

### AIOT-AIVD

Al IoT Video Analysis Gateway

User's Manual 1st Ed

Last Updated: February 13, 2025

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#### Packing List

Before setting up your product, please make sure the following items have been shipped:

ltem		Quantity	
•	AIOT-AIVD	1	

If any of these items are missing or damaged, please contact your distributor or sales representative immediately.

#### About this Document

This User's Manual contains all the essential information, such as detailed descriptions and explanations on the product's hardware and software features (if any), its specifications, dimensions, jumper/connector settings/definitions, and driver installation instructions (if any), to facilitate users in setting up their product.

Users may refer to the product page on AAEON.com for the latest version of this document.

#### Safety Precautions

Please read the following safety instructions carefully. It is advised that you keep this manual for future references

- 1. All cautions and warnings on the device should be noted.
- 2. Make sure the power source matches the power rating of the device.
- Position the power cord so that people cannot step on it. Do not place anything over the power cord.
- 4. Always completely disconnect the power before working on the system's hardware.
- No connections should be made when the system is powered as a sudden rush of power may damage sensitive electronic components.
- If the device is not to be used for a long time, disconnect it from the power supply to avoid damage by transient over-voltage.
- 7. Always disconnect this device from any AC supply before cleaning.
- 8. While cleaning, use a damp cloth instead of liquid or spray detergents.
- 9. Make sure the device is installed near a power outlet and is easily accessible.
- 10. Keep this device away from humidity.
- 11. Place the device on a solid surface during installation to prevent falls
- 12. Do not cover the openings on the device to ensure optimal heat dissipation.
- 13. Watch out for high temperatures when the system is running.
- 14. Do not touch the heat sink or heat spreader when the system is running
- 15. Never pour any liquid into the openings. This could cause fire or electric shock.
- 16. As most electronic components are sensitive to static electrical charge, be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and contain all electronic components in any static-shielded containers.

- 17. If any of the following situations arises, please the contact our service personnel:
  - i. Damaged power cord or plug
  - ii. Liquid intrusion to the device
  - iii. Exposure to moisture
  - iv. Device is not working as expected or in a manner as described in this manual
  - v. The device is dropped or damaged
  - vi. Any obvious signs of damage displayed on the device

#### DO NOT LEAVE THIS DEVICE IN AN UNCONTROLLED ENVIRONMENT WITH TEMPERATURES BEYOND THE DEVICE'S PERMITTED STORAGE TEMPERATURES (SEE CHAPTER 1) TO PREVENT DAMAGE.

#### FCC Statement



This device complies with Part 15 FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

#### Caution:

There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions and your local government's recycling or disposal directives.

#### Attention:

Il y a un risque d'explosion si la batterie est remplacée de façon incorrecte. Ne la remplacer qu'avec le même modèle ou équivalent recommandé par le constructeur. Recycler les batteries usées en accord avec les instructions du fabricant et les directives gouvernementales de recyclage.

#### China RoHS Requirements (CN)

#### 产品中有毒有害物质或元素名称及含量

AAEON System

QO4-381 Rev.A2

			有	毒有害物质或	戊元素	
部件名称	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)
印刷电路板	~	0	0	0	0	$\sim$
及其电子组件	×	0	0	0	0	0
外部信号		0	0	0	0	0
连接器及线材	x	0	0	0	0	0
外壳	0	0	0	0	0	0
中央处理器	~	0	0	0	0	0
与内存	x	0	0	0	0	0
硬盘	×	0	0	0	0	0
液晶模块	×	0	0	0	0	0
光驱	×	0	0	0	0	0
触控模块	×	0	0	0	0	0
电源	×	0	0	0	0	0
电池	×	0	0	0	0	0

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在 GB/T 26572 标准规定的限量要求以下。

×: 表示该有害物质的某一均质材料超出了 GB/T 26572 的限量要求, 然而该部件仍 符合欧盟指令 2011/65/EU 的规范。

环保使用期限(EFUP (Environmental Friendly Use Period)): 10 年 备注:

一、此产品所标示之环保使用期限,系指在一般正常使用状况下。

二、上述部件物质中央处理器、内存、硬盘、光驱、电源为选购品。

三、上述部件物质液晶模块、触控模块仅一体机产品适用。

#### China RoHS Requirement (EN)

#### Name and content of hazardous substances in product

#### AAEON System

QO4-381 Rev.A2

	Hazardous Substances						
Part Name	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚	
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)	
PCB Assemblies	×	0	0	0	0	0	
Connector and		0	0	0	0	0	
Cable	×	0	0	0	0	0	
Chassis	0	0	0	0	0	0	
CPU and Memory	×	0	0	0	0	0	
Hard Disk	×	0	0	0	0	0	
LCD Modules	×	0	0	0	0	0	
CD-ROM/DVD-ROM	×	0	0	0	0	0	
Touch Modules	×	0	0	0	0	0	
Power	×	0	0	0	0	0	
Battery	×	0	0	0	0	0	

The table is prepared in accordance with the provisions of SJ/T 11364.

O : Indicates that said hazardous substance contained in all of the homogenous materials for this product is below the limit requirement of GB/T 26572.

 $\times$ : Indicates that said hazardous substance contained in at least one of the homogenous materials used for this part is above the limit requirement of GB/T 26572. But this product still be compliance with 2011/65/EU Directive (allowed with 2011/65/EU Annex III of RoHS exemption with number 6(c),7(a),7(c)-1).

EFUP (Environment Friendly Use Period) value: 10 years. Notes:

1. This product defined period of use is under normal condition.

2. In above part, CPU/Memory/ Hard Disk/CD-ROM/DVD-ROM/ Power are optional.

3. In above part, LCD Modules/ Touch Modules are for all-in-one product model.

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# AICI-AIVD

## Chapter 1

Specifications

#### 1.1 Specifications

System	
CPU	Intel® Pentium N4200 Processor
Chipset	Intel® System on Chip
Memory	Onboard 8GB LPDDR4 memory
Storage	64GB eMMC on board
	500GB HDD x 1 (Optional)
Display	HDMI x 1
	DP x 1
Ethernet	Realtek 8111G x 2
USB	USB 3.0 x 3
СОМ	_
Digital I/O	_
Expansion Slot	Al core X mini card module x 1
	M.2 2230 E-Key x 1
Indicator	_
Wi-Fi	801.11ac (Optional)
Bluetooth	BT4.0 (Optional)
LoRa	_
POE	_
OS Support	Microsoft Windows 10, Linux Ubuntu,
	OpenVino

I/O Placements	
Front I/O	RJ45 Connector x 2
	Power button x 1
	HDMI x 1
	DP x 1
	USB3.0 x 2
	Power input x 1
	Power button x 1
Rear I/O	USB 3.0 x 1
	Antenna connector x 1 (Optional)
Right Side I/O	Antenna connector x 1 (Optional)
Left Side I/O	Antenna connector x 1 (Optional)

Power	

Power Requirement

5V DC In

Mechanical	
IP	—
Dimension	126 mm x 95 mm x 58 mm
Mounting	VESA Mount
Gross Weight	2.4 lbs. (1.1 kg)
Net Weight	1.5 lbs. (700 g)

Chapter 1 – Product Features, Applications, Specifications

Environment	
Operating Temperature	0°C ~ 60°C
Storage Temperature	-4°F ~ 158°F (-20°C ~ 70°C)
Storage Humidity	5~95% @ 40°C, non-condensing
Anti-Vibration	3 Grms/ 5 ~ 500Hz/ operation – eMMC
	1 Grms/ 5~ 500Hz/ operation – HDD
Certification	CE, FCC Class A

Chapter 1 – Product Features, Applications, Specifications

# AIOT-AIVD

## Chapter 2

Hardware Information













#### UP-APL Board Top Side



#### UP-APL Board Bottom Side



#### MINI-MYX Connector Top Side



Chapter 2 – Hardware Information

#### 2.4 List of Switches and Connectors

Please refer to the table below for all of the board's switches and connectors that you can configure for your application.

	UP-APL Connector and Switch Index					
Label	Function	Connector Type				
SW1	Power Button	(TF) Push Button Switch.HCH.PTS-099				
CN1	RTC Battery Wafer	(TF) WAFER BOX 2P:180D.1.25mm.CATCH.1201-700-02S				
CN7	M.2 key-E 2230 Connector	(TF)M.2 Key-E Slot.75P.90D(F).SMD.Pitch 0.5mm.H=6.7mm.BLACK.FOXCONN.AS0BC21-S67B E-LH				
CN8	Mini Card Connector	(TF)MiniCard SLOT.52P.90D.(F).SMD.FOXCONN.AS0B226-S68Q-7H				
CN9	SATA Connector	(TF)SATA CONNECTOR.7P.180D(M).SMT.TechBest.007-01-0075 7				
CN10	SATA Power Connector	(TF)WAFER BOX.2P.180D(M).DIP.2.0mm.w/LOCK.PINREX.721-81-0 2TW00				
CN14	USB 3.0 Type A Connector	(TF)USB3.0 CONNECTOR.DUAL PORT.18P.90D(F).DIP.TEKCON.5406-301-021-H1				
CN15	USB 3.0 Type A Connector	(TF)USB3.0 CONNECTOR.Single A Type.90D(F).DIP.Techbest.5405-011-011-01				
CN17	FAN Power Connector	(TF)WAFER.2P.180D(M).SMD.1.25mm.W/Cap.PINREX. 712-73-02TWE0				
CN18	Dual RJ45 Connector	(TF)GIGA RJ45.28P.90D(F).W/TF&LED.DAUL PORT.DIP.UDE.RM3-169A9V1Q				
CN23	DC Jack	(TF)DC Power Jack.3P.90D(M).DIP.2.0mm.COXOC.416AEWTJ02004P A				
CN24	HDMI/DP Connector	(TF)HDMI/DP combo Port conn39P.90D(F).DIP.FOXCONN.3VD11203-HHJ0-4H				

		MINI-MYX Connector and Switch Index
Label	Function	Connector Type
SW1	Switch	(TF)SWITCH.3S.6P.SOJ.24V.25mA.pitch=1.27m m.180D.SMD.BIWIN.SOJ03-R

#### 2.4.1 Power Button (UP-APL SW1)



Position	Function
SW1 0	Power ON
SW1 1	(default)

-

#### 2.4.2 Switch (MINI-MYX SW1)



S	SW Value		Roard Volue
3	2	1	board value
Off	Off	Off	0
Off	Off	On	1
Off	On	Off	2
Off	On	On	3
On	Off	Off	4
On	Off	On	5
On	On	Off	6
On	On	On	7

#### 2.4.3 RTC Battery Wafer (CN1)



Chapter 2 – Hardware Information



Pin	Signal	Pin	Signal
1	GND	2	3.3V
3	USB_D+	4	3.3V
5	USB_D-	6	NC
7	GND	8	NC
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	NC	16	NC
17	NC	18	GND
19	NC	20	NC
21	NC	22	UARTORXD
23	NC	24	N/A(Key-E)
25	N/A(Key-E)	26	N/A(Key-E)
27	N/A(Key-E)	28	N/A(Key-E)
29	N/A(Key-E)	30	N/A(Key-E)
31	N/A(Key-E)	32	UARTO_TXD
33	GND	34	UARTO_CTS
35	PCIE_C_TXP3	36	UARTO_RTS

Pin	Signal	Pin	Signal
37	PCIE_C_TXN3	38	NC
39	GND	40	NC
41	PCIE_RXP3	42	NC
43	PCIE_RXN3	44	NC
45	GND	46	NC
47	CLK_PCIE_M2_P	48	NC
49	CLK_PCIE_M2_N	50	Suspend Clock
51	GND	52	Reset#
53	PCIE_M2_CLKREQ	54	Bluetooth Enable
55	Wake#	56	Wi-Fi Enable
57	GND	58	SMBus_DAT
59	NC	60	SMBus_CLK
61	NC	62	SMBus_Alert
63	GND	64	NC
65	NC	66	NC
67	NC	68	NC
69	GND	70	NC
71	NC	72	3.3V
73	NC	74	3.3V
75	GND		



Pin	Signal	Pin	Signal
1	Wake#	2	3.3V
3	NC	4	GND
5	INT_SERIRQ	6	1.5V
7	PCIE_MINI_CLKREQ	8	NC
9	GND	10	NC
11	CLK_PCIE_MINI_N	12	NC
13	CLK_PCIE_MINI_P	14	NC
15	GND	16	NC
17	NC	18	GND
19	NC	20	3G Enable
21	GND	22	Reset#
23	PERn0_mSATA_R+	24	3.3V
25	PERp0_mSATA_R-	26	GND
27	GND	28	1.5V
29	GND	30	NC
31	PETn0_mSATA_T-	32	NC
33	PETp0_mSATA_T+	34	GND
35	GND	36	USB_D-
37	GND	38	USB_D+

Pin	Signal	Pin	Signal
39	3.3V	40	GND
41	3.3V	42	NC
43	mSATA_PCIe_SEL_C	44	NC
45	NC	46	NC
47	NC	48	1.5V
49	NC	50	GND
51	NC	52	3.3V

#### 2.4.6 SATA Connector (CN9)



Pin	Signal	Pin	Signal
1	GND	5	RX-
2	TX+	6	RX+
3	TX-	7	GND
4	GND		

#### 2.4.7 SATA Power Connector (CN10)



#### 2.4.8 Dual USB 3.0 Type-A Connector (CN14)



Pin	Signal	Pin	Signal
1	5V	2	USB2_D1-
3	USB2_D1+	4	GND
5	USB3_RX1-	6	USB3_RX1+
7	GND	8	USB3_TX1-
9	USB3_TX1+	10	5V
11	USB2_D2-	12	USB2_D2+
13	GND	14	USB3_RX2-
15	USB3_RX2+	16	GND
17	USB3_TX2-	18	USB3_TX2+

Chapter 2 – Hardware Information



Pin	Signal	Pin	Signal
1	5V	2	USB2_D-
3	USB2_D+	4	GND
5	USB3_RX-	6	USB3_RX+
7	GND	8	USB3_TX-
9	USB3_TX+		

#### 2.4.10 FAN Power Connector (CN17)



Chapter 2 – Hardware Information

#### 2.4.11 Dual RJ45 LAN Connector (CN18)



Pin	Signal	Pin	Signal
R1A	LAN1_MDI0+	R2A	LAN1_MDI0-
R3A	LAN1_MDI1+	R4A	LAN1_MDI1-
R5A	LAN1_MDI2+	R6A	LAN1_MDI2-
R7A	LAN1_MDI3+	R8A	LAN1_MDI3-
R9A	NC	R10A	GND
L1A	LAN1_ACTL	L2A	LAN1_ACTLED+
L3A	LAN1_LINK1000#	L4A	LAN1_Link100#
R1B	LAN2_MDI0+	R2B	LAN2_MDI0-
R3B	LAN2_MDI1+	R4B	LAN2_MDI1-
R5B	LAN2_MDI2+	R6B	LAN2_MDI2-
R7B	LAN2_MDI3+	R8B	LAN2_MDI3-
R9B	NC	R10B	GND
L1B	LAN2_ACTL	L2B	LAN2_ACTLED+
L3B	LAN2_LINK1000#	L4B	LAN2_Link100#

#### 2.4.12 DC Jack (CN23)

	1	
⊳		7
		3
	2	Ų -
		_
Pin	Signal	_
Pin	Signal	-
Pin 1	Signal +5V	J
Pin 1 2	Signal +5V	
Pin 1 2	Signal +5V GND	
Pin 1 2 3	Signal +5V GND	J

#### 2.4.13 HDMI/DP Connector (CN24)



Pin	Signal	Pin	Signal
P1	DDI0_TXP_DP_0	P2	GND
P3	DDI0_TXN_DP_0	P4	DDI0_TXP_DP_1
P5	GND	P6	DDI0_TXN_DP_1
P7	DDI0_TXP_DP_2	P8	GND
P9	DDI0_TXN_DP_2	P10	Port0_CLK+
P11	GND	P12	Port0_CLK-

Pin	Signal	Pin	Signal
P13	Config1	P14	Config2
P15	DP_AUX_P	P16	GND
P17	DP_AUX_N	P18	DDI0_TYPE_C_HPD
P19	GND	P20	3.3V
P21	DDI1_TXP_HDMI_0	P22	GND
P23	DDI1_TXN_HDMI_0	P24	DDI1_TXP_HDMI_1
P25	GND	P26	DDI1_TXN_HDMI_1
P27	DDI1_TXP_HDMI_2	P28	GND
P29	DDI1_TXN_HDMI_2	P30	DDI1_CLK_HDMI_DP
P31	GND	P32	DDI1_CLK_HDMI_DN
P33	HDMI1_CEC_D	P34	NC
P35	DDI1_5V_DDCCLK	P36	DDI1_5V_DDCDATA
P37	GND	P38	5V
P39	DDI1 TYPE C HPD		

# AIOI - AIVL

## Chapter 3

AMI BIOS Setup

#### 3.1 System Test and Initialization

The system uses certain routines to perform testing and initialization during the boot up sequence. If an error, fatal or non-fatal, is encountered, the system will output a few short beeps or an error message. The board can usually continue the boot up sequence with non-fatal errors.

The system configuration verification routines check the current system configuration against the values stored in the CMOS memory. If they do not match, an error message will be output, and the BIOS setup program will need to be run to set the configuration information in memory.

There are three situations in which the CMOS settings will need to be set or changed:

- Starting the system for the first time
- The system hardware has been changed
- The CMOS memory has lost power and the configuration information is erased

The system's CMOS memory uses a backup battery for data retention. The battery must be replaced when it runs down.

# Al loT Video Analysis Gateway

#### 3.2 AMI BIOS Setup

The AMI BIOS ROM has a pre-installed Setup program that allows users to modify basic system configurations, which is stored in the battery-backed CMOS RAM and BIOS NVRAM so that the information is retained when the power is turned off.

To enter BIOS Setup, press <Del> or <ESC> immediately while your computer is powering up.

The function for each interface can be found below.

Main - Date and time can be set here. Press <Tab> to switch between date elements

Advanced – Enable/ Disable boot option for legacy network devices

Chipset - For hosting bridge parameters

Security - The setup administrator password can be set here

Boot – Enable/ Disable quiet Boot Option

Save & Exit – Save your changes and exit the program

#### 3.3 Setup submenu: Main

#### Press Delete to enter Setup

Aptio Setup Utility - Main Advanced Chipset Security	Copyright (C) 2019 American Boot Save & Exit	Megatrends, Inc.
BIOS Information AIOT-AIVD R1.0 (AIVDAM10)(07/04	/2019)	Set the Date. Use Tab to switch between Date elements. Default Ranges:
BIOS Vendor Compliancy	American Megatrends UEFI 2.5; PI 1.4	Year: 2005-2099 Months: 1-12 Daus: dependent on month
System Date System Time	[Thu 08/29/2019] [14:18:40]	
Access Level	Administrator	
		<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>

Version 2.18.1263. Copyright (C) 2019 American Megatrends, Inc.

#### 3.4 Setup submenu: Advanced

Aptio Setup Utility – Copyright (C) 2019 American Main <mark>Advanced</mark> Chipset Security Boot Save & Exit	Megatrends, Inc.
<ul> <li>ACPI Settings</li> <li>SMART Settings</li> <li>CPU Configuration</li> <li>Network Stack Configuration</li> <li>USB Configuration</li> <li>Hardware Monitor</li> <li>Serial Port Console Redirection</li> <li>Trusted Computing</li> <li>AAEON Features</li> <li>Power Management</li> </ul>	System ACPI Parameters.
	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Copyright (C) 2019 American M	egatrends, Inc.

#### 3.4.1 Advanced: ACPI Settings

Aptio Setup Utility – Advanced	Copyright (C) 2019 American	Megatrends, Inc.
ACPI Settings		Enables or Disables BIOS ACPI
Enable ACPI Auto Configuration		Huto configuration.
Enable Hibernation ACPI Sleep State	[Enabled] [S3 (Suspend to RAM)]	
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263. Co	oyright (C) 2019 American M	egatrends, Inc.

Options Summary				
Enable ACPI Auto	Disabled	Optimal Default, Failsafe Default		
Configuration	Enabled			
Enables or Disables E	BIOS ACPI Auto Configuration.			
Enable Hibernation	Disabled			
	Enabled	Optimal Default, Failsafe Default		
Enables or Disables System ability to Hibernate (OS/S4 Sleep State). This option may be				
nit effective with OS.				
ACPI Sleep State	Suspend Disabled			
	S3(Suspend to RAM))	Optimal Default, Failsafe Default		
Select the highest ACPI sleep state the system will enter when the SUSPEND button is				
pressed.				

#### 3.4.2 Advanced: SMART Settings

Aptio Set Advanced	up Utility – Copyright (C) 2019 Amer	rican Megatrends, Inc.
SMART Settings		Run SMART Self Test on all
SMART Self Test		
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version	2.18.1263. Copyright (C) 2019 Americ	can Megatrends, Inc.

Options Summary			
SMART Self Test	Disabled	Optimal Default, Failsafe Default	
	Enabled		
Run SMART Self Test	on all HDDs during POST		

#### 3.4.3 Advanced: CPU Configuration

Aptio Setup Utility	– Copyright (C) 2019 American	Megatrends. Inc.
Advanced		
CPU Configuration		CPU Power Management options
Intel(R) Pentium(R) CPU N4200 @ 1.	10GHz	
CPU Signature	50609	
Microcode Patch	38	
Max CPU Speed	1100 MHZ	
Min CPU Speed	BUU MHZ	
Processor Cores	4 Not Overseted	
Intel HI Technology	Not supported	
intei vi-x lechnology	Supported	
L1 Data Cache	24 kB x 4	
L1 Code Cache	32 kB x 4	
L2 Cache	1024 kB x 2	
L3 Cache	Not Present	↔: Select Screen
		↑↓: Select Item
Speed	1100 MHz	Enter: Select
64-bit	Supported	+/-: Change Opt.
		F1: General Help
▶ CPU Power Management		F2: Previous Values
Active Processor Cores	[Disabled]	F3: Optimized Defaults
Intel Virtualization Technology	[Enabled]	F4: Save & Exit
DTS	[Enabled]	ESC: Exit

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Options Summary				
CPU Power				
Management				
CPU Power Managen	nent options menu			
Activate Processor	Disabled	Optimal Default, Failsafe Default		
Cores	Enabled			
Number of cores to enable in each processor package.				
Intel Virtualization	Disabled			
Technology	Enabled	Optimal Default, Failsafe Default		
When enabled, a VMM can utilize the additional hardware capabilities provided by				
Vanderpool Technology.				
DTS	Disabled			
	Enabled	Optimal Default, Failsafe Default		
Enabled/Disabled Digital Thermal Sensor.				

#### 3.4.3.1 CPU Power Management

CPU Power Management Configuration         Enable/Disable Intel SpeedStep           EIST         [Enabled]           Turbo Mode         [Enabled]           Boot performance mode         [Max Performance]	Aptio Setup Utility – Advanced	Copyright (C) 2019 American	Megatrends, Inc.
Power Limit 1 Enable [Enabled] Power Limit 1 Clamp Mode [Enabled] Power Limit 1 Power [13] Power Limit 1 Time Window [ 1] ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	CPU Power Management Configuration EIST Turbo Mode Boot performance mode Power Limit 1 Enable Power Limit 1 Clamp Mode Power Limit 1 Clamp Mode Power Limit 1 Time Window	[Enabled] [Enabled] [Max Performance] [Enabled] 13 [Enabled] [13] [ 1]	Enable/Disable Intel SpeedStep ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

Options Summary				
EIST	Disabled			
	Enabled	Optimal Default, Failsafe Default		
Enabled/Disabled Inte	el SpeedStep			
Turbo Mode	Disabled			
	Enabled	Optimal Default, Failsafe Default		
Turbo Mode				
Boot performance	Max Battery			
mode	Max Performance	Optimal Default, Failsafe Default		
Select the performance state that the BIOS will set before OS handoff.				
Power Limit 1 Enable	Disabled			
	Enabled	Optimal Default, Failsafe Default		
Enabled/Disabled Power Limit 1				
Power Limit 1 Clamp	Disabled			
Mode	Enabled	Optimal Default, Failsafe Default		
Enabled/Disabled Power Limit 1 Clamp Mode				

Options Summary				
Power Limit 1 Power	7~25	Optimal Default (13) ,Failsafe		
		Default		
Power Limit 1 in Watts. Auto will program Power Limit 1 based on silicon default support				
value.				
Power Limit 1 Time	1~8,10,12,14,16,20,24,28,32,40,	Optimal Default (1) ,Failsafe		
Window	48,56,64,80,96,112,128	Default		
Power Limit 1 Time Window Value in Seconds. Auto will program Power Limit 1 Time				
Window based on silicon default support value.				

#### 3.4.4 Advanced: Network Stack Configuration

Advance	Aptio Setup Utility – Copyright (C) d	2019 American Megatrends, Inc.
Network Stack	[Disabled]	Enable/Disable UEFI Network Stack ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
	Version 2.18.1263. Copyright (C) 2	019 American Megatrends, Inc.

Options Summary				
Network Stack	Disabled	Optimal Default, Failsafe Default		
	Enabled			
Enabled/Disabled UEFI Network Stack				

Chapter 3 – Driver Installation

#### 3.4.5 Advanced: USB Configuration

Aptio Setup Utility Advanced	– Copyright (C) 20	19 American Megatrends, Inc.
USB Configuration XHCI Hand-off USB Mass Storage Driver Support	(Enabled) (Enabled)	This is a workaround for OSes without XHCI hand-off support. The XHCI ownership change should be claimed by XHCI driver.
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.1263.	Copyright (C) 2019	American Megatrends, Inc.

Options Summary				
XHCI Hand-off	Enabled	Optimal Default, Failsafe Default		
	Disabled			
This is a workaround for OSes without XHCI hand-off support. The XHCI ownership				
change should be claimed by XHCI driver.				
USB Mass Storage Driver	Enabled	Optimal Default, Failsafe Default		
Support	Disabled			
Enabled/Disabled USB Mass Storage Driver Support.				

#### 3.4.6 Advanced: Hardware Monitor

Aptio Se Advanced	etup Utility – Copyright (C)	2019 American Megatrends,	Inc.
Hardware Monitor			
CPU Temperature	: +43 °c		
		++: Select : ↑↓: Select Enter: Select +/-: Change F1: General F2: General	Screen Item opt. Help
		F2: Previous F3: Optimize F4: Save & E ESC: Exit	s values ed Defaults Exit
Version	n 2.18.1263. Copyright (C) 2	019 American Megatrends, I	nc.

#### 3.4.7 Advanced: Serial Port Console Redirection

Aptio Setup Utility – Copyright (C) 2019 American Advanced	Megatrends, Inc.
COMO(Pci BusO,Dev24,FuncO,Port1) Console Redirection [Disabled] Console Redirection Settings Serial Port for Out-of-Band Management/ Windows Emergency Management Services (EMS) Console Redirection [Disabled] Console Redirection Settings	Console Redirection Enable or Disable.
	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Version 2.18.1263. Copyright (C) 2019 American Me	gatrends, Inc.

Options Summary			
Console Redirection	Enabled		
	Disabled	Optimal Default, Failsafe Default	
Console Redirection Enable or Disable.			
Console Redirection	Enabled		
	Disabled	Optimal Default, Failsafe Default	
Console Redirection Enable or Disable.			

#### 3.4.8 Advanced: Trusted Computing

Aptio Setup Utility Advanced	– Copyright (C) 2019 Amer	ican Megatrends, Inc.
TPM20 Device Found Vendor: INTC Firmware Version: 3.1 Security Device Support Active PCR banks Available PCR banks SHA-1 PCR Bank SHA256 PCR Bank	[Enable] SHA-1,SHA256 SHA-1,SHA256 [Enabled] [Enabled]	Enables or Disables BIOS support for security device. O.S. will not show Security Device. TCG EFI protocol and INTIA interface will not be available.
Pending operation Platform Hierarchy Storage Hierarchy Endorsement Hierarchy TPM2.0 UEFI Spec Version Physical Presence Spec Version TPM 20 InterfaceType Device Select	[None] [Enabled] [Enabled] [TCG_2] [1.3] [CRB] [Auto]	<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>

Options Summary			
Security Device Support	Enable	Optimal Default, Failsafe Default	
	Disable		
Enables or Disables BIOS sup	port for security dev	vice. O.S. will not show Security Device.	
TCG EFI protocol and INT1A i	nterface will not be	available.	
SHA-1 PCR Bank	Enable	Optimal Default, Failsafe Default	
	Disable		
Enables or Disables SHA-1 PCR Bank.			
SHA256 PCR Bank	Enable	Optimal Default, Failsafe Default	
	Disable		
Enables or Disables SHA256 PCR Bank.			
Pending operation	TPM clear		
	None	Optimal Default, Failsafe Default	
Schedule an Operation for the Security Device. Note: Your Computer will reboot during			
Restart in order to change State of Security Device.			

Options Summary				
Platform Hierarchy		Enabled	Optimal Default, Failsafe Default	
		Disabled		
Enabled or Disabled	Platform	n Hierarchy		
Storage Hierarchy		Enabled	Optimal Default, Failsafe Default	
		Disabled		
Enabled or Disabled	Storage	Hierarchy		
Endorsement Hierard	:hy	Enabled	Optimal Default, Failsafe Default	
		Disabled		
Enabled or Disabled Endorsement Hierarchy				
TPM2.0 UEFI Spec Ve	ersion	TCG_1_2		
		TCG_2	Optimal Default, Failsafe Default	
Select the TCG2 Spec Version Support,				
TCG_1_2: the Compa	tible mc	de for Win8/ Win10	),	
TCG_2: Support new	TCG2 p	rotocol and event fo	ormat for Win10 or later	
Physical Presence Sp	ec	1.2		
Version		1.3	Optimal Default, Failsafe Default	
Select to Tell O.S. to s	support	PPI Spec Version 1.2	2 or 1.3. Note some HCK tests might not	
Support 1.3.				
Device Select	TPM 1.2	2		
	TPM 2.	0		
	Auto		Optimal Default, Failsafe Default	
TPM 1.2 will restrict support to TPM 1.2 device, TPM 2.0 will restrict support to TPM 2.0				
devices, Auto will sup	port bo	oth with the default	set to TPM 2.0 devices if not found, TPM	

1.2 device will be enumerated.

#### 3.4.9 Advanced: Power Management

Aptio Setup Util Advanced	ity – Copyright (C) 2019 Am	erican Megatrends, Inc.
Power Management		Fixed Time: System will wake
Wake Events		specified./n Dynamic Time:
RTC wake system from S5		System will wake on the current time + Increase minute(s)
		++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.18.12	63. Copyright (C) 2019 Amer	ican Megatrends, Inc.

Options Summary				
RTC wake system	Disabled	Optimal Default, Failsafe Default		
from S5	Fixed Time			
	Dynamic Time			
Fixed Time: System will wake on the hr::min::sec specified./n Dynamic Time:				
System will wake on the current time + Increase minute(S)				

#### 3.5 Setup submenu: Chipset

Main	Apt Advanced	tio Setup Chipset	Utility – Security	Copyri Boot	ght (C) Save &	2019 A Exit	merican	Megatrends, Inc.
North South	Bridge Bridge							South Bridge Parameters
Mini P	CIe ∕ mSATr	A Switch		[Mini	PCIe]			
								<pre>++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
	Ve	ersion 2.3	18.1263. Co	pyrigh	t (C) 2	2019 Amei	rican Me	gatrends, Inc.

Options Summary				
Mini PCle / mSATA Switch	mSATA			
	Mini PCle	Optimal Default, Failsafe Default		
Mini PCIe / mSATA Switch				

#### 3.5.1 Chipset: North Bridge

Aptio Setup Utility Chipset	– Copyright (C) 2019 Americar	n Megatrends, Inc.
Memory Information		Enable : Enable Integrated Graphics Device (IGD) when
Total Memory	8192 MB (LPDDR4)	selected as the Primary Video Adaptor. Disable: Alwarys
IGD Contiguration Integrated Graphics Device		disable IGD
RC6(Render Standby) GTT Size	[Enable] [8MB]	
Aperture Size DVMT Pre-Allocated	[256MB] [64M]	
DVMT Total Gfx Mem Cd Clock Erequency	[256M] [624_MHz]	
GT PM Support PAVP Enable	[Enable] [Enable]	++: Select Screen
IGD = LCD Control	[2:::::::]	↑↓: Select Item
BIA ALS Support	[Auto] [Epoble]	+/-: Change Opt.
IGD Flat Panel	[Auto]	F2: Previous Values
Panel Scaling	[Auto]	F4: Save & Exit
GMCH BLC CONTROL	[FWM-INVerted]	ESU: EXIL

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Options Summary				
Integrated Graphics	Enable	Optimal Default, Failsafe Default		
Device	Disable			
Enabled: Enable Integra	ted Graphics Device (IGI	D) when selected as the Primary Video		
Adaptor. Disabled: Alwa	ys disable IGD			
RC6(Render Standby)	Enabled	Optimal Default, Failsafe Default		
	Disabled			
Check to enable render This item will be read or	standby support, RC6 sł nly if S0ix is enabled	nould be enabled if S0ix is enabled.		
GTT Size	2MB			
	4MB			
	8MB	Optimal Default, Failsafe Default		
Select the GTT Size				

Table Continues on Next Page...

Options Summary		
Aperture Size	128MB	
	256MB	
	512MB	Ontimal Default, Failsafe Default
Select the Aperture Size		Optimal Deladit, Taisale Deladit
DVMT Pre-Allocated	64 96 128 160 192 224 2	Optimal Default: 64M Eailcafe Default
	56 288 220 252 284	
	116 AA8 A80 512(M)	
Soloct the DV/MT 5 0 Pr	410,440,400, 512(M) a-Allocated(Eived) Graph	lics Memory size used by the Internal
Graphics Device		lics Methol y size used by the internal
DVMT Total Gfv Mem	128MB	
	256MB	Ontimal Default, Failsafe Default
Select the DVMT 5.0 To:	tal Granhic Memory size	used by the Internal Graphics Device
Cd Clock Frequency	144 288 384 576 624	Optimal Default: 624MHz, Failsafe
	(MUZ)	
	(1011 12)	Deradit
Select the highest Cd C	lock frequency supporte	d by the platform
GT PM Support	Enable	Optimal Default, Failsafe Default
	Disable	
Enable/Disable GT PM S	Support	
PAVP Enable	Enable	Optimal Default, Failsafe Default
	Disable	
Enable/Disable PAVP		
BIA	Auto	Optimal Default, Failsafe Default
	Disabled	
	Level 1	
	Level 2	
	Level 3	
	Level 4	
	Level 5	
>>Auto: GMCH Use VB	IOS Default; >>Level	n: Enabled with Selected
Aggressiveness Level.		
ALS Support	Enable	Optimal Default, Failsafe Default
	Disable	
Valid only for ACPI.		

Table Continues on Next Page...

Options Summary			
	Auto	Optimal Default, Failsafe Default	
	640x480		
IGD Flat Panel	800x600		
	1024x768		
	1280x1024		
	1366x768		
	1680x1050		
	1920x1200		
	1280x800		
	Auto	Optimal Default, Failsafe Default	
	VGA Port		
	HDMI		
IGD Boot Type	DP Port B	-	
	DP Port C	-	
	eDP		
	DSI Port A	-	
	DSI Port C		
Select preference for In	tegrated Graphics Device	e (IGD) display interface used when	
system boots.	1	1	
Panel Scaling	Auto	Optimal Default, Failsafe Default	
	Centering		
	Stretching		
	PWM-Inverted	Optimal Default, Failsafe Default	
GMCH BLC Control	GMBus-Inverted		
	PWM-Normal		
	GMBus-Normal		

#### 3.5.2 Chipset: South Bridge



#### 3.5.2.1 HD-Audio Configuration



Options Summary				
HD-Audio Support	Enable	Optimal Default, Failsafe Default		
	Disable			
Enabled/Disable HD-Audio Support				
HD-Audio DSP Enable Optimal Default, Failsafe Default				
Disable				
Enabled/Disable HD-Audio DSP				

#### 3.5.2.2 SATA Configuration

Aptio Setup Utility – Chipset	Copyright (C) 2019 American	Megatrends, Inc.
Chipset SATA Drives Chipset-SATA Controller Configuration Ohipset SATA SATA Mode Selection SATA Test Mode Aggressive LPM Support SATA Port 0 Software Preserve Port 0 SATA Port 0 Hot Plug Capability Configured as eSATA Mechanical Presence Switch Spin Up Device SATA Device Type SATA Port 0 DevSlp DITO Configuration DITO Value DM Value	on [Enable] [AHCI] [Disabled] [Enabled] [Installed] Unknown [Enabled] [Disabled] Hot Plug supported [Enabled] [Disabled] [Hard Disk Drive] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled] [Disabled]	Enables or Disables the Chipset SATA Controller. The Chipset SATA controller supports the 2 black internal SATA ports (up to 3Gb/s supported per port). ++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit
		ESC: Exit

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Options Summary					
Chipset SATA	Enable	Optimal Default, Failsafe Default			
	Disable				
Enables or Disables t	he Chipset SATA Controller. The	Chipset SATA controller supports			
the 2 black internal S	ATA ports (up to 3Gb/s support	ted per port).			
SATA Test Mode	Enabled				
	Disabled	Optimal Default, Failsafe Default			
Test Mode Enable/Dis	sable				
Aggressive LPM	Enabled	Optimal Default, Failsafe Default			
Support	Disabled				
Enable PCH to aggre	ssively enter link power state.				
Port 0	Disabled				
	Enabled	Optimal Default, Failsafe Default			
Enable or Disable SA	TA Port.				

Options Summary				
SATA Port 0 Hot	Disabled	Optimal Default, Failsafe Default		
Plug Capability	Enabled			
If enabled, SATA port	will be reported as HOT PLUG	capable.		
Mechanical	Disabled			
Presence Switch	Enabled	Optimal Default, Failsafe Default		
Controls reporting if	this port has a Mechanical Pres	ence Switch.		
Note: Requires hardv	vare support.			
Spin Up Device	Disabled	Optimal Default, Failsafe Default		
	Enabled			
If enabled for any of	ports Staggered Spin Up will be	e performed and only the drives		
which have this optio	n enabled will spin up at boot.	Otherwise all drives spin up at boot		
SATA Device Type	Hard Disk Drive	Optimal Default, Failsafe Default		
	Solid State Drive			
Identify the SATA por	t is connected to Solid State Dr	ive or Hard Disk Drive		
SATA Port 0 Devslp	Disabled	Optimal Default, Failsafe Default		
	Enabled			
Enable/Disable SATA Port 0 DevSlp. Board rework for LP needed before enable.				
DITO Configuration	Disabled	Optimal Default, Failsafe Default		
	Enabled			
Enable/Disable DITO Configuration.				

#### 3.5.2.3 SCC Configuration

Aptio S Chip	Setup Utility – oset	Copyright (	(C) 201	9 American	Megatrends, Inc.
SCC SD Card Support SCC eMMC Support (D23 eMMC Max Speed SCC UFS Support (D29 SCC SDIO Support (D30	(D27:F0) 3:F0) :F0) 0:F0)	[Disable] [Enable] [HS400] [Disable] [Enable]			Enable/Disable SCC SD Card Support
	n 9 10 1969-00	sup i dbt - 40	2013		<pre>++: Select Screen 11: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save &amp; Exit ESC: Exit</pre>
Versit		ען אוונען אווע אווע אווע אווע אווע אווע אווע או	-2013	mici Ican' h	
Options Summary	Enable				
Support(D27-E0)	Disable			Ontir	nal Default Failcafe Default
Enable/Disable SCC	D Card Supp	ort		Optil	nai Delauit, railsale Delault
SCC PMMC	Enabled			Ontir	nal Default, Failcafe Default
Support(D28·F0)	Disabled				nai Derault, Failsare Delault
Enable/Disable SCC	MMC Suppo	rt			
eMMC Max Speed	HS400			Optin	nal Default, Failsafe Default
	HS200				
	DDR50				
Select the eMMC ma	x Speed allow	red.			
SCC UFS Support	Enable				
(D29:F0)	Disable			Optir	nal Default, Failsafe Default
Enable/Disable UFS S	SDIO Support				
SCC SDIO Support	Enabled			Optir	nal Default, Failsafe Default
(D28:F0)	Disabled				
		nort			

#### 3.6 Setup submenu: Security

Aptio Setup Utilit Main Advanced Chipset <mark>Securi</mark>	y – Copyright (C) 2019 American <mark>ty B</mark> oot Save & Exit	Megatrends, Inc.
Password Description If ONLY the Administrator's pass then this only limits access to only asked for when entering Set If ONLY the User's password is s is a power on password and must boot or enter Setup. In Setup th have Administrator rights. The password length must be in the following range: Minimum length	word is set, Setup and is up. et, then this be entered to e User will	Set Setup Administrator Password
Setup Administrator Password User Password ▶ Secure Boot	20	++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit

#### Change User/Administrator Password

You can set an Administrator Password or User Password. An Administrator Password must be set before you can set a User Password. The password will be required during boot up, or when the user enters the Setup utility. A User Password does not provide access to many of the features in the Setup utility.

Select the password you wish to set, and press Enter. In the dialog box, enter your password (must be between 3 and 20 letters or numbers). Press Enter and retype your password to confirm. Press Enter again to set the password.

#### Removing the Password

Select the password you want to remove and enter the current password. At the next dialog box press Enter to disable password protection.

#### 3.6.1 Secure Boot



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Options Summary			
Attempt Secure	Enabled		
Boot	Disabled	Optimal Default, Failsafe Default	
Secure Boot activated when Platform Key(PK) is enrolled, System mode is			
User/Deployed , and CSM function is disabled			
Enter Audit Mode	Yes		
	No		
Enter Audit Mode. If a current System Mode is User – PK variable will be erased on			
transition to Audit			
Enter Deployed			
Mode			
Enter Deployed Mode			
Secure Boot Mode	Standard		
	Customized	Optimal Default, Failsafe Default	
Set UEFI Secure Boot Mode to STANDARD mode or CUSTOM mode, changes take effect			
after saving. Resetting system will return to STANDARD mode			

AIOT-AIVD

#### 3.6.1.1 Key Management



Options Summary			
Provision Factory	Enabled	Optimal Default, Failsafe Default	
Default keys	Disabled		
Allow to provision factory default Secure Boot keys when System is in Setup Mode			
Install Factory	Press 'Yes' to install factory default keys		
Default keys			
Force System to User Mode – install all Factory Default keys			
Enroll Efi Image			
Allow the image to run in Secure Boot mode. Enroll SHA256 Hash Certificate of the			
Image into Authorized Signature Database (db)			
Save all Secure Boot			
variables			
Save NVRAM content of Secure Boot policy variables to the files (EFI_SIGNATURE_LIST			
data format) in root folder on a target file system device			

Options Summary		
Platform key(PK)  862  1   Test(AMI)	Save To File	
	Set New Var	
	Delete Var	
Enroll Factory Defaults or load certificates from a file:		
1.Public Key Certificate in:		
a)EFI_SIGNATURE_LIST		
b)EFI_CERT_X509 (DER encoded)		
c)EFI_CERT_RSA2048 (bin)		
d)EFI_CERT_SHA256,384,512		
2.Authenticated UEFI Variable		
3.EFI PE/COFF Image(SHA256)		
Key Source:		
Default , External, Mixed , Test		
Key Exchange keys  1560  1   Default	Save To File	
	Set New Var	
	Append key	
	Delete Var	
Enroll Factory Defaults or load certificates from a file:		
1.Public Key Certificate in:		
a)EFI_SIGNATURE_LIST		
b)EFI_CERT_X509 (DER encoded)		
c)EFI_CERT_RSA2048 (bin)		
a)EH_CEKI_SHA256,384,512		
S.EFI FE/COFF IIIIdge(SHA256)		
Default External Mixed Test		
Delault, External, Mixeu, lest		

Table Continues on Next Page

AIOT-AIVD

Options Summary			
Authorized Signature 3143  2   Default	Save To File		
	Set New Var		
	Append key		
	Delete Var		
Enroll Factory Defaults or load certificates 1.Public Key Certificate in: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER encoded) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHA256,384,512 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source:	from a file:		
Default , External, Mixed , Test			
Forbidden Signatures  652  1 3  Default	Save To File		
	Set New Var		
	Append key		
	Delete Var		
<ul> <li>1.Public Key Certificate in:</li> <li>a)EFI_SIGNATURE_LIST</li> <li>b)EFI_CERT_X509 (DER encoded)</li> <li>c)EFI_CERT_RSA2048 (bin)</li> <li>d)EFI_CERT_SHA256,384,512</li> <li>2.Authenticated UEFI Variable</li> <li>3.EFI PE/COFF Image(SHA256)</li> <li>Key Source:</li> <li>Default , External, Mixed , Test</li> </ul>			
Authorized TimeStamps  0  0   No Key	Set New Var		
	Append key		
Enroll Factory Defaults or load certificates 1.Public Key Certificate in: a)EFI_SIGNATURE_LIST b)EFI_CERT_X509 (DER encoded) c)EFI_CERT_RSA2048 (bin) d)EFI_CERT_SHA256,384,512 2.Authenticated UEFI Variable 3.EFI PE/COFF Image(SHA256) Key Source: Default , External, Mixed , Test	from a file:		

Options Summary		
OsRecovery Signatures  0  0   No key	Set New Var	
	Append key	
Enroll Factory Defaults or load certificates from a file:		
1.Public Key Certificate in:		
a)EFI_SIGNATURE_LIST		
b)EFI_CERT_X509 (DER encoded)		
c)EFI_CERT_RSA2048 (bin)		
d)EFI_CERT_SHA256,384,512		
2.Authenticated UEFI Variable		
3.EFI PE/COFF Image(SHA256)		
Key Source:		
Default , External, Mixed , Test		

#### 3.7 Setup submenu: Boot

Aptio Setup Ut Main Advanced Chipset Se	ility – Copyright (C) 2019 ( curity <mark>Boot</mark> Save & Exit	American Megatrends, Inc.
Boot Configuration		Number of seconds to wait for
Setup Prompt Timeout Bootup NumLock State	<mark>1</mark> [0n]	setup activation key. 65535(0xFFF) means indefinite waiting.
Quiet Boot OS Selection	[Enabled] [Intel Linux]	
FIXED BOOT ORDER Priorities Boot Option #1 Boot Option #2 Boot Option #3 Boot Option #4 > UEFI Hard Disk Drive BBS Pri	[USB Device] [Hard Disk:Windows [Network] [CD/DVD] orities	B] ++: Select Screen 14: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.16.	1263. Copyright (C) 2019 Am	erican Megatrends, Inc.
Options Summary		
Setup Prompt Timeout		
Number of seconds to wait	for setup activation Key	·
Bootup NumLock State	On Off	Optimal Default, Failsafe Default
Select the keyboard NumL	ock state	1
Ouiet Boot	Enabled	Optimal Default, Failsafe Default
	Disabled	
Enables or disables Quiet B	oot option	
OS Selection	Windows	
	Android	
	Intel Linux	Optimal Default, Failsafe Default
	Windows 10 IoT Core	

Select the target OS.

#### 3.8 Setup submenu: Save & Exit

Aptio Setup Utility – Copyright (C) 2019 American Main Advanced Chipset Security Boot <mark>Save &amp; Exit</mark>	Megatrends, Inc.
Save Options	Exit system setup without saving any changes.
Save Changes and Reset Discard Changes and Exit	
Default Options Restore Defaults	
	↔: Select Screen ↑↓: Select Item Enter: Select
	+/-: Change Opt. F1: General Help 53: Braulaus Valuas
	F3: Optimized Defaults F4: Save & Exit
	ESC: Exit
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# AIOT-AIVD

## Chapter 4

Software and System Startup

#### 4.1 Drivers Download and Installation

Drivers for the AIOT-AIVD can be downloaded from the product page on the AAEON website by following this link:

https://www.aaeon.com/en/p/ai-iot-video-analysis-gateway-aiot-aivd

Download the driver(s) you need and follow the steps below to install them.

#### Step 1 – Install Chipset Drivers

- 1. Open the Step 1 Chipset folder
- 2. Open the Setup.exe file in the folder
- 3. Follow the instructions
- 4. Drivers will be installed automatically

#### Step 2 - Install Graphics Drivers

- 1. Open the Step 2 Graphic folder and select your OS
- 2. Open the Setup.exe file in the folder
- 3. Follow the instructions
- 4. Drivers will be installed automatically

#### Step 3 - Install TXE Drivers

- 1. Open the Step 3 TXE folder
- 2. Open the Setup.exe file in the folder
- 3. Follow the instructions
- 4. Drivers will be installed automatically

#### Step 4 - Install LAN Drivers

- 1. Open the Step 4 LAN folder and select your OS
- For the N3350 CPU, open the Realtek folder
   For the E3940 CPU, open the Intel folder
- 3. Open the **setup.exe** file in the folder
- 4. Follow the instructions
- 5. Drivers will be installed automatically

#### Step 5 – Install Serial IO Drivers

- 1. Open the Step 5 Serial IO folder and select your OS
- 2. Open the SetupSeriallO.exe file in the folder
- 3. Follow the instructions
- 4. Drivers will be installed automatically

#### Step 6 – Install HSUART Drivers

- 1. Open the Step 6 HSUART folder and select your OS
- 2. Open the Intel\_Processor\_Win10\_HSUART\_Sub\_Drivers\_64Bit.exe file in the folder
- 3. Follow the instructions
- 4. Drivers will be installed automatically

#### Step 7 – Install OpenVINO

1. Go to the Intel website and download the latest version of OpenVINO toolkit:

#### https://software.intel.com/en-us/openvino-toolkit

- 2. Open the Setup.exe file in the folder
- 3. Follow the instructions
- 4. OpenVINO will be installed automatically

#### 4.2 Quick Startup Guide

This section provides instructions to quickly setup and initialize the AIOT-AIVD. Follow the steps below to startup your gateway for the first time.

#### Step 1: Connect the Hardware

- i. Connect the power adapter to the system (6A@5V 5.5/2.1mm DC) and plug the system in.
- ii. Connect to a display by plugging a male HDMI type-A connector into the port on the AIOT-AIVD. Ensure the other end of the HDMI cable is plugged into the display properly.
- iii. Connect your keyboard and mouse to the AIOT-AIVD.

Note: Ensure everything is connected properly and securely.



#### Step 2: Prepare Drive

i. Prepare the bootable drive with the OS (Windows 10 or Ubuntu).

#### Step 3: Turn On

i. Turn on the system power and install the OS and drivers.