

LPC-1511

C Series Fanless Touch Panel PC

Quick Reference Guide

1st Ed – 07 July 2020

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THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE 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 WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

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Notice

This guide is designed for experienced users to setup the system within the shortest time. For detailed information, please always refer to the electronic user's manual.

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Content

1.	Getting Started	7
1.1	Safety Precautions	7
1.2	Packing List.....	7
1.3	System Specifications	8
1.4	System Overview	11
1.4.1	Top View.....	11
1.4.2	Bottom View.....	11
1.5	System Dimensions	12
1.5.1	Front and Rear side.....	12
2.	Hardware Configuration	13
2.1	LPC-1511 connector mapping	14
2.1.1	Serial port 1~6 connector (COM1~6)	14
2.1.2	VGA connector (VGA)	14
2.3	Installing Hard Disk & Memory (For LPC-1511).....	15
2.4	Installing VESA Mount (For LPC-1511)	16
2.5	EMX-VX11P Overview.....	17
2.6	EMX-VX11P Jumper and Connector List.....	19
2.7	EMX-VX11P Jumper and Connector settings	21
2.7.1	Serial port 1/2 pin9 signal select (JRI1/JRI2).....	21
2.7.2	LVDS Back Light power selection (JSBKL1)	21
2.7.3	AT/ATX Power Mode Select (JSATX1)	22
2.7.4	Clear CMOS (JCMOS1).....	22
2.7.5	LCD Inverter connector (JBKL1).....	23
2.7.6	General purpose I/O connector (DIO1).....	23
2.7.7	Serial port 1 connector (COM1)	24
2.7.8	Serial port 2 connector (COM2)	24
2.7.9	Power connector (PWR1)	25
2.7.10	SATA Power connector 1 (SPWR1)	25
2.7.11	Serial Port 1/2 RS485/422 Mode connector (JRS485_1).....	26
2.7.12	Serial Port 1/2 RS485/422 Mode connector (JRS485_2).....	26
2.7.13	Serial port 3/4/5/6 connector (COM3/4/5/6).....	27
2.7.14	USB connector 1 (JUSB1)	28
2.7.15	LPC connector (JLPC1)	28
2.7.16	Audio connector (FAUD1).....	29

2.7.17	EC Debug (JEC_PG1)	29
2.7.18	LVDS connector (LVDS1)	30
2.7.19	SPI connector (JSPI1)	31
2.7.20	Sony/Philips Digital Interface (SPDIF1)	31
2.7.21	Miscellaneous setting connector 1 (FPT1)	32
2.7.22	Miscellaneous setting connector 2 (FPT2)	32
2.7.23	LED indicator connector 1 (LED1)	33
2.7.24	LED indicator connector 2 (LED2)	33
2.7.25	Speaker connector (SPK1)	34
2.7.26	JSMB connector (JSMB1)	34
2.7.27	PS2 keyboard/mouse connector (JKBMS)	35
2.7.28	Connector reserved for CH7511 FW flash jig (JROM)	35
2.7.29	FAN connector (FAN1)	36
2.7.30	Battery connector (JBAT1)	36
3.	BIOS Setup	37
3.1	Introduction	38
3.2	Starting Setup	38
3.3	Using Setup	39
3.4	Getting Help	40
3.5	In Case of Problems	40
3.6	BIOS setup	41
3.6.1	Main Menu	41
3.6.1.1	System Language	41
3.6.1.2	System Date	41
3.6.1.3	System Time	41
3.6.2	Advanced Menu	42
3.6.2.1	ACPI Settings	42
3.6.2.2	S5 RTC Wake Settings	43
3.6.2.3	Trusted Computing	44
3.6.2.4	CPU Configuration	44
3.6.2.5	SATA Configuration	45
3.6.2.6	USB Configuration	46
3.6.2.7	H/W Monitor	47
3.6.2.7.1	Smart Fan Mode Configuration	47
3.6.2.8	IT8528 Super IO Configuration	48
3.6.2.8.1	Serial Port 1 Configuration	49
3.6.2.8.2	Serial Port 2 Configuration	49
3.6.2.8.3	Serial Port 3 Configuration	50
3.6.2.8.4	Serial Port 4 Configuration	50
3.6.2.8.5	Serial Port 5 Configuration	51

3.6.2.8.6	Serial Port 6 Configuration	51
3.6.3	Chipset.....	52
3.6.3.1	North Bridge	52
3.6.3.1.1	Video Configuration.....	53
3.6.3.1.2	PCIE Configuration.....	54
3.6.3.2	South Bridge.....	55
3.6.3.2.1	USB Configuration.....	55
3.6.3.2.2	HDAC Configuration.....	56
3.6.4	Boot	56
3.6.4.1	CSM16 Parameters.....	57
3.6.4.2	CSM Parameters.....	58
3.6.5	Security.....	59
3.6.5.1	Secure Boot menu.....	59
3.6.6	Save and exit	60
3.6.6.1	Save Changes and Reset	61
3.6.6.2	Discard Changes and Reset	61
3.6.6.3	Restore Defaults.....	61
3.6.6.4	Launch EFI Shell from filesystem device	61

1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

- 1 x LPC-1511 C Series Fanless Touch Panel PC
- 1 x Adapter
- 1 x Power Cord (CN)



If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

Component	
Mother Board	Mini ITX Motherboard EMX-VX11P
CPU	ZX-C Series Processor with VX11PH
Memory	One x 204-pin DDR3 1333MHz SO-DIMM supports up to 8GB
Adapter	84W Adapter (DC in 12V@7A)
Speaker	2 x 2w8Ω
Wireless LAN	Optional expansion module
Bluetooth	Optional expansion module
Operating System	Win 7
Storage	
Hard Disk Drive	Optional
Solid State Drive	Optional
Panel	
LCD Panel	SHARP LQ150X1LG93(C9689315002R)
Touch Screen	MX150R5B09(C968XR15001R)
Touch Controller	EETI ETP-MB-R4502UPEG(C968X000001R)
External I/O	
Serial Port	6 x RS232
USB Port	1 x USB2.0, 1 x USB3.0
DIO Port	8bit for DB9(Optional)
Video Port	1 x VGA
Audio Port	2 x Audio jack
LAN Port	2 x Lan
Wireless LAN Antenna	2 x Antenna
Mechanical	
Power Type	12V@7A DC in(84W)
Power Requirement	DC Jack
Dimension	375.4 x 299.3 x 63.0 mm (L x W x H)
Weight	4.05 Kgs
Color	Silvery(Positive) & Black(Back)
OS Support	Windows 7
Reliability	
EMI Test	CE, FCC Part 15 Class A
Safety	CE / FCC / VCCI / CCC
Vibration Test	Random Vibration Operation 1 Test PSD : 0.00454G ² /Hz , 1.5 Grms

	<p>2 System condition : operation mode</p> <p>3 Test frequency : 5~500 Hz</p> <p>4 Test axis : X,Y and Z axis</p> <p>5 Test time : 30 minutes per each axis</p> <p>6 IEC60068-2-64 Test Fh</p> <p>7 Storage : mSATA</p> <p>Sine Vibration test (Non-operation)</p> <p>1 Test Acceleration : 2G</p> <p>2 Test frequency : 5~500 Hz</p> <p>3 Sweep : 1 Oct/ per one minute. (logarithmic)</p> <p>4 Test Axis : X,Y and Z axis</p> <p>5 Test time :30 min. each axis</p> <p>6 System condition : Non-Operating mode</p> <p>7. Reference IEC 60068-2-6 Testing procedures</p> <p>Package Vibration Test:</p> <p>1 Test PSD : 0.026G²/Hz , 2.16 Grms</p> <p>2 Test frequency : 5~500 Hz</p> <p>3 Test axis : X,Y and Z axis</p> <p>4 Test time : 30 minutes per each axis</p> <p>5 IEC 60068-2-64 Test Fh</p>
Mechanical Shock Test	<p>1 Wave from : Half Sine wave</p> <p>2 Acceleration Rate : 10g for operation mode</p> <p>3 Duration Time : 11ms</p> <p>4 No. of shock : Z axis 300 times</p> <p>5 Test Axis : Z axis</p> <p>6 operation mode</p> <p>7 Reference IEC 60068-2-27 testing procedures</p> <p>Test Eb : Shock Test</p>
Drop Test	<p>Package drop test</p> <p>Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed</p> <p>Test Ea : Drop Test</p> <p>1 Test phase : One corner, three edges, six faces</p> <p>2 Test high : 96.5 cm</p> <p>3 Package weight : 6.0 Kg</p> <p>4 Test drawing</p>
Operating Temperature	0°C ~ 40°C
Operating Humidity	40°C @ 95% Relative Humidity, Non-condensing

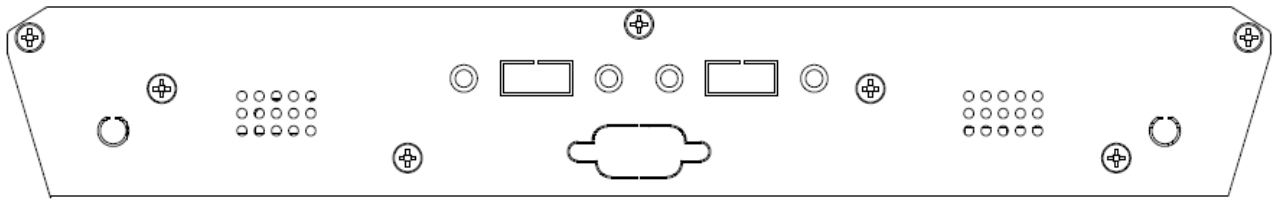
Storage Temperature	-10°C~60°C
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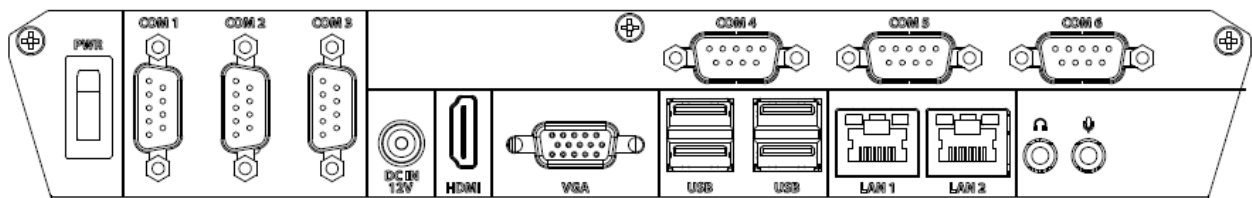
Note: Specifications are subject to change without notice.

1.4 System Overview

1.4.1 Top View



1.4.2 Bottom View

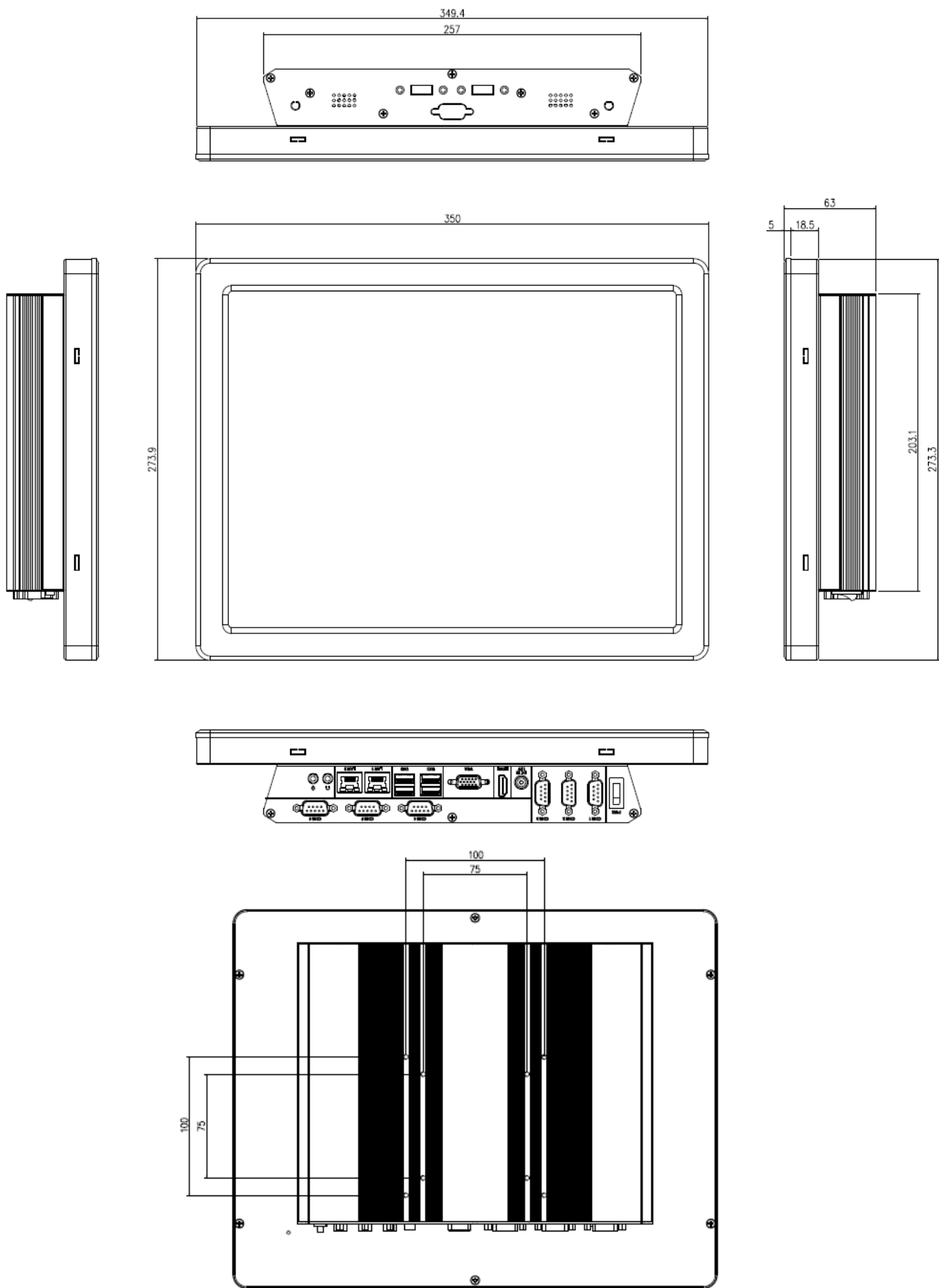


Connectors

Label	Function	Note
PWR	Power on button	
HDMI	HDMI connector	
COM1~6	Serial port 1~6 connector	DB-9 male connector
LINE OUT	Line-out audio jack	
MIC IN	Mic-in audio jack	
USB	1 x USB 2.0 connector 3 x USB 3.0 connector	Dock USB
LAN1~2	RJ-45 Ethernet connector 1~2	
VGA	VGA connector	
DC IN	DC Power-in connector	

1.5 System Dimensions

1.5.1 Front and Rear side



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

- 1- EMX-VX11P User's Manual

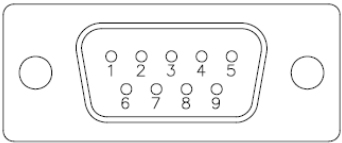
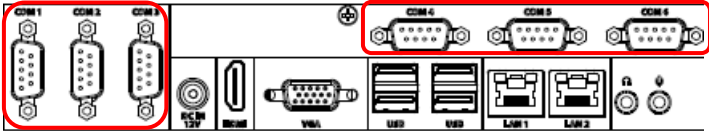


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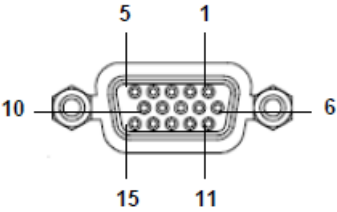
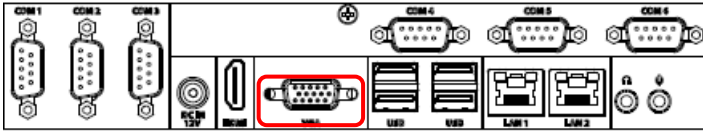
2.1 LPC-1511 connector mapping

2.1.1 Serial port 1~6 connector (COM1~6)



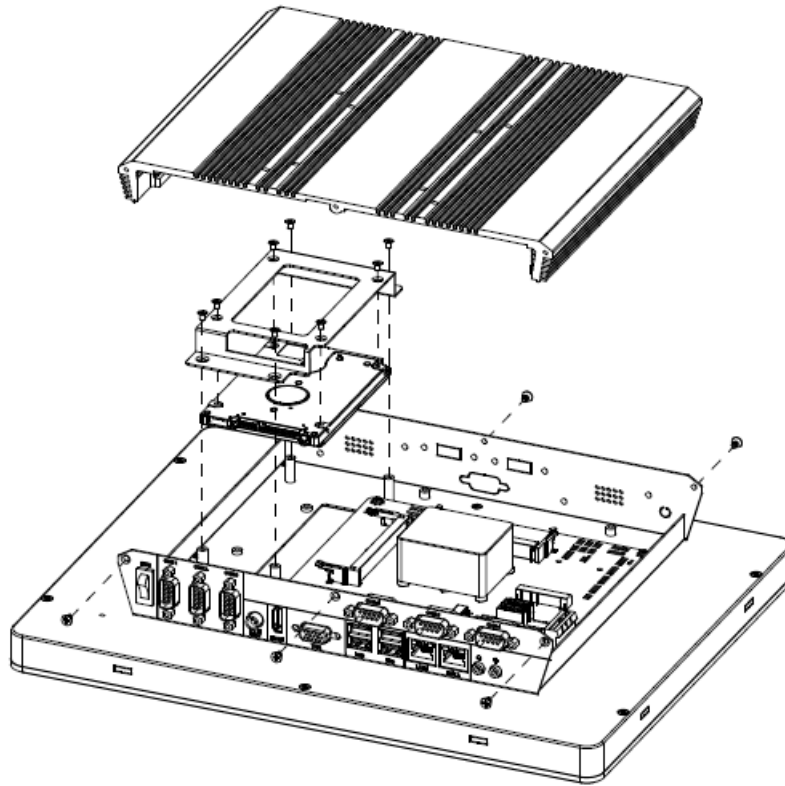
Signal	PIN	PIN	Signal
DCD#	1	6	DSR#
RXD	2	7	RTS#
TXD	3	8	CTS#
DTR#	4	9	RI#
GND	5		

2.1.2 VGA connector (VGA)



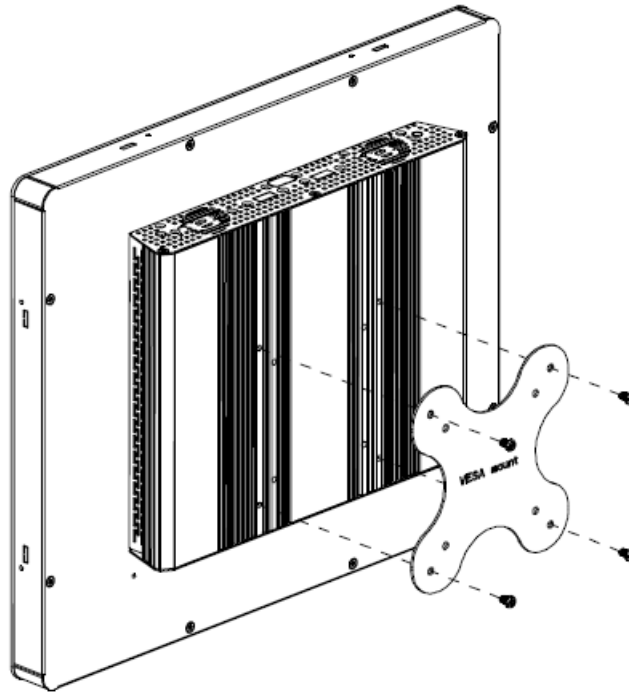
PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDCDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYSNS
5	GND	10	GND	15	DDCCLK

2.3 Installing Hard Disk & Memory (For LPC-1511)



- Step 1.** Unfasten 6 screws from the case to take off the top chassis
- Step 2.** Secure HDD by means of 8 screws.
- Step 3.** Insert HDD bracket into designated locations and fasten with 4 screws to complete HDD installation.

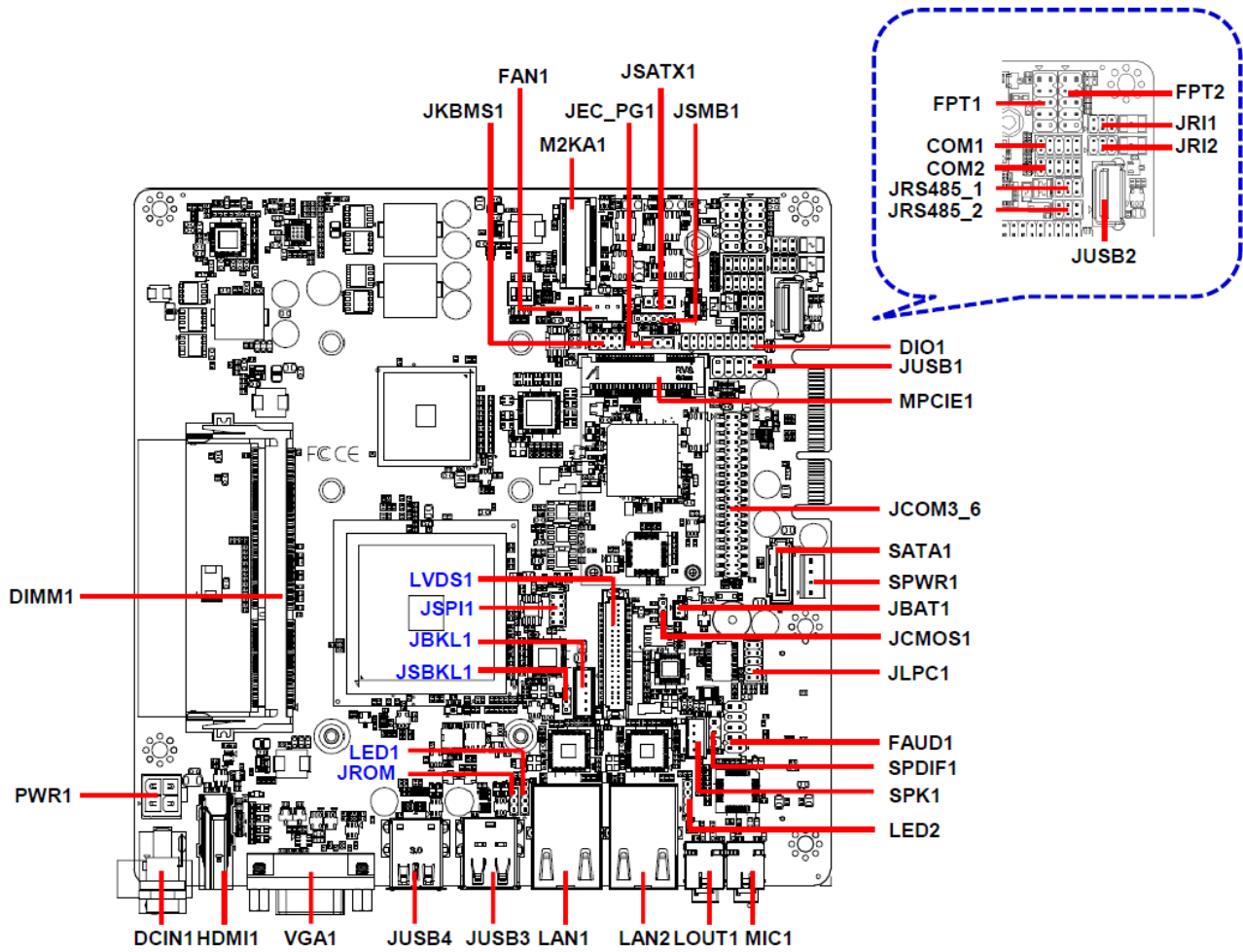
2.4 Installing VESA Mount (For LPC-1511)

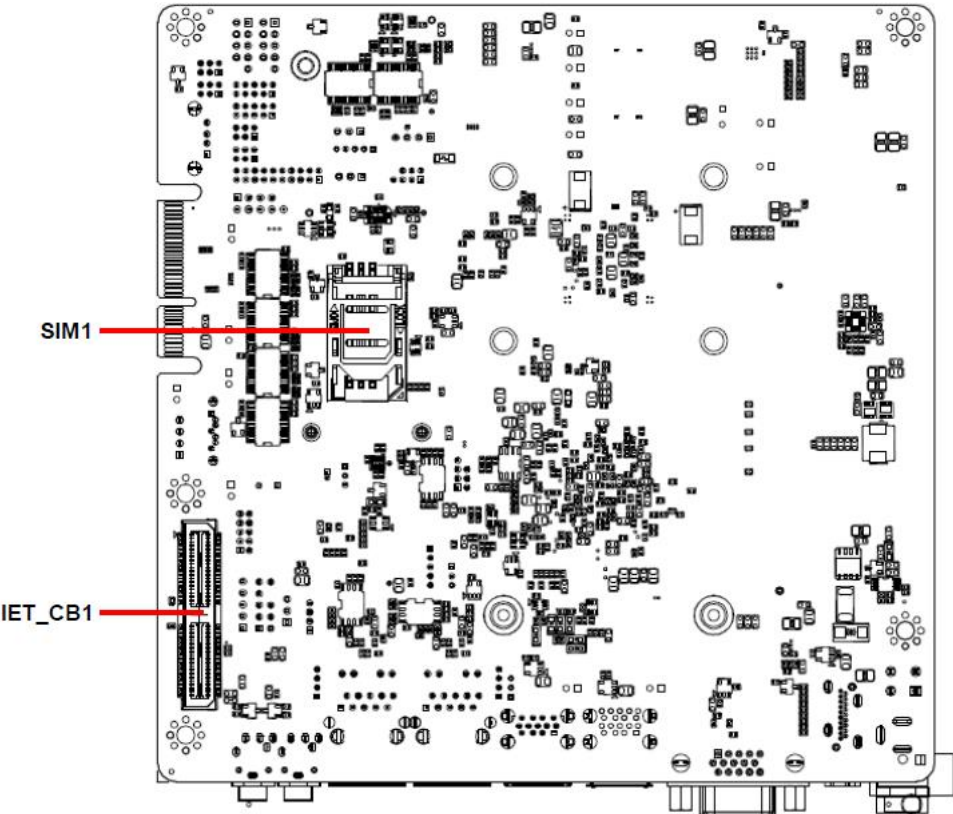


Step 1. Position VESA Mount on both sides, matching the holes on the system.

Step 2. Insert and fasten screws on the system to secure Mounting bracket.

2.5 EMX-VX11P Overview





2.6 EMX-VX11P Jumper and Connector List

Jumpers

Label	Function	Note
JRI1/2	Serial port 1/2 pin9 signal select	3 x 2 header, pitch 2.00mm
JSBKL1	LVDS Back Light power selection	3 x 1 header, pitch 2.00mm
JSATX1	AT/ATX Power Mode Select	3 x 1 header, pitch 2.54mm
JCMOS1	Clear CMOS	3 x 1 header, pitch 2.00mm

Connectors

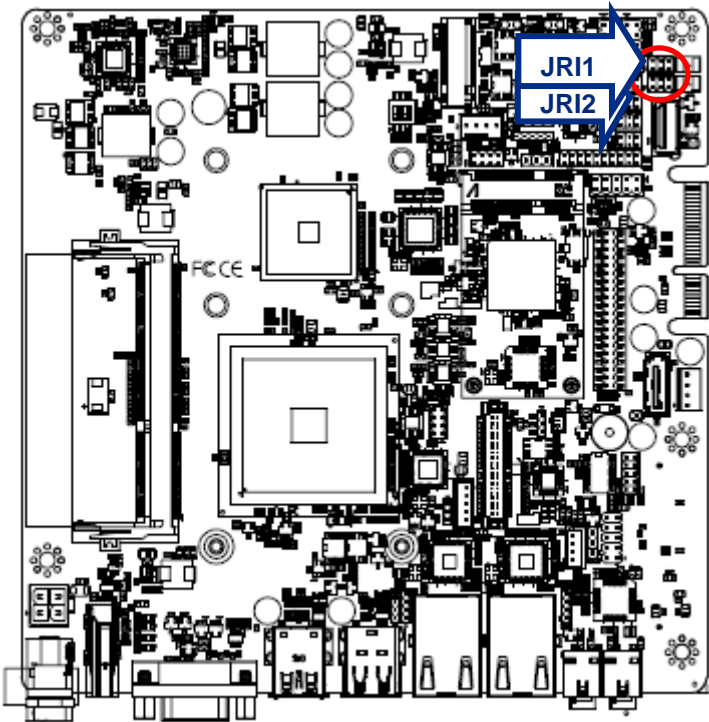
Label	Function	Note
FPT1	Miscellaneous setting connector 1	5 x 2 header, pitch 2.54mm
FPT2	Miscellaneous setting connector 2	5 x 2 header, pitch 2.54mm
DIMM1	206-pin DDR4 SO-DIMM socket	
FAUD1	Front Audio connector	5 x 2 header, pitch 2.54mm
VGA	VGA connector	
JBKL1	LCD Inverter connector	5 x 1 wafer, pitch 2.00mm
JSPI1	SPI connector	4 x 2 header, pitch 2.00mm
JEC_PG1	EC Debug	3 x 1 header, pitch 2.54mm
COM1	Serial Port 1 connector	5 x 2 header, pitch 2.00mm
COM2	Serial Port 2 connector	5 x 2 header, pitch 2.00mm
COM3-6	Serial Port 3/4/5/6 connector	20 x 2 header, pitch 2.00mm
DIO1	General purpose I/O connector	10 x 2 header, pitch 2.00mm
SPK1	Speaker connector	4 x 1 wafer, pitch 2.00mm
LVDS1	LVDS Connector	20 x 2 wafer, pitch 1.25mm
JUSB2	USB connector	
JUSB3/4	USB connector 3/4	
SPDIF1	Sony/Philips Digital Interface	3 x 1 header, pitch 2.54mm
LAN1/2	RJ-45 Ethernet 1/2	
MPCIE	PCIe connector	
LED1	LED indicator connector 1	4 x 1 header, pitch 2.00mm
LED2	LED indicator connector 2	4 x 1 header, pitch 2.00mm
JBAT1	Battery connector	2 x 1 wafer, pitch 1.25mm
M2KA1	M.2 2230 Type A Slot (default no function)	

LPC-1511

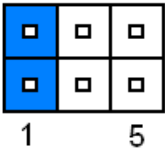
JUSB	USB connector	5 x 2 header, pitch 2.54mm
JRS485_1/2	Serial Port 1/2 RS485/422 Mode connector	3 x 2 header, pitch 2.00mm
JLPC1	LPC connector	5 x 2 header, pitch 2.00mm
IET-CB1	IET Module connector (default no function)	
JSMB1	SMBus connector	5 x 1 header, pitch 2.00mm
JKBMS1	PS2 keyboard/mouse connector	4 x 2 header, pitch 2.00mm
FAN1	CPU fan connector	4 x 1 wafer, pitch 2.54mm
DCIN1	DC Power-in connector	
PWR1	Power connector	2 x 2 wafer, pitch 4.20mm
SATA1/2	Serial ATA connector 1	
SPWR1/2	SATA Power connector 1	4 x 1 wafer, pitch 2.54mm
HDMI1	HDMI connector	
LOUT1	Line-out audio jack	
MIC1	Mic-in audio jack	
SIM1	SIM card slot	

2.7 EMX-VX11P Jumper and Connector settings

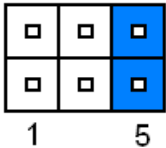
2.7.1 Serial port 1/2 pin9 signal select (JRI1/JRI2)



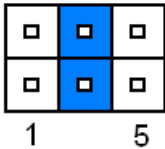
Ring*



+12V

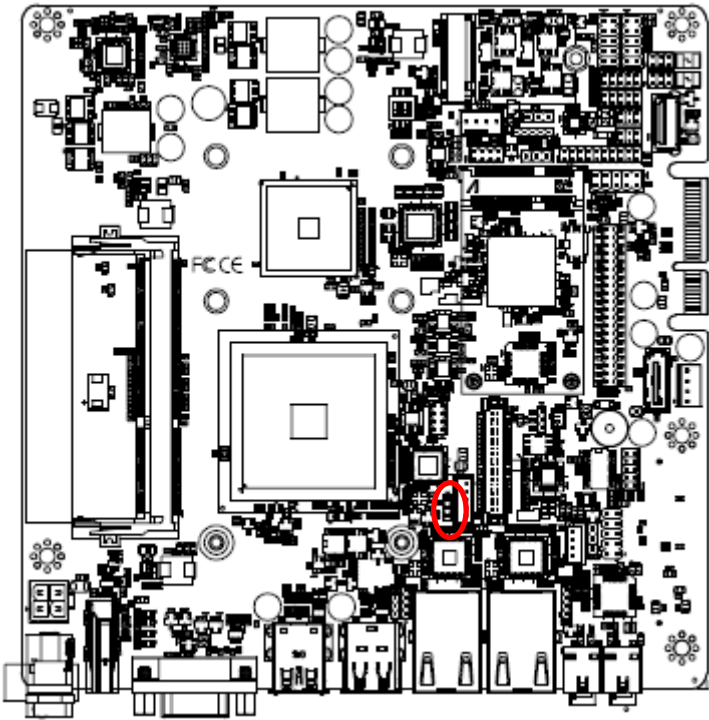


+5V

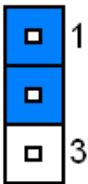


* Default

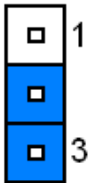
2.7.2 LVDS Back Light power selection (JSBKL1)



PWM Mode*

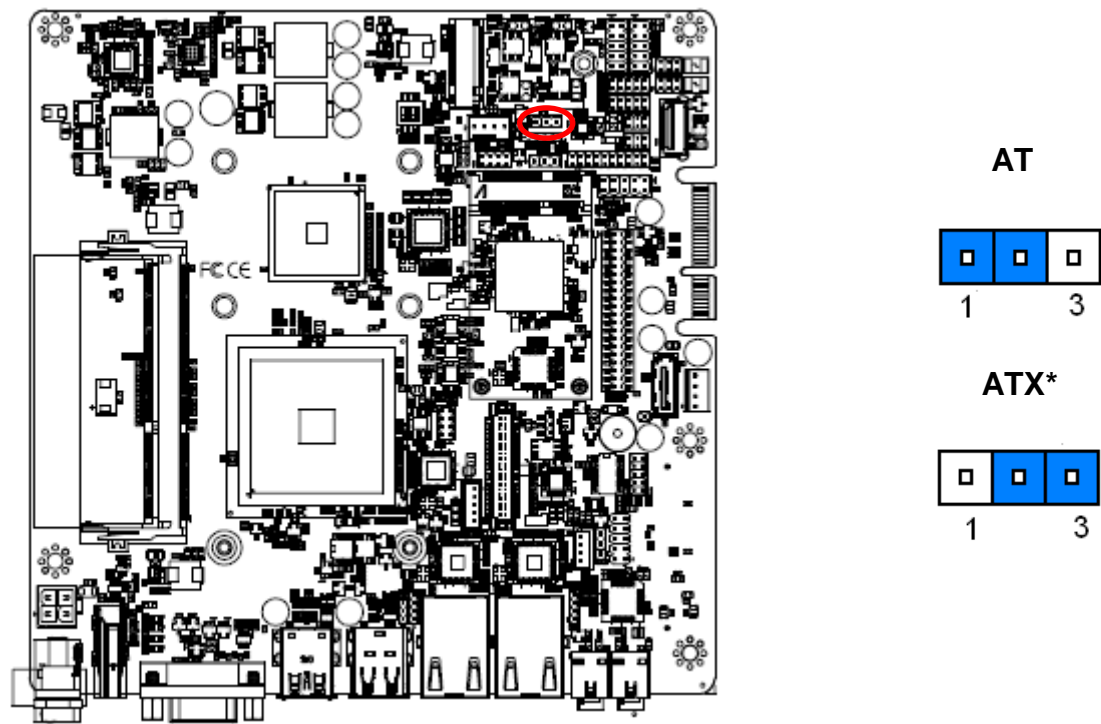


DC Mode



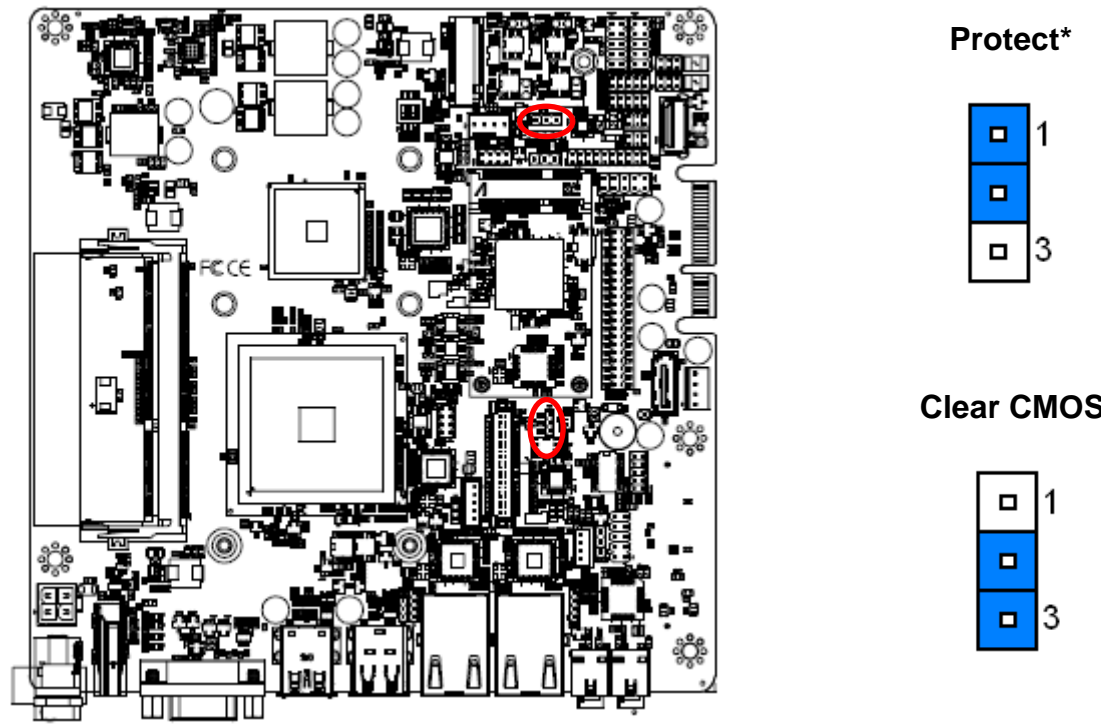
* Default

2.7.3 AT/ATX Power Mode Select (JSATX1)



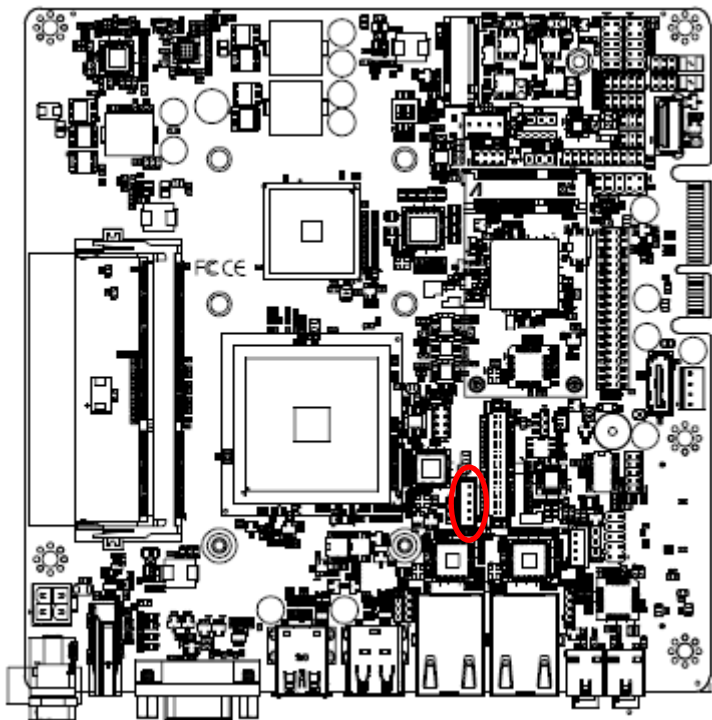
* Default

2.7.4 Clear CMOS (JCMOS1)



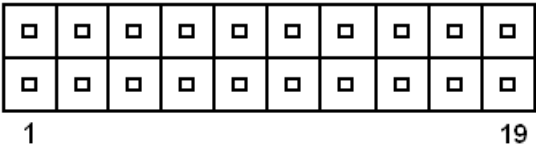
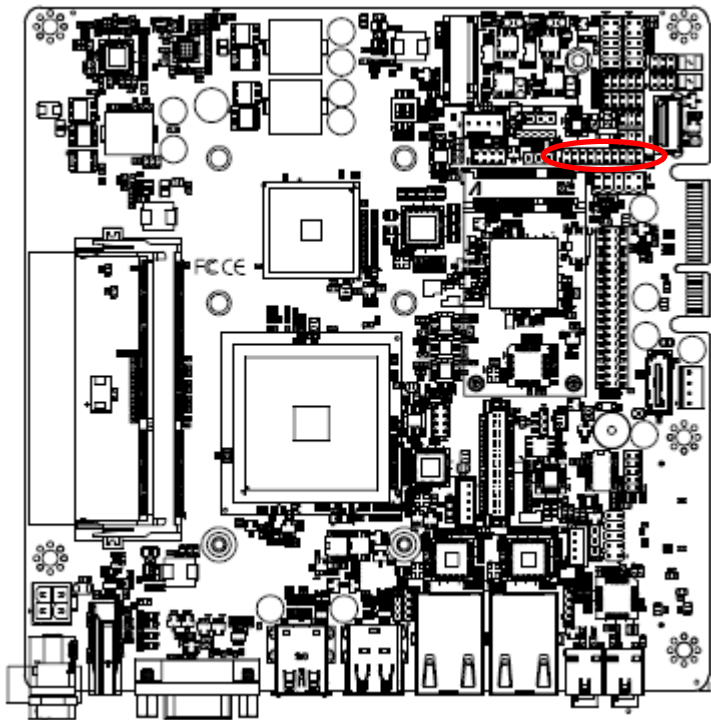
* Default

2.7.5 LCD Inverter connector (JBKL1)



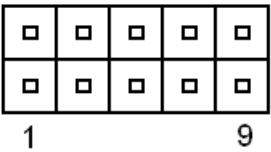
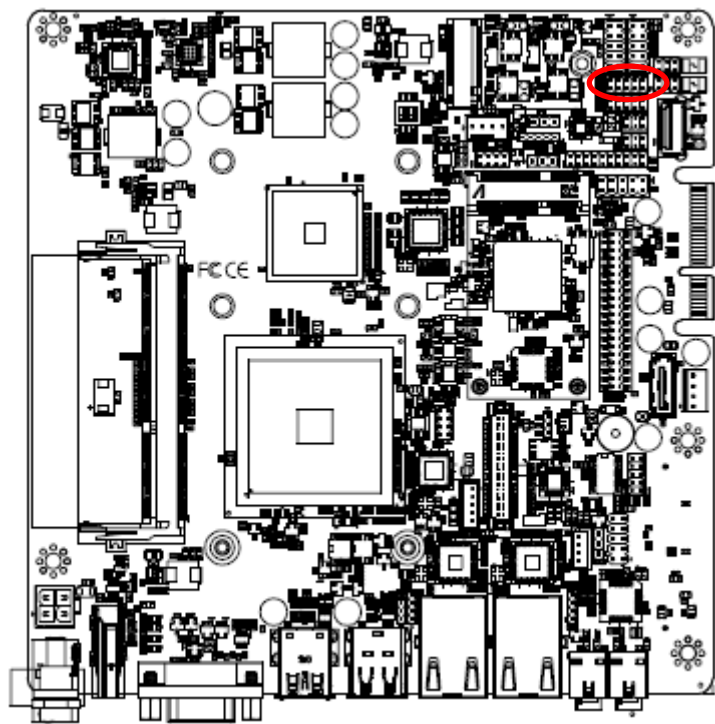
PIN	Signal
1	+12V
2	GND
3	LVDS1_BKLT_EN
4	LVDS1_BKLTCTL
5	+5V

2.7.6 General purpose I/O connector (DIO1)



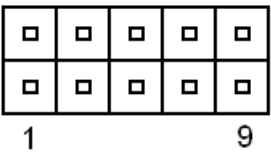
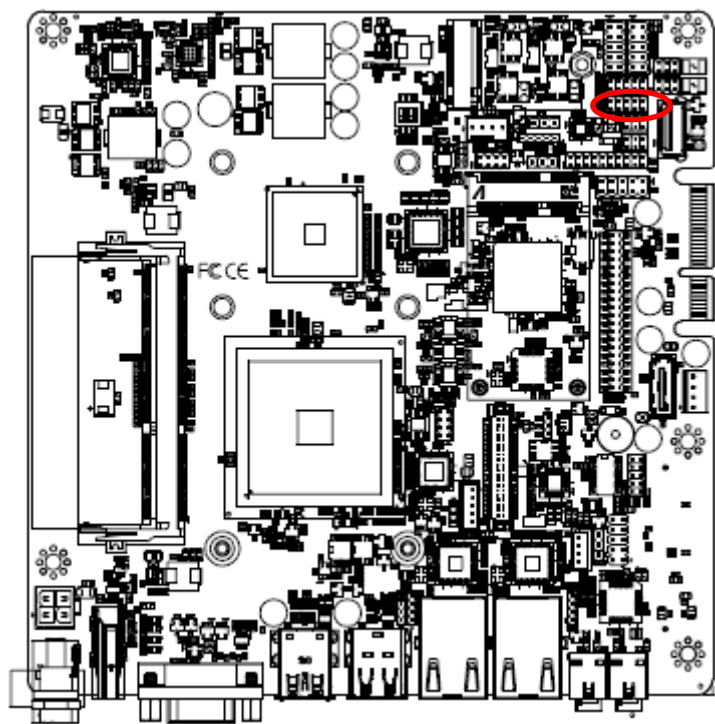
Signal	PIN	PIN	Signal
DI0	1	2	DO0
DI1	3	4	DO1
DI2	5	6	DO2
DI3	7	8	DO3
DI4	9	10	DO4
DI5	11	12	DO5
DI6	13	14	DO6
DI7	15	16	DO7
SMB_CLK_VCC	17	18	SMB_DATA_VCC
GND	19	20	GND

2.7.7 Serial port 1 connector (COM1)



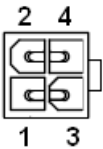
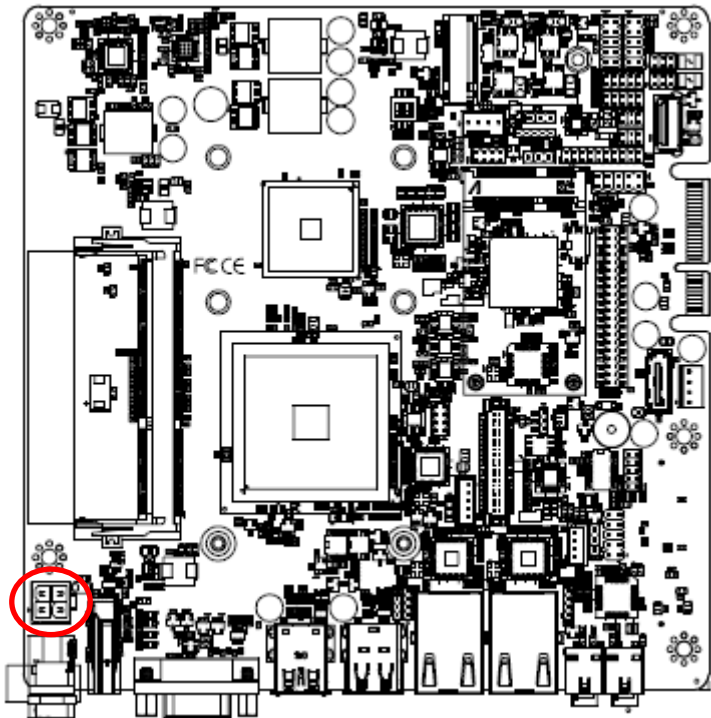
Signal	PIN	PIN	Signal
COM_DCD#_1	1	2	COM_RXD_1
COM_TXD_1	3	4	COM_DTR#_1
GND	5	6	COM_DSR#_1
COM_RTS#_1	7	8	COM_CTS#_1
COM_RI#	9	10	NC

2.7.8 Serial port 2 connector (COM2)



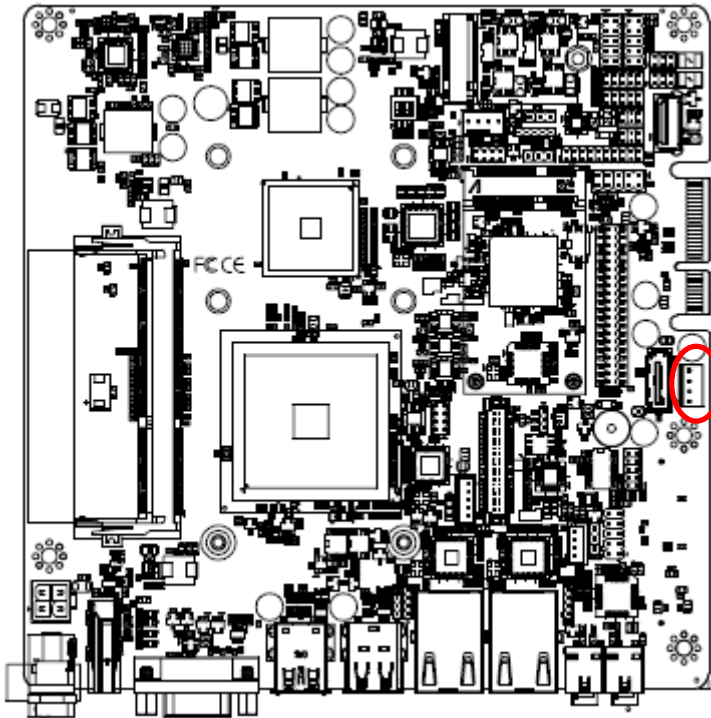
Signal	PIN	PIN	Signal
COM_DCD#_2	1	2	COM_RXD_2
COM_TXD_2	3	4	COM_DTR#_2
GND	5	6	COM_DSR#_2
COM_RTS#_2	7	8	COM_CTS#_2
COM_RI#	9	10	NC

2.7.9 Power connector (PWR1)



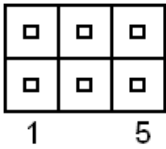
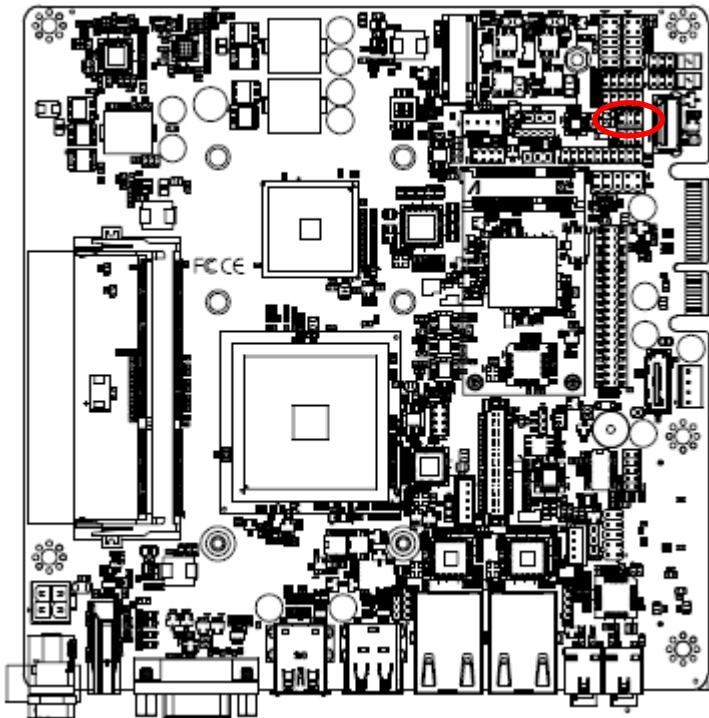
Signal	PIN	PIN	Signal
GND	2	4	+VIN_26V
GND	1	3	+VIN_26V

2.7.10 SATA Power connector 1 (SPWR1)



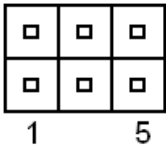
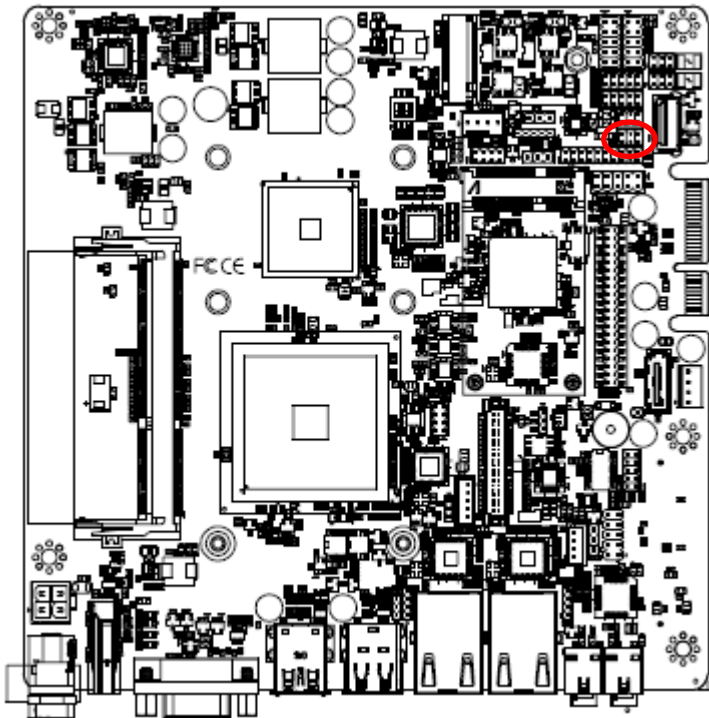
PIN	Signal
4	+V12S_SATA
3	GND
2	GND
1	+V5S_SATA

2.7.11 Serial Port 1/2 RS485/422 Mode connector (JRS485_1)



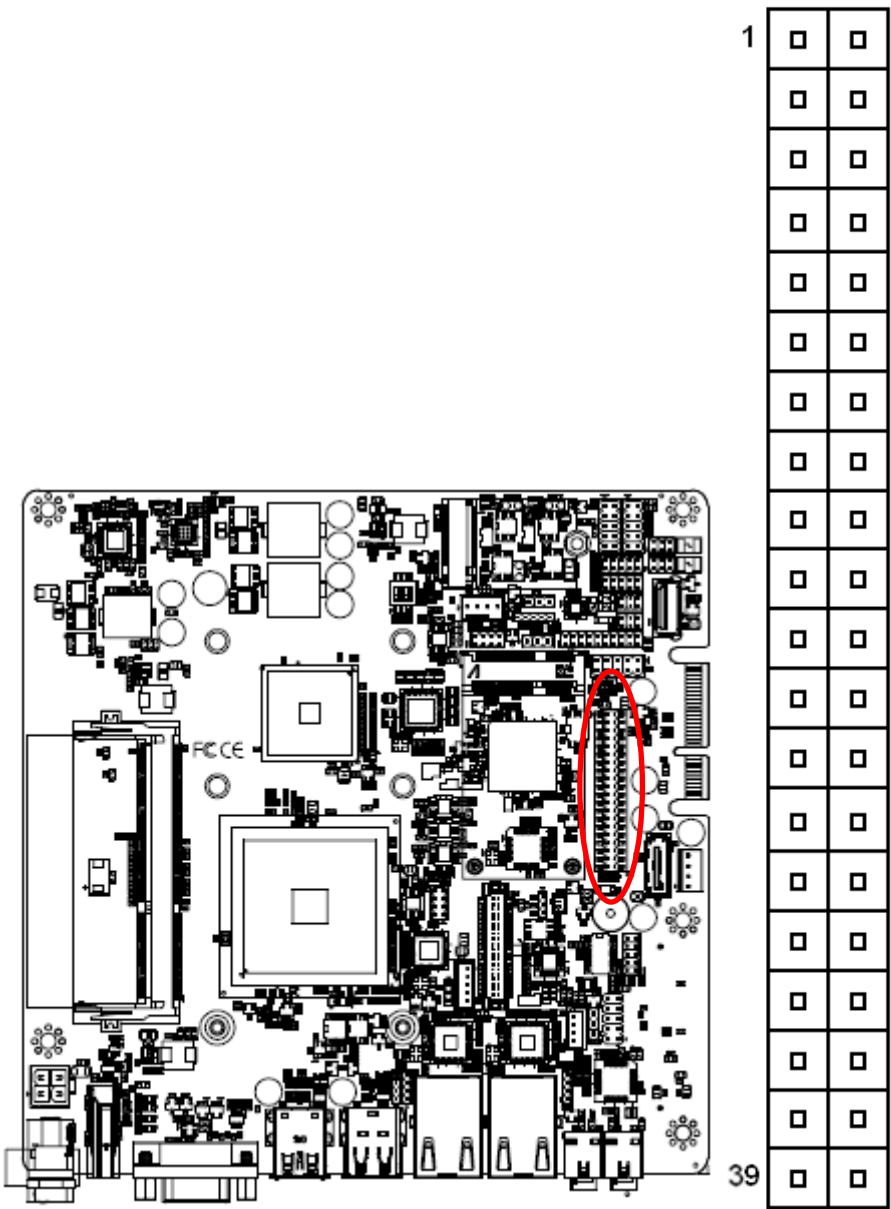
Signal	PIN	PIN	Signal
485_422TX1-	1	2	422RX1-
485_422TX1+	3	4	422RX1+
+5V	5	6	GND

2.7.12 Serial Port 1/2 RS485/422 Mode connector (JRS485_2)



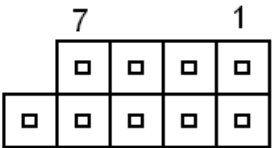
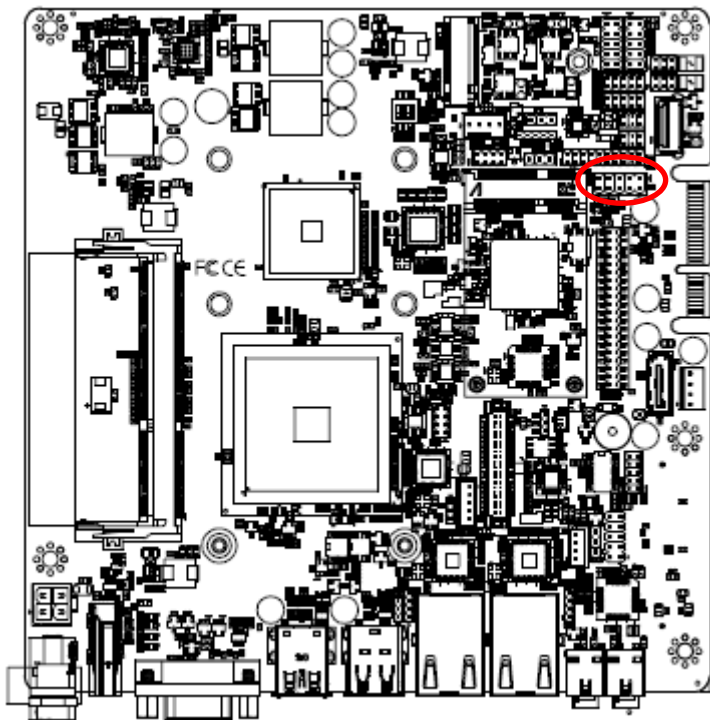
Signal	PIN	PIN	Signal
485_422TX2-	1	2	422RX2-
485_422TX2+	3	4	422RX2+
+5V	5	6	GND

2.7.13 Serial port 3/4/5/6 connector (COM3/4/5/6)



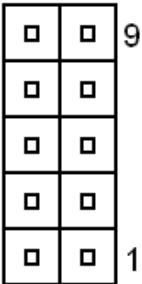
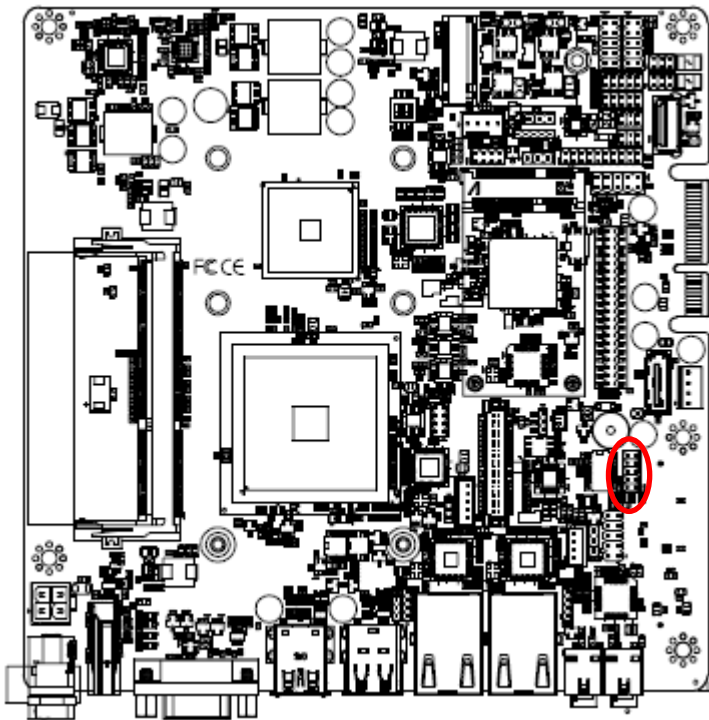
Signal	PIN	PIN	Signal
COM_DCD#_3	1	2	COM_RXD_3
COM_TXD_3	3	4	COM_DTR#_3
GND	5	6	COM_DSR#_3
COM_RTS#_3	7	8	COM_CTS#_3
COM_RI#_3	9	10	NC
COM_DCD#_4	11	12	COM_RXD_4
COM_TXD_4	13	14	COM_DTR#_4
GND	15	16	COM_DSR#_4
COM_RTS#_4	17	18	COM_CTS#_4
COM_RI#_4	19	20	NC
COM_DCD#_5	21	22	COM_RXD_5
COM_TXD_5	23	24	COM_DTR#_5
GND	25	26	COM_DSR#_5
COM_RTS#_5	27	28	COM_CTS#_5
COM_RI#_5	29	30	NC
COM_DCD#_6	31	32	COM_RXD_6
COM_TXD_6	33	34	COM_DTR#_6
GND	35	36	COM_DSR#_6
COM_RTS#_6	37	38	COM_CTS#_6
COM_RI#_6	39	40	NC

2.7.14 USB connector 1 (JUSB1)



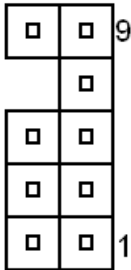
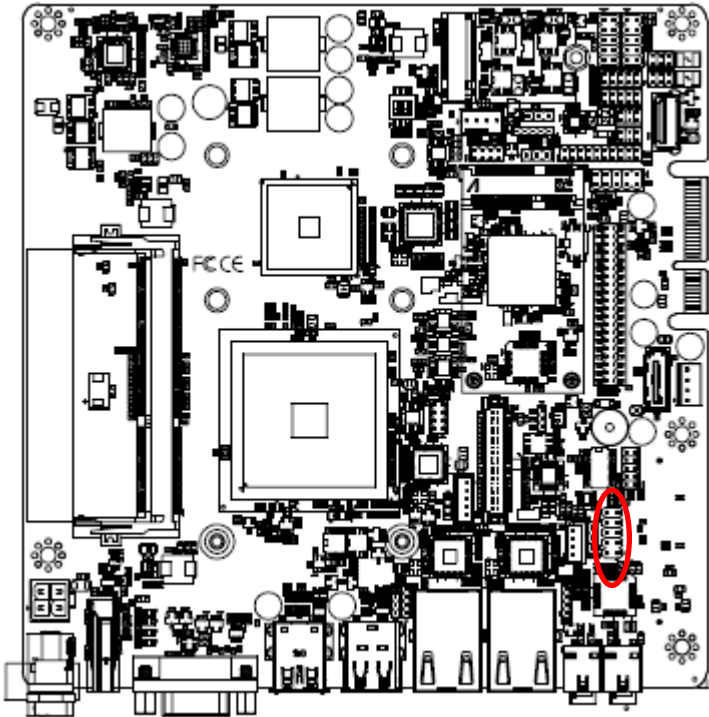
Signal	PIN	PIN	Signal
+5VUSB34	1	2	+5VUSB34
USB_DN3	3	4	USB_DN4
USB_DP3	5	6	USB_DP4
GND	7	8	GND
		10	NC

2.7.15 LPC connector (JLPC1)



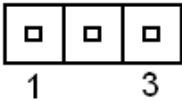
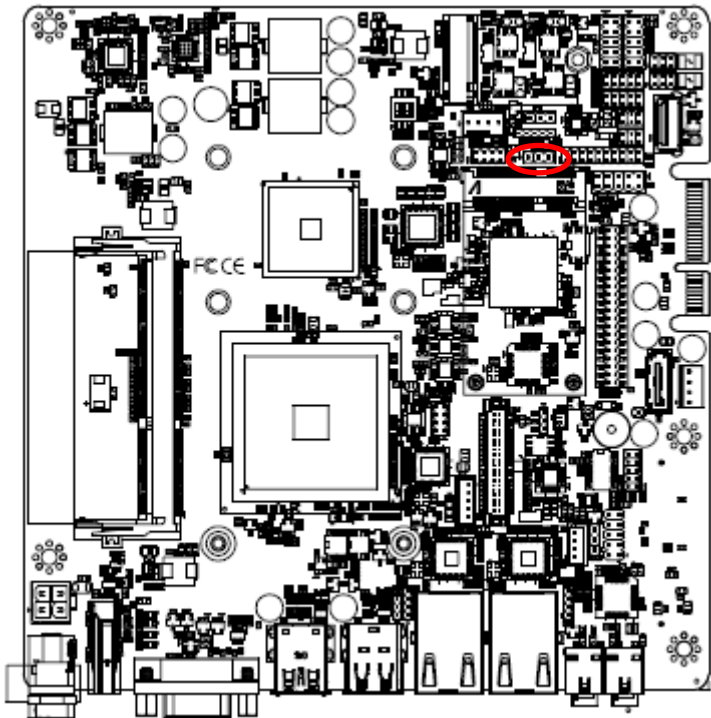
Signal	PIN	PIN	Signal
GND	10	9	SERIRQ
LPC_DEBUG_CLK	8	7	LPCAD3
-LPCFRAME	6	5	LPCAD2
-LPCRST	4	3	LPCAD1
+3.3V	2	1	LPCAD0

2.7.16 Audio connector (FAUD1)



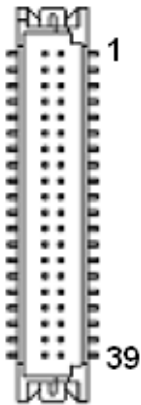
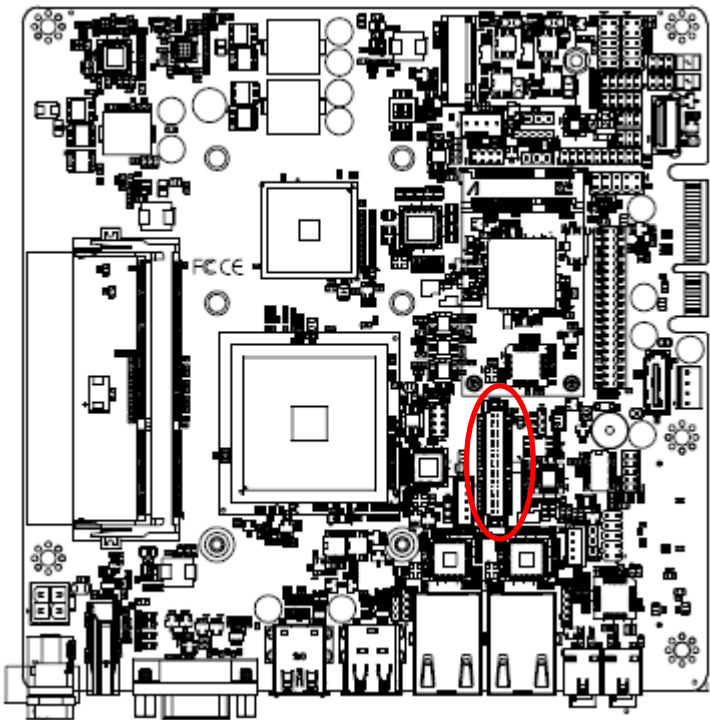
Signal	PIN	PIN	Signal
LINE2_JD	10	9	LINE2_L
		7	SENSE_B
MIC2_JD	6	5	LINE2_R
AUD_FRONT_DET	4	3	MIC2_R
GND	2	1	MIC2_L

2.7.17 EC Debug (JEC_PG1)



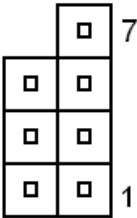
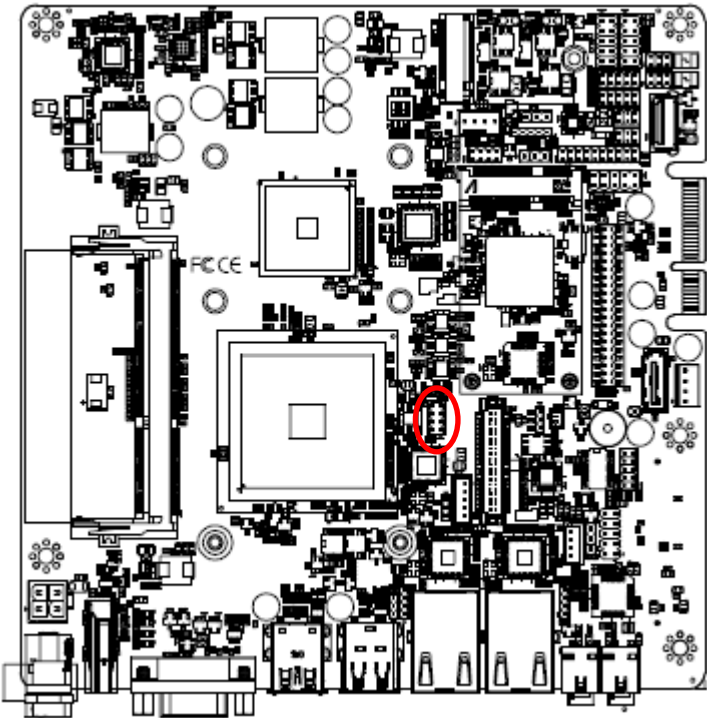
PIN	Signal
1	EC_SMCLK
2	EC_SMDAT
3	GND

2.7.18 LVDS connector (LVDS1)



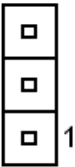
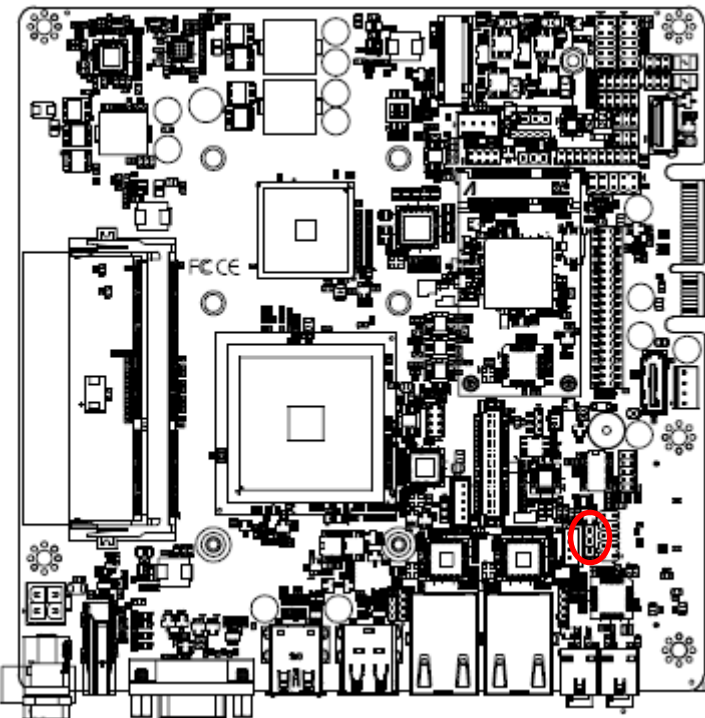
Signal	PIN	PIN	Signal
+V5S_LVDS2	2	1	+V3.3S_LVDS2
GND	4	3	+3.3V
NC	6	5	NC
GND	8	7	GND
LVDS1_DATA0_P	10	9	LVDS1_DATA1_P
LVDS1_DATA0_N	12	11	LVDS1_DATA1_N
GND	14	13	GND
LVDS1_DATA2_P	16	15	LVDS1_DATA3_P
LVDS1_DATA2_N	18	17	LVDS1_DATA3_N
GND	20	19	GND
LVDS1_DATA4_P	22	21	LVDS1_DATA5_P
LVDS1_DATA4_N	24	23	LVDS1_DATA5_N
GND	26	25	GND
LVDS1_DATA6_P	28	27	LVDS1_DATA7_P
LVDS1_DATA6_N	30	29	LVDS1_DATA7_N
GND	32	31	GND
LVDS1_CLK1_P	34	33	LVDS1_CLK2_P
LVDS1_CLK1_N	36	35	LVDS1_CLK2_N
GND	38	37	GND
+V12S_LVDS2	40	39	+V12S_LVDS2

2.7.19 SPI connector (JSPI1)



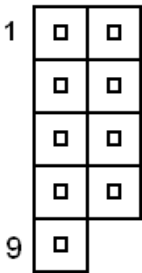
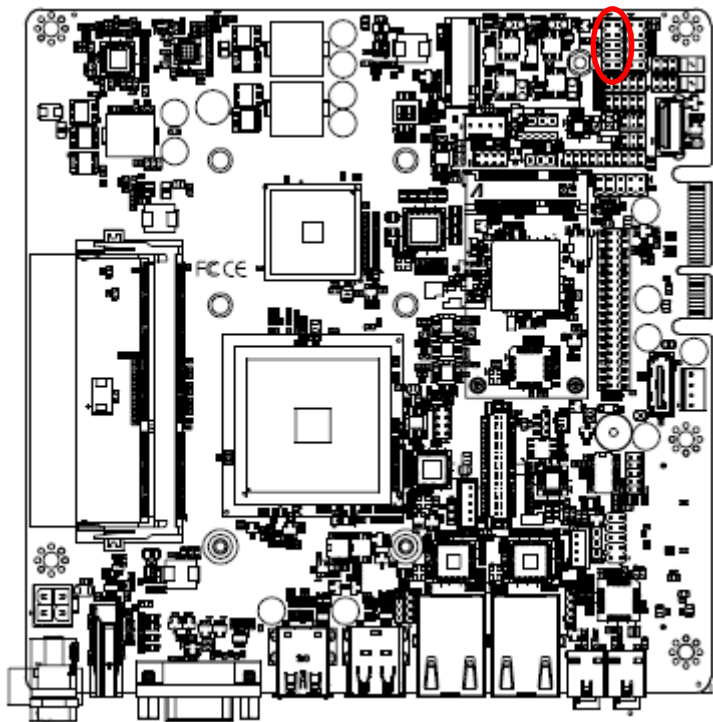
Signal	PIN	PIN	Signal
		7	SSPI_HOLD#0
SSPI_SI_R	6	5	SSPI_SO_R
SSPI_SCLK_R	4	3	SSPI_CS0#_R
GND	2	1	SPIVCC

2.7.20 Sony/Philips Digital Interface (SPDIF1)



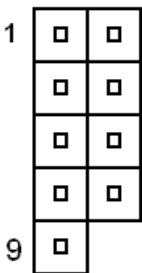
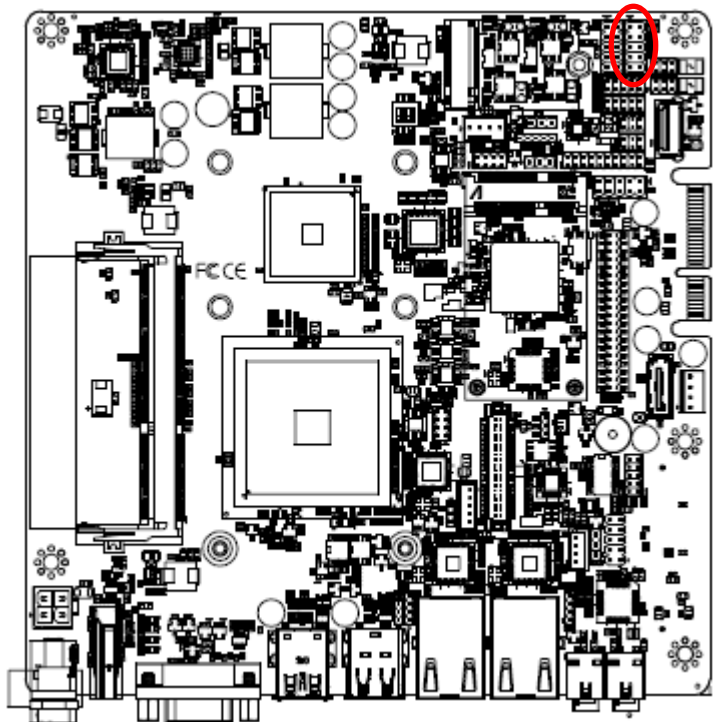
Signal	PIN
GND	3
SPDIF_OUT	2
+5V	1

2.7.21 Miscellaneous setting connector 1 (FPT1)



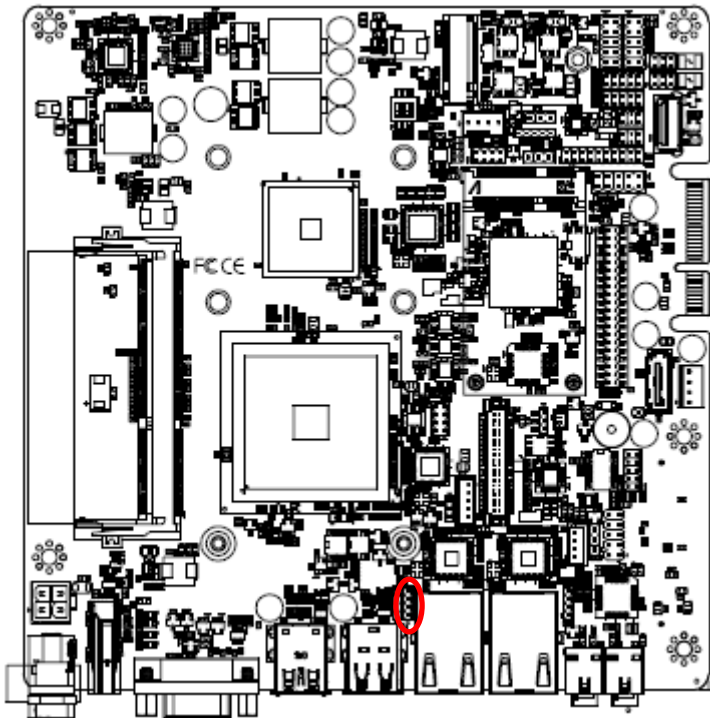
Signal	PIN	PIN	Signal
HDD_LED+	1	2	PWR_LED+
HD_LED-	3	4	PWE_LED-
-RST_SW	5	6	FP_PWR_BTN_EC#
GND	7	8	GND
NC	9		

2.7.22 Miscellaneous setting connector 2 (FPT2)



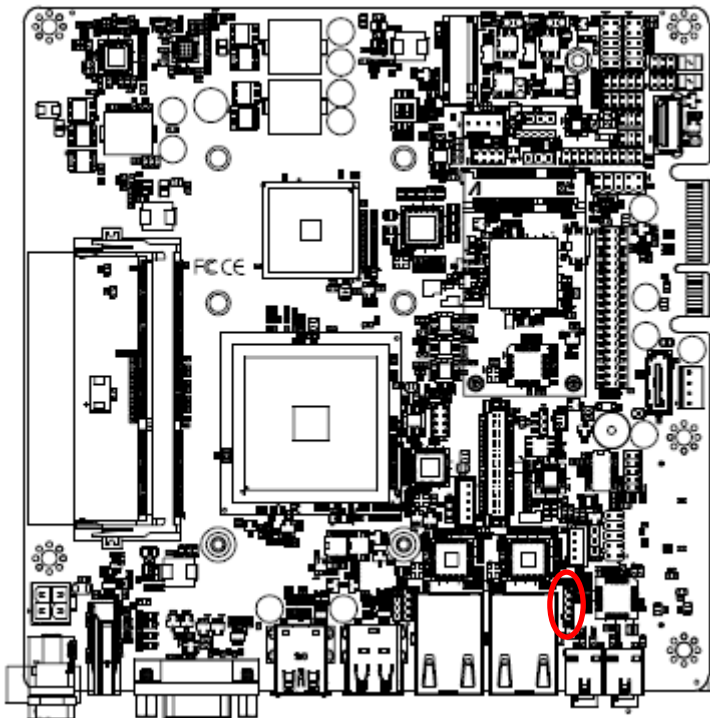
Signal	PIN	PIN	Signal
SPKR+	1	2	BLK_VR_MOD
NC	3	4	BLK_BRI_UP#
NC	5	6	BLK_BRI_DN#
SPKR-	7	8	GND
NC	9	10	

2.7.23 LED indicator connector 1 (LED1)



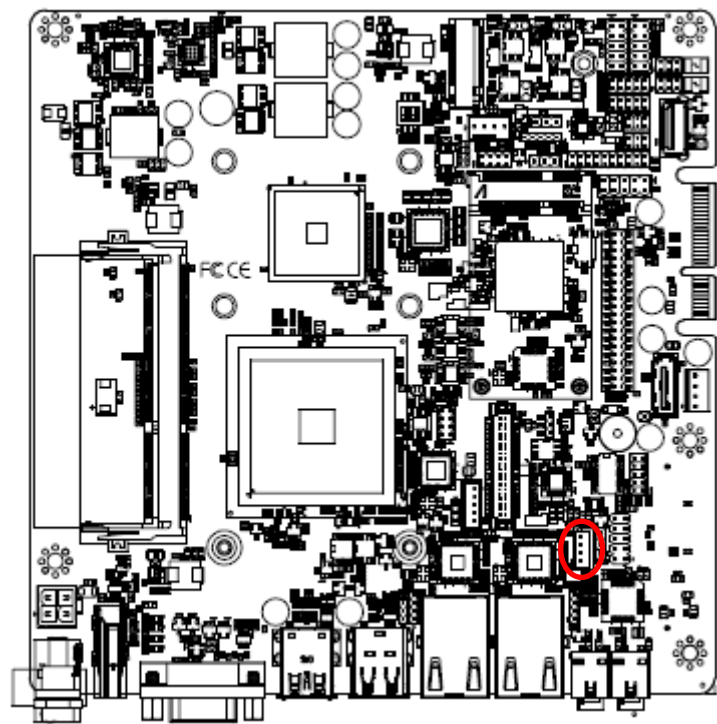
Signal	PIN
LAN1_1000#_LED	4
LAN1_100#_LED	3
LAN1_ACT_N	2
LAN1_ACT_P	1

2.7.24 LED indicator connector 2 (LED2)



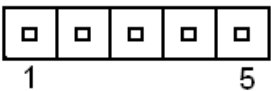
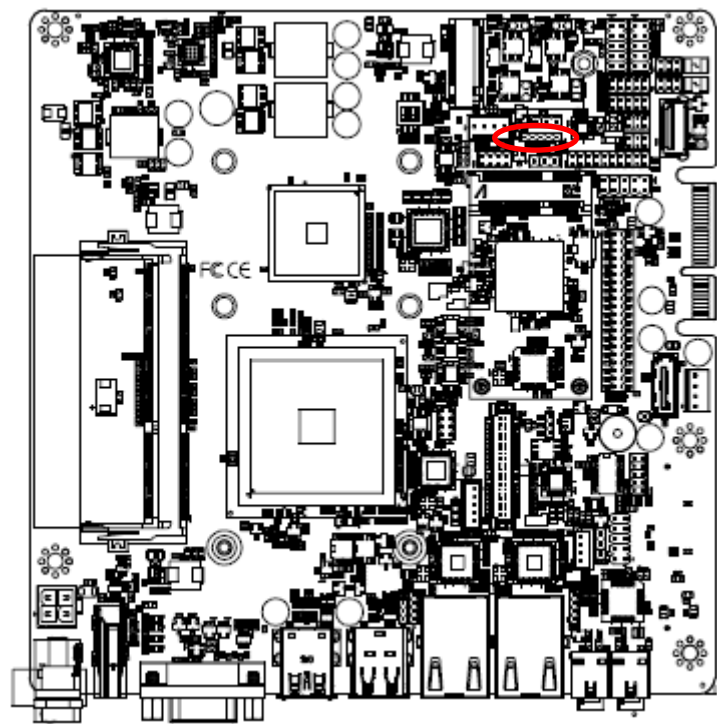
Signal	PIN
LAN2_1000#_LED	4
LAN2_100#_LED	3
LAN2_ACT_N	2
LAN2_ACT_P	1

2.7.25 Speaker connector (SPK1)



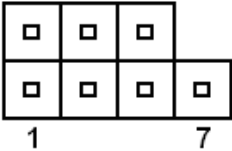
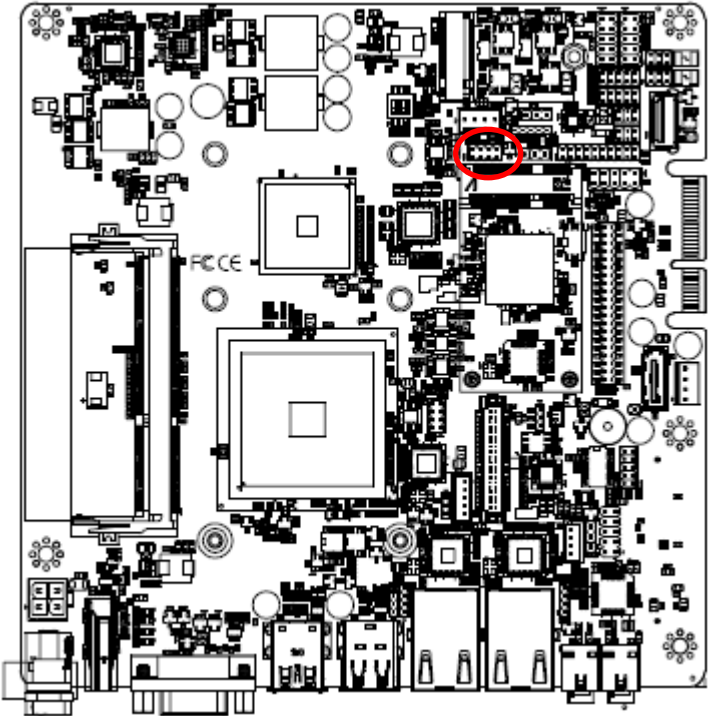
Signal	PIN
RSPK-	4
RSPK+	3
LSPK-	2
LSPK+	1

2.7.26 JSMB connector (JSMB1)



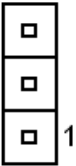
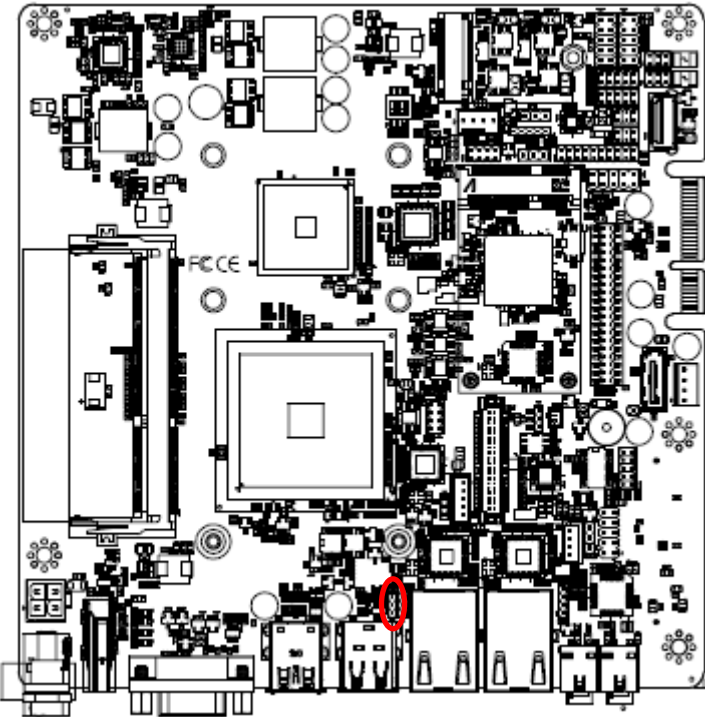
Signal	PIN
+3.3V	1
-SMBALRT_M2_+3.3V	2
SMBCK_+3.3V	3
SMBDT_+3.3V	4
GND	5

2.7.27 PS2 keyboard/mouse connector (JKBMS)



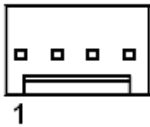
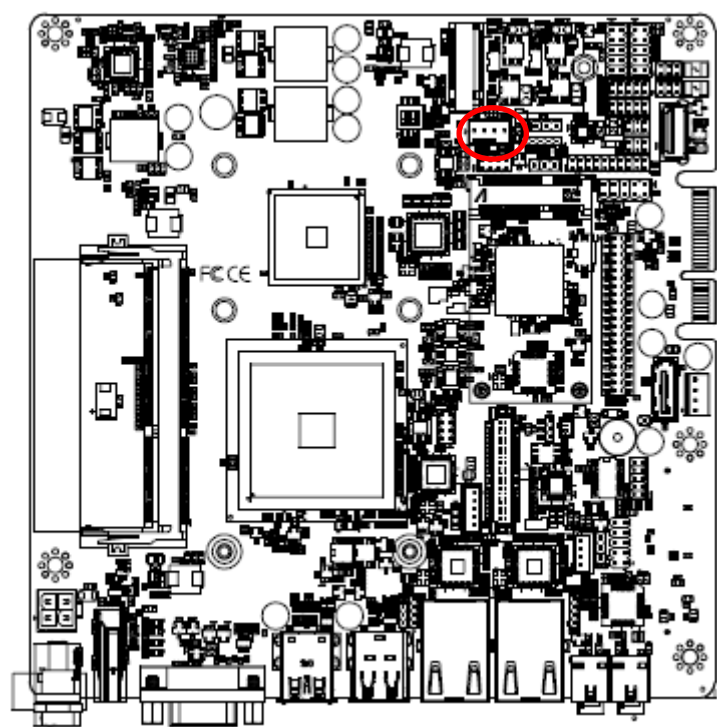
Signal	PIN	PIN	Signal
KB_DT	1	2	KB_CK
GND	3	4	+V5A_KBMS
MS_DT	5	6	MS_CK
NC	7		

2.7.28 Connector reserved for CH7511 FW flash jig (JROM)



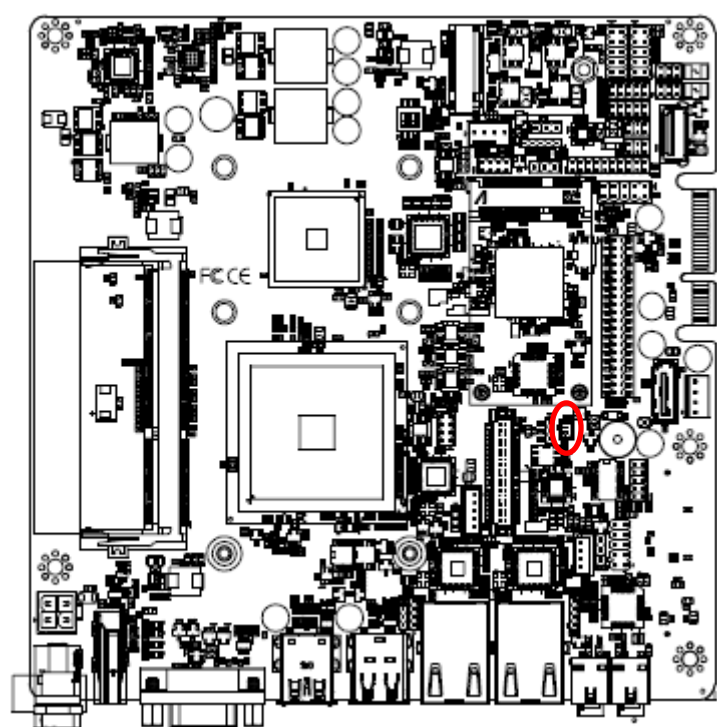
Signal	PIN
GND	3
LVDS1_DOC_DATA	2
LVDS1_DOC_CLK	1

2.7.29 FAN connector (FAN1)



PIN	Signal
4	+3.3V
3	+3.3V
2	GND
1	GND

2.7.30 Battery connector (JBAT1)



Signal	PIN
+3V	1
GND	2

3.BIOS Setup

3.1 Introduction

The BIOS setup program allows users to modify the basic system configuration. In this following chapter will describe how to access the BIOS setup program and the configuration options that may be changed.

3.2 Starting Setup

The AMI BIOS™ is immediately activated when you first power on the computer. The BIOS reads the system information contained in the NVRAM and begins the process of checking out the system and configuring it. When it finishes, the BIOS will seek an operating system on one of the disks and then launch and turn control over to the operating system.

While the BIOS is in control, the Setup program can be activated in one of two ways:

By pressing or <F2> immediately after switching the system on, or

By pressing the or <F2> key when the following message appears briefly at the left-top of the screen during the POST (Power On Self Test).

Press or <F2> to enter SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to.

Press F1 to Continue, DEL to enter SETUP

3.3 Using Setup

In general, you use the arrow keys to highlight items, press <Enter> to select, use the PageUp and PageDown keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program using the keyboard.

Button	Description
↑↓→←	Move
Enter	Select
+/-	Value
Esc	Exit
F1	General Help
F2	Previous Values
F3	Optimized Defaults
F4	Save & Exit Setup
<K>	Scroll help area upwards
<M>	Scroll help area downwards

- **Navigating Through The Menu Bar**

Use the left and right arrow keys to choose the menu you want to be in.



Note: Some of the navigation keys differ from one screen to another.

- **To Display a Sub Menu**

Use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>. A “➤” pointer marks all sub menus.

3.4 Getting Help

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc> or <Enter> key.

3.5 In Case of Problems

If, after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the AMI BIOS supports an override to the NVRAM settings which resets your system to its defaults.

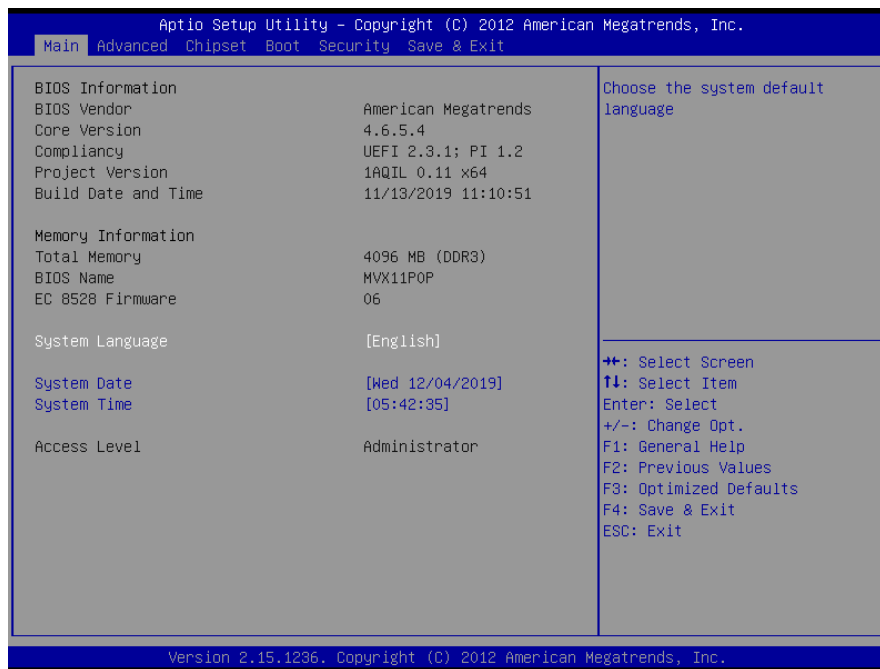
The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both BIOS Vendor and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

3.6 BIOS setup

Once you enter the Aptio Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

3.6.1 Main Menu

This section allows you to record some basic hardware configurations in your computer and set the system clock.



3.6.1.1 System Language

This option allows choosing the system default language.

3.6.1.2 System Date

Use the system date option to set the system date. Manually enter the day, month and year.

3.6.1.3 System Time

Use the system time option to set the system time. Manually enter the hours, minutes and seconds.

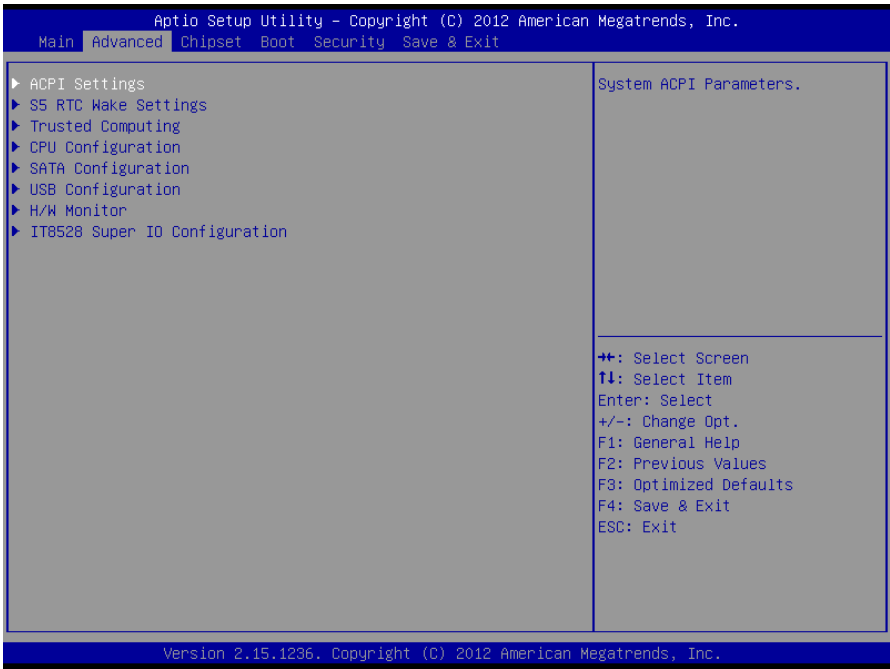


Note: The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen.

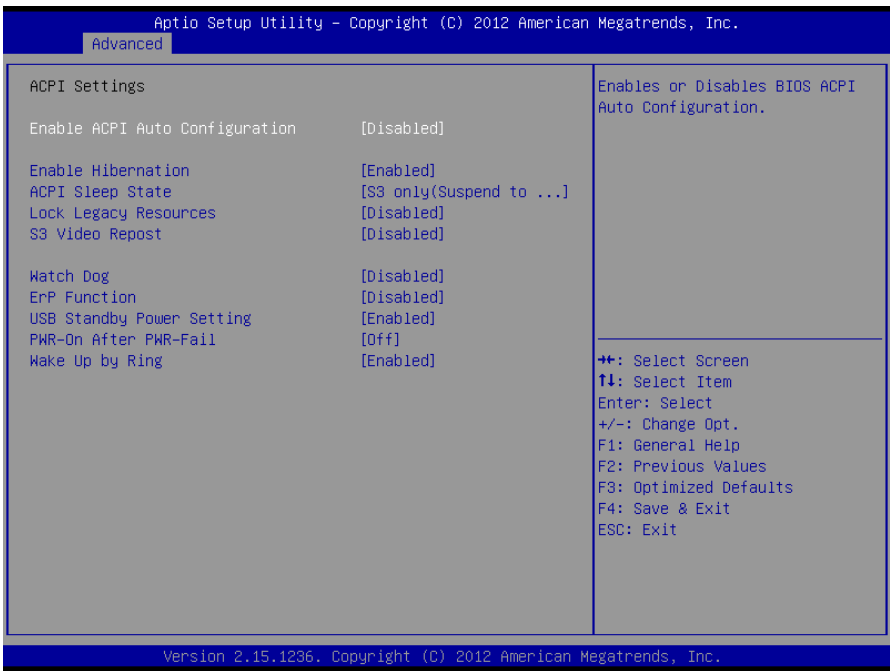
Visit the Avalue website (www.avalue.com.tw) to download the latest product and BIOS information.

3.6.2 Advanced Menu

This section allows you to configure your CPU and other system devices for basic operation through the following sub-menus.



3.6.2.1 ACPI Settings



Item	Options	Description
Enable ACPI Auto Configuration	Disabled[Default], Enabled	Enables or Disables BIOS ACPI Auto Configuration.
Enable Hibernation	Disabled Enabled[Default],	Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some

Quick Reference Guide

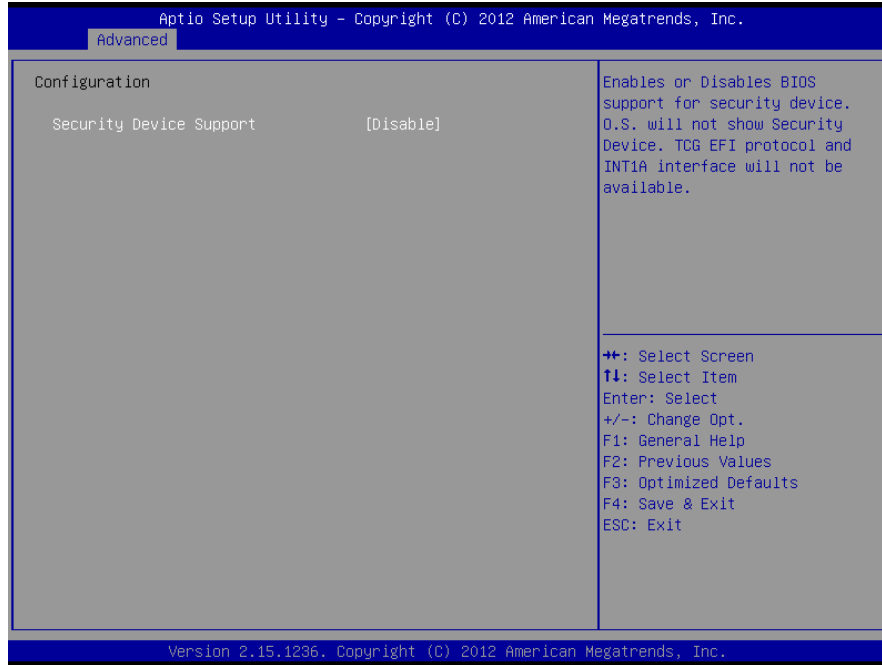
		OS.
ACPI Sleep State	Suspend Disabled, S3 (Suspend to RAM)[Default]	Select the highest ACPI sleep state the system will enter when the SUSPEDN button is pressed.
Lock Legacy Resources	Disabled[Default] Enabled,	Enable or Disable Lock of Legacy Resources
S3 Video Repost	Disabled[Default] Enabled,	Enable or Disable S3 Video Repost
Watch Dog	Disabled[Default], 30 sec 40 sec 50 sec 1 min 2 min 10 min 30 min	Select WatchDog.
ErP Function	Disabled[Default] Enabled,	ErP Function (Deep S5).
USB Standby Power Setting	Disabled Enabled[Default]	Enabled/Disabled USB Standby Power during S3/S4/S5.
PWR-On After PWR-Fail	Off[Default] On Last state	AC loss resume.
Wake Up by Ring	Disabled Enabled[Default]	Wake Up by Ring from S3/S4/S5

3.6.2.2 S5 RTC Wake Settings



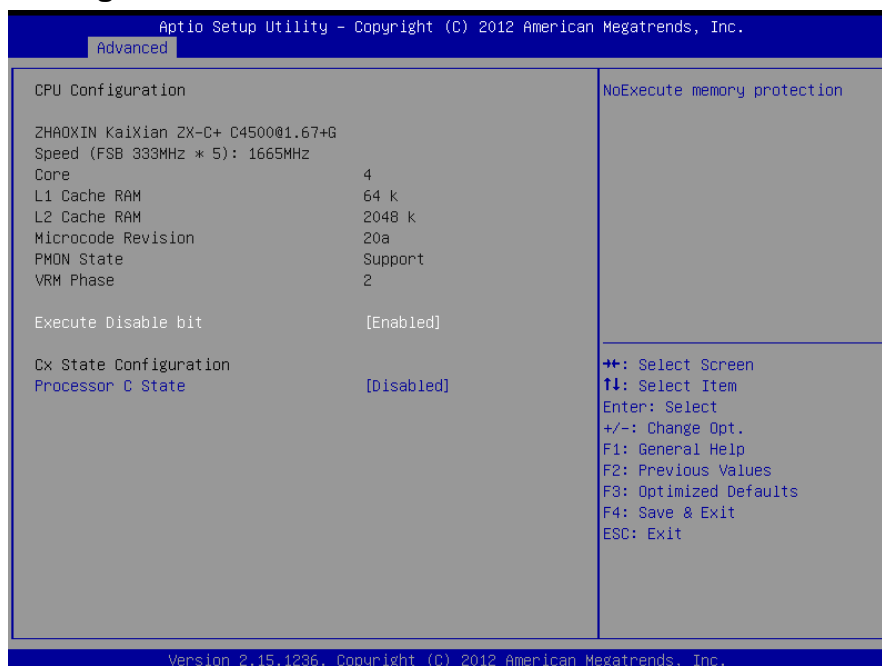
Item	Options	Description
Wake system with Fixed Time	Disable[Default] Enable	Enables or Disables System wake on alarm event. When enabled, System will wake on the hr::min::sec specified

3.6.2.3 Trusted Computing



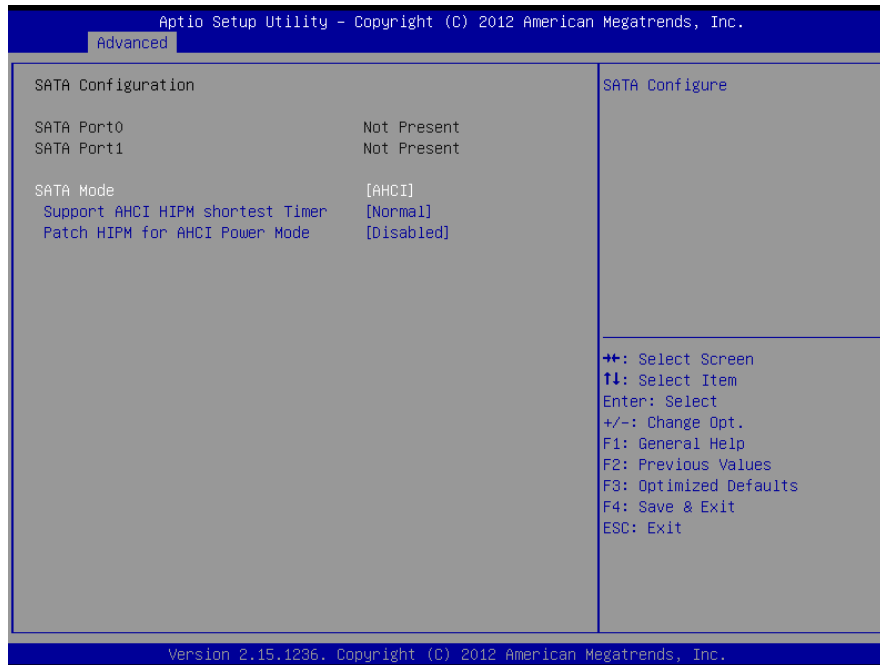
Item	Options	Description
Security Device Support	Disable[Default] Enable	Enables or Disables BIOS support for security devices. O.S. will not show Security Device. TCG EFI protocol and INT1A interface will not be available.

3.6.2.4 CPU Configuration



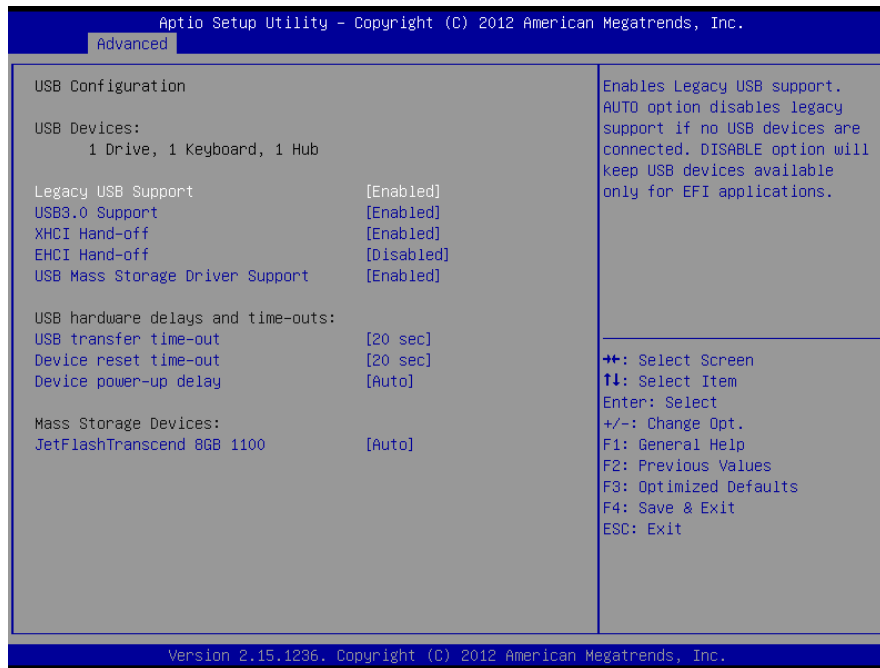
Item	Options	Description
Execute Disable bit	Disabled Enabled[Default],	NoExecute memory protection
Processor C State	Disabled[Default] Enabled,	Main switch for enable Processor C State State support

3.6.2.5 SATA Configuration



Item	Options	Description
SATA Mode	IDE AHCI [Default]	SATA Configure
Support AHCI HIPM shortest Timer	Normal[Default] Shortest Disabled	Support AHCI HIPM shortest Timer select
Patch HIPM for AHCI Power Mode	Disabled[Default] Enabled	In the some SATA device, system will random hang during S3 resume in AHCI power mode, So BIOS can offer patch code for AHCI power mode after S3 resume

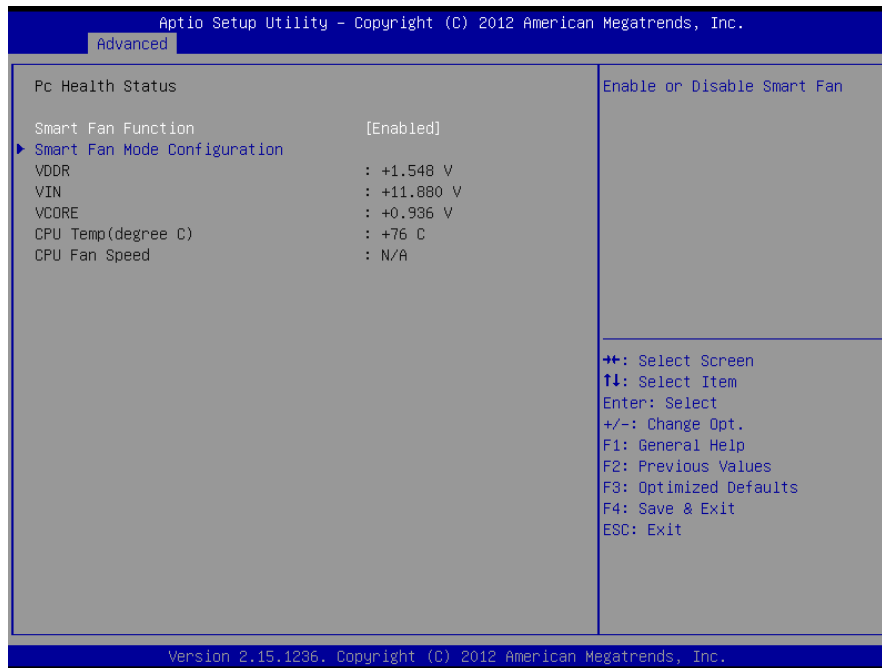
3.6.2.6 USB Configuration



Item	Options	Description
Legacy USB Support	Enabled[Default], Disabled Auto	Enables 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.
USB3.0 Support	Enabled[Default], Disabled	Enable/Disable USB3.0 (XHCI) Controller support.
XHCI Hand-off	Enabled[Default], Disabled	This is a workaround for OSES without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
EHCI Hand-off	Disabled[Default], Enabled	This is a workaround for OSES without EHCI hand-off support. The EHCI ownership change should be claimed by EHCI driver.
USB Mass Storage Driver Support	Disabled Enabled[Default],	Enable/Disable USB Mass Storage Driver Support.
USB transfer time-out	1 sec 5 sec 10 sec 20 sec[Default],	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	1 sec 5 sec 10 sec 20 sec[Default],	USB mass storage device Start Unit command time-out.
Device power-up delay	Auto[Default], Manual	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.
JetFlashTranscend 8GB 1100	Auto[Default], Floppy	Mass storage device emulation type. 'Auto' enumerates devices according to their media format. Optical drives

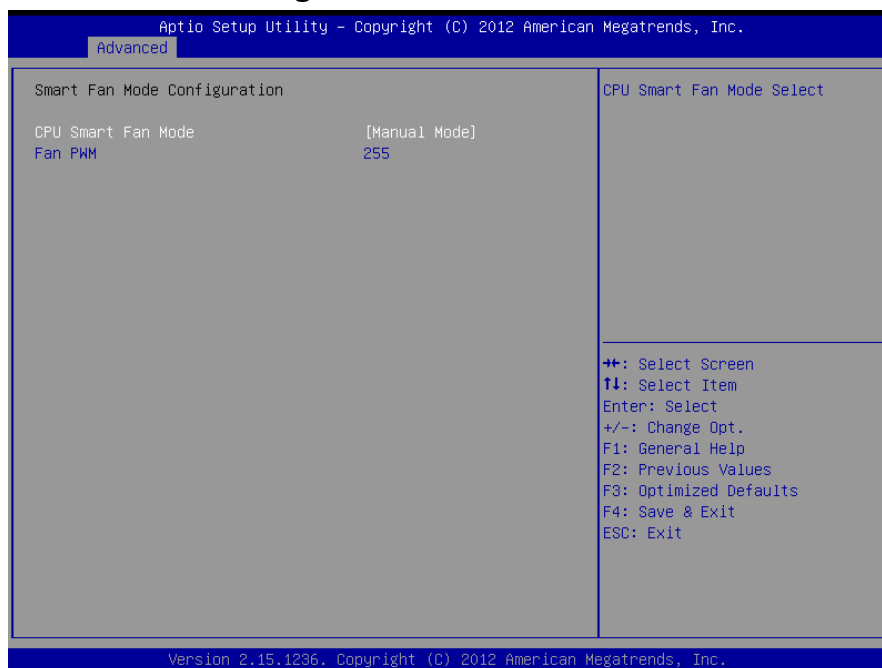
	Forced FDD Hard Disk CD-ROM	are emulated as 'CDROM', drives with no media will be emulated according to a drive type.
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3.6.2.7 H/W Monitor



Item	Options	Description
Smart Fan Function	Disabled Enabled[Default],	Enable or Disable Smart Fan

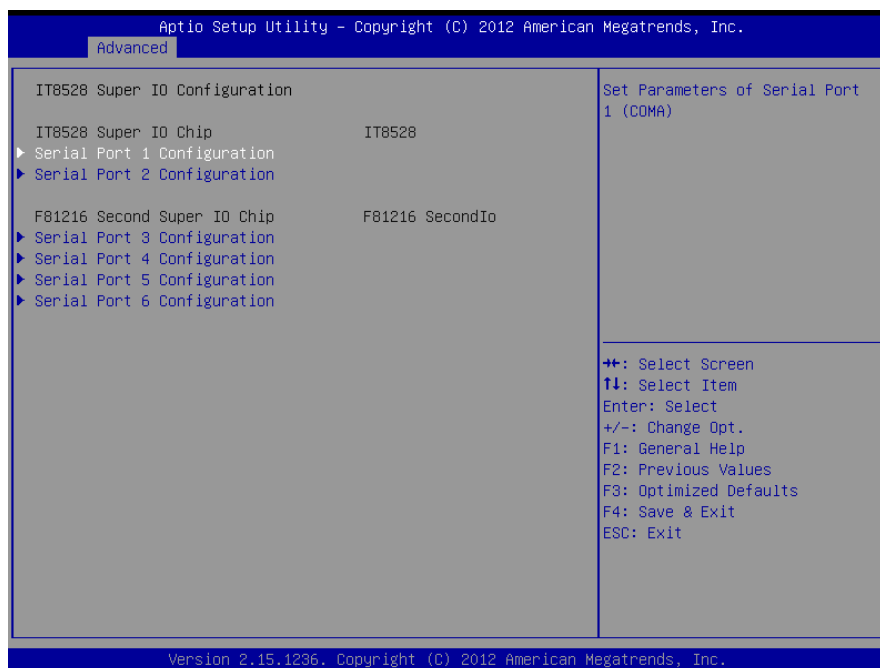
3.6.2.7.1 Smart Fan Mode Configuration



Item	Option	Description
CPU Smart Fan Mode	Manual Mode[Default]/Mode 01/Mode 02/Mode 03/Mode 04/Mode 05/Mode 06/Mode 07/Mode 08/Mode 09/Mode 10/Mode 11/Mode 12/Mode 13/Mode 14/Mode 15/Mode 16/Mode 17/Mode 18/Mode 19/Mode 20	CPU Smart Fan Mode Select
Fan PWM	0-255	Fan PWM duty

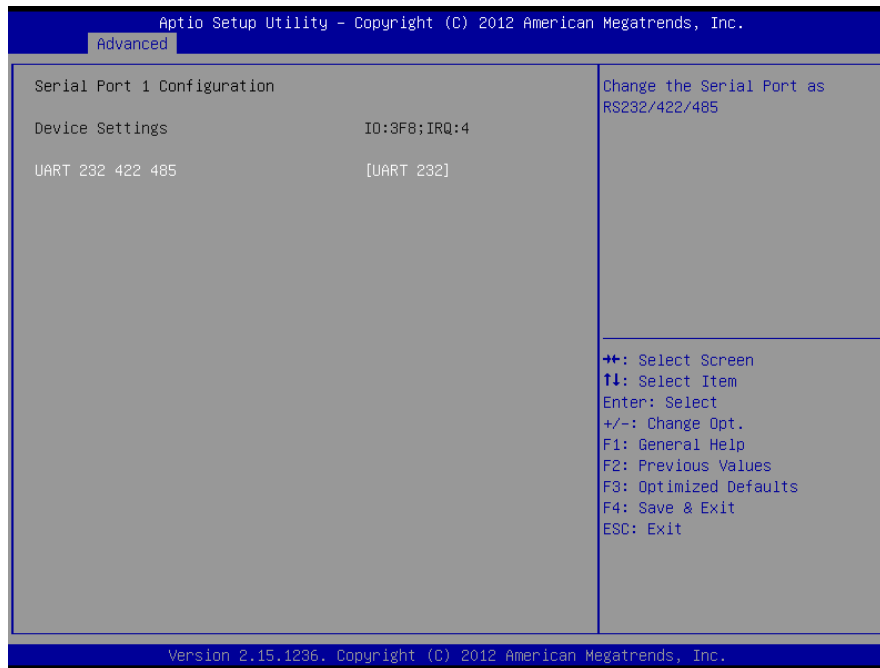
3.6.2.8 IT8528 Super IO Configuration

You can use this item to set up or change the IT8528 Super IO configuration for serial ports. Please refer to 3.6.2.5.1~ 3.6.2.5.6 for more information.



Item	Description
Serial Port 1 Configuration	Set Parameters of Serial Port 1 (COMA).
Serial Port 2 Configuration	Set Parameters of Serial Port 2 (COMB).
Serial Port 3 Configuration	Set Parameters of Serial Port 3 (COMC).
Serial Port 4 Configuration	Set Parameters of Serial Port 4 (COMD).
Serial Port 5 Configuration	Set Parameters of Serial Port 5 (COME).
Serial Port 6 Configuration	Set Parameters of Serial Port 6 (COMF).

3.6.2.8.1 Serial Port 1 Configuration



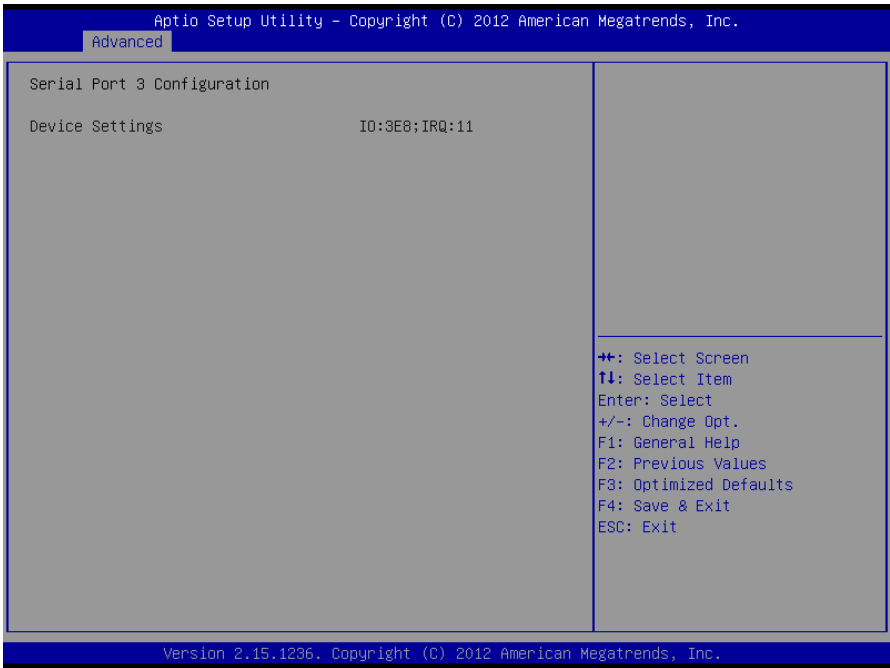
Item	Option	Description
UART 232 422 485	UART 232[Default], UART 422, UART 485	Change the Serial Port as RS232/422/485.

3.6.2.8.2 Serial Port 2 Configuration



Item	Option	Description
UART 232 422 485	UART 232[Default], UART 422, UART 485	Change the Serial Port as RS232/422/485.

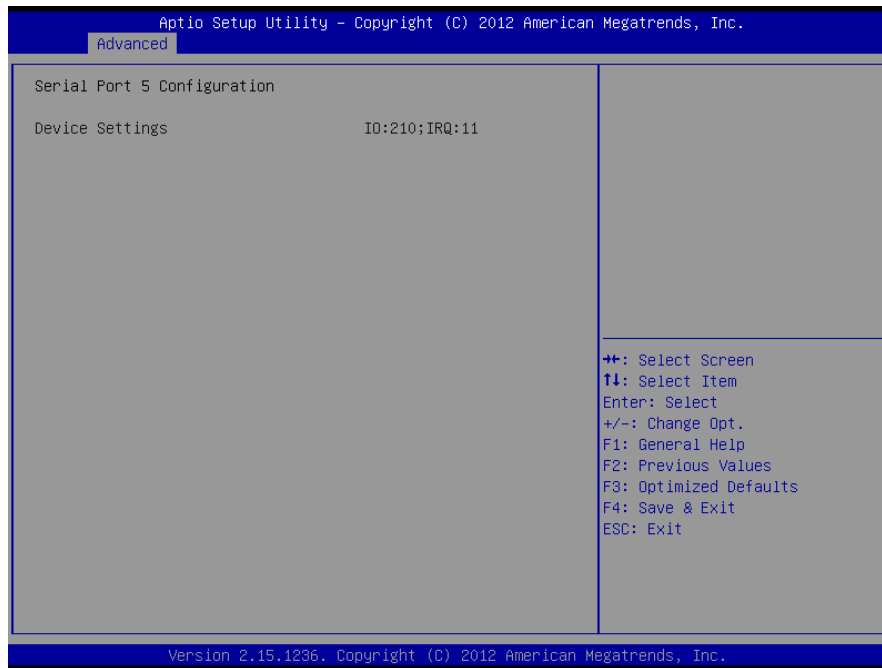
3.6.2.8.3 Serial Port 3 Configuration



3.6.2.8.4 Serial Port 4 Configuration



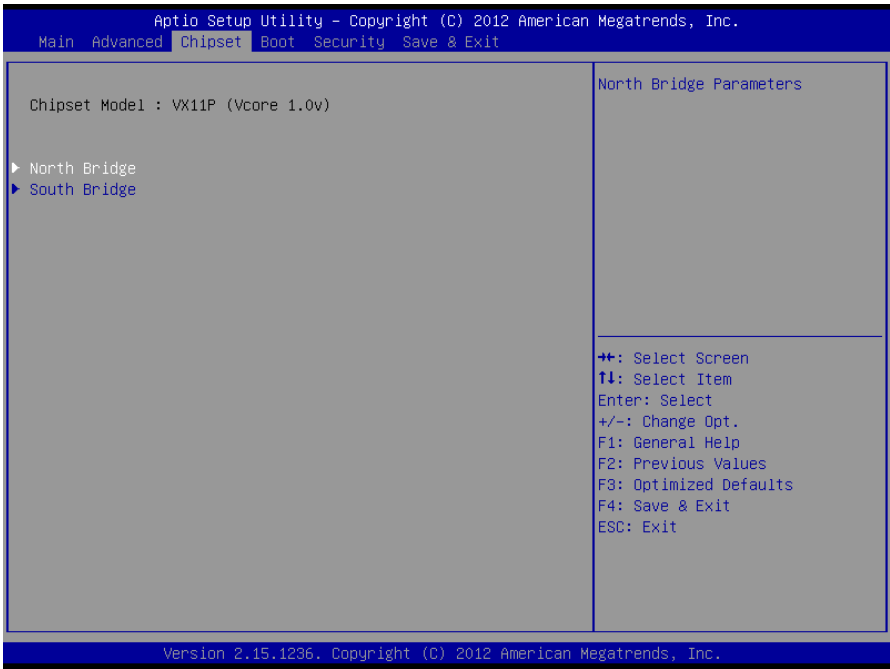
3.6.2.8.5 Serial Port 5 Configuration



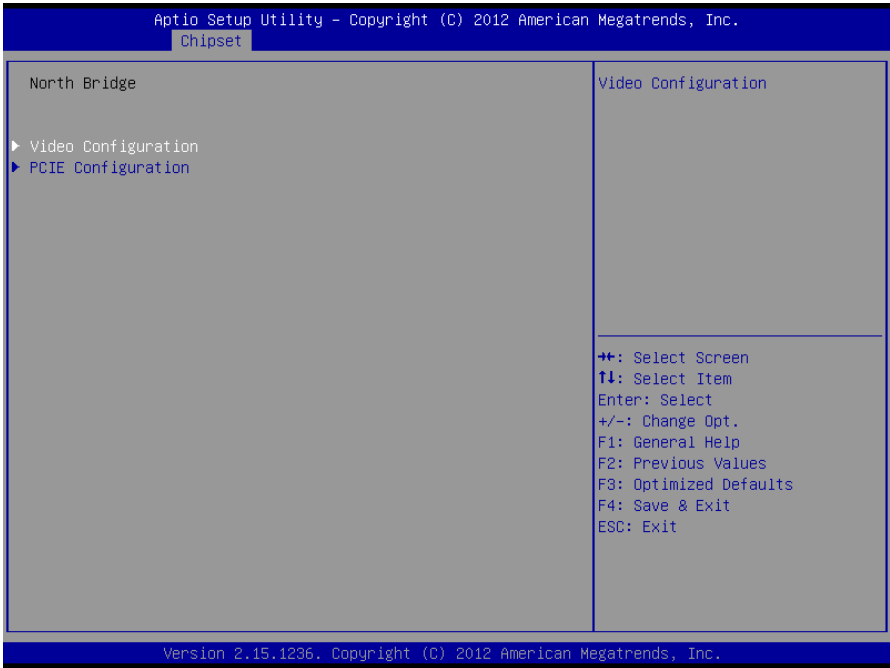
3.6.2.8.6 Serial Port 6 Configuration



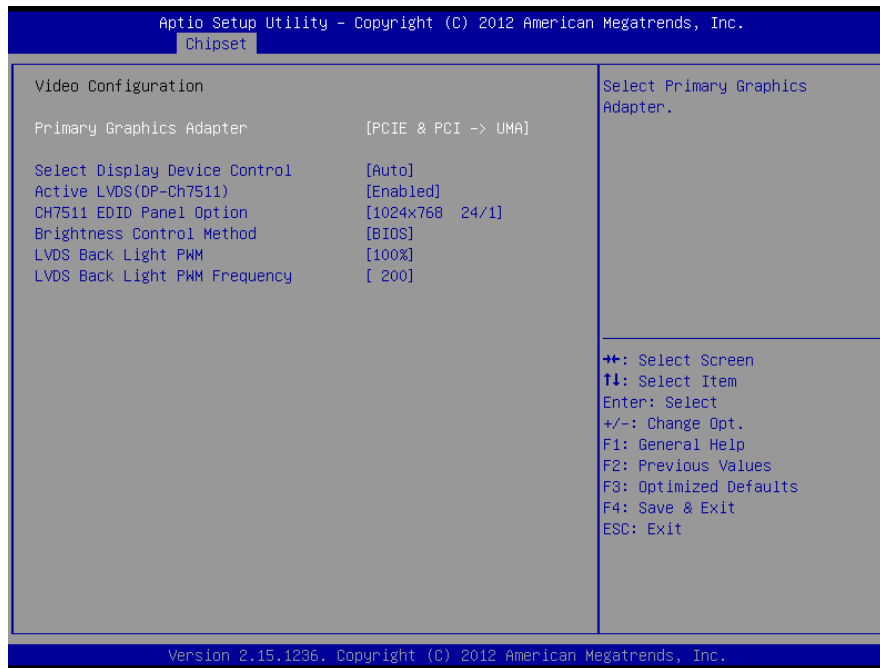
3.6.3 Chipset



3.6.3.1 North Bridge

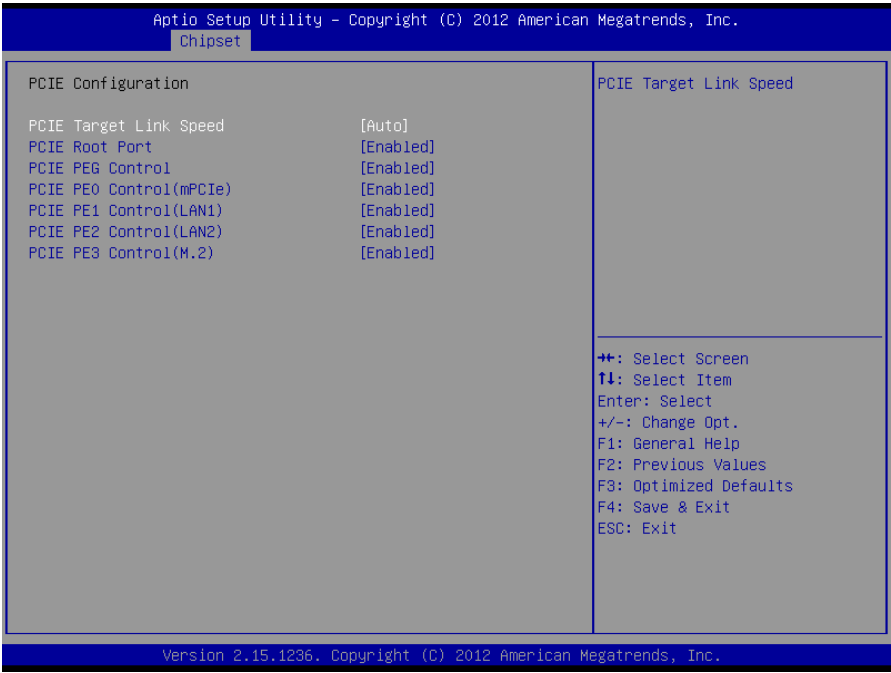


3.6.3.1.1 Video Configuration



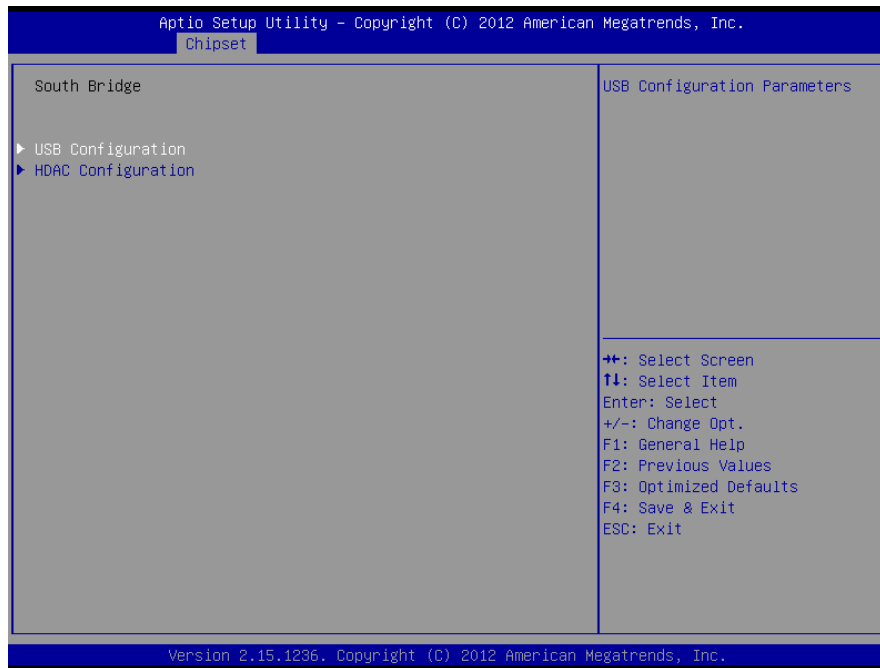
Item	Option	Description
Primary Graphics Adapter	PCIE & PCI -> UMA[Default] UMA I -> PCIE & PCI	Select Primary Graphics Adapter.
Select Display Device Control	Auto[Default] MANUAL	Select Display Device Control
Active LVDS(DP-Ch7511)	Enabled[Default], Disabled	Active Internal LVDS(eDP->Ch7511-to-LVDS)
CH7511 EDID Panel Option	1024x768 24/1[Default], 1280x1024 24/2 1920x1080 24/2	Port1-EDP to LVDS(Chrotel 7511) Panel EDID Option
Brightness Control Method	BIOS[Default], BR Button VR	LVDS Brightness Control Method 1. BIOS 2.BR Button 3.VR
LVDS Back Light PWM	00% 25% 50% 75% 100%[Default],	Select LVDS back Light PWM duty.
LVDS Back Light PWM Frequency	200[Default], 300 400 500 700 1k 2k 3k 5k 10k 20k	Select LVDS back Light PWM Frequency..

3.6.3.1.2 PCIE Configuration

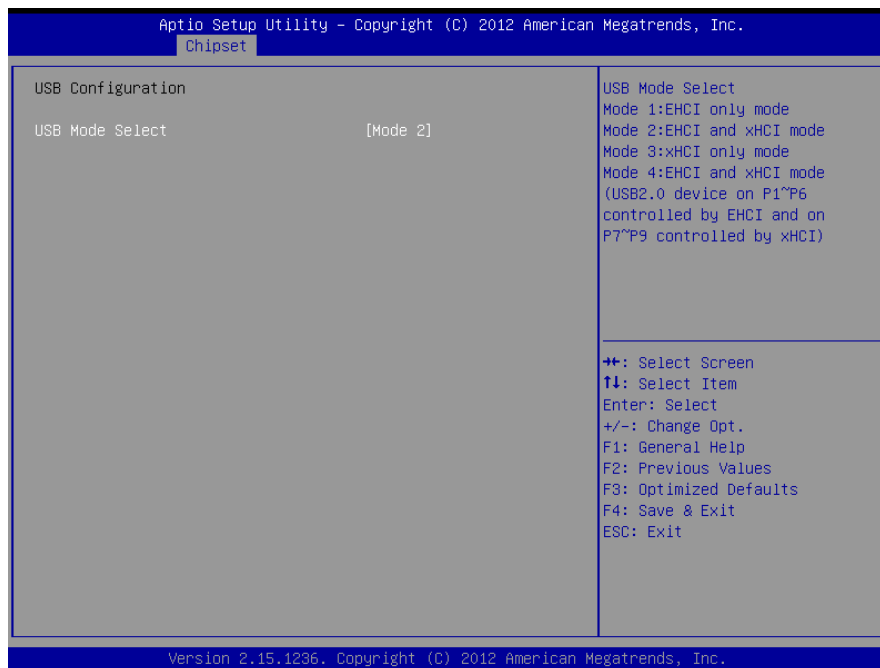


Item	Option	Description
PCIE Target Link Speed	Auto [Default] Force Gen 1	PCIE Target Link Speed
PCIE Root Port	Disabled Enabled [Default] ,	PCIE Root Port
PCIE PEG Control	Disabled Enabled [Default] ,	PCIE PEG Control
PCIE PE0 Control(mPCIe)	Disabled Enabled [Default] ,	PCIE PE0 Control(mPCIe)
PCIE PE1 Control(LAN1)	Disabled Enabled [Default] ,	PCIE PE1 Control(LAN1)
PCIE PE2 Control(LAN2)	Disabled Enabled [Default] ,	PCIE PE2 Control(LAN2)
PCIE PE3 Control(M.2)	Disabled Enabled [Default] ,	PCIE PE3 Control(M.2)

3.6.3.2 South Bridge

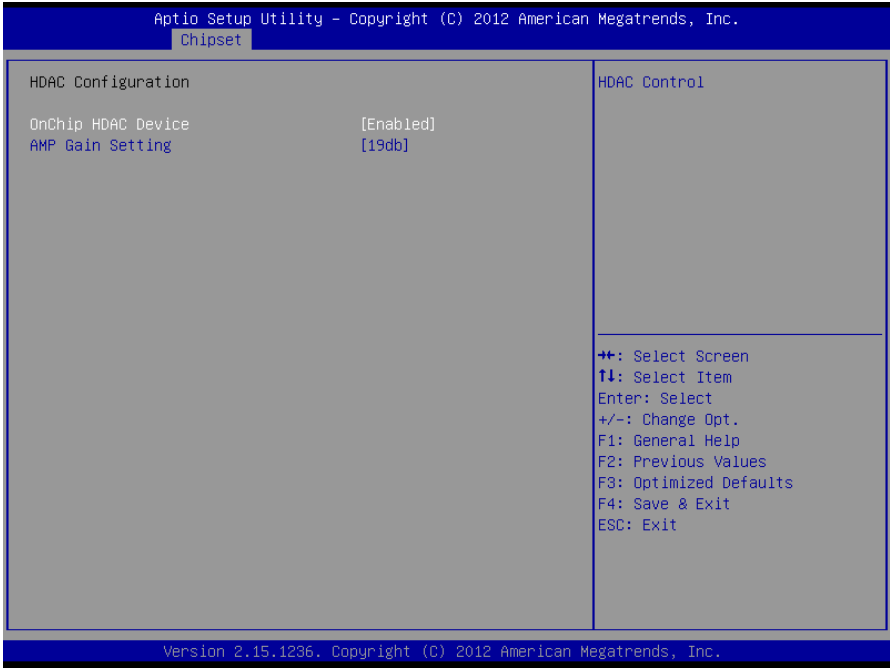


3.6.3.2.1 USB Configuration



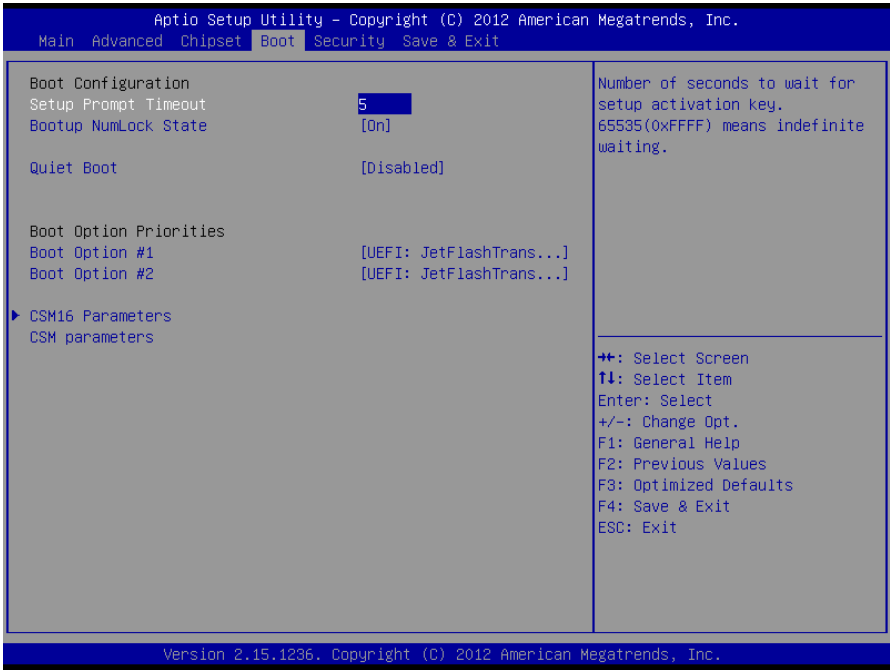
Item	Option	Description
USB Mode Select	Mode 1 Mode 2 [Default] Mode 3 Mode 4	USB Mode Select Mode 1:EHCI only mode Mode 2:EHCI and xHCI mode Mode 3:xHCI only mode Mode 4:EHCI and xHCI mode (USB2.0 device on P1~P6 controlled by EHCI and on P7~P9 controlled by xHCI)

3.6.3.2.2 HDAC Configuration



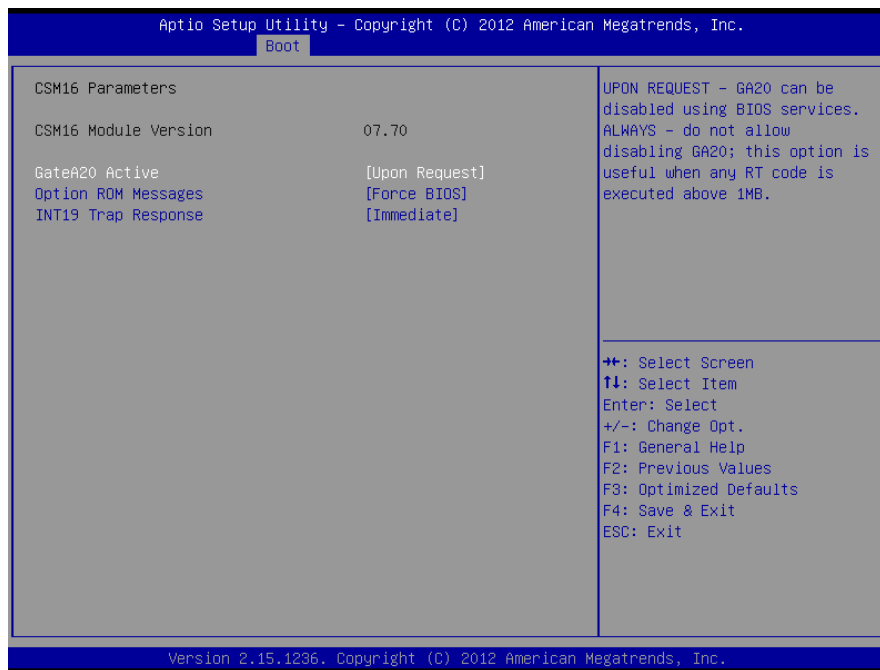
Item	Option	Description
OnChip HDAC Device	Disabled Enabled[Default],	HDAC Control
AMP Gain Setting	11db 14db 19db[Default], 25db	Select AMP Gain db

3.6.4 Boot



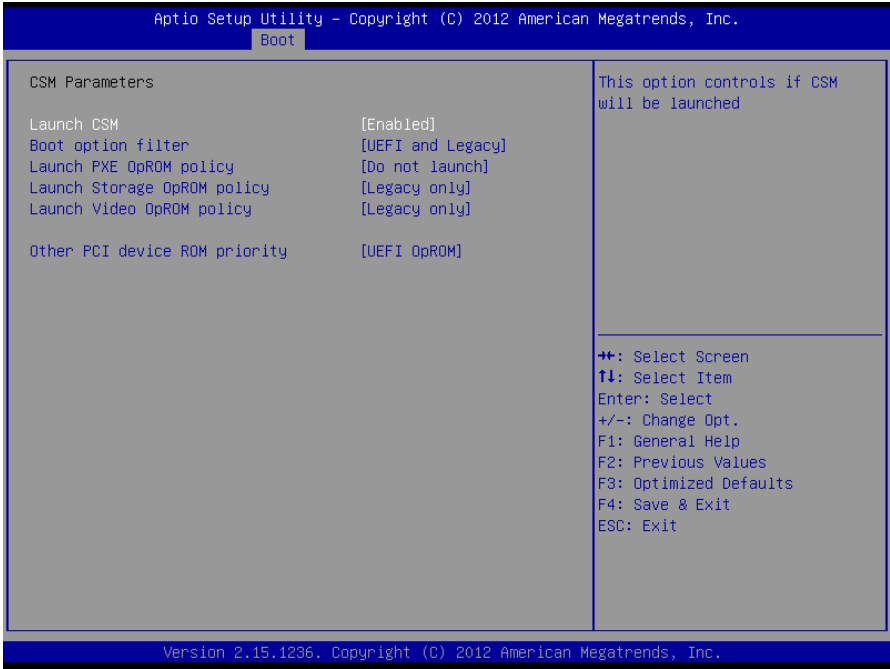
Item	Option	Description
Setup Prompt Timeout	5	Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.
Bootup NumLock State	On[Default] Off	Select the Keyboard NumLock state
Quiet Boot	Disabled[Default] Enabled	Enables or disables Quiet Boot Option
Boot Option #1	Set the system boot order.	
CSM parameters	OpROM execution, boot options filter, etc.	

3.6.4.1 CSM16 Parameters



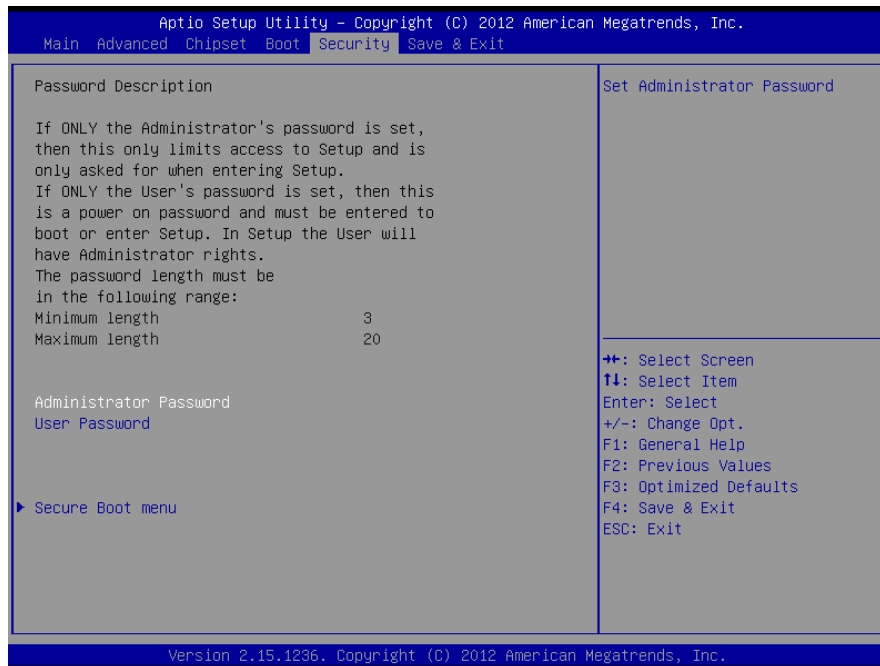
Item	Option	Description
GateA20 Active	Upon Request[Default] Always	UPON REQUEST- GA20 can be disabled using BIOS services. ALWAYS - do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.
Option ROM Messages	Force BIOS[Default] Keep Current	Set display mode for Option ROM
INT19 Trap Response	Immediate[Default] Postponed	BIOS reaction on INT19 trapping by Option ROM: IMMEDIATE - execute the trap right away; POSTPONED - execute the trap during legacy boot.

3.6.4.2 CSM Parameters



Item	Option	Description
Launch CSM	Disabled Enabled [Default]	This option controls if CSM will be launched
Boot option filter	UEFI and Legacy [Default] Legacy only UEFI only	This option controls what devices system can boot to
Launch PXE OpROM policy	Do not launch [Default] Legacy only	Controls the execution of UEFI and Legacy PXE OPROM
Launch Storage OpROM policy	UEFI only Legacy only [Default]	Controls the execution of UEFI and Legacy Storage OpROM
Launch Video OpROM policy	UEFI only Legacy only [Default]	Controls the execution of UEFI and Legacy Video OpROM
Other PCI device ROM priority	UEFI OpROM [Default] Legacy OpROM	For PCI devices other than Network, Mass storage or Video defines which OpROM to launch

3.6.5 Security



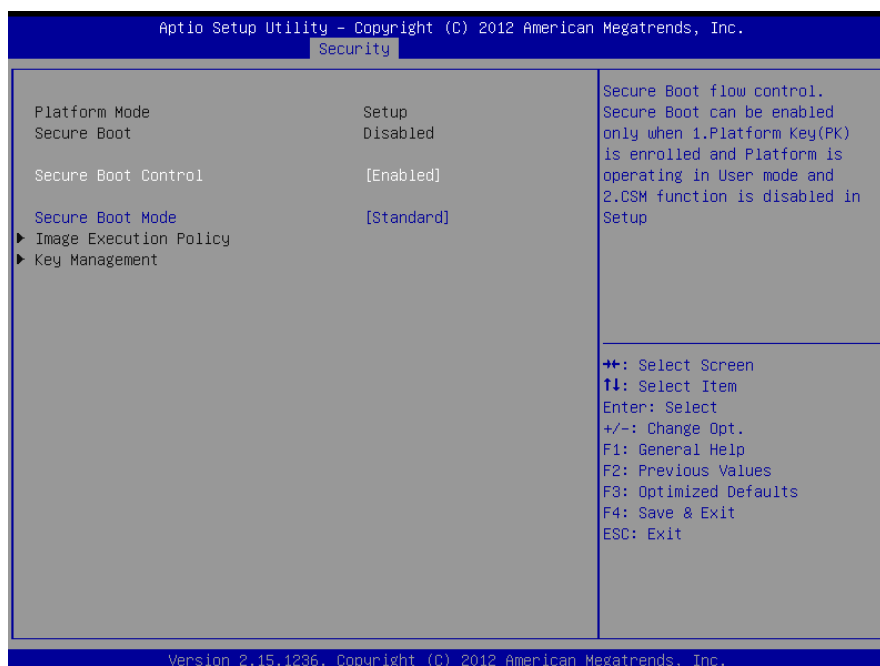
- **Administrator Password**

Set setup Administrator Password

- **User Password**

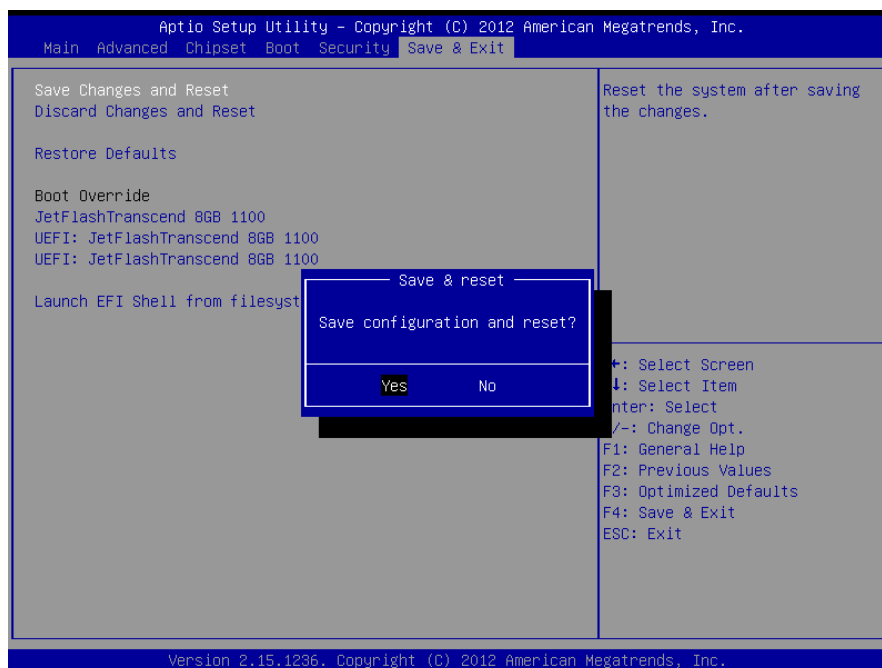
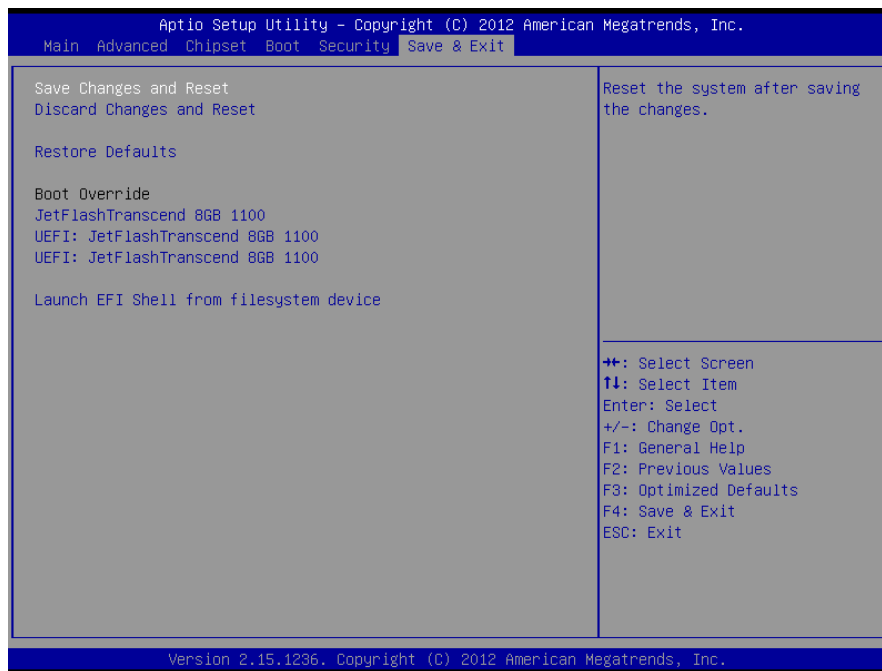
Set User Password

3.6.5.1 Secure Boot menu



Item	Option	Description
Secure Boot Control	Disabled Enabled[Default],	Secure Boot flow control. Secure Boot can be enabled only when 1.Platform Key(PK) is enrolled and Platform is operating in User mode and 2 CSM function is disabled in Setup
Secure Boot Mode	Standard[Default] Custom	Secure Boot mode selector. 'Custom' Mode allows for more flexibility changing Image Execution policy and Secure Boot Key management.

3.6.6 Save and exit



3.6.6.1 *Save Changes and Reset*

Reset the system after saving the changes.

3.6.6.2 *Discard Changes and Reset*

Reset system setup without saving any changes.

3.6.6.3 *Restore Defaults*

Restore/Load Default values for all the setup options.

3.6.6.4 *Launch EFI Shell from filesystem device*

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

