JEC-3102



Version 1.0

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ESD

(ESD, electrostatic sensitive devices)



ESD

- ESD ÿ ÿ G
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- ESD G
- ESD G
- ESD G

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1.1

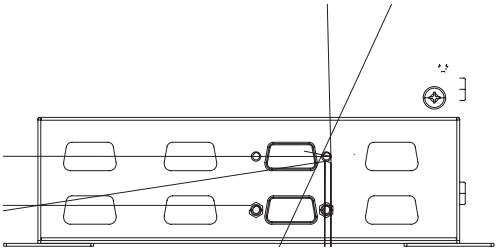
JEC-3012 BOX Intel Elkhart Lake
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- Intel Elkhart Lake J6413
- DDR4-3200 SO-DIMM 32GB
- HDMI+DP
- RJ45 2.5Gb
- M.2 3042/3052 4G/5G (WI-FI ÿ
- M.2 Key-M 2242/2280 SATA SSD
- 4xRS232/422/485, 10xRS232
- 3xUSB3.0, 9xUSB2.0

1.2

	- JEC-3012	
		Intel® Celeron® Elkhart Lake J6413, TDP 6W

	Dimensions	150mm(L)×107mm(W)×79.1mm(H)
	Weight	1.23KG
	Mounting	Hט HטDIN
	Operating	-10~60ue 0.7 m/s
	Storage	-40~85ue
	Humidity	10%~85% Humidity, non-condensing
	Shock	With SSD: 15G, IEC 60068-2-27, half sine, 11ms duration
	Vibration	



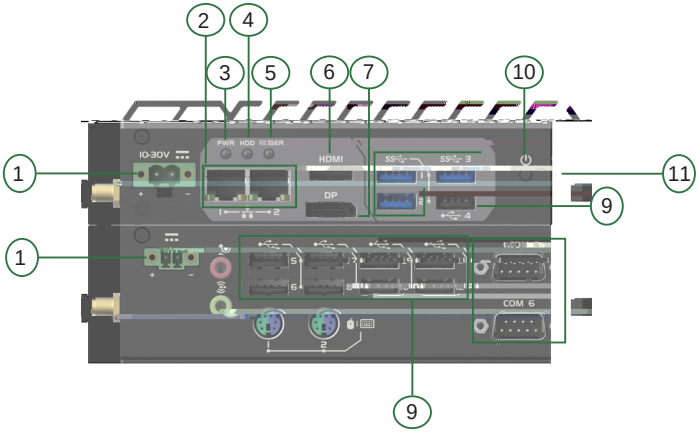
5

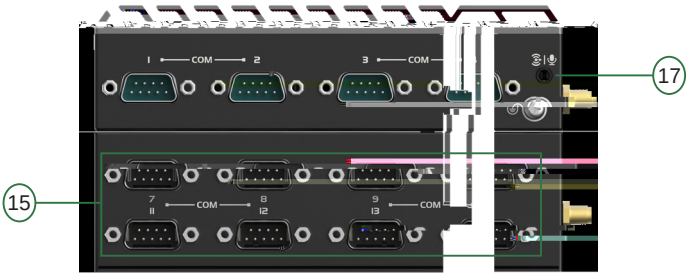
5.1





5.2 IO


2
4
3
5
6
7
10
1
11
9
1
9
IO-3OV
PWR HDD
HDMI
DP
COM 6

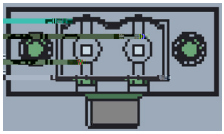

17
15
COM
COM
COM
COM

1. DC_IN DC
2. LAN: RJ45
3. PWR:
4. HDD:
4. USER:
6. HDMI: HDMI
7. DP: DP
8. USB3.0: USB3.0
9. USB2.0: USB2.0
10. Power Button: Ÿ / ÿ
11. RESET: Ÿ 4 CMOS ÿ
12. MIC_IN:
13. L_OUT:
14. KB/MS:
15. COM: R232
16. COM: R232/442/485
17. AUDIO:

5.3

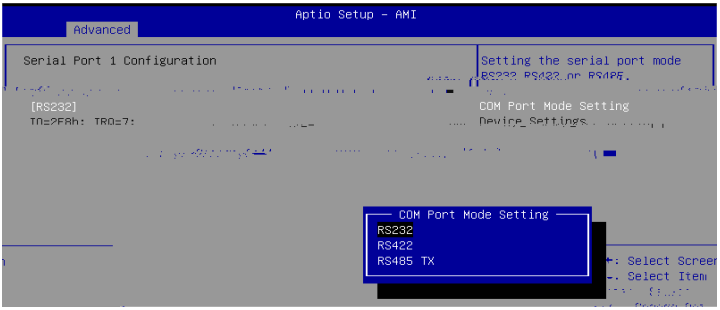
		LED	
POWER	PC		
			PC
HDD			
USER			

5.4

		
	1	DC+
	2	DC-

	PIN	RS232	RS422	RS485
	1	DCD	422TX-	485-
	2	SIN	422TX+	485+
	3	SOUT	422RX+	/
	4	DTR	422RX-	/
	5	GND	/	/
	6	DSR	/	/
	7	RTS	/	/
	8	CTS	/	/
	9	RI	/	/

COM1/2/3/4 RS232/422/485 BIOS



5.6 COM5/6/7/8/9/10/11/12/13/14

1	DCD	6	DSR
2	SIN	7	RTS
3	SOUT	8	CTS
4	DTR	9	RI
5	GND		

COM5/6/7/8/9/10/11/12/13/14 RS232

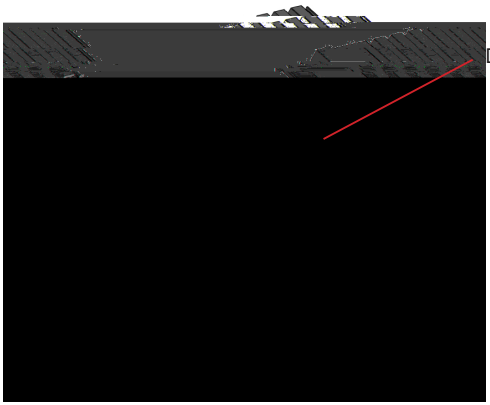
5.7 Audio

		
		MIC IN
		LINE OUT

6

6.1

6.3 M.2 2242/2280

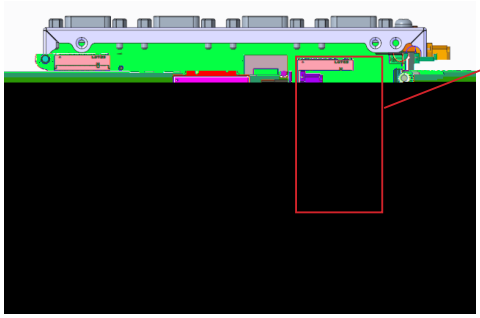


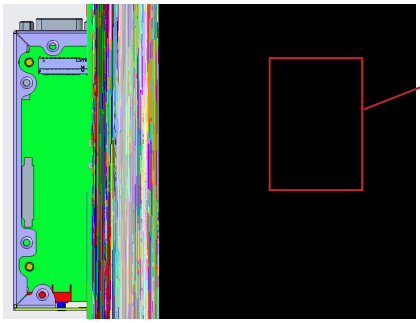
ᑯ 6.2 ᑯ

1. 8 4 Ꮒ
2. DIMM ᴦ

1. 30° Ꮒ
2. M.2 2242 M.2 2280 M.2 2242 ᴦ

6.6 4G/5G



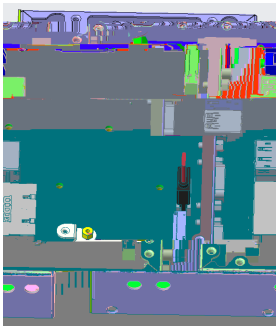


4G/5G ᴦ

4G/5G 30° ᴦ

4G 4G ᴦ





7 BIOS

7.1 BIOS

AMI BIOS ɢ BIOS Basic Input Output System (ÿ ɢ
ROM Ÿ Read-Only Memory) ɢ BIOS

a. POST(Power On Self Test) ɢ
b. ɢ
c. Hʊ ɢ
d. SETUP ɢ
BIOS CMOS RAM
ɢ BIOS ɢ CMOS
BIOS ɢ

7.2 BIOS

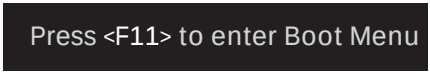
BIOS Setup ɢ BIOS
ɢ
SETUP
a. SETUP Ꮒ
b. ɢ

BIOS BIOS ɢ
ɢ

7.2.1 BIOS

<DEL> BIOS
ɢ





7.2.2

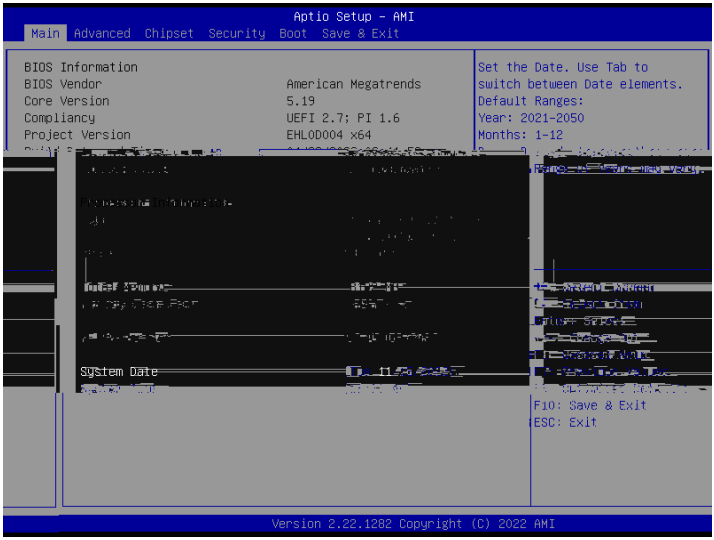
<Enter> <F1> <Esc>
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↑ / ↓	
+/ -	/
<Enter>	

7.3 BIOS

Main		BIOS
Advanced		BIOS
Chipset		
Security		
Boot		

7.4 Main



System Date ( )

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System Time

< >< >< > G

7.5 Advanced

CPU Configuration	CPU	
CPU Performance Configuration	CPU	
Trusted Computing		
Watch Dog Configuration		
Super IO Configuration	Super IO	
Hardware Monitor		
Power Management Configuration		
Serial Port Console Redirection		
AMI Graphic Output Protocol Policy		
USB Configuration	USB	

- CPU Conf guration <Enter> G



CPU Flex Ratio Override

CPU G

Disable,Enable.

. Intel(VMX) Virtualization Technology

Intel Ÿ VMX ÿ G

Disable,Enable.

Active Processor Cores

G

ALL,1,2,3.

▸ CPU Performance Con f guration <Enter> G

Boot performance mode

bios G

Max Battery,Max Non-Turbo Performance,Turbo Performance.

Intel(R) SpeedStep(tm)

G

Disable,Enable.

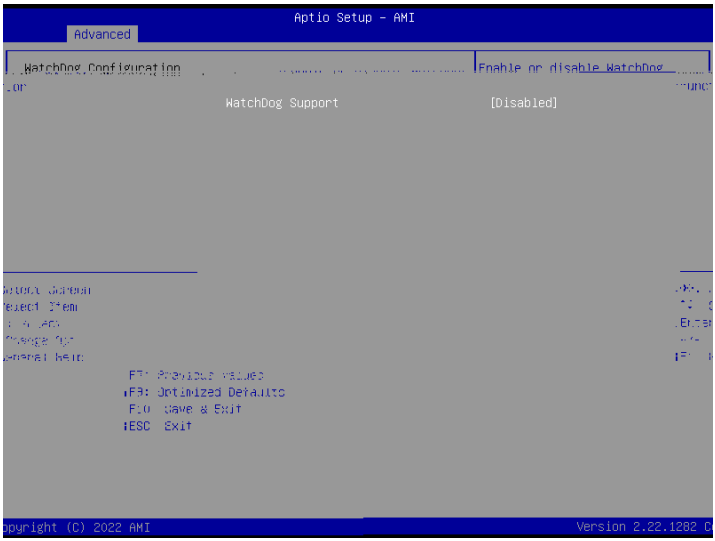
Turbo Mode

/ turbo G

Disable,Enable.

Power Limi Þ : ˆ , φ D ƙ ʁ 3 Ω

- Watch Dog Con f guration <Enter> G

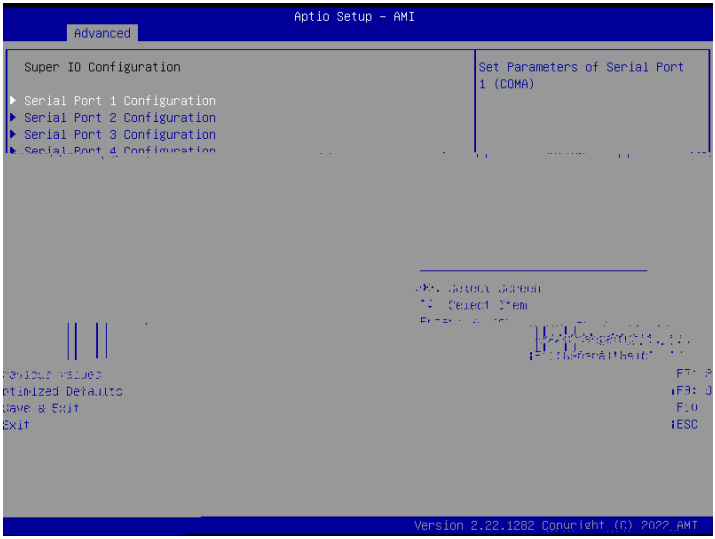


WatchDog Support

G

Disable,Enable.

- Super IO Con f guration <Enter> G



State After G3

G

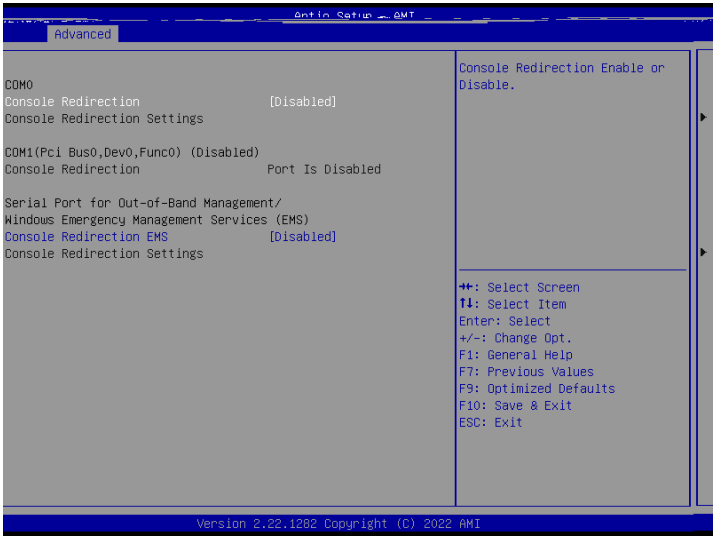
Powe On,Power O f ,Last State.

Wake system witn Fixed Time

G

Disable,Enable.

▸ Serial Port Console Redirection <Enter> G



Console Redirection

G

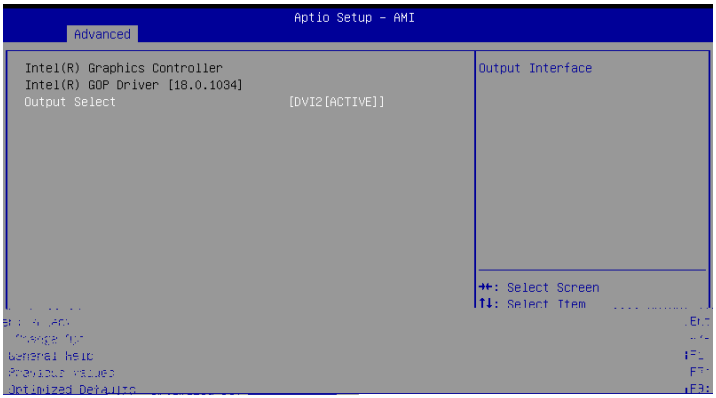
Disable,Enable.

Console Redirection EMS

EMS G

Disable,Enable.

- AMI Graphic Output Protocol Policy <Enter> G

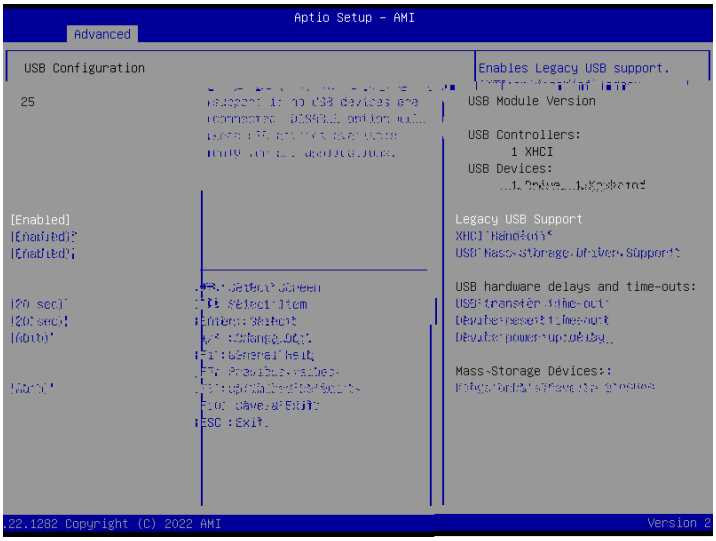


Output Select

G

DVI2[ACTIVE].

- USB Confguration <Enter> G



Legacy USB Support

USB G

Disable,Enable,Auto.

XHCI Hand-of f

XHCI G

Disable,Enable.

USB Mass Storage Driver Support

USB G

Disable,Enable.

USB transfer time-out

USB G

1sec,5sec,10sec,20sec.

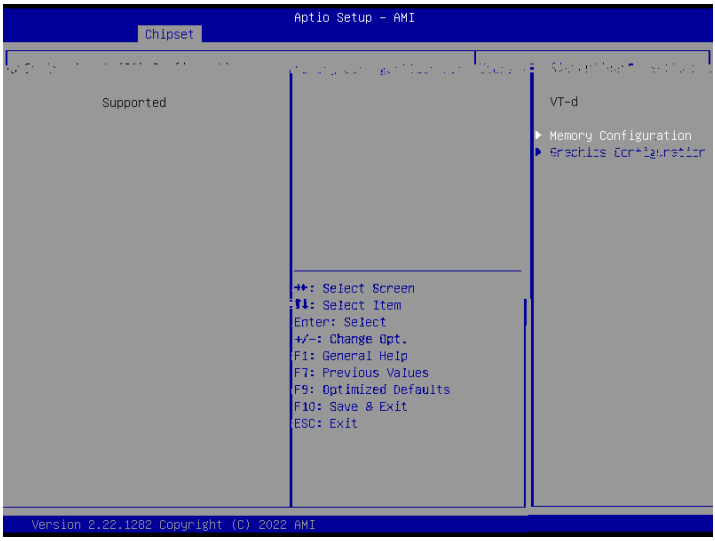
Device reset time-out

G

10sec,20sec,30sec,40sec.

7.6 Chipset

- System Agent(SA) Configuration <Enter> G



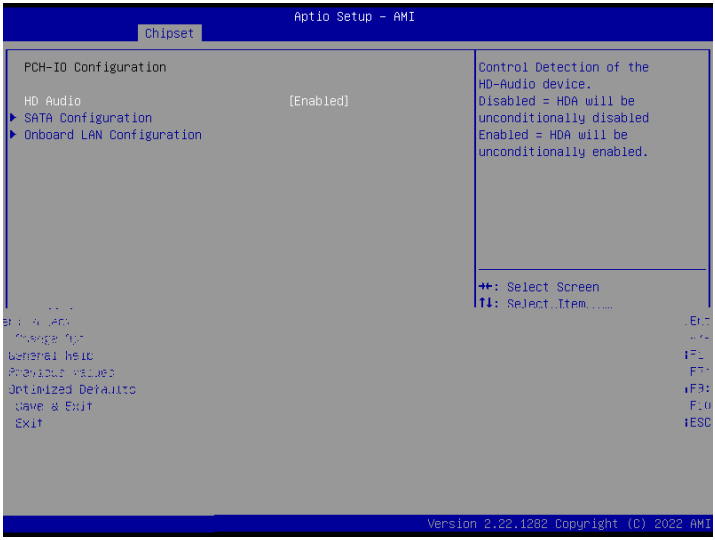
Memory Configuration

G

Graphics Configuration

G

- PCH-IO Configuration <Enter> G



HD Audio Con f guration

G

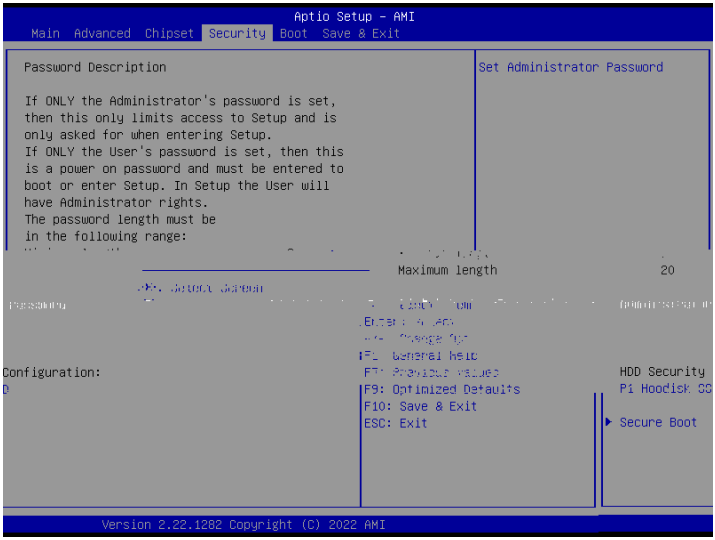
SATA Con f guration

SATA G

Onboard LAN Con f guration

G

7.7 Security



Administrator Password

1. Administrator Password <Enter> G
2. d Create New Password d 3~20

<Enter> d Con f rm Password d G

d Invalid Password! d G

d Administrator Password d d Enter Current Password d

d Create New Password d <Enter> G

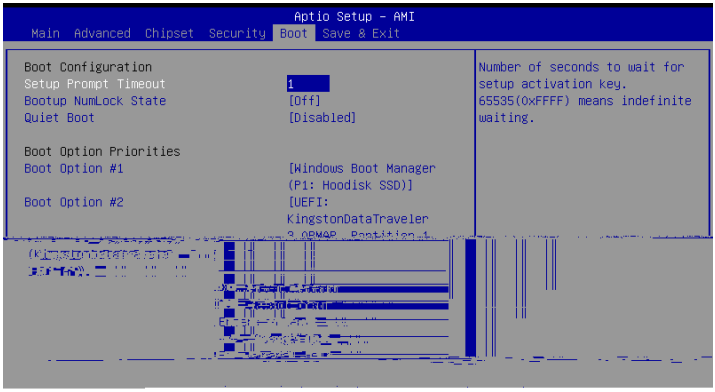
P1:Hoodisk SSD

HDD G

Secure Boot

G

7.8 Boot



Setup Prompt Timeout

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Boot NumLock State

NumLock G

On,Of.

Quiet Boot

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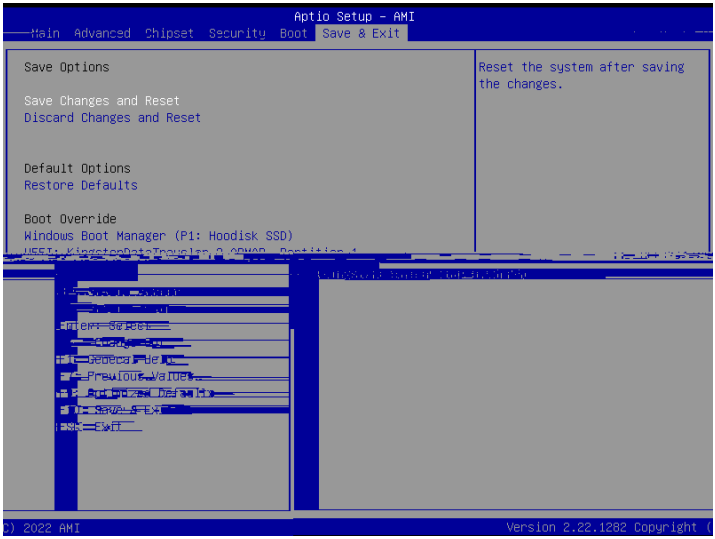
Disable,Enable.

Boot Option #1

1 G

Kingston Data Traveler 2.01.00,Disable.

7.9 Save&Exit



Save Changes and Reset

G

Discard Changes and Reset

G

Restore Defaults

G

8

8.2 GPIO

AIoT-EHL GPIO
Ÿ 1 ÿ GP30/31/32/37/63/64/65/86 G
Ĥ
Ÿ 2 ÿ GP33/34/35/36/40/41/42/43/82 G
Ĥ
Ÿ 3 ÿ GPIO Group GP3x/4x/6x Logical Device 7 GP8x Logical Device 9Ĥ
Ÿ 4 ÿ GP3x(30~37) Logical Device 7 Register
0xED Bit0 Bit7 GP4x(40~47) Logical Device
7 Register 0xF1 Bit0 Bit7 GP6x(60~67) Logical Device 7 Register

```
return 1;//       GPIO
}else{
return 0;//       GPIO
}

//d.    GPIO Group 3                          GPO              GPIO              GPI

for(GpioNumber=0x30; GpioNumber<=0x37; GpioNumber++)
{
BitOfset = GpioNumber - 0x30;
IoWrite8(SuperIo_Index_Port, GPIO_GROUP_3_DATA_REGISTER);
Data8 = IoRead8(SuperIo_Data_Port);
Data8 &=~(0x1<<BitOfset);//       bit      0          GPIO
//Data8 |= (0x1<<BitOfset); /*      bit         1          GPIO              */
IoWrite8(SuperIo_Data_Port,Data8);//
}

//f.       Super IO   Configuration Mode
IoWrite8(SuperIo_Index_Port, 0xAA); //       Super IO Configuration Mode       SuperIO
                                ,                 Configuration Mode
```

8.3 WDT

```
#define SuperIo_Index_Port              0x2E
#define SuperIo_Data_Port               0x2F
#define GPIO_LDN8_DEVICE                0x08
UINT8 Data8;

//a.       Super IO   Configuration Mode
IoWrite8(SuperIo_Index_Port, 0x87);
IoWrite8(SuperIo_Index_Port, 0x87);

 //b.                GPIO, LDN 8
IoWrite8(SuperIo_Index_Port,0x07);
IoWrite8(SuperIo_Data_Port,GPIO_LDN8_DEVICE);

//c. Enabled WDT
IoWrite8(SuperIo_Index_Port,0x30);
IoWrite8(SuperIo_Data_Port,IoRead8(SuperIo_Data_Port)|0x01);

 //d.       WDT                    Register 0xF0   Bit3        1                0
IoWrite8(SuperIo_Index_Port,0xF0);
//
IoWrite8(SuperIo_Data_Port,IoRead8(SuperIo_Data_Port)|0x08);
//
// IoWrite8(SuperIo_Data_Port,IoRead8(SuperIo_Data_Port)&0xF7);
```

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10.1

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		1Hυ 2Hυ 12