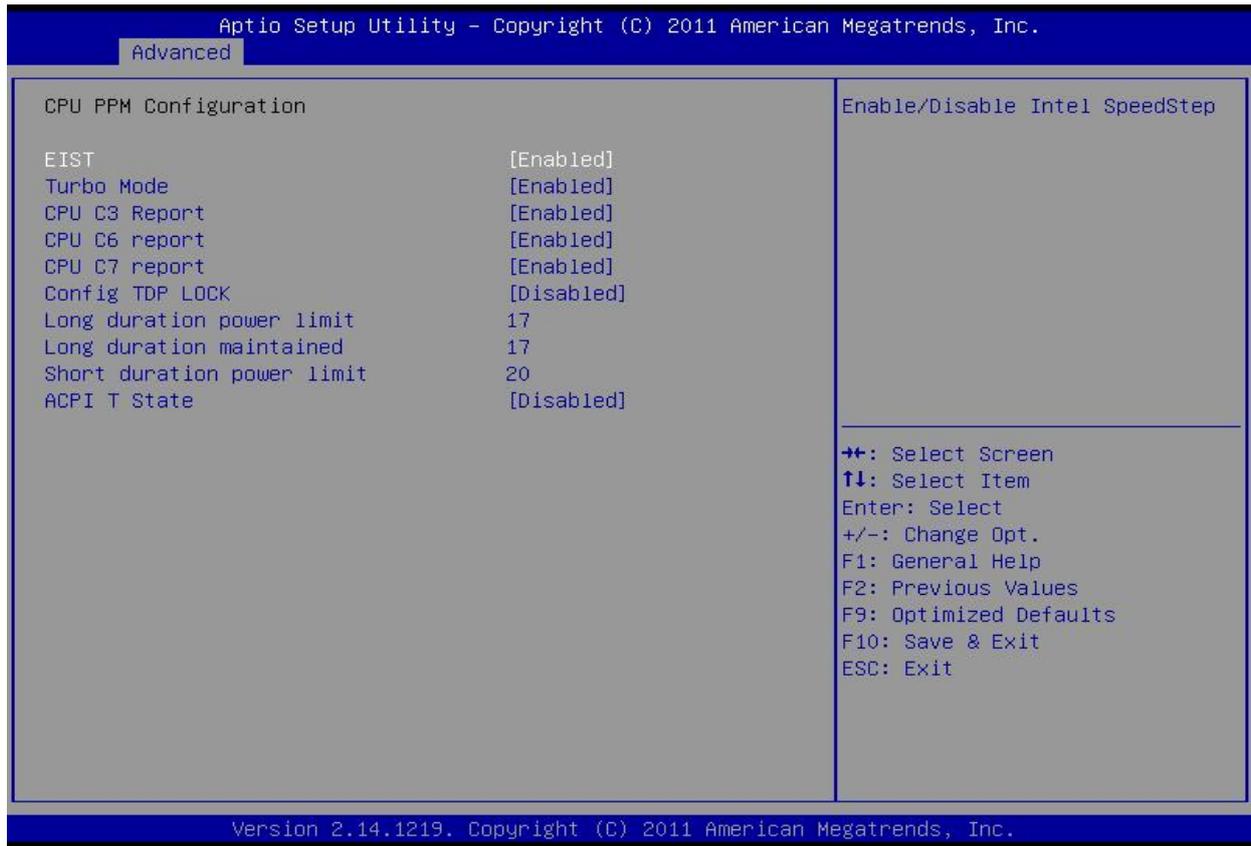
3.2.2、 Advanced BIOS Features (Advanced)



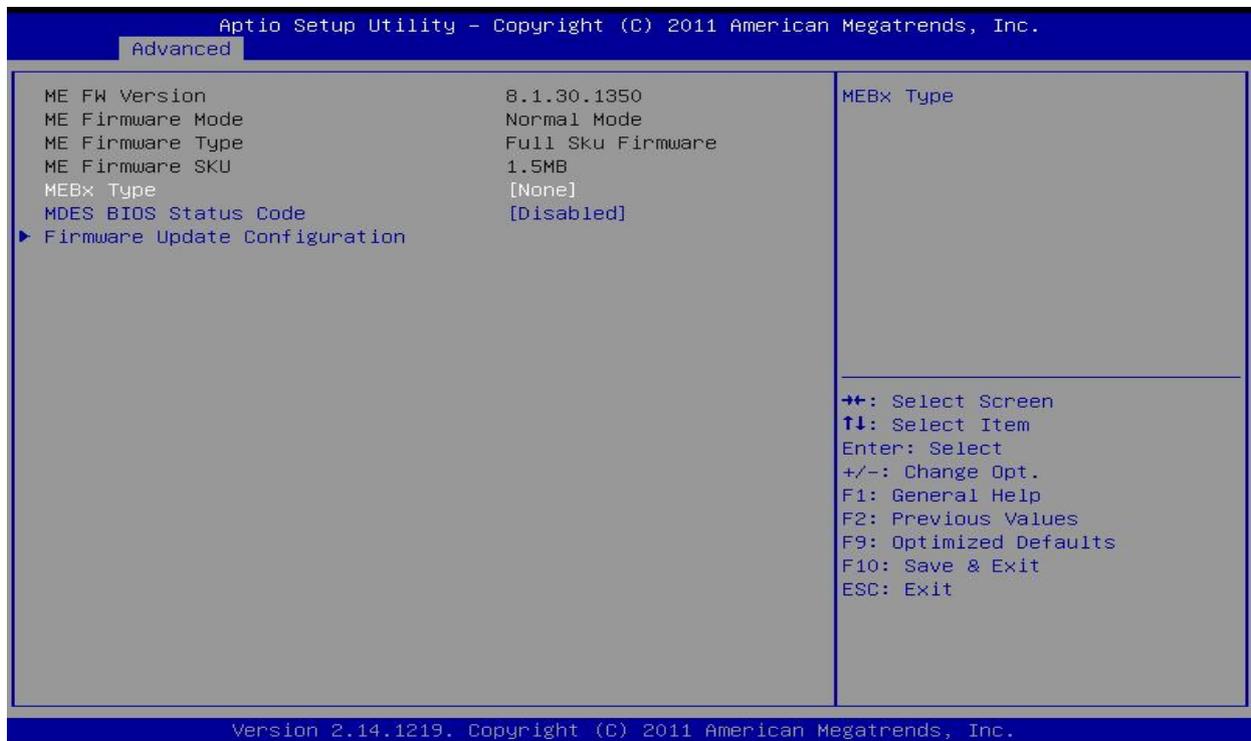
3.2.3. CPU configuration information(CPU Information)



3.2.4. CPU PPM Configuration



3.2.6, PCH-FW Configuration



3.2.7, ACPI Settings

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Advanced

<p>ACPI Settings</p> <p>Enable ACPI Auto Configuration [Disabled]</p> <p>Enable Hibernation [Enabled]</p> <p>ACPI Sleep State [S1 only(CPU Stop D...)]</p> <p>Lock Legacy Resources [Disabled]</p> <p>S3 Video Repost [Disabled]</p>	<p>Enables or Disables BIOS ACPI Auto Configuration.</p> <hr/> <p> ⇧⇧: Select Screen ⇩⇩: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit </p>
---	---

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.2.8. IT8786E Super IO Configuration

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Advanced

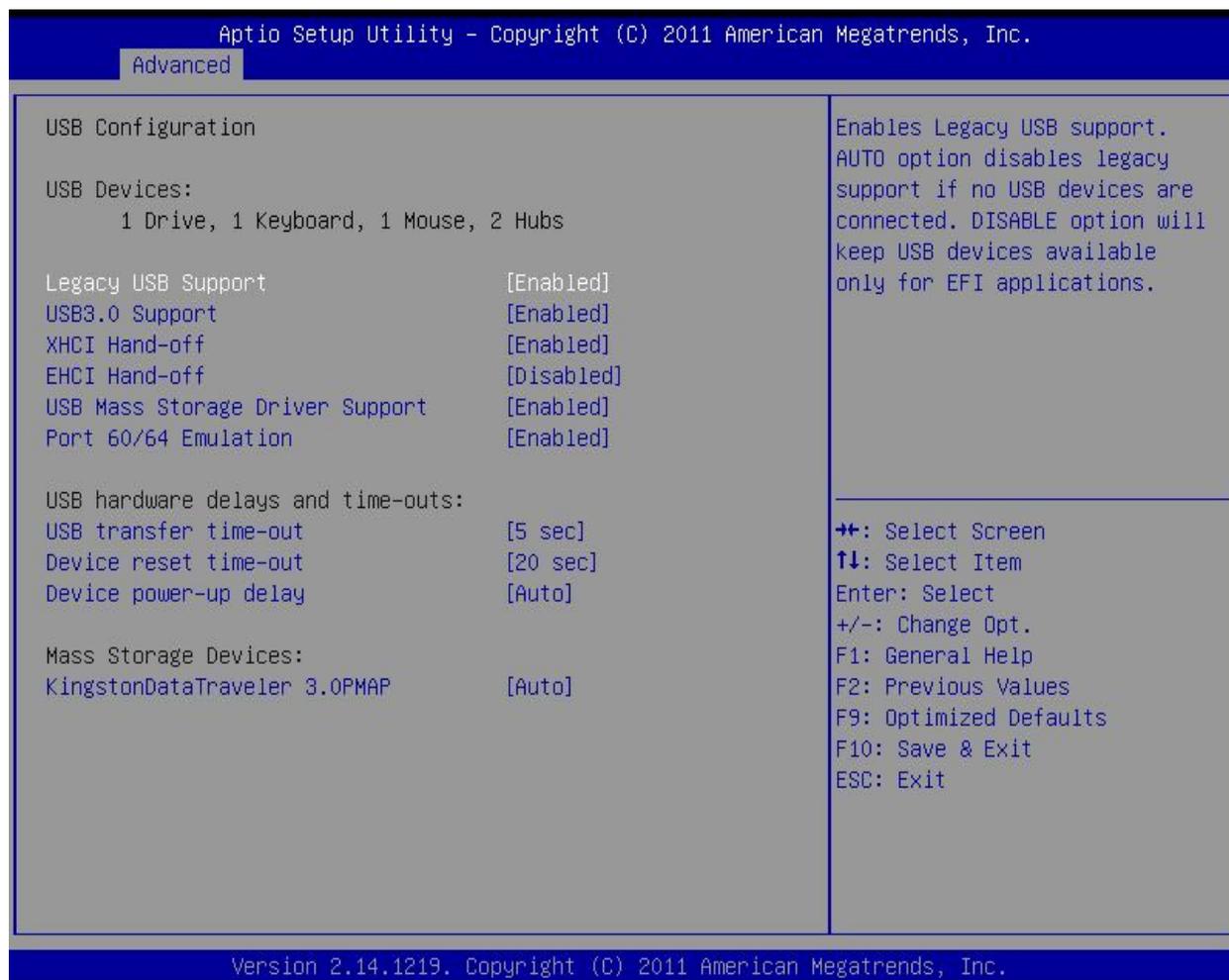
<p>IT8786 Super IO Configuration</p> <p>IT8786 Super IO Chip IT8786</p> <p>▶ Serial Port 1 Configuration</p> <p>▶ Serial Port 2 Configuration</p> <p>▶ Parallel Port Configuration</p> <p>Restore AC Power Loss By IO [Power Off]</p> <p>Watch dog Controller [Disabled]</p>	<p>Set Parameters of Serial Port 1 (COMA)</p> <hr/> <p> ⇧⇧: Select Screen ⇩⇩: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit </p>
---	--

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.2.9、 Hardware Monitor

```
Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.
Advanced
Pc Health Status
CPU temperature : +41 C
System temperature : +25 C
CPU Fan Speed : 2129 RPM
SYS Fan Speed : N/A
CPU Smart Fan Mode [Automatic Mode]
Fan off temperature limit 0
Fan start temperature limit 40
Fan full speed temperature 68
Fan start PWM 120
PWM SLOPE SETTING [2 PWM]
CPU Smart Fan Mode Select
++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.
```

3.2.10、 USB Configuration



- **Legacy USB Support**

This item is used to control the use of USB devices under DOS, with options available: Enabled, Disabled, Auto.

- **XHCI Hand-off**

This allows you to activate operating systems that support XHCI hand off functionality, with the following options available:Enabled, Disabled.

- **USB Mass Storage Device Support**

Set whether to turn on or off USB storage devices. Optional:Enabled, Disabled.

- **USB transfer time-out**

This sets the pause time for USB transfer. Optional: 1 sec, 5 sec, 10 sec, 20 sec

- **Device reset time-out**

This sets the pause time for device reset. Optional: 10 sec, 20 sec, 30 sec, 40 sec

- **Device power-up delay**

This sets the delay time for device startup. Optional: Auto, Manual

3.2.11、 SATA Controller(s)

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Advanced		
SATA Controller(s)	[Enabled]	Enable or disable SATA Device.
SATA Mode Selection	[IDE]	
SATA Test Mode	[Disabled]	
IDE Legacy / Native Mode Selection	[Native]	
Serial ATA Port 0	Empty	
Software Preserve	Unknown	
Serial ATA Port 1	Empty	
Software Preserve	Unknown	
Serial ATA Port 2	Empty	
Software Preserve	Unknown	
Serial ATA Port 3	Empty	
Software Preserve	Unknown	
Serial ATA Port 4	Empty	
Software Preserve	Unknown	
Serial ATA Port 5	Empty	
Software Preserve	Unknown	

⇧⇧: Select Screen
 ⇧⇩: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F2: Previous Values
 F9: Optimized Defaults
 F10: Save & Exit
 ESC: Exit

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.2.13 、 Chipset

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.	
Main Advanced Chipset Boot Security Save & Exit	
▶ South Bridge Configuration	South Bridge Parameters
▶ North Bridge Configuration	

⇧⇧: Select Screen
 ⇧⇩: Select Item
 Enter: Select
 +/-: Change Opt.
 F1: General Help
 F2: Previous Values
 F9: Optimized Defaults
 F10: Save & Exit
 ESC: Exit

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

3.2.14. System Agent Configuration

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Chipset		
LVDS Control		Select the Video Device which will be activated during POST. This has no effect if external graphics present. Secondary boot display selection will appear based on your selection. VGA modes will be supported only on primary display
Primary Display Device	[VBIOS Default]	
EDP Backlight Control	[100%]	
LVDS Enabled	[Enabled]	
Lvds Panel Color Depth	[24 Bit]	
Lvds Panel Resolution Type	[1024x768 LVDS]	
Panel Scaling	[Auto]	
Backlight Control	[PWM Normal]	
BIA	[Auto]	
Spread Spectrum clock Chip	[Off]	
TV1 Standard	[VBIOS default]	
TV2 Standard	[VBIOS default]	
ALS Support	[Disabled]	
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

3.2.15. PCH-IO Configuration

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.		
Chipset		
PCI Express Configuration		Enable or disable PCI Express Clock Gating for each root port.
PCI Express Clock Gating	[Enabled]	
DMI Link ASPM Control	[Enabled]	
DMI Link Extended Synch Control	[Disabled]	
PCIe-USB Glitch W/A	[Disabled]	
Subtractive Decode	[Disabled]	
▶ PCI Express Root Port 1		
▶ PCI Express Root Port 4		
▶ PCI Express Root Port 5		
▶ PCI Express Root Port 6		
▶ PCI Express Root Port 7		
▶ PCI Express Root Port 8		
		++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.		

Chipset

PCI Express Root Port 1	[Enabled]	Control the PCI Express Root Port.
ASPM Support	[Disabled]	
URR	[Disabled]	
FER	[Disabled]	
NFER	[Disabled]	
CER	[Disabled]	
CTO	[Disabled]	
SEFE	[Disabled]	
SENF	[Disabled]	
SECE	[Disabled]	
PME SCI	[Enabled]	
Hot Plug	[Disabled]	
PCIe Speed	[Auto]	
Detect Non-Compliance Device	[Disabled]	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Extra Bus Reserved	0	
Reserved Memory	10	
Prefetchable Memory	10	
Reserved I/O	4	

Chipset

Memory Information		▲ Select DIMM timing profile that should be used.
Memory RC Version	1.8.0.0	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Memory Frequency	1600 Mhz	
Total Memory	4096 MB (DDR3)	
DIMM#0	4096 MB (DDR3)	
DIMM#1	Not Present	
DIMM#2	Not Present	
DIMM#3	Not Present	
CAS Latency (tCL)	11	
Minimum delay time		
CAS to RAS (tRCDmin)	11	
Row Precharge (tRPmin)	11	
Active to Precharge (tRASmin)	28	
XMP Profile 1	Not Supported	
XMP Profile 2	Not Supported	
DIMM profile	[Default DIMM profile]	
Memory Frequency Limiter	[Auto]	
ECC Support	[Enabled]	
Max TOLUD	[Dynamic]	
NMode Support	[Auto]	
Memory Scrambler	[Enabled]	
Memory RefreshRate	[Disabled]	
MRC Fast Boot	[Enabled]	

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Chipset

Intel PCH RC Version	1.8.0.1	PCI Express Configuration settings
Intel PCH SKU Name	HM76	
Intel PCH Rev ID	04/C1	
▶ PCI Express Configuration		
Onboard Lan 1 Controller	[Enabled]	++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
Onboard Lan 2 Controller	[Enabled]	
Onboard LAN PXE OpROM	[Disabled]	
Resume On RTC Alarm	[Disabled]	
GPIO Panel		
GPIO 15 Mode	[Input]	
GPIO 27 Mode	[Input]	
Wake On LAN		
	[Disabled]	

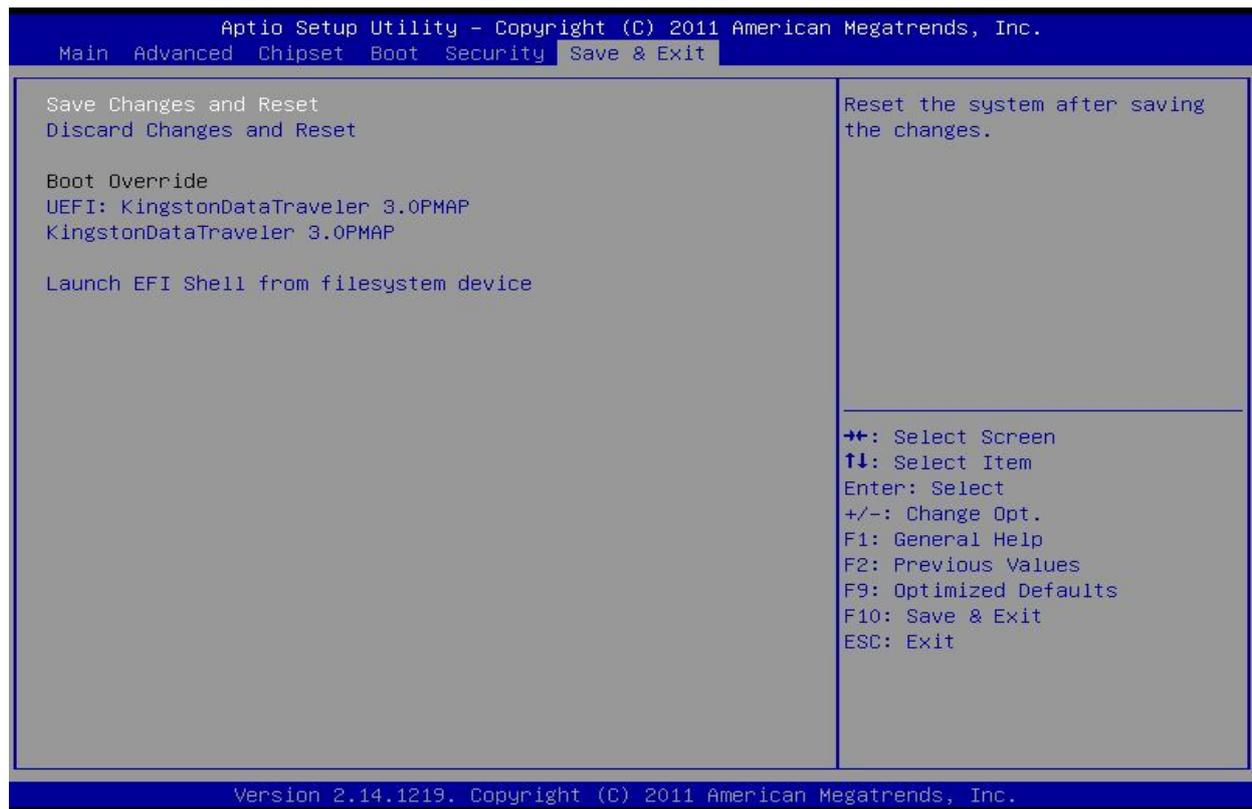
Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.

Aptio Setup Utility - Copyright (C) 2011 American Megatrends, Inc.

Chipset

DIMM#3	Not Present	▲ Enable or disable dimms on Channel B. ++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit ESC: Exit
CAS Latency (tCL)	11	
Minimum delay time		
CAS to RAS (tRCDmin)	11	
Row Precharge (tRPmin)	11	
Active to Precharge (tRASmin)	28	
XMP Profile 1	Not Supported	
XMP Profile 2	Not Supported	
DIMM profile		
Memory Frequency Limiter	[Auto]	
ECC Support	[Enabled]	
Max TOLUD	[Dynamic]	
NMode Support	[Auto]	
Memory Scrambler	[Enabled]	
Memory RefreshRate	[Disabled]	
MRC Fast Boot	[Enabled]	
Force Cold Reset	[Enabled]	
DIMM Exit Mode	[Fast Exit]	
Power Down Mode	[PPD]	
Scrambler Seed Generation Off	[Disabled]	
Memory Remap	[Enabled]	
Memory Alias Check	[Disabled]	
Channel A DIMM Control	[Enable Both DIMMS]	
Channel B DIMM Control	[Enable Both DIMMS]	

Version 2.14.1219. Copyright (C) 2011 American Megatrends, Inc.



- **Save Changes and Exit**

Save the changes made and exit the BIOS program.

- **Discard Changes and Exit**

Leave the BIOS program without saving changes.

- **Save Changes and Reset**

Save the changes and restart the motherboard.

- **Discard Changes and Reset**

Do not save changes and restart BIOS program.

- **Save Changes**

Save changes

- **Discard Changes**

Do not save changes

- **Restore Defaults**

Restore default settings

- **Save as User Defaults**

Save as user default settings

- **Restore User Defaults**

Restore user default settings