LPC P-cap Panel PC 2VE Series With Gen 7/6 Core-i7/5/3 User Manual

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Revision : V1.0

Warning!

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, it may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

Disclaimer

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Packing List

Accessories (as ticked) included in this package are:
☐ Panel Mounting Kits
☐ 3 Pin Male Terminal Block
☐ Optional Adapter
☐ Other._____(please specify)

Safety Precautions

Follow the messages below to avoid your systems from damage:

- ◆ Avoid your system from static electricity on all occasions.

- ◆ Prevent electric shock. Don't touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.

- ◆ Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

Table of Contents

Chapter 1   Getting Started

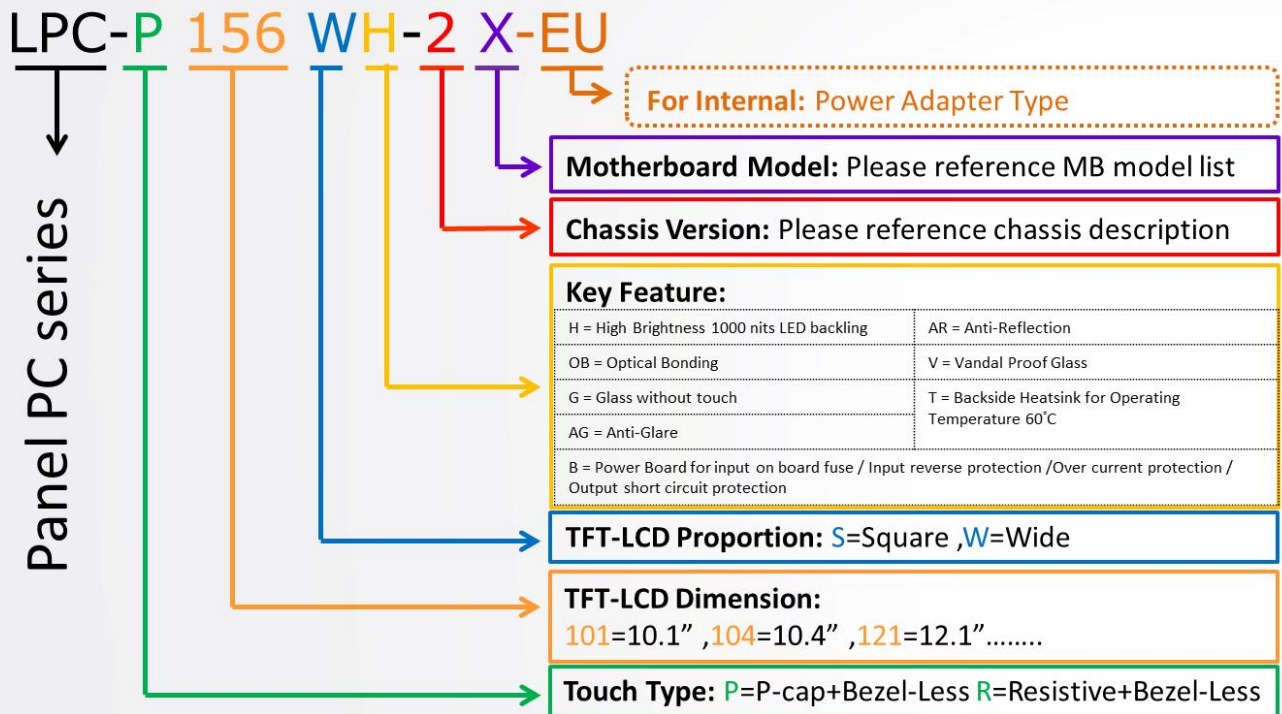## 1.1   Brief Description of LPC P-cap 2VE Series

The LPC P-cap 2VE series is a power-optimized and delivers robust performance-per-watt for embedded HMI, powered by a Gen 7/6 Core-i7/5/3/Celeron U-Series processor. It comes with a Bezel-Free design, mSATA slot and a SATA 2.5-inch lockable HDD tray, up to 16GB DDR4 memory, audio jack, 2 Ethernet, DC input, and 4 USB 3.0 ports. The unit supports Win 7 Pro/ WES7 / Win 8 / Win 10. (Gen 7 CPU is only for Win10) The fanless touch panel computer is ideal for use as Web Browser, Terminal and HMI at all levels of automation control.

1.2   System Specifications

Model Number	LPC-P150S-2VEX	LPC-P156W-2VEX	LPC-P170S-2VEX	LPC-P173W-2VEX
Max Resolution	1024*768	1920*1080	1280*1024	1920 *1080
Color	16.7M	16.2M	16.7M	16.7M
Luminance	300 nits	450 nits	350 nits	400 nits
View Angle	176/176	170/170	160/140	160/140
Contrast Ratio	2500	800	800	600
Model Number	**LPC-P185W-2VEX**	**LPC-P190S-2VEX**		
Max Resolution	1920*1080	1280*1024		
Color	16.2M	16.7M		
Luminance	350 nits	350 nits		
View Angle	178/178	170/160		
Contrast Ratio	1000	1000		
Computing				
Processor	Intel® KBL ULT i7-7600U/i7-6600U/i5-6300U/i3-6100U /Celeron 3955U Processor			
System Memory	1 DDR4 2400/2133 MHz SO-DIMM, up to 32GB			
Storage	2 x SATA 6Gb/s ports (1 x lockable HDD tray) 1 mSATA III (Mini PCIe Type, 6Gbps)			
External I/O Port	1 x DVI-D Connector 1 x DisplayPort Connector 4 x USB 3.0 Connector 1 x Intel® I219LM iAMT 11.0 + 1x Intel® I210 Gigabit LAN 5 x COM RS-232/422/485 DB9 Connector 1 x Audio 1 x Power press button 1 x 3-Pin Power Input			
Expansion Slots	None			

OS support	Win 7 Pro/ WES7 / Win 8 / Win 10 (Gen6/7) Win 10 (Gen 7)
Touch Screen	
Type	USB P-cap Touch
Light Transmission	90%
Power Supply	
Power Input	■ DC9~36V Wide Range Power Input ■ Input on board fuse ■ Input reverse protection ■ Over current protection ■ Output short circuit protection
Mechanical	
Construction	Aluminum Heatsink for 45W
IP Rating	Front Panel compliant IP65
Mounting	Panel/VESA
Environmental	
Operating/Storage Temperature	-40~80 °C / -40~80 °C
Storage Humidity	10~90% @40 °C non-condensing

Model Naming Rule

LPC-P 156 WH-2 X-EU

For Internal: Power Adapter Type

Motherboard Model: Please reference MB model list

Chassis Version: Please reference chassis description

Key Feature:

H = High Brightness 1000 nits LED backling	AR = Anti-Reflection
OB = Optical Bonding	V = Vandal Proof Glass
G = Glass without touch	T = Backside Heatsink for Operating Temperature 60°C
AG = Anti-Glare	

B = Power Board for input on board fuse / Input reverse protection /Over current protection / Output short circuit protection

TFT-LCD Proportion: S=Square ,W=Wide

TFT-LCD Dimension:
101=10.1" ,104=10.4" ,121=12.1"……..

Touch Type: P=P-cap+Bezel-Less R=Resistive+Bezel-Less

Panel PC series

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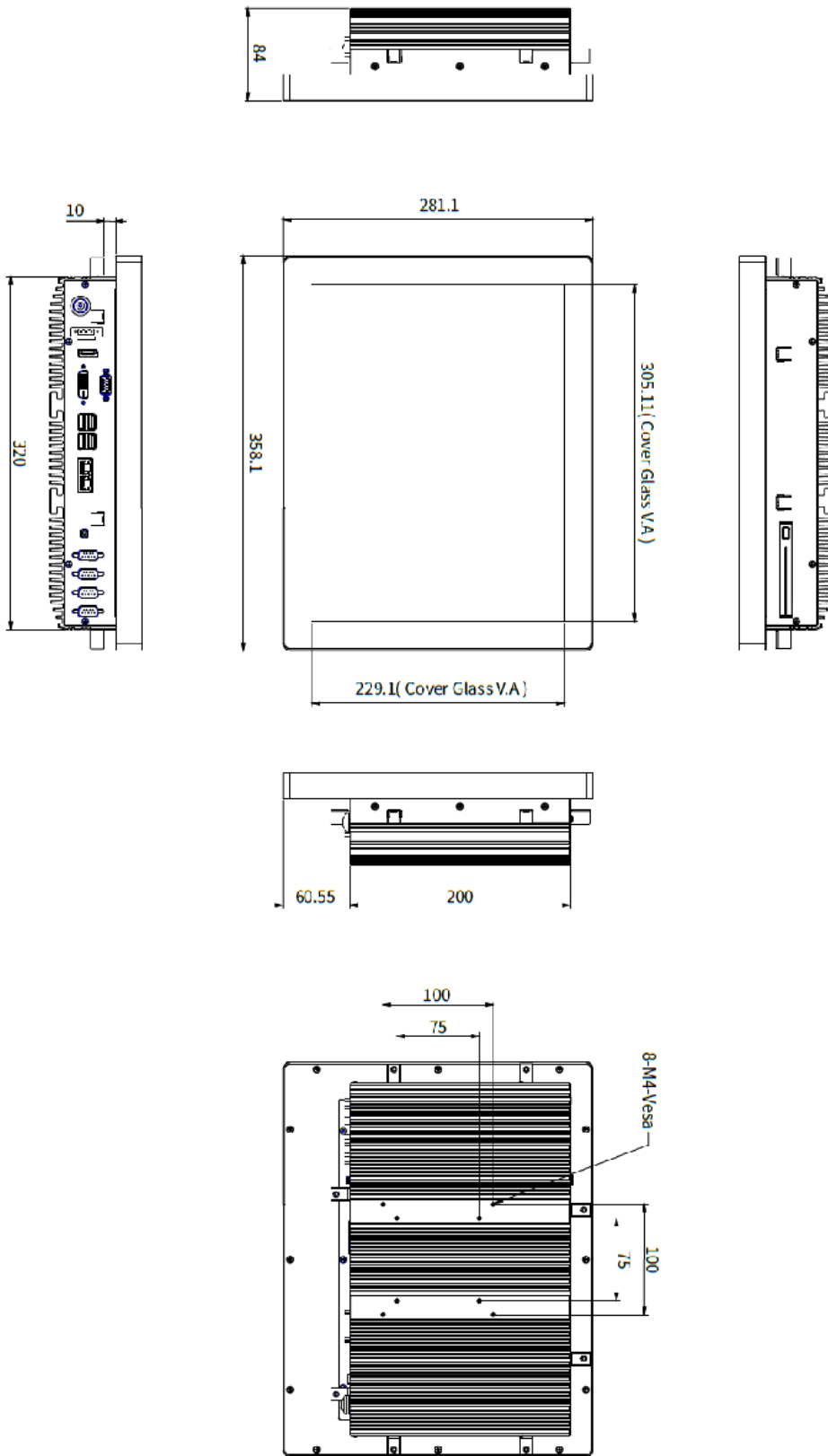
ELGENS 戎克東方科技

Order Information	
LPC-Pxxxx-**2VE1**	Bezel-Free P-cap Panel PC with **Celeron® 3955U,** DC 9~36V Power Input, including a 3-Pin Power Adapter
LPC-Pxxxx-**2VE2**	Bezel-Free P-cap Panel PC with **i3-6100U**, DC 9~36V Power Input, including a 3-Pin Power Adapter

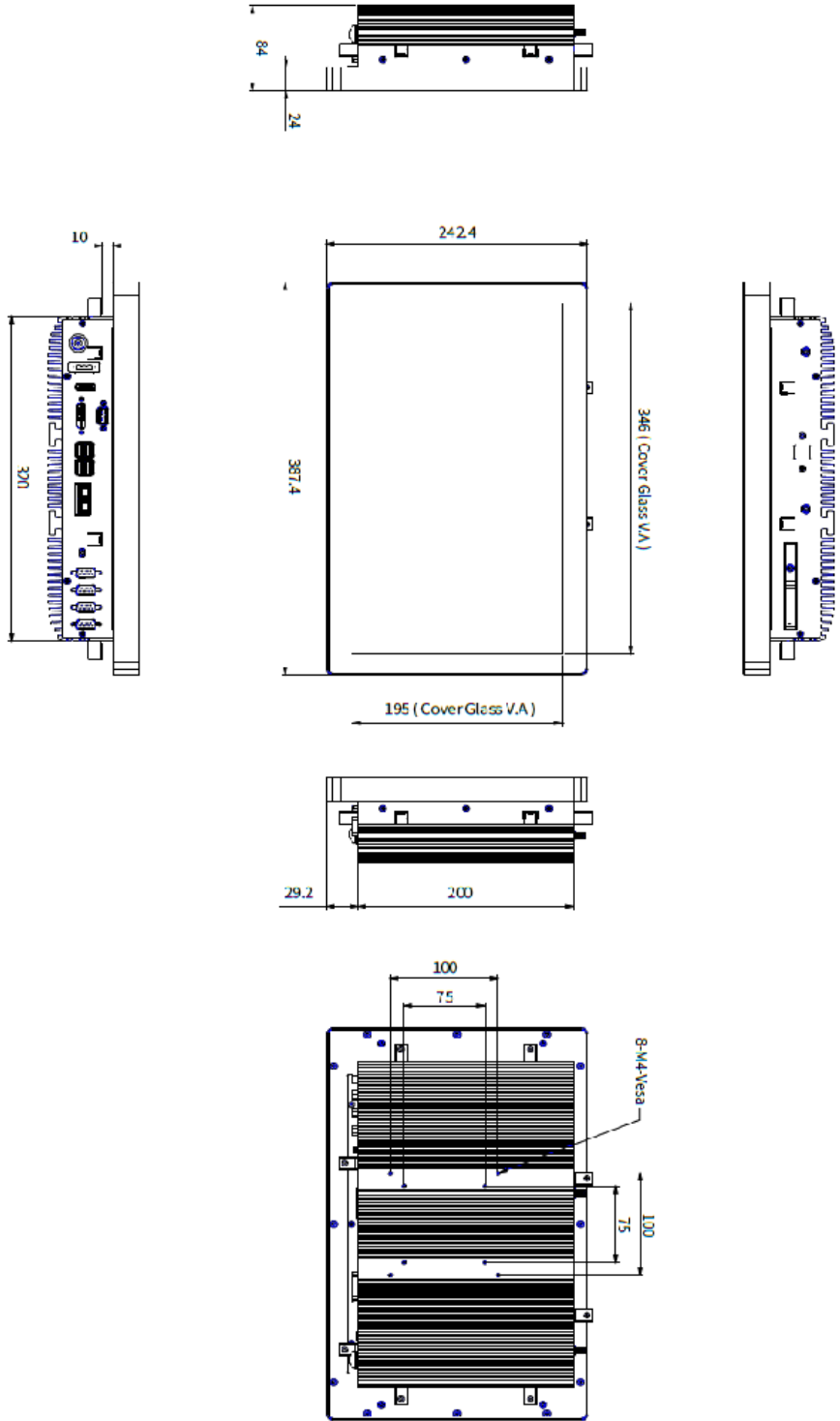| LPC-Pxxxx-**2VE3**	Bezel-Free P-cap Panel PC with **i5-6300U**, DC 9~36V Power Input, including a 3-Pin Power Adapter
LPC-Pxxxx-**2VE4**	Bezel-Free P-cap Panel PC with **i7-6600U**, DC 9~36V Power Input, including a 3-Pin Power Adapter
LPC-Pxxxx-**2VE5**	Bezel-Free P-cap Panel PC with **i7-7600U**, DC 9~36V Power Input, including a 3-Pin Power Adapter **(Only work with Win 10)**
WFK-024	Wi-Fi kits w/ cable & Antenna (2.4GHz, 802.11 b/g/n, 1T1R)
WFK-524	Wi-Fi kits w/ cable & Antenna (2.4 & 5GHz, 802.11 a/b/g/n/ac + BT, 2T2R)

Order Code	
LPC-PxxxS/W	-H / -OB / -G / -AG / -AR / -B / -V / -T
xxx = size, For example, 10.1" = 101	
S = Dimension Ratio Square = 4:3 or 5:4	
W= Dimension Ration Wide = 16:9 or 16:10	
H = High Brightness 1000 nits LED backlight (Optional to 1600 nits backlight)	
OB = Optical Bonding	
G = Glass without touch	
AG = Anti-Glare	
AR = Anti-Reflection	
V = Vandal Proof Glass	
T = Backside Heatsink for Operating Temperature 60°C	

1.3   Dimension
LPC-P150S-2VEX Drawing

84

10

320

281.1

358.1

305.11(Cover Glass V.A)

229.1(Cover Glass V.A)

60.55

200

100

75

75

100

8-M4-Vesa

LPC-P156W-2VEX Drawing
LPC-
P170S-
2VEX
Drawing

84

10

322.8

338.9(Cover Glass V.A)

390.3

320

271.3(Cover Glass V.A)

102.2   200

100

75

8-M4-Vesa

100

75

LPC-P173W-2VEX Drawing

8.4

10

320

261.5

427.7

383 (Cover Glass V.A)

216 (Cover Glass V.A)

40.9

200

100

75

8-M4 VESA

75

100
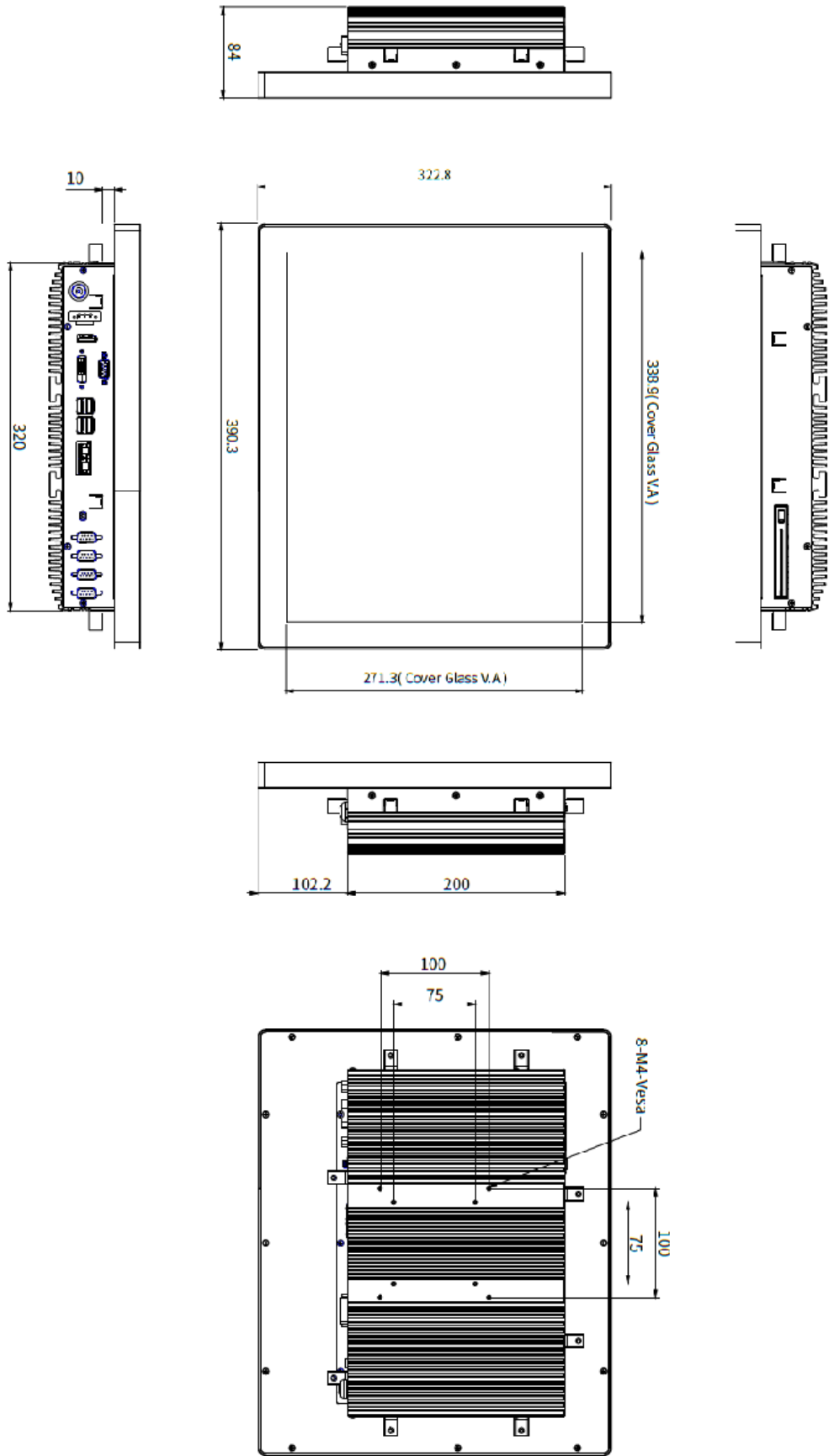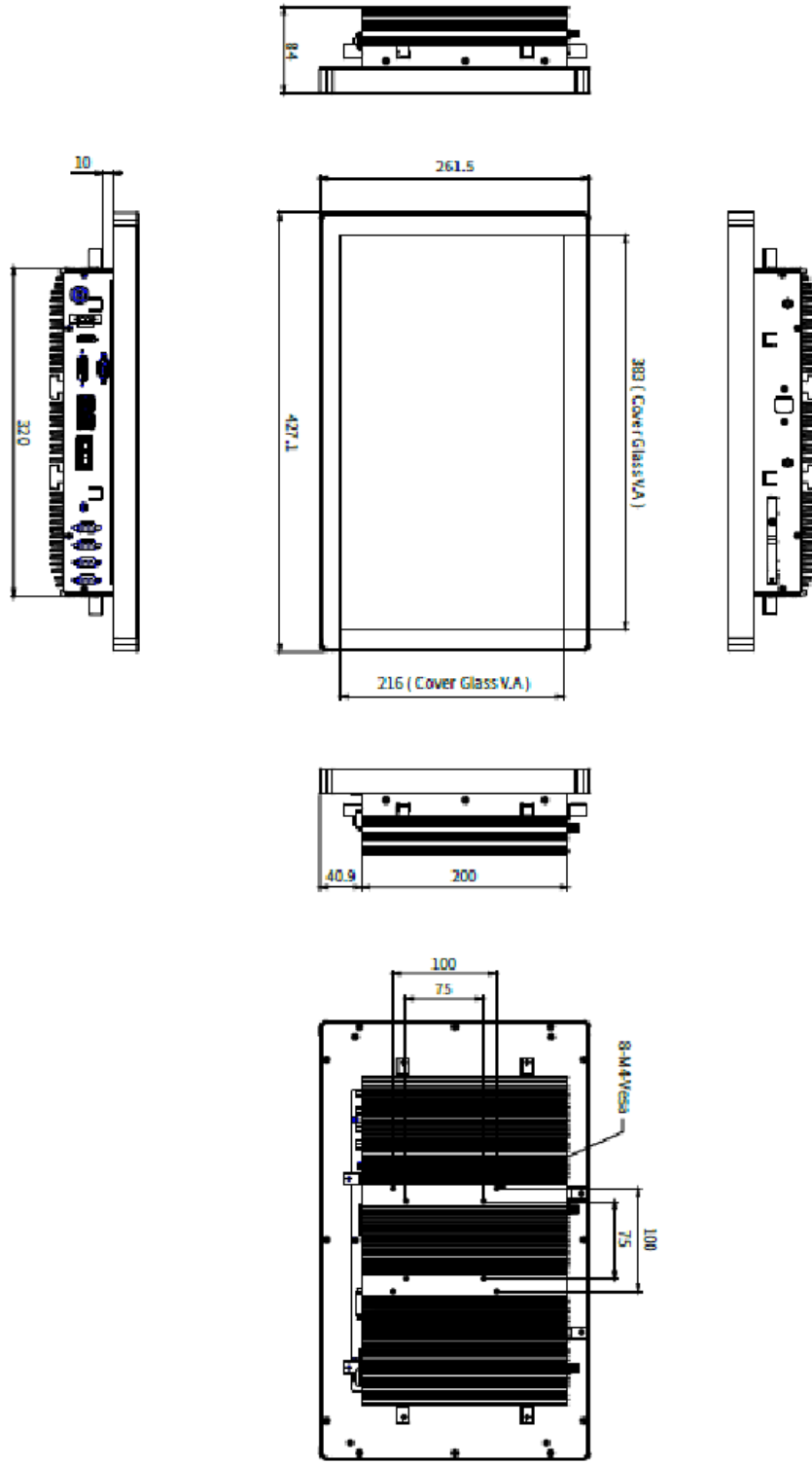
LPC-P185W-2VEX Drawing
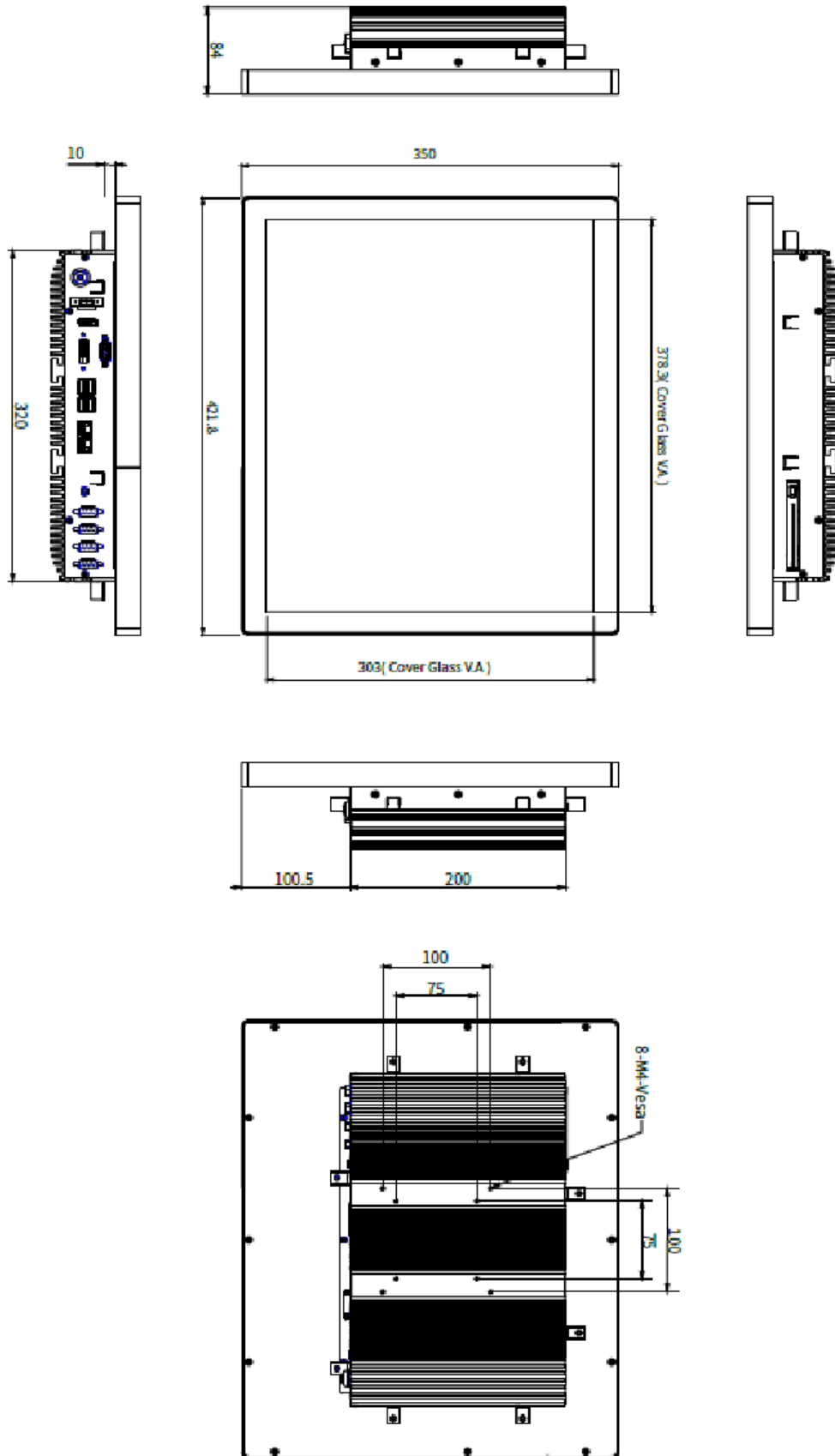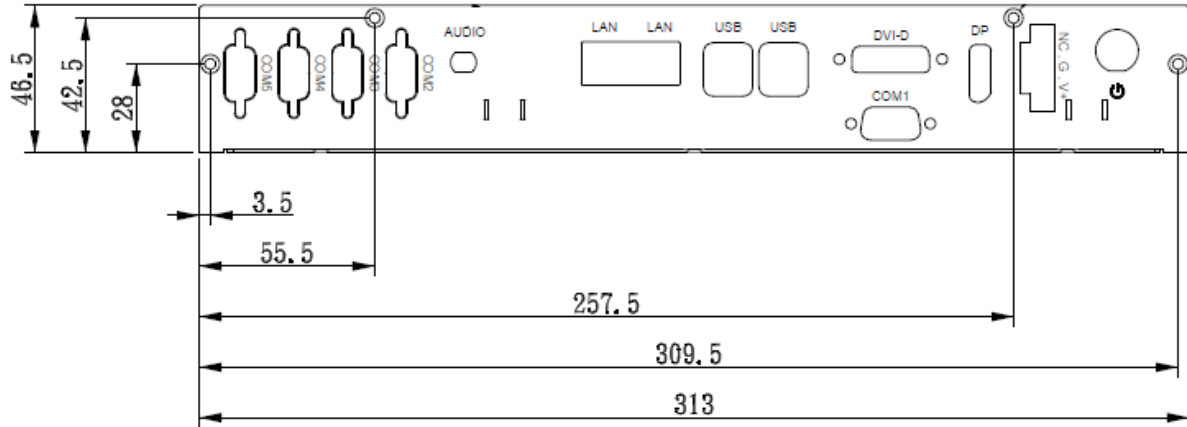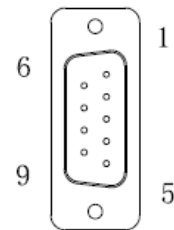
LPC-P190S-2VEX Drawing
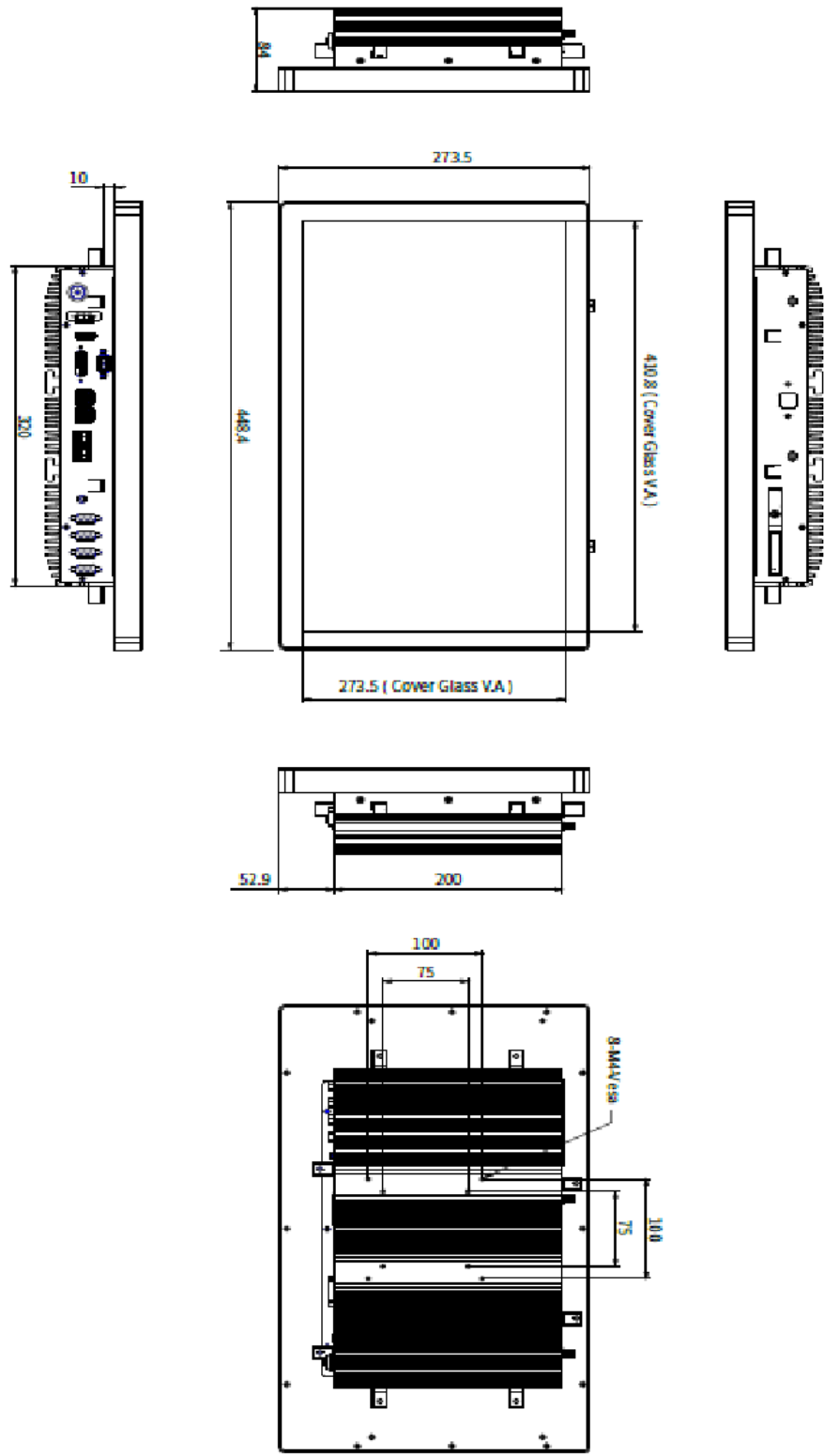
1.4   General Rear IO Placement

COM 1 is default RS-485 as below pin definition, adjustable to RS-RS232/422 by BIOS.

COM1 pin assignments are listed in the following table:

Serial Port	Pin No.	RS-232	RS-422 (5-wire)	RS-422 (9-wire)	RS-485 (3-wire)
1	1	DCD	TXD-	TXD-	DATA-
	2	RXD	TXD+	TXD+	DATA+
	3	TXD	RXD+	RXD+	-----------
	4	DTR	RXD-	RXD-	-----------
	5	GND	GND	GND	GND
	6	DSR	-----------	RTS-	-----------
	7	RTS	-----------	RTS+	-----------
	8	CTS	-----------	CTS+	-----------
	9	RI	-----------	CTS-	-----------

COM2~COM5 pin assignments are listed in the following table:

Serial Port	Pin No.	RS-232	RS-422 (5-wire)	RS-422 (9-wire)	RS-485 (3-wire)
2, 3 4, 5	1	GND_ EARTH	GND_ EARTH	GND_ EARTH	GND_ EARTH
	2	GND	GND	GND	GND
	3	RI	-----------	CTS-	RI
	4	DTR	RXD-	RXD-	-----------
	5	CTS	-----------	CTS+	-----------
	6	TXD	RXD+	RXD+	-----------
	7	RTS	-----------	RTS+	-----------
	8	RXD	TXD+	TXD+	DATA+
	9	DSR	-----------	RTS-	-----------
	10	DCD	TXD-	TXD-	DATA-

Power input terminal block pin definition is as below.

1.5 Front View of LPC- Pcap Series

1.6 Rear View of LPC- Pcap Series
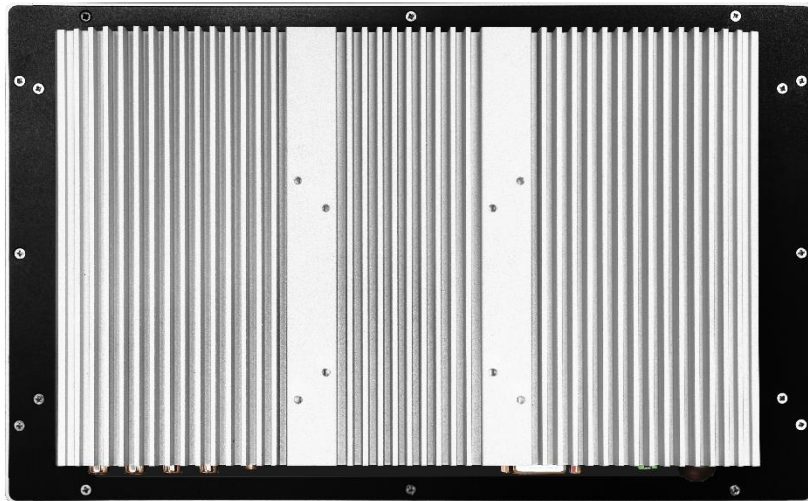
1.7 Top / Bottom IO View
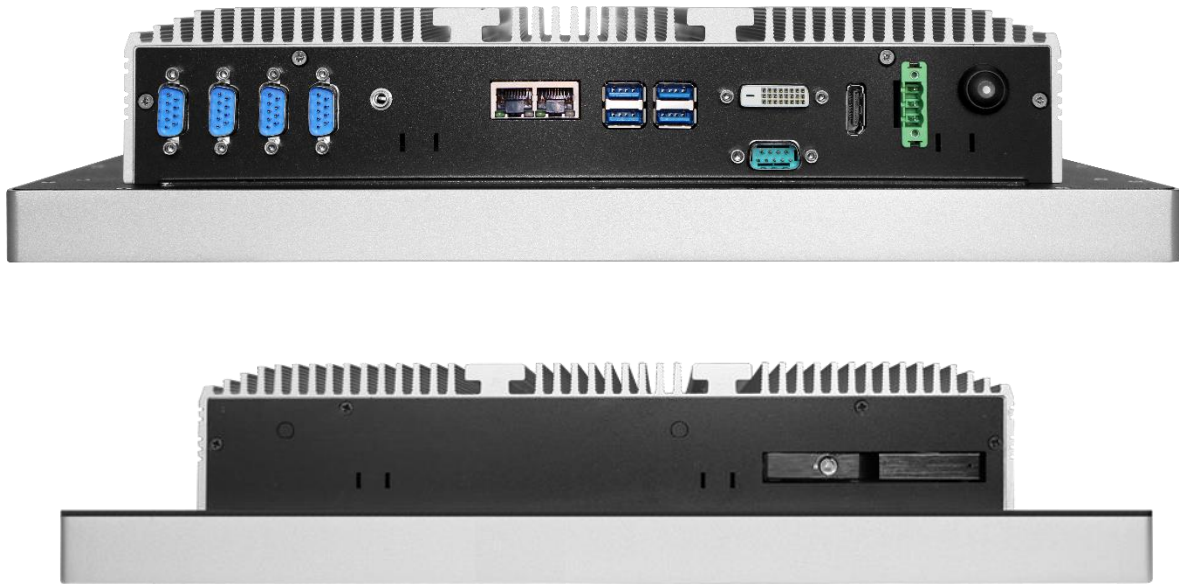
1.8 Installation of HDD

Chapter 2   BIOS Setup

2.1   Entering Setup

BIOS provides an interface for users to check and change system configuration. The BIOS setup program is accessed by pressing the <Del> key when POST display output is shown.

Figure 4-1 : Entering Setup Screen

2.2   Main Menu

The main menu displays BIOS version and system information. There are two options on Main menu.
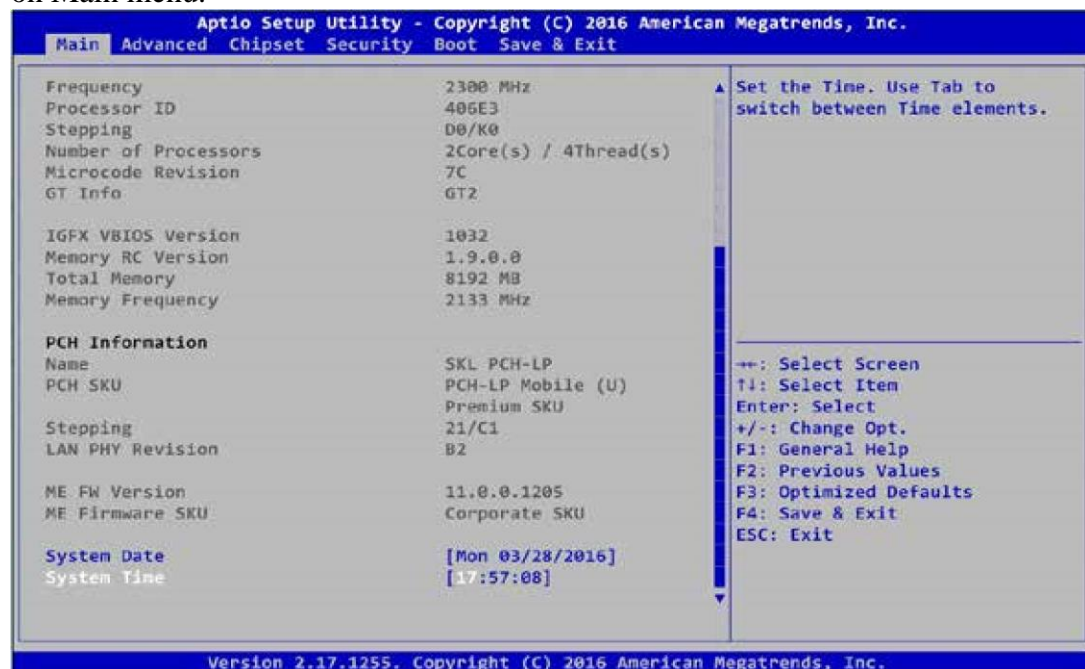
Figure 4-2 : BIOS Main Menu

System Date

Set the Date. Use Tab to switch between Date elements.

System Time

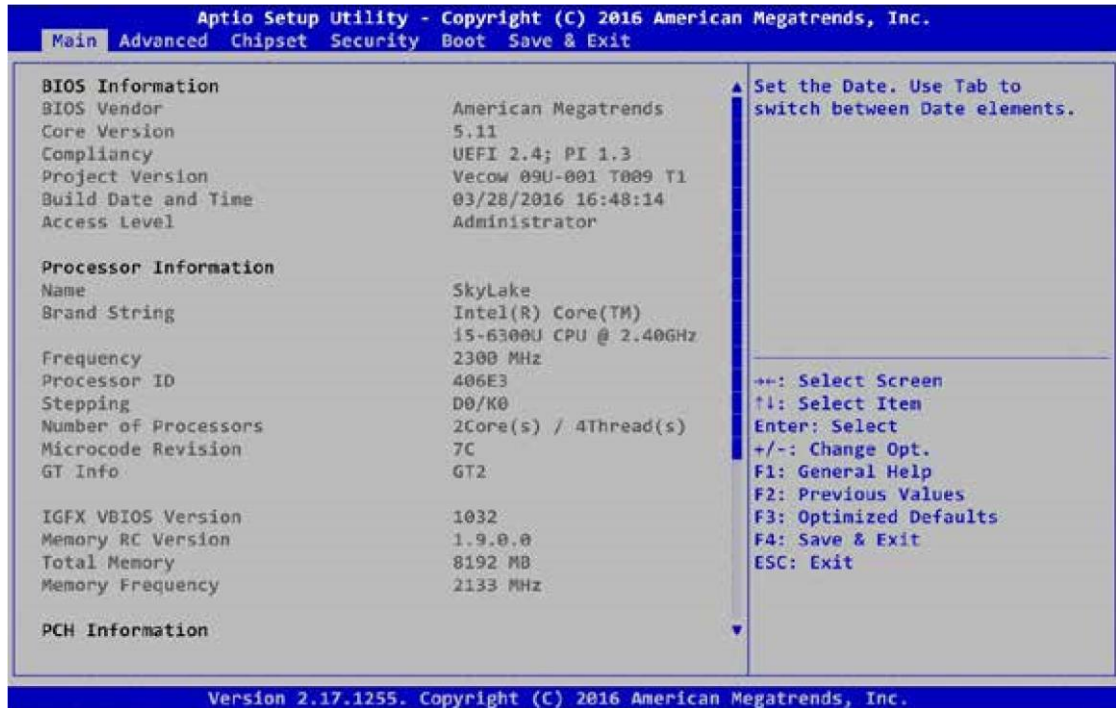Set the Time. Use Tab to switch between Time elements.

2.3 Advanced Function

Select Advanced tab to enter advanced BIOS Setup options such as CPU configuration
SATA configuration, and USB configuration.
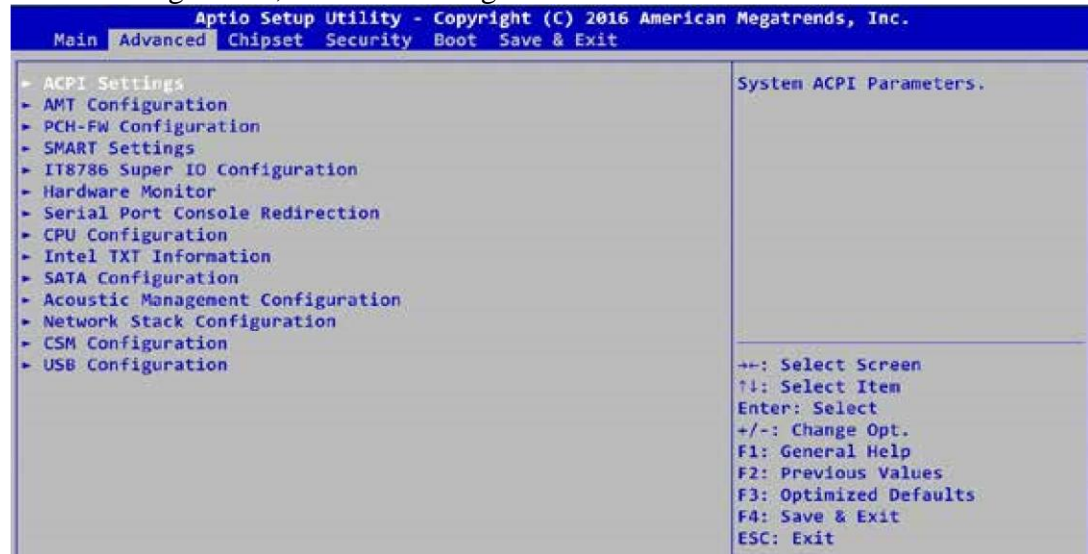
Figure 4-3 : BIOS Advanced Menu

2.3.1 ACPI Setting

Figure 4-3-1 : ACPI Settings

Enable Hibernation

Enables or disables system's ability to hibernate (OS/S4 Sleep State). This option may
be not effective with some OS.

ACPI Sleep State

Select the highest ACPI sleep state the system will enter when the SUSPEND button is
pressed.

S3 Video Repost

Enable or disable S3 Video Repost.

ACPI Low Power S0 Idle

Enable or disable ACPI Low Power S0 Idle Support.

2.3.2   AMT Configuration
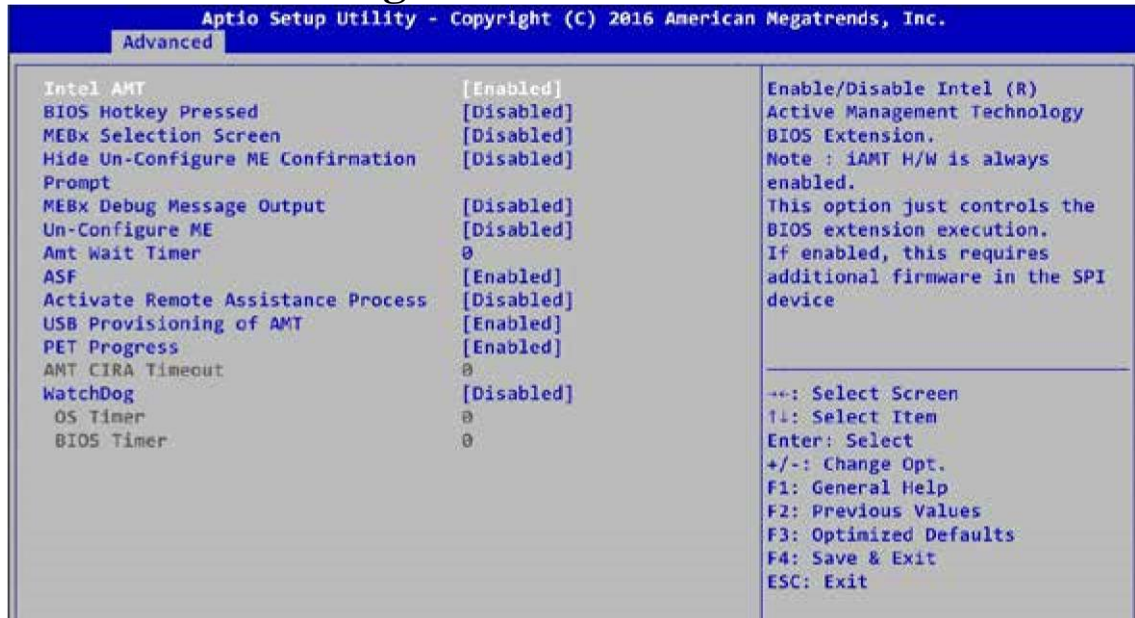
Figure 4-3-2 : Intel AMT Settings

Intel AMT

Enable/disable Intel Active Management Technology BIOS Extension. Note: iAMT
H/W is always enabled. This option just controls the BIOS extension execution. If
enabled, this requires additional firmware in the SPI device.

2.3.3   PCH-FW Configuration
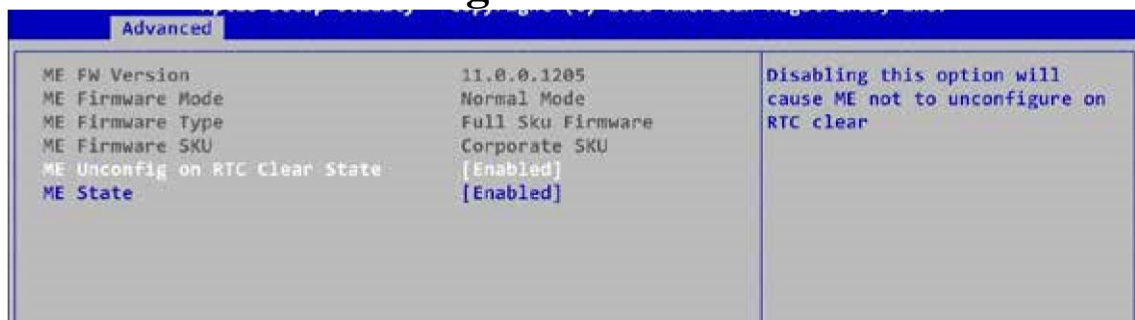
Figure 4-3-3 : PCH-FW Settings

ME Unconfig on RTC Clear State

Disabling this option will cause ME not to unconfigure on RTC clear.

ME State

Set ME to soft temporarily disabled.

2.3.4   SMART Settings
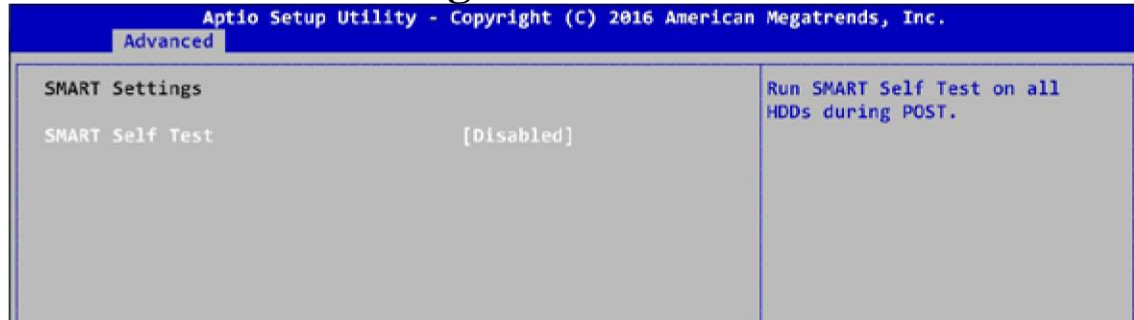
Figure 4-3-4 : SMART Settings

SMART Self Test
Run SMART Self Test on all HDDs during POST.

2.3.5   IT8786 Super IO Configuration
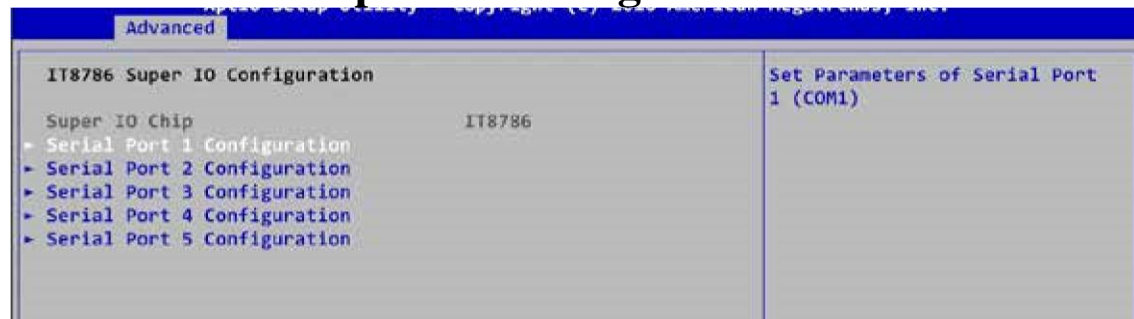
Figure 4-3-5 : Super IO Settings

Serial Port 1 Configuration
Set parameters of serial port 1 (COM 1).
Serial Port 2 Configuration
Set parameters of serial port 2 (COM 2).
Serial Port 3 Configuration
Set parameters of serial port 3 (COM 3).
Serial Port 4 Configuration
Set parameters of serial port 4 (COM 4).
Serial Port 5 Configuration
Set parameters of serial port 5 (COM 5).

2.3.6   Hardware Monitor

The IT8786 SIO features an enhanced hardware monitor providing thermal, fan speed, and system voltages' status monitoring.
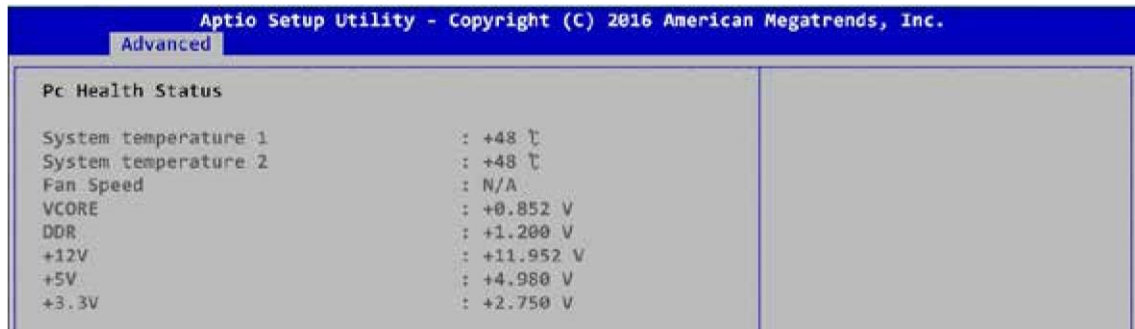
Figure 4-3-6 : Hardware Monitor Settings

2.3.7 Serial Port Console Redirection

Figure 4-3-7 : Serial Port Console Redirection Settings

Console Redirection

Console redirection enable or disable.

Console Redirection Settings

The settings specify how the host computer and the remote computer (which the user is using) will exchange data. Both computers should have the same or compatible settings.

2.3.8 CPU Configuration

Display CPU-related related information and features supported.

```
            Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
       Advanced

    CPU C7 state                    Supported          ▲ Enables or Disables Intel(R)
    CPU C8 state                    Supported            TXT(LT) support.
    CPU C9 state                    Supported
    CPU C18 state                   Supported

    L1 Data Cache                   32 kB x 2
    L1 Code Cache                   32 kB x 2
    L2 Cache                        256 kB x 2
    L3 Cache                        3 MB
    L4 Cache                        Not Present

    Hyper-threading                 [Enabled]
    Active Processor Cores          [All]
    Intel Virtualization Technology [Enabled]         →←: Select Screen
    Hardware Prefetcher             [Enabled]         ↑↓: Select Item
    Adjacent Cache Line Prefetch    [Enabled]         Enter: Select
    CPU AES                         [Enabled]         +/-: Change Opt.
    Boot performance mode           [Max Non-Turbo    F1: General Help
                                     Performance]     F2: Previous Values
    Intel(R) SpeedStep(tm)          [Enabled]         F3: Optimized Defaults
      Turbo Mode                    [Enabled]         F4: Save & Exit
    CPU C states                    [Enabled]         ESC: Exit
      Enhanced C-states             [Enabled]
    Package C State limit           [AUTO]
    Intel TXT(LT) Support           [Disabled]       ▼

            Version 2.17.1255. Copyright (C) 2016 American Megatrends, Inc.
```
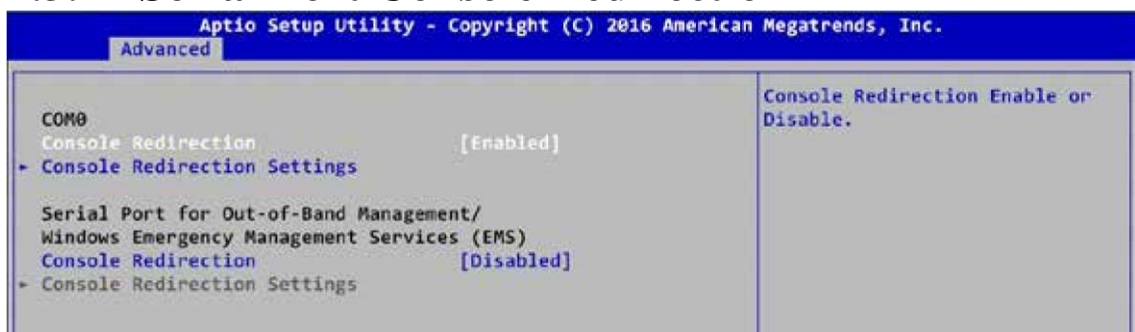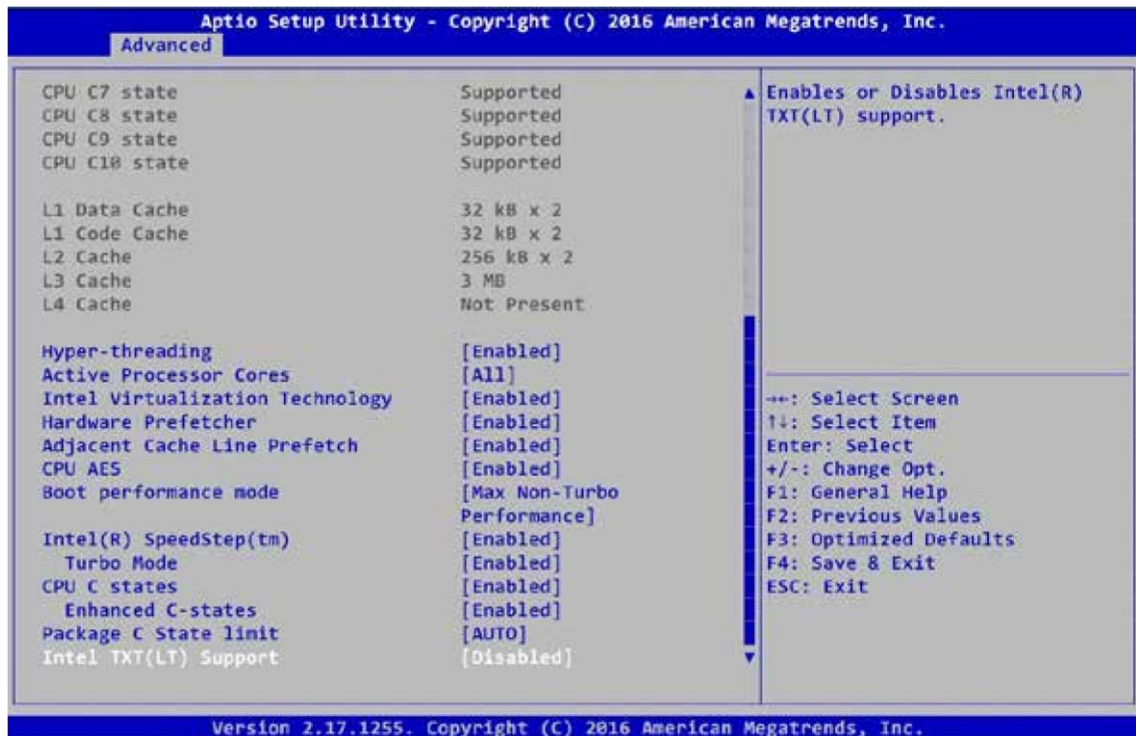
Figure 4-3-8 : CPU Function Settings

Hyper-threading

Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and disabled for other OS (OS not optimized for Hyper-Threading Technology). When disabled only one thread per enabled core is enabled.

Active Processor Cores

Number of cores to enable in each processor package.

Intel Virtualization Technology

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

Hardware Prefetcher

To turn on/off the MLC streamer prefetcher.

Adjacent Cache Line Prefetch

To turn on/off prefetching of adjacent cache lines.

CPU AES

Enable/disabled CPU Advanced Encryption Standard instructions.

Boot performance mode

Select the performance state that the BIOS will set before OS handoff.

Intel SpeedStep

Allows more than two frequency ranges to be supported.

Turbo Mode Turbo
Mode.

CPU C state

Enable or disable CPU C states.

Enhanced C-states

Enable/disabled C1E. When enabled, CPU will switch to minimum speed when all cores enter C-State.

Package C State limit Package C
State limit.

Intel TXT(LT) Suppor

Enables or disabled Intel TXT(LT) support.

2.3.9 Intel TXT

iformation Display

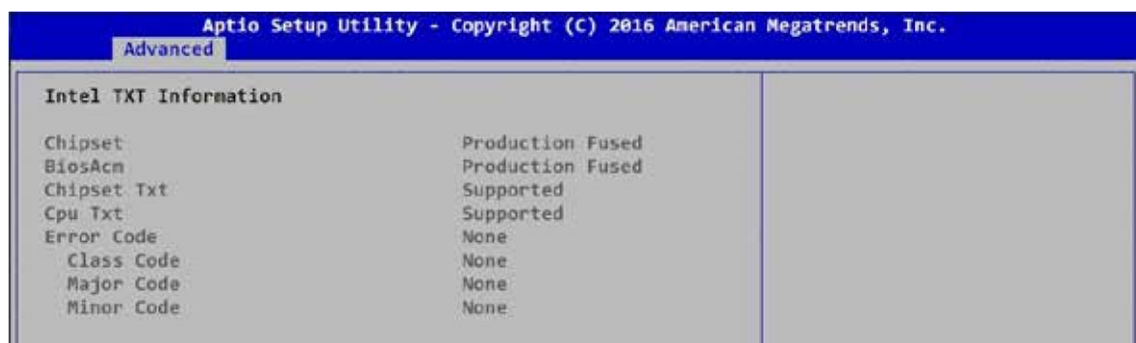Intel TXT information.

Figure 4-3-9 : Intel TXT Information

2.3.10   SATA Configuration

Figure 4-3-10 : SATA Devices Settings

Hyper-threading

Enabled for Windows XP and Linux (OS optimized for Hyper-Threading Technology) and disabled for other OS (OS not optimized for Hyper-Threading Technology). When disabled only one thread per enabled core is enabled.

SATA Controller(s)

Enable or disable SATA Device.

SATA Mode Selection

Determines how SATA controller(s) operate.

Software Feature Mask Configuration

RAID OROM/RST driver will refer to the SWFM configuration to enable or disable the storage features.

Aggressive LPM Support

Enable PCH to aggressively enter link power state.

Options for each SATA port :

Port 0

Enable or disabled SATA Port.

Spin Up Device

On an edge detect from 0 to 1, the PCH starts a COMRESET initialization sequence to the device.

SATA Device Type

Identify the SATA port is connected to Solid State Drive or Hard Disk Drive.

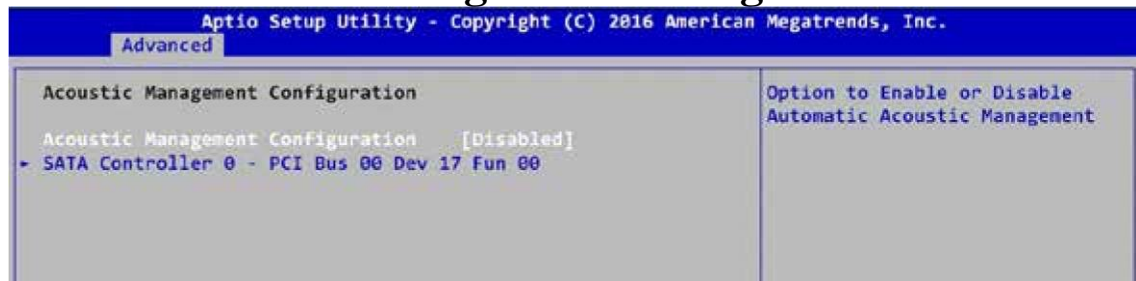## 2.3.11 Acoustic Management Configuration

Figure 4-3-11 : Acoustic Management Settings

Acoustic Management Configuration

Option to enable or disable Automatic Acoustic Management.

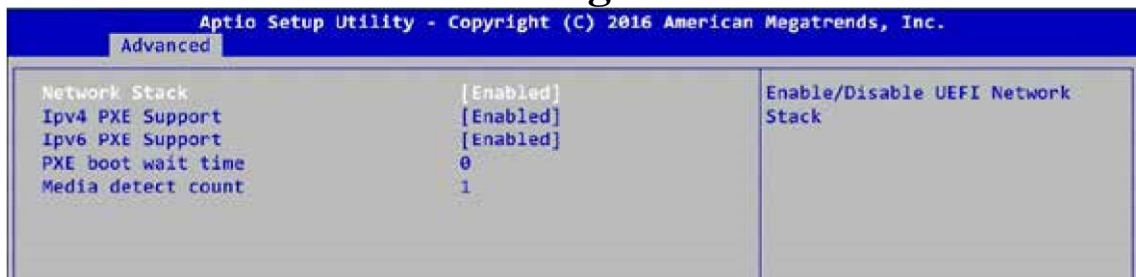## 2.3.12 Network Stack Configuration

Figure 4-3-12 : Network Stack Settings

Network Stack

Enable/disable UEFI Network Stack.

Ipv4 PXE Support

Enable Ipv4 PXE Boot Support. If disabled IPV4 PXE boot option will not be created.

Ipv6 PXE Support

Enable Ipv6 PXE Boot Support. If disabled IPV6 PXE boot option will not be created.

PXE boot wait time

Wait time to press ESC key to abort the PXE boot.

Media detect count

Number of times presence of media will be checked.

2.3.13 CSM Configuration

Figure 4-3-13 : CSM Settings

Network Stack

Enable/disable UEFI Network Stack.

CSM Support

Enable/disable CSM Support.

GateA20 Active

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

Set display mode for Option ROM.

INT19 Trap Response

BIOS reaction on INT19 trapping by Option ROM:

IMMEDIATE - execute the trap right away;

POSTPONED - execute the trap during legacy boot.

Boot option filter

This option controls Legacy/UEFI ROMs priority.

Network

Controls the execution of UEFI and Legacy PXE OpROM.

Storage

Controls the execution of UEFI and Legacy Storage OpROM.

Video

Controls the execution of UEFI and Legacy Video OpROM.

Other PCI devices

Determines OpROM execution policy for devices other than network, storage, or video.

2.3.14 USB Configuration

Figure 4-3-14 : USB Settings

Network Stack

Enable/disable UEFI Network Stack.

Legacy USB Support

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.

XHCI Hand-off

This is a workaround for OS-es without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.

USB Mass Storage Driver Support

Enable/disable USB Mass Storage Driver Support.

Port 60/64 Emulation

Enables I/O port 60h/64h emulation support. This should be enabled for the complete USB keyboard legacy support for non-USB aware OSes.

USB transfer time-out

The time-out value for control, bulk, and interrupt transfers.

Device reset time-out

USB mass storage device Start Unit command time-out.

Device power-up delay

Maximum time the device will take before it properly reports itself to the host controller. 'Auto' uses default value: for a root port it is 100 ms, for a hub port the delay is taken from hub descriptor.
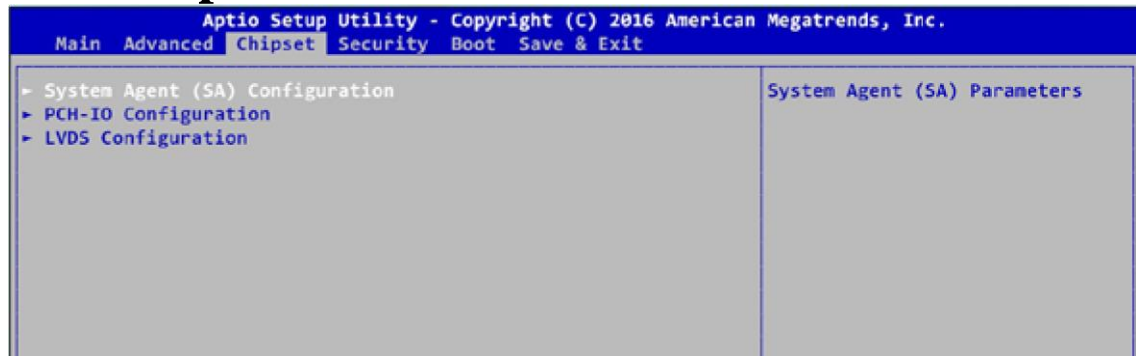
2.4   Chipset

Figure 4-4 : BIOS Chipset Menu

System Agent (SA) Configuration System Agent (SA) Parameters.

PCH-IO Configuration PCH Parameters.

LVDS Configuration LVDS Configuration.

2.4.1 System Agent (SA) Configuration

Figure 4-4-1 : USB Settings

VT-d

VT-d capability.
GMM Device (B0:D8:F0) Enable/disable SA GMM Device.

Above 4GB MMIO BIOS assignment

Enable/disable above 4GB Memory MappedIO BIOS assignment. This is disabled automatically when Aperture Size is set to 2048MB.

2.4.2 Graphics Configuration of System Agent (SA)

```
Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.
          Chipset

 Graphics Configuration                              Graphics turbo IMON current
                                                     values supported (14-31)
 IGFX VBIOS Version              1032
 Graphics Turbo IMON Current     31

 Skip Scaning of External Gfx Card  [Disabled]
 Primary Display                    [Auto]
 GTT Size                           [8MB]
 Aperture Size                      [256MB]
 DVMT Pre-Allocated                 [32M]
 DVMT Total Gfx Mem                 [256M]
 Cd Clock Frequency                 [675 Mhz]
```

Figure 4-4-1 : USB Settings

Graphics Turbo IMON Current

Graphics turbo IMON current values supported (14-31).

Skip Scaning of External Gfx Card

If enable, it will not scan for External Gfx Card on PEG and PCH PCIE Ports.

Primary Display

Select which of IGFX/PEG/PCI graphics device should be primary display or select SG for Switchable Gfx.

GTT Size

Select the GTT Size.

Aperture Size

Select the Aperture Size.

Note: Above 4GB MMIO BIOS assignment is automatically enabled when selecting 2048MB aperture. To use this feature, please disable CSM Support.

DVMT Pre-Allocated

Select DVMT 5.0 Pre-Allocated (Fixed) Graphics Memory size used by the Internal Graphics Device.

DVMT Total Gfx Mem

Select DVMT5.0 Total Graphic Memory size used by the Internal Graphics Device.

Cd Clock Frequency

Select the highest Cd Clock frequency supported by the platform.

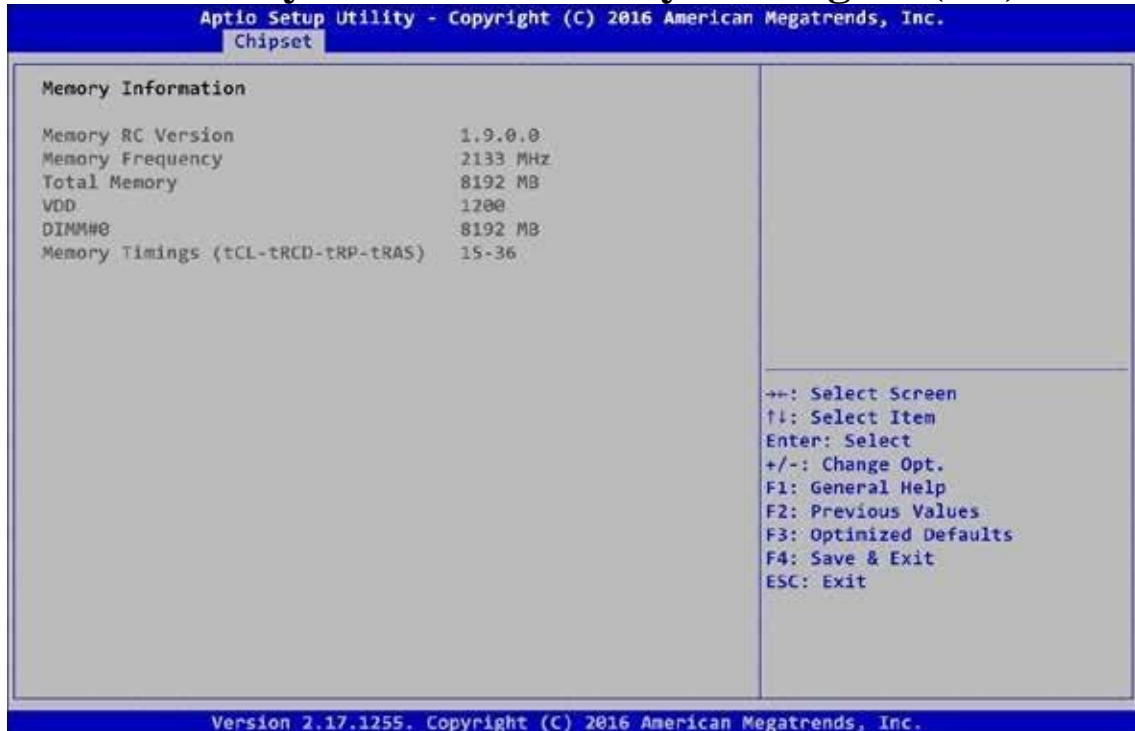## 2.4.3 Memory Information of System Agent (SA)

Figure 4-4-3 : Memory Information

Display memory information.
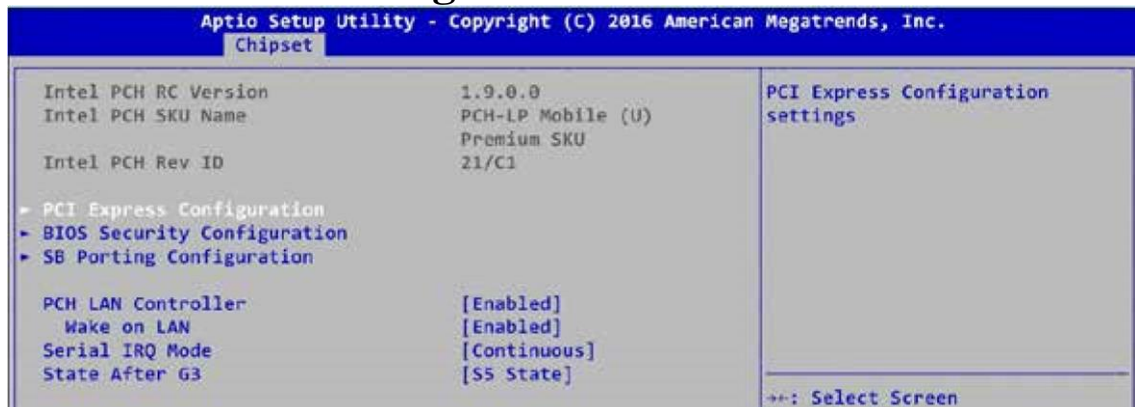
2.4.4 PCH-IO Configuration

Figure 4-4-4 : USB Settings

PCH LAN Controller
Enable or disable onboard NIC.

Wake on LAN

Enable or disable integrated LAN to wake the system. (The Wake On LAN cannot be disabled if ME is on at Sx state).

Serial IRQ Mode
Configure Serial IRQ Mode.

State After G3

Specify what state to go to when power is re-applied after a power failure (G3 state).
S0 State: Always turn-on the system when power source plugged-in. S5 State:
Always turn-off the system when power source plugged-in
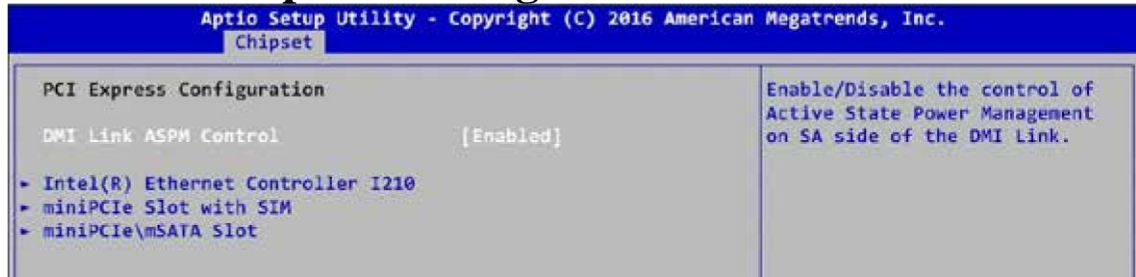
2.4.5 PCI Express Configuration of PCH-IO

Figure 4-4-5 : PCH-IO Settings

DMI Link ASPM Control

Enable/disable the control of Active State Power Management on SA side of the DMI Link.

Intel Ethernet Controller I210

Intel Ethernet Controller I210 Settings.

Mini PCIe Slot with SIM

Mini PCIe Slot with SIM Settings.

Mini PCIe\ mSATA Slot

Mini PCIe\ mSATA Slot Settings.

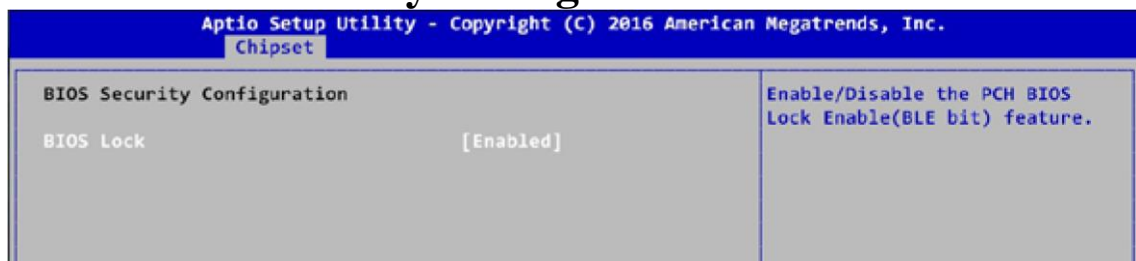## 2.4.6 BIOS Security Configuration of PCH-IO

Figure 4-4-6 : BIOS Security Settings

BIOS Lock

Enable/disable the PCH BIOS lock enable (BLE bit) feature.

2.4.7 SB Porting Configuration of PCH-IO

Figure 4-4-7 : RAID ROM Settings

SATA RAID ROM
Legacy ROM: Legacy option ROM
UEFI Driver: UEFI Raid Driver
Both: Run the legacy Option ROM and UEFI driver.
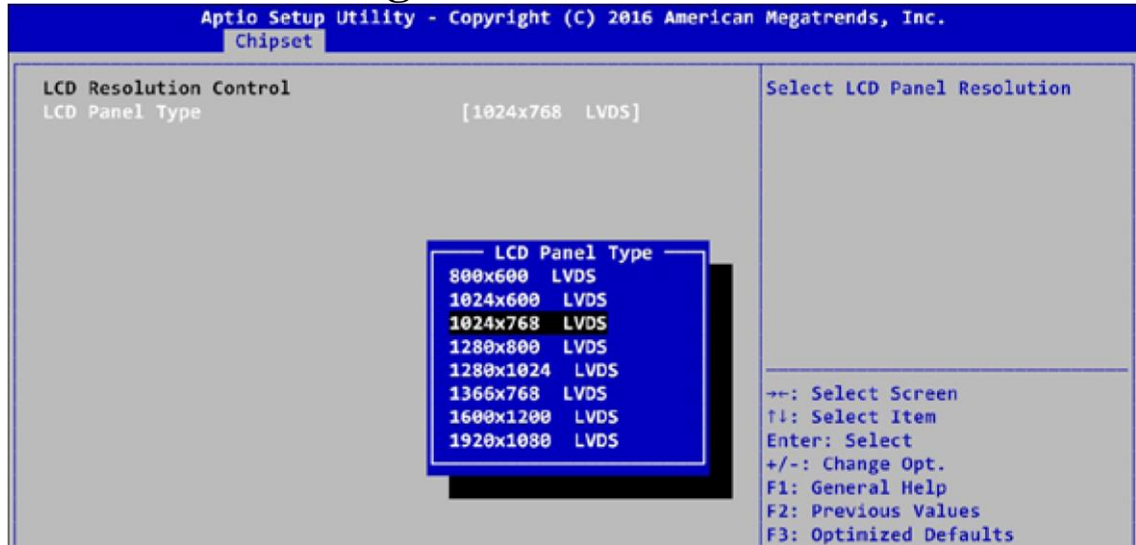
2.4.8 LVDS Configuration

Figure 4-4-8 : LVDS Panel Settings

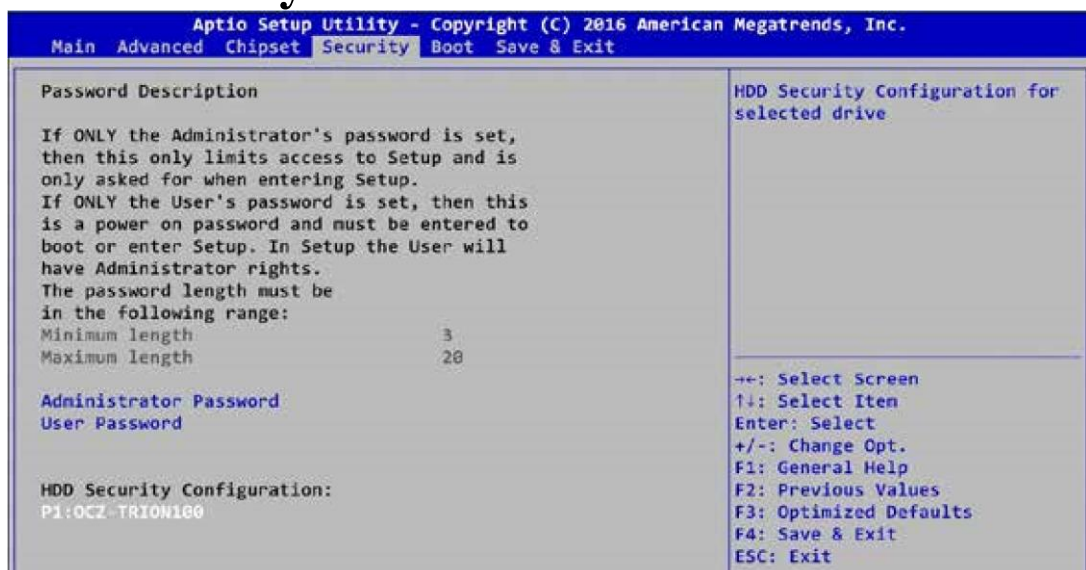**LCD Panel Type**
Select LCD Panel Resolution.

2.5 Security

Figure 4-5 : BIOS Security Menu

Administrator Password
Set Administrator Password.
User Password
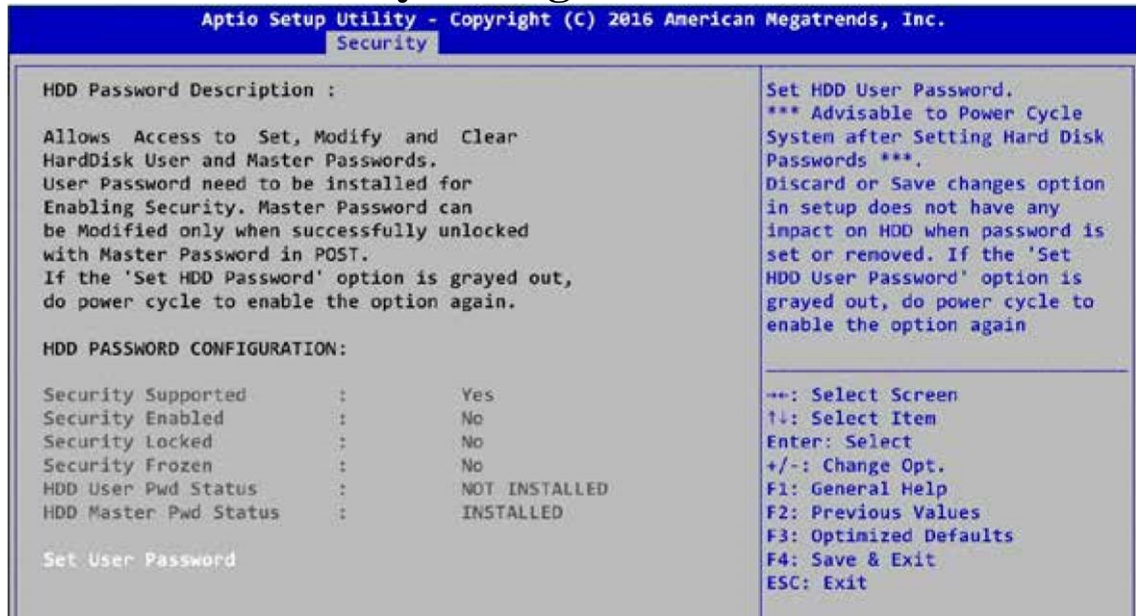Set User Password.

2.5.1 HDD Security Configuration

Figure 4-5-1 : HDD Security Settings

Set User Password

Set HDD user password.

Advisable to Power Cycle System after Setting Hard Disk Passwords.

Discard or save changes option in setup does not have any impact on HDD when password is set or removed. If the 'Set HDD User Password' option is grayed out, do power cycle to enable the option again.
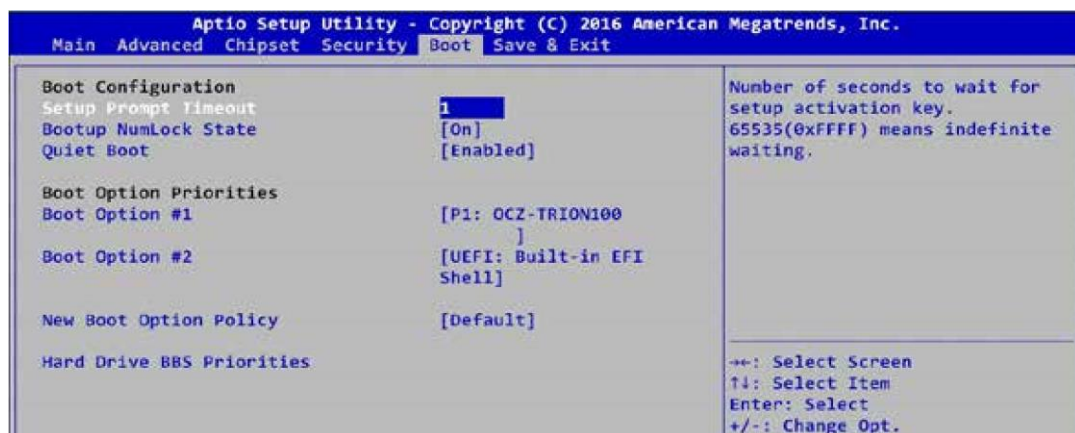
2.6 Boot

Figure 4-6 : BIOS Boot Menu

Setup Prompt Timeout

Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting.

Bootup NumLock State

Select the keyboard NumLock state.

Quiet Boot

Enables or disables Quiet Boot option.

Boot Option #x
Sets the system boot order.
New Boot Option Policy
Controls the placement of newly detected UEFI boot options.
Hard Drive BBS Priorities
Set the order of the legacy devices in this group.

2.7   Save & Exit

Figure 4-7 : Bios Save and Exit Menu

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

Default Options :

Restore Defaults

Restore/load default values for all the setup options.
Save as User Defaults
Save the changes done so far as User Defaults.
Restore User Defaults
Restore the User Defaults to all the setup optio

Chapter 3　Software install

Software Package contain
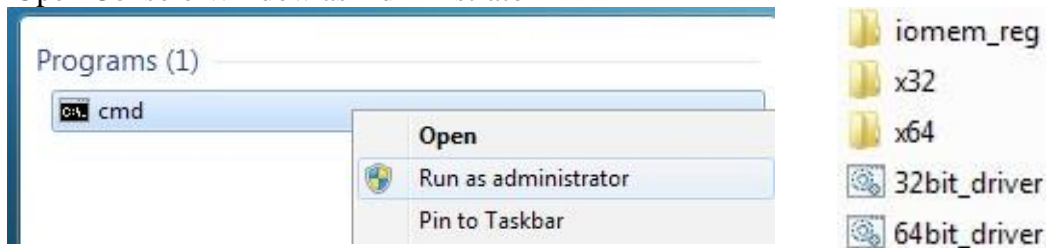
There are three folders as follows:

1. Driver folder includes x86 and x64 version.
2. DLL and head file for software developer or System Integration.
3. C# and C++ sample program.

A.4　Driver Install

This driver only supports 32-bit version that are WinXP and Win7 32-bit version. Please make sure your OS before you install it.
Open Console Window as Administrator

WinXP :
Please execute "32bit_driver.bat" on console window as administrator. **Windows 7 32-bit :**
Please execute "32bit_driver.bat" on console window as administrator. **Windows 7 64-bit :**
Please execute "64bit_driver.bat" on console window as administrator.

While executing the driver install process, a security window will pop-up. Please check "Always trust software from: 'Vecow Ltd. Co.'" and click install button to go to the next step.

In the 64-bit version, there will be a window for driver certification. Please agree to this license to finish the install process.

After driver installation process is complete, you **must restart the system** to get DIO driver activated.

APPENDIX A :   ISOLATED DIO GUIDE

A.1   I/O Pin Definition

I/O Pin	GPIO 77~74	GPIO 87~84	GPIO 73~70	GPIO 83~80
Base Adr.	0xA06 [7:4]	0xA07 [7:4]	0xA06 [3:0]	0xA07 [3:0]
Usage	DIO 2 Output	DIO 2 Input	DIO 1 Output	DIO 1 Input

A.2   Function Description

The EMBC-1000 offers a 16-bit DIO (8-DI/8-DO) on two wafer connector. There is a 16-bit GPIO connector in the top side. Each GPIO channel can be configuration GPI or GPO. Please refer to below table to see the pin definition in details.

1	SIO_GPIO80	1	SIO_GPIO84
2	SIO_GPIO81	2	SIO_GPIO85
3	SIO_GPIO82	3	SIO_GPIO86
4	SIO_GPIO83	4	SIO_GPIO87
5	SIO_GPIO70	5	SIO_GPIO74
6	SIO_GPIO71	6	SIO_GPIO75
7	SIO_GPIO72	7	SIO_GPIO76
8	SIO_GPIO73	8	SIO_GPIO77

Appendix A

GIOP DC Electrical Characteristics: