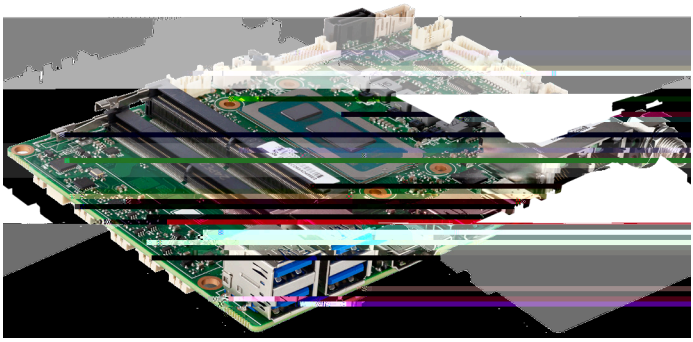
AIOT3-ADU



Version 1.0

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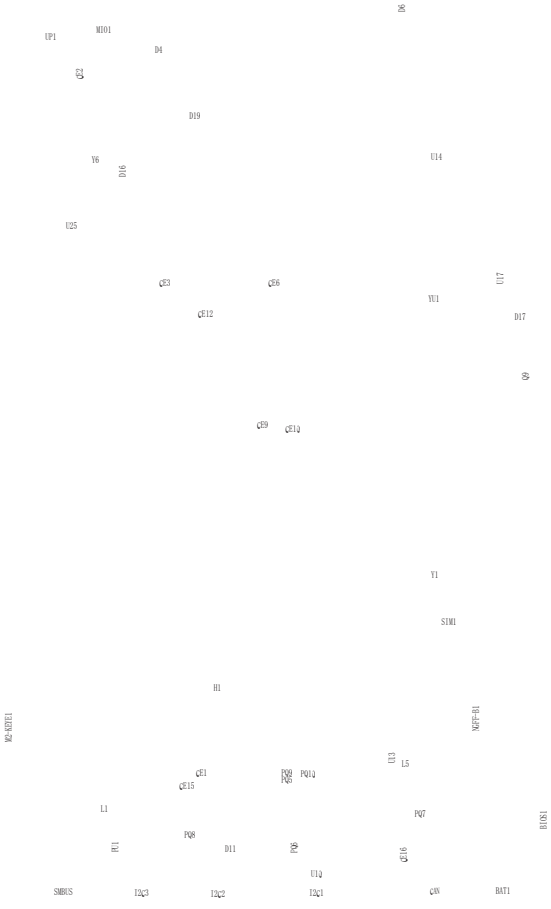
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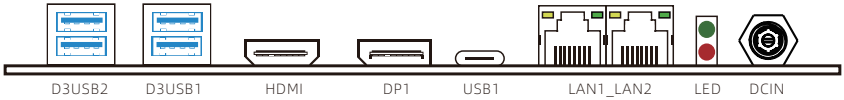
5 30
6 WDT 31
6.1 31
6.1.1 31
6.1.2 33
7 GPIO 34
7.1 GPIO 34
1 35
2 36

1.2

	- Celeron 7305E /1.0GHz/1P+4E/6T/8MB/15W i3-1215UE /1.2-4.4GHz/2P+4E/8T/10MB/15W i5-1245UE /1.5-4.4GHz/2P+8E/12T/12MB/15W i7-1265UE /1.7-4.7GHz/2P+8E/12T/12MB/15W
	- Intel Alder lake U SOC (On-package Intel 600 Series ÿ
	- 2 DDR5 SO-DIMM , DDR5-4800, 64GB
	- Intel UHD for Gen12 (i3) Intel Iris® Xe Graphics (i5&i7)
	- HDMI+DP+LVDS+USB-C Alt. Mode - 1 x LVDS: Dual Channel 18/24-bit, up to 1920 x 1200 - 1 x HDMI 2.0b, up to 4096 x 2160 x 24bpp@60Hz - 1 x DP1.4a, up to 4096 x 2304 x 36bpp@60Hz - 1 x USB Type-C support DP1.4a Alt. Mode
	- 1 SATA 3.0 - 1 M.2 2280 Key-M NvmeSSD
	- Mic-in+Line-out (2x5Pin Wafer) - (3W, 4Pin wafer)
	- 2 Intel : LAN1 i219V, LAN2 i226-V/LM
USB	- USB Type-C USB3.2 Gen2 (support DisplayPort1.4a Alt. Mode) - 4 USB3.2 Type-A, 2 USB2.0
IµC/SMBxs	- 3 4Pin I²C , 1 4Pin SMBus , Wafer
	- COM1, COM2 RS232/422/485 (BIOS) - COM3, COM4 RS232
CAN	- 1 3Pin wafer CANBus 2.0
I/O	- 1 8 I/O
TPM/TCM	- SLB9670 (SLB9672) TPM2.0
	- 1 M.2 Key-B3042 4G/5G (PCIe x1,USB2.0) - 1 M.2 Key-E 2230 (CNVI) - : Mini-PCIe/2xCOM/1xUSB2.0/PS2KB&MS
	- : -10uæ 60uæ, 10%~ 85%, 85~105kPa - : -40uæ~70uæ, 10%~ 85%, 85~105kPa
	- -40uæ~ 85uæ, 5%~ 95% (40uæ), 85~105kPa
Watch Dog	- 255 / ,
BIOS	- AMI UEFI BIOS
	- Win10 x64 h Win11 x64 h Linux Ubuntu 21.04
PCB	- 146mm X 102mm


D6
UP1
MI01
D4
Q21
D19
Y6
D16
U14
U25
QE3
QE6
U17
YU1
QE12
D17
Q9
QE9
QE14
Y1
SIM1
H1
MGF-MAIN1
MGFF-B1
U13
L5
QE1
PQ08
PQ14
QE15
L1
PQ7
B1/B1
PQ8
IVU1
D11
PQ6
QF16
U14
SMBUS
I2C3
I2C2
I2C1
CAN
BAT1

1.6 IO



(h)

- D3USB1/2: USB3.0
- HDMI:
- DP1: DP
- USB1: TYPE-C
- LAN1_LAN2: RJ45
- LED:
- DCIN:

2

2.1

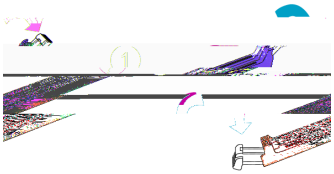
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1. g
2. h g
3. h h h g

:

1. h AC g
2. h g
3. h Ђ
4. 30 h h ժ d ,
   h g Ў ч h h ў
5. h DIMM h g

ў ў ч







ч h h
h g

2.2

2.2.1 Serial ATA

Serial ATA
Serial ATA
Serial ATA ɢ

2.3.2 M2-KEYM1

M.2 h SSD Ң
h 30
h h
ɢ
M.2-KEYM1 ч 1 M.2 2242/2280
Key-M nVMESSD Ң
M.2-KEYE1 ч 1 M.2 Key-E 2230
CNVi h WiFi6 h Wiž/BT Ң
NGFF-B1 ч 1 M.2 Key-B3042
4G/5G Ў PCIe x1 h
USB2.0 ў ɢ

3 &

3.1

2 ч Ÿ Ÿ ÿ ɢ

3 ч 1ʻ 2 2ʻ 3 Ÿ ÿ ɢ



SHORT OPEN OPEN Pin1~2 SHORT Pin2~3 SHORT

1 Ƀ

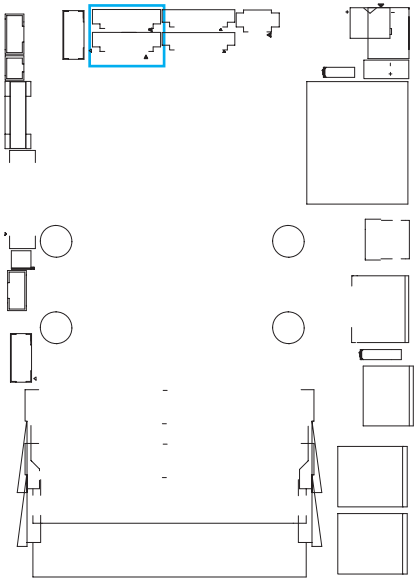
1. h "1" 1 ɢ
2. h ɢ

3.2

JLVDS1 Ÿ LVDS ÿ

1-2	3.3V
3-4	5V

3.3 COM1/2

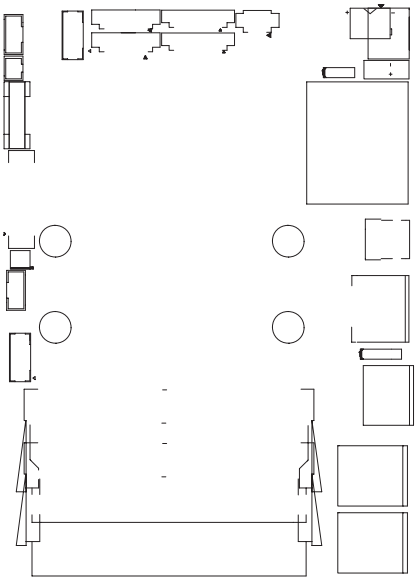


1	DCD-_422TX-_485-
2	RXD_422TX+_485+
3	TXD_422RX+
4	DTR_422RX-
5	GND
6	NDSR
7	NRTS
8	NCTS
9	NRI

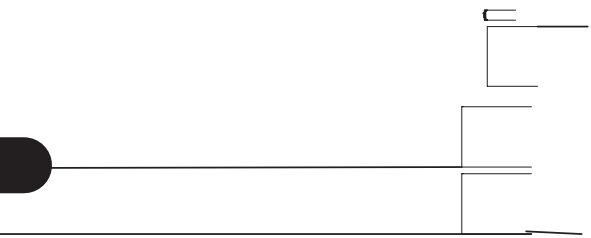
3.5 GPIO1

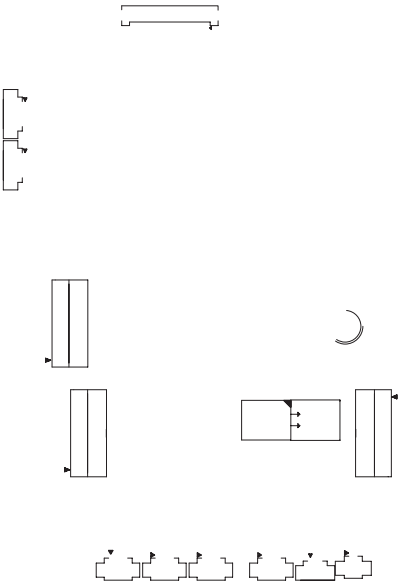


3.7 JSPK1



3.9 F_USB1





3.16 MIO1

1	DCD6#
2	CTS6#
3	RTS6#
4	DSR6#
5	SOUT6
6	SIN6
7	DTR6#
8	RI6#
9	SOUT5
10	DSR5#
11	RTS5#
12	DTR5#
13	CTS5#
14	RI5#
15	DCD5#
16	SIN5
17	MCLK/GP56
18	MDAT/GP57
19	KCLK/GP60
20	KDAT/GP61
21	GND
22	USB_MIO_DP
23	USB_MIO_DN
24	GND
25	PCIRST_N
26	GND
27	PCIE_TXP9
28	PCIE_TXN9
29	GND
30	PCIE_RXP9
31	PCIE_RXN9
32	
33	CLK_PE_P5
34	CLK_PE_N5
35	

4 BIOS

4.1 BIOS

AMI BIOS ɢ BIOS Basic Input Output System(ÿ ɢ
ROM Ÿ Read-Only Memory) ɢ h BIOS
h ч
a. h POST(Power On Self Test) ɢ
b. ɢ
c. Hʊ ɢ
d. SETUP ɢ
BIOS CMOS RAM h
ɢ h h BIOS ɢ CMOS h
BIOS ɢ

4.2 BIOS

BIOS Setup h ɢ BIOS
h h h ɢ
SETUP ч
a. h SETUP Ь
b. ɢ

ч BIOS h h BIOS ɢ
ɢ

4.2.1 BIOS

h h <DEL> BIOS ɢ

Press <Delete> to enter SETUP

Press <F11> to enter Boot Menx

4.2.2

h <Enter> h <F1> h <Esc>
ɢ ɢ

/	
/	
+/ -	/
<Enter>	h
<ESC>	h CMOS SETUP
<F1>	
<F7>	
<F9>	
<F10>	CMOS

4.3 Main

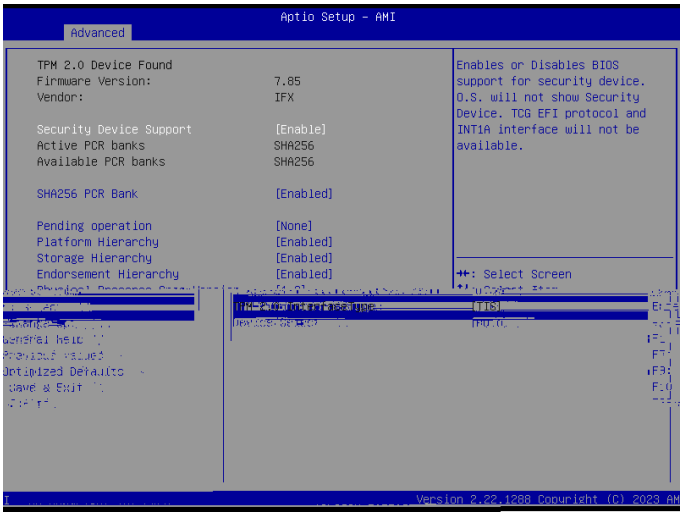


- BIOS Information(BIOS
- S|stem Date ( )
  , d h / / d G
- S|stem Time
  < >< >< > G

4.4 Adyanced

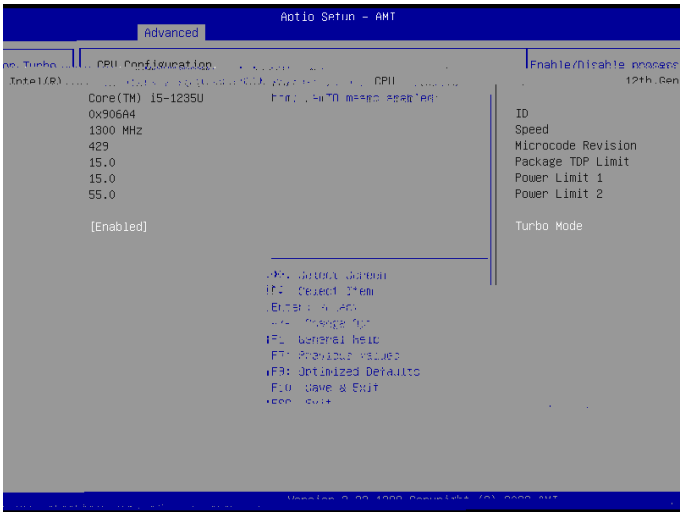


► Trxsted Compxting <Enter>



- Secxrit| Deyice Sxpport
  BIOS
  - ↳ Enabled,Disabled.
- SHA256 PCR Bank
  SHA256 PCR Bank ɢ
  - ↳ Enabled,Disabled.
- Pending operation
  ɢ
  - ↳ None, TPM Clear.
- Platform Hierarch|
  ɢ
  - ↳ Enabled,Disabled.
- Storage Hierarch|
  ɢ
  - ↳ Enabled,Disabled.
- Endorsement Hierarch|
  ɢ
  - ↳ Enabled,Disabled.
- Ph|sical Presence Spec Version
  ɢ
  - ↳ 1.2, 1.3.
- Deyice Select
  ɢ
  - ↳ TPM 1.2 ,TPM 2.0 ,Auto.

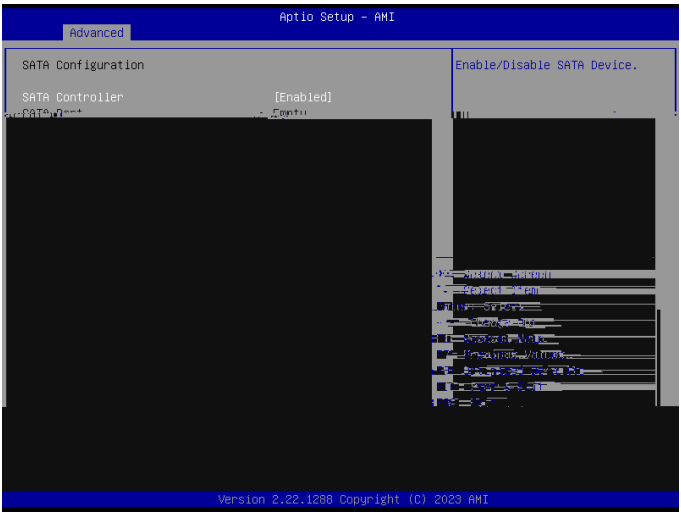
CPU Con gxration <Enter> Щ



- Txrbo Mode
  Turbo G
  ч Enabled,Disabled.

- <Esc> d Advanced d

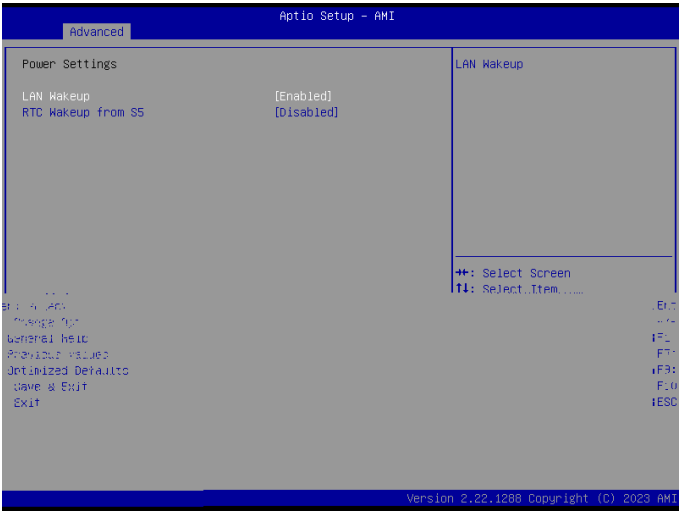
SATA Con gxration <Enter> Щ



- SATA Controllor
  SATA G
  ч Enabled,Disabled.

- <Esc> d Advanced d

► Po z er Settings <Enter>



- LAN Wakexp

  G

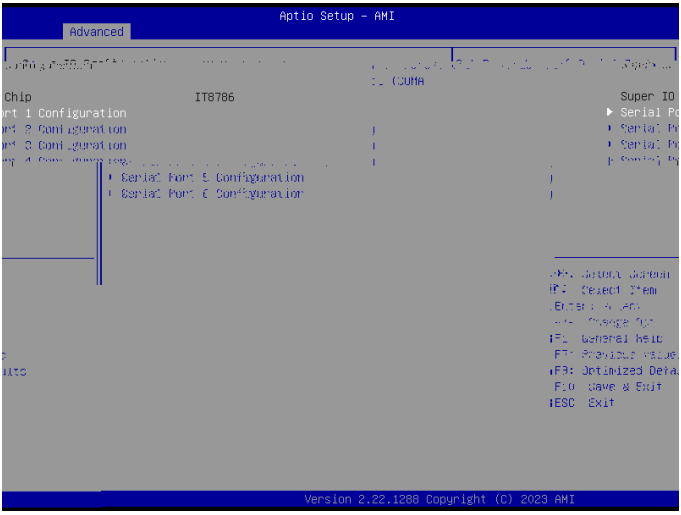
  ↳ Enabled,Disabled.
- RTC Wakexp from S5

  G

  ↳ Enabled,Disabled.

- <Esc> d Advanced d

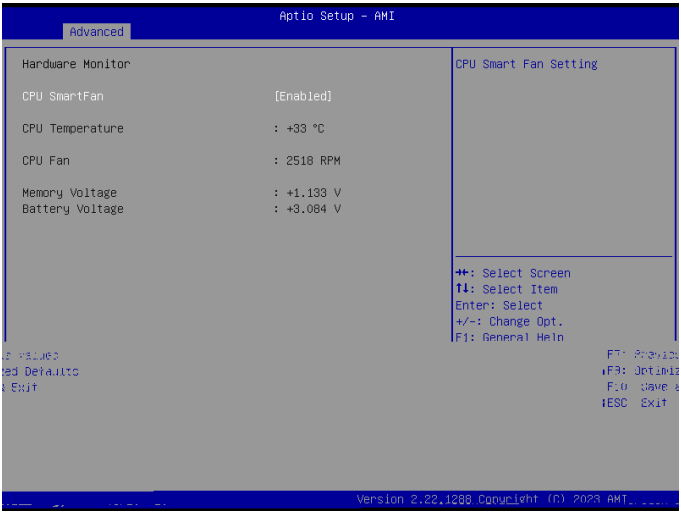
► Sxper IO Con gxration <Enter>



- Serial Port 1/2/3/4/5/6 Con gxration
  G

- <Esc> ⊄ Advanced ⊄

► Hard z are Monitor <Enter>



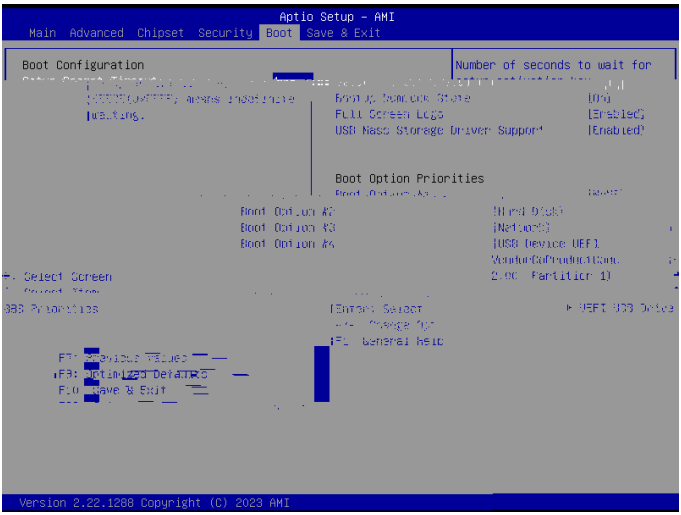
- CPU Smart Fan

  CPU G

  ч Full on Mode,Automatic Mode,Manual Mode.

- <Esc> d Advanced d

4.7 Boot



- Setxp Prompt Timeoxt

  G

- Bootxp NxmLock State

  h Numlock G On h NumLock h

  G Ob h Numlock h G

  ↳ On,Ob.

- Fxll Screen Logo

  G

  ↳ Enabled,Disabled.

- USB Mass Stroage Driyer Sxpport

  USB Mass Storage G

  ↳ Enabled,Disabled.

- Boot Option #1/2/3/4

  h G

  ↳ NVMe,Hard Disk,CD/DVD,USB Hard Disk,USB Key,USB CD/DVD,Net work,UEFI AP.

4.8 Saye & E{it



Saye Changes and Reset

G

Discard Changes and Reset

G

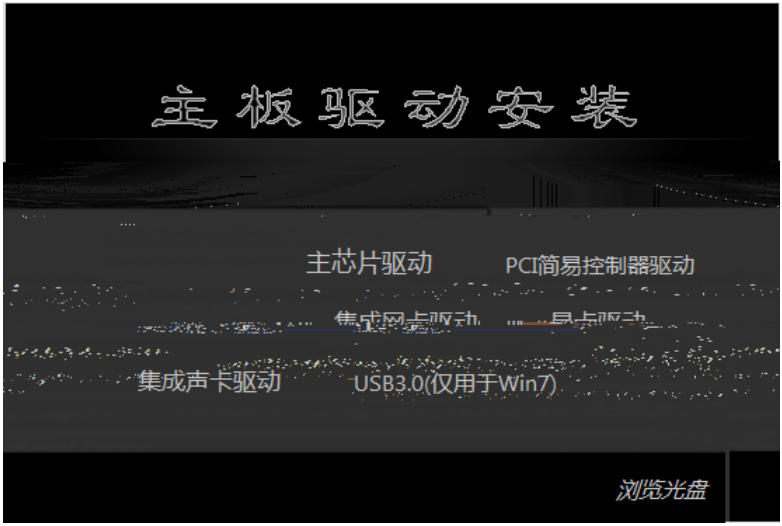
Restore Defaxlts

G

5

h h G

h X ч \AUTORUN.EXE Ÿ X ч ÿ G



(h)

h G

6 WDT

6.1

WDT SIO LDN DEV7, 0X72 BIT7 1 h 0 0XF3 h 0X72 BIT7 1 h 0XF3 0X20 32

6.1.1

```
//enter ite conžg
        IoWrite8(SioIndexPort,0x87);
        IoWrite8(SioIndexPort,0x01);
        IoWrite8(SioIndexPort,0x55);
        IoWrite8(SioIndexPort,0x55);

//select watchdog device
        IoWrite8(SioIndexPort,0x07);
        IoWrite8(SioDataPort,0x07);

 IoWrite8(SioIndexPort, 0xF1);
 temp_data = IoRead8(SioDataPort);
 temp_data &= 0xBB;
 temp_data |= 0x44;
 IoWrite8(SioIndexPort, 0xF1);
 IoWrite8(SioDataPort, temp_data);
 //MAP to GP40
 IoWrite8(SioIndexPort, 0xF4);
 temp_data = IoRead8(SioDataPort);
```

```
  loWrite8(SioIndexPort, 0x72);
  temp_data = loRead8(SioDataPort);

  temp_data &= 0x1f;
  temp_data |= 0xC0;
  //minute or second BIT7 1->second  0->minute
  if(ite_watch_dog_element->wdt_unit == 1){
     temp_data &= 0x7f;
  }

  loWrite8(SioIndexPort, 0x72);
  loWrite8(SioDataPort, temp_data);


  //Clear Status
  loWrite8(SioIndexPort, 0x71);
  temp_data = loRead8(SioDataPort);
  temp_data &= 0xfe;
  loWrite8(SioIndexPort, 0x71);
  loWrite8(SioDataPort, temp_data);

  //Count
  loWrite8(SioIndexPort, 0x74);
  loWrite8(SioDataPort, 0x0);
  loWrite8(SioIndexPort, 0x73);
  loWrite8(SioDataPort, ite_watch_dog_element->wdt_time);
        //printf("wdt start:%x\n",loRead8(data));
}
```

	CPU				USB3	USB2	COM	LAN	M.2
AIoT3-ADUO5	7305E	2 DDR4	4	1	4	2	4	2	1


10