GA-WRX80-SU8-IPMI

User's Manual

Rev. 1001

GIGABYTE™

Giga-Byte Technology B.V.

Declaration of Conformity

We, Manufacturer/Importer,

Giga-Byte Technology B.V

Address: **Steenoven 24, 5626 DK, Eindhoven, The Netherlands**

Declare that the product

Product Type: **Server board**

Product Name: **GA-WRX80-SU8-IPMI**

conforms with the essential requirements of the following directives:

☒ **EMC Directive 2014/30/EU:**

☒ Conduction & Radiated Emissions:	EN 55032:2012+AC:2013	
☒ Immunity:	EN 55024:2010+A1:2015	
☒ Power-line harmonics:	EN 61000-3-2:2014	
☒ Power-line flicker:	EN 61000-3-3:2013	

☒ **Low Voltage Directive 2014/35/EU:**

☒ Safety:	EN60950-1:2006+A11:2009+A12:2011+A2:2013

☒ **RoHS Directive 2011/65/EU:**

☒ Restriction of use of certain substances in electronic equipment:	This product does not contain any of the restricted substances listed in Annex II, in concentrations and applications banned by the directive.

☒ **CE marking**

$C\epsilon$

Date: **Dec. 11, 2020**

Signature:

Name: Lien, Chih-Hsin

Giga-Byte Technology B.V.
Steenoven 24,
5626 DK, Eindhoven, The Netherlands

Tel: +31 40 2902088
Fax: +31 40 2902089
Email: info@giga-byte.nl

K.v.K. Oost-Brabant Nr.17136559
V.A.T. number: NL809893265B01

USD : CITIBANK TAIWAN   SWIFT: CITITWTX Account: 5049120518
EURO : CITIBANK AMSTERDAM   SWIFT: CITINL2X IBAN: NL70CITI0266022650

Federal Communications Commission

Supplier's Declaration of Conformity

This supplier's declaration of conformity is hereby for

Product: SERVER BOARD

Model Number(s): GA-WRX80-SU8-IPMI

Brand/Trade: GIGABYTE

We declare under our sole responsibility that the above mentioned device has been tested and found in compliance with CFR 47 PART 15 REGULATION.

THIS DEVICE COMPLIES WITH PART 15 OF THE 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.

Responsible Party – U.S. Contact Information

Company: G.B.T.INC.(U.S.A)
Address: 17358 Railroad Street City of Industry, CA 91748

Country: U.S.A.
Telephone No:(626)854-9338 / (626)854-9326
Name:Eric Lu   Title: General Manager
Signature: Date:Dec. 11, 2020

Representative of Responsible Party for SDoC

Company: G.B.T.INC.(U.S.A)
Address: 17358 Railroad Street City of Industry, CA 91748

Country: U.S.A.
Telephone No:(626)854-9338 / (626)854-9326
Name:Eric Lu   Title: General Manager
Signature: Date:Dec. 11, 2020

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Box Contents

☑ GA-WRX80-SU8-IPMI motherboard

☑ Motherboard driver disc ☑ Four SATA cables

☑ Quick Installation Guide ☑ I/O Shield

GA-WRX80-SU8-IPMI Motherboard Block Diagram

8-Channel DDR4 (1 DIMM/per channel)
Speed up to 3200 MHz

Slot 1: PCIe x16 — PCIe Gen 4

Slot 2: PCIe x8

Slot 3: PCIe x16

Slot 4: PCIe x16

Slot 5: PCIe x16

Slot 6: PCIe x16

Slot 7: PCIe x16

AMD EPYC Socket SP3

DIMM-A1
DIMM-B1
DIMM-C1
DIMM-D1
DIMM-E1
DIMM-F1
DIMM-G1
DIMM-H1

2 10GbE LAN

Intel® X550 — PCIe Gen 4 x4

2 M.2 Socket 3 (PCIe/SATA) — PCIe Gen 4 x4

2 SATA GPIO

1 Rear USB Type-C®, with USB 3.2 Gen 2 support

3 Rear USB 3.2 Gen 2 Type A

PCIE UPLINK PCIEX8

2 SlimSAS (PCIe/SATA)

SlimSAS (PCIe) — PCIe Gen 4 x4

PCIe Gen 4 x4

VGA

COM

COM

ASPEED® AST2500 BMC — PCIe x1 / USB2

AMD 500 Series Premium Chip

USB2

PCIe x1

PCIe x1

Realtek® ALC1220-VB

Realtek® ALC4050 USB CODEC

Audio Jacks + S/PDIF Out

1 Front USB Type-C®, with USB 3.2 Gen 2 support

2 Rear USB 3.2 Gen 2 Type A

1 Front USB 3.2 Gen 1 Type A (Vertical)

4 Front USB 3.2 Gen 1 Type A

2 Front USB 2.0 Type A

4 SATA 6Gb/s

Intel® I210 NCSI — GbE LAN1

Intel® I210 NCSI — GbE LAN2

Chapter 1   Hardware Installation

1-1   Installation Precautions

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Prior to installation, carefully read the user's manual and follow these procedures:

- • Prior to installation, make sure the chassis is suitable for the motherboard.
- • Prior to installation, do not remove or break motherboard S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation.
- • Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.
- • When connecting hardware components to the internal connectors on the motherboard, make sure they are connected tightly and securely.
- • When handling the motherboard, avoid touching any metal leads or connectors.
- • It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a motherboard, CPU or memory. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.
- • Prior to installing the motherboard, please have it on top of an antistatic pad or within an electrostatic shielding container.
- • Before connecting or unplugging the power supply cable from the motherboard, make sure the power supply has been turned off.
- • Before turning on the power, make sure the power supply voltage has been set according to the local voltage standard.
- • Before using the product, please verify that all cables and power connectors of your hardware components are connected.
- • To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components.
- • Make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- • Do not place the computer system on an uneven surface.
- • Do not place the computer system in a high-temperature or wet environment.
- • Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
- • If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.
- • If you use an adapter, extension power cable, or power strip, ensure to consult with its installation and/or grounding instructions.

1-2   Product Specifications

CPU	◆	AMD Ryzen™ Threadripper™ PRO 3000WX (up to 64C)
	◆	Single sWRX8 4094 socket; CPU TDP supports up to 280W
Chipset	◆	AMD WRX80 Chipset
Memory	◆	8 x DDR4 DIMM sockets supporting up to 1 TB of system memory
	◆	8 channels memory architecture (1 DIMM per channel)
	◆	Support up to DDR4 3200/2933/2600 MHz
	◆	Support for UDIMM (ECC), RDIMM, 3DS RDIMM and LRDIMM memory modules
	◆	Support system memory capacity up to 1024 GB
Onboard Graphics	◆	1 x D-Sub port, supporting a maximum resolution of 1920x1200@60 Hz
Audio	◆	Realtek® ALC1220-VB CODEC
	◆	High Definition Audio
	◆	2/4/5.1/7.1-channel
	◆	Support for S/PDIF Out
LAN	◆	Dual Intel® X550 10 GbE LAN
	◆	Dual Intel® i210AT GbE LAN (NCSI MLAN)
Expansion Slots	◆	(Slot7) PCIe x16 (running at Gen 4 x16)
	◆	(Slot6) PCIe x16 (running at Gen 4 x16)
	◆	(Slot5) PCIe x16 (running at Gen 4 x16)
	◆	(Slot4) PCIe x16 (running at Gen 4 x16)
	◆	(Slot3) PCIe x16 (running at Gen 4 x16)
	◆	(Slot2) PCIe x16 (running at Gen 4 x8)
	◆	(Slot1) PCIe x16 (running at Gen 4 x16)
Storage Interface	◆	4 x SATA 6Gb/s connectors (support for software RAID 0, RAID1, RAID5, and RAID10)
	◆	2 x M.2 connectors (Socket 3, M key, type 2242/2280, supporting PCIe Gen 4 x4 or SATA mode)
	◆	2 x slimSAS (PCIe Gen 4 x4 or 4x SATAIII) + 1 x slimSAS (PCIe Gen 4 x4) connectors
USB	◆	1 x USB Type-C® port on the back panel, with USB 3.2 Gen 2 support
	◆	5 x USB 3.2 Gen 2 Type-A ports (red) on the back panel
	◆	1 x USB Type-C® header onboard, with USB 3.2 Gen 2 support
	◆	2 x USB 3.2 Gen 1 header onboard
	◆	1 x USB 3.2 Gen 1 vertical connector onboard
	◆	1 x USB 2.0 header on board
Internal Connectors	◆	1 x 24-pin ATX main power connector
	◆	1 x 8-pin ATX 12V CPU power connector
	◆	1 x 8-pin ATX 12V GPU power connector
	◆	1 x CPU fan header
	◆	6 x system fan headers
	◆	4 x SATA 6Gb/s connectors
	◆	2 x M.2 Socket 3 connectors
	◆	3 x slimSAS connectors
	◆	1 x front panel header
	◆	1 x front panel audio header

Internal Connectors	◆ 1 x USB Type-C® header, with USB 3.2 Gen 2 support ◆ 1 x USB 3.2 Gen 1 vertical connector ◆ 2 x USB 3.2 Gen 1 header ◆ 1 x USB 2.0 header ◆ 1 x Thunderbolt™ add-in card connector ◆ 1 x Trusted Platform Module(TPM) header (2x6 pin, for the GC-TPM2.0_S module only) ◆ 1 x serial port header ◆ 1 x chassis intrusion header ◆ 1 x Clear CMOS jumper ◆ 2 x SATA SGPIO headers ◆ 1 x BMC_VGA jumper ◆ 1 x BMC_WATCHD jumper ◆ 1 x SMB_IPMB connector ◆ 1 x PMBUS header ◆ 1 x Speaker
Back Panel Connectors	◆ 1 x D-sub port ◆ 1 x serial port ◆ 1 x USB 3.2 Gen 2 Type-C port (red) ◆ 5 x USB 3.2 Gen 2 Type-A port (red) ◆ 2 x GbE RJ-45 ports ◆ 2 x 10GbE RJ-45 ports ◆ 1 x optical S/PDIF Out connector ◆ 5 x audio jacks
I/O Controller	◆ ASPEED® AST2500 BMC chip
Hardware Monitor	◆ Voltage detection ◆ Temperature detection ◆ Fan speed detection ◆ Fan speed control 　　* Whether the fan speed control function is supported will depend on the fan you install.
Operating Properties	◆ Operating temperature: 10°C to 40°C ◆ Operating humidity: 8 - 80% ◆ Non-operating temperature: -40°C to 70°C ◆ Non-operating humidity: 5% - 95%
Form Factor	◆ CEB Form Factor; 30.5cm x 26.7cm
Operating System	◆ Windows 10 ◆ Linux

* GIGABYTE reserves the right to make any changes to the product specifications and product-related information without prior notice.
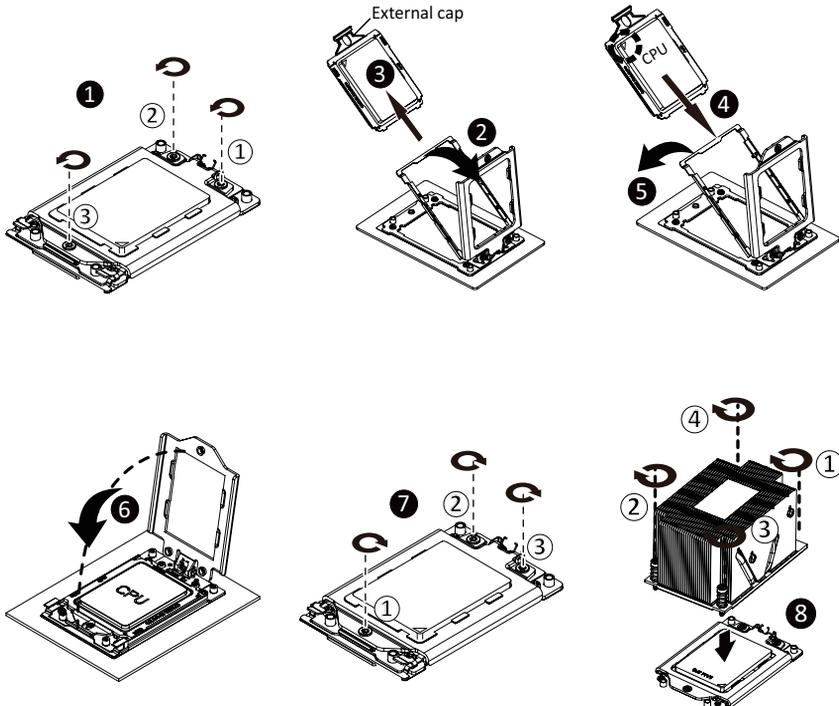
1-3 Installing the CPU

Read the following guidelines before you begin to install the CPU:
- Make sure that the motherboard supports the CPU.
- Always turn off the computer and unplug the power cord from the power outlet before installing the CPU to prevent hardware damage.
- Locate the pin one of the CPU. The CPU cannot be inserted if oriented incorrectly. (Or you may locate the notches on both sides of the CPU and alignment keys on the CPU socket.)
- Apply an even and thin layer of thermal grease on the surface of the CPU.
- Do not turn on the computer if the CPU cooler is not installed, otherwise overheating and damage of the CPU may occur.
- Set the CPU host frequency in accordance with the CPU specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the standard requirements for the peripherals. If you wish to set the frequency beyond the standard specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

Installing the CPU
Locate the alignment keys on the motherboard CPU socket and the notches on the CPU.

External cap

1-4 Installing the Memory

Read the following guidelines before you begin to install the memory:
• Make sure that the motherboard supports the memory. It is recommended that memory of the same capacity, brand, speed, and chips be used.
  (Go to GIGABYTE's website for the latest supported memory speeds and memory modules.)
• Always turn off the computer and unplug the power cord from the power outlet before installing the memory to prevent hardware damage.
• Memory modules have a foolproof design. A memory module can be installed in only one direction. If you are unable to insert the memory, switch the direction.

4 Channel Memory Configuration

This motherboard supports 8 Channel Technology. After the memory is installed, the BIOS will automatically detect the specifications and capacity of the memory.

The eight DDR4 memory sockets are divided into eight channels and each channel has one memory socket as following:
▸ Channel 1: P1-DIMM_A1
▸ Channel 2: P1-DIMM_B1
▸ Channel 3: P1-DIMM_D1
▸ Channel 4: P1-DIMM_D1
▸ Channel 5: P1-DIMM_E1
▸ Channel 6: P1-DIMM_F1
▸ Channel 7: P1-DIMM_G1
▸ Channel 8: P1-DIMM_H1

Due to CPU limitations, read the following guidelines before installing the memory in 8 Channel mode.
◆ When enabling 8 Channel mode with eight memory modules, it is recommended that memory of the same capacity, brand, speed, and chips be used.
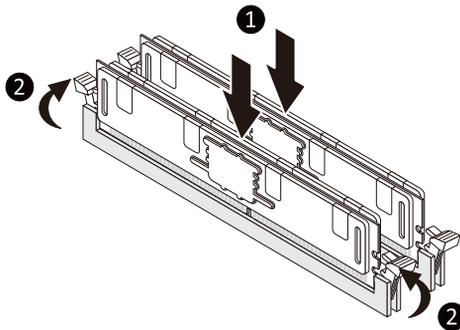
1-5 Back Panel Connectors
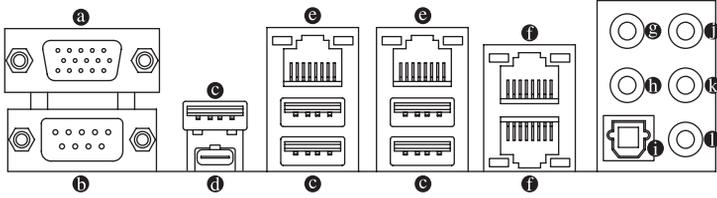
ⓐ **D-Sub Port**

The D-Sub port supports a 15-pin D-Sub connector and supports a maximum resolution of 1920x1200@60 Hz (the actual resolutions supported depend on the monitor being used). Connect a monitor that supports D-Sub connection to this port.

ⓑ **COM Port**

Use this port to connect devices such as a mouse, modem or other peripherals.

ⓒ **USB 3.2 Gen 2 Type-A Port (Red)**

The USB 3.2 Gen 2 Type-A port supports the USB 3.2 Gen 2 specification and is compatible to the USB 3.2 Gen 1 and USB 2.0 specification. Use this port for USB devices.

ⓓ **USB Type-C® Port**

The reversible USB port supports the USB 3.2 Gen 2x2 specification and is compatible to the USB 3.2 Gen 2, USB 3.2 Gen 1, and USB 2.0 specifications. Use this port for USB devices.

ⓔ **GbE LAN Port (LAN1~2)**

The Gigabit Ethernet LAN port provides Internet connection at up to 1 Gbps data rate. The following describes the states of the LAN port LEDs.
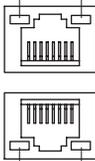

Activity LED   Link LED

LAN Port

LED	State	Description
Link (Right)	Solid Green	100 Mbps data rate
	Solid Amber	1 Gbps data rate
Activity (Left)	Blinking Yellow	Active

ⓕ **10 GbE LAN Port**

The Gigabit Ethernet LAN port provides Internet connection at up to 10 Gbps data rate. The following describes the states of the LAN port LEDs.

Activity LED   Link LED

Link LED   Activity LED

LED	State	Description
Link (Right)	Solid Amber	10 Gbps data rate
	Solid Green	1 Gbps data rate
Activity (Left)	Blinking Yellow	Active

> ⚠ • When removing the cable connected to a back panel connector, first remove the cable from your device and then remove it from the motherboard.
> • When removing the cable, pull it straight out from the connector. Do not rock it side to side to prevent an electrical short inside the cable connector.

ⓖ **Center/Subwoofer Speaker Out**
Use this audio jack to connect center/subwoofer speakers.

ⓗ **Rear Speaker Out**
Use this audio jack to connect rear speakers.

ⓘ **Optical S/PDIF Out Connector**
This connector provides digital audio out to an external audio system that supports digital optical audio. Before using this feature, ensure that your audio system provides an optical digital audio in connector.

ⓙ **Line In/Side Speaker Out**
The line in jack. Use this audio jack for line in devices such as an optical drive, walkman, etc.

ⓚ **Line Out/Front Speaker Out**
The line out jack. This jack supports audio amplifying function. For better sound quality, it is recommended that you connect your headphone/speaker to this jack (actual effects may vary by the device being used).
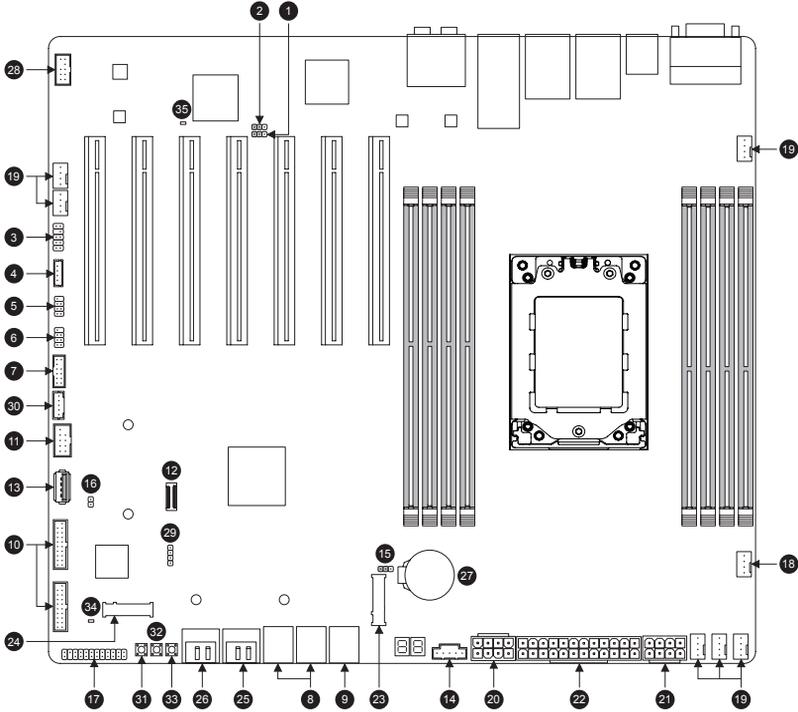
ⓛ **Mic In**
The Mic in jack.

Audio Jack Configurations:

Jack	Headphone/ 2-channel	4-channel	5.1-channel	7.1-channel
ⓖ Center/Subwoofer Speaker Out			✔	✔
ⓗ Rear Speaker Out		✔	✔	✔
ⓙ Line In/Side Speaker Out				✔
ⓚ Line Out/Front Speaker Out	✔	✔	✔	✔
ⓛ Mic In				✔

• If you want to install a Side Speaker, you need to retask the Line in jack to be Side Speaker out through the audio driver.
• To enable or configure the audio amplifying function for the Line out jack, please access the Realtek Audio Console application.

1-6   Internal Connectors

1	BMC_VGA	11	FUSB2	21	ATX_PCIE	31	PWR_SW
2	BMC_WATCHD	12	F_USB32C	22	ATX	32	RST_SW
3	COM2	13	USB30V	23	P_X4_M2_A	33	QF_SW
4	SMB_IPMB	14	PMBUS	24	P_X4_M2_B	34	F_LED1
5	I_SGPIO1	15	CLR_CMOS	25	SATA_0_1	35	BMC_LED1
6	I_SGPIO2	16	CI	26	SATA_2_3		
7	TPM	17	F_PANEL	27	BAT		
8	SL_CN1/CN2	18	CPU_FAN1	28	F_AUDIO		
9	SL_CN3	19	SYS_FAN1~6	29	SPEAKER		
10	FUSB30_1/2	20	ATX_CPU	30	TBT		

Read the following guidelines before connecting external devices:
• First make sure your devices are compliant with the connectors you wish to connect.
• Before installing the devices, be sure to turn off the devices and your computer. Unplug the power cord from the power outlet to prevent damage to the devices.
• After installing the device and before turning on the computer, make sure the device cable has been securely attached to the connector on the motherboard.

1) BMC_VGA

1 [o o o]

Pin	Definition
1-2	Enable (Default)
2-3	Disable

2) BMC_WATCHD

1 [o o o]

Pin	Definition
1-2	Enable
2-3	Disable (Default)

3) COM2 (Serial Port Header)

10 [ ] 9
2 [ ] 1

Pin	Definition	Pin	Definition
1	NDCD-	2	NSIN
3	NSOUT	4	NDTR-
5	GND	6	NDSR-
7	NRTS-	8	NCTS-
9	NRI-	10	-

4) SMB_IPMB

1

Pin	Definition
1	SMB_DATA
2	GND
3	SMB_CLK
4	NA

5) I_SGPIO1 (For SATA_0_1)

6) I_SGPIO2 (For SATA_2_3)

Pin	Definition	Pin	Definition
1	NA	2	-
3	SATA_DATA	4	GND
5	GND	6	SATA_LOAD
7	NA	8	SATA_CLK

7) TPM (Trusted Platform Module/Port 80 Header)

Pin	Definition	Pin	Definition
1	LPC_IO0	2	P3V3
3	LPC_IO1	4	-
5	LPC_IO2	6	TPM_CLK
7	LPC_IO3	8	GND
9	LFRAME#	10	NA
11	SERIRQ	12	TPM_RST

8) SL_CN1/SL_CN2
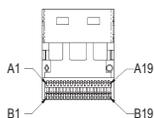
Pin	Definition	Pin	Definition
B1	GND	A1	GND
B2	Tx0+/SATA1_TX+	A2	Rx0+/SATA1_RX+
B3	Tx0-/SATA1_TX-	A3	Rx0-/SATA1_RX-
B4	GND	A4	GND
B5	Tx1+/SATA2_TX+	A5	Rx1+/SATA2_RX+
B6	Tx1-/SATA2_TX-	A6	Rx1-/SATA2_RX-
B7	GND	A7	GND
B8	SB0	A8	SB7
B9	SB1	A9	SB4
B10	SB2	A10	SB3
B11	SB5	A11	Clock+
B12	SB6	A12	Clock-
B13	GND	A13	GND
B14	Tx2+/SATA3_TX+	A14	Rx2+/SATA3_RX+
B15	Tx2-/SATA3_TX-	A15	Rx2-/SATA3_RX-
B16	GND	A16	GND
B17	Tx3+/SATA4_TX+	A17	Rx3+/SATA4_RX+
B18	Tx3-/SATA4_TX-	A18	Rx3-/SATA4_RX-
B19	GND	A19	GND

9) SL_CN3
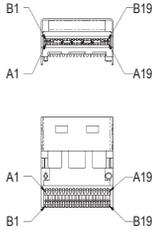
Pin	Definition	Pin	Definition
B1	GND	A1	GND
B2	Tx0+	A2	Rx0+
B3	Tx0-	A3	Rx0-
B4	GND	A4	GND
B5	Tx1+	A5	Rx1+
B6	Tx1-	A6	Rx1-
B7	GND	A7	GND
B8	SB0	A8	SB7
B9	SB1	A9	SB3
B10	SB8	A10	SB9
B11	SB2	A11	SB4
B12	SB6	A12	SB5
B13	GND	A13	GND
B14	Tx2+	A14	Rx2+
B15	Tx2-	A15	Rx2-
B16	GND	A16	GND
B17	Tx3+	A17	Rx3+
B18	Tx3-	A18	Rx3-
B19	GND	A19	GND

10) FUSB30_1/FUSB30_2 (USB 3.2 Gen 1 Headers)
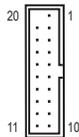
Pin	Definition	Pin	Definition
1	VBUS	11	D2+
2	SSRX1-	12	D2-
3	SSRX1+	13	GND
4	GND	14	SSTX2+
5	SSTX1-	15	SSTX2-
6	SSTX1+	16	GND
7	GND	17	SSRX2+
8	D1-	18	SSRX2-
9	D1+	19	VBUS
10	NC	20	-

11) FUSB2 (USB 2.0/1.1 Header)

Pin	Definition	Pin	Definition
1	Power (5V)	2	Power (5V)
3	USB DX-	4	USB DY-
5	USB DX+	6	USB DY+
7	GND	8	GND
9	-	10	NC

12) F_USB32C (USB Type-C® Header with USB 3.2 Gen 2 Support)

Pin	Definition	Pin	Definition
1	VBUS	11	VBUS
2	TX1+	12	TX2+
3	TX1-	13	TX2-
4	GND	14	GND
5	RX1+	15	RX2+
6	RX1-	16	RX2-
7	VBUS	17	GND
8	CC1	18	D-
9	SBU1	19	D+
10	SBU2	20	CC2

13) USB30V (USB 3.2 Gen 1 Connector)

14) PMBUS (Power supply I2C Connector)

Pin	Definition
1	SMB_CLK
2	SMB_DATA
3	PSU_ALERT
4	GND
5	P3V3

15) CLR_CMOS

Pin	Definition
1-2	NA (Default)
2-3	Clear CMOS

16) CI

Pin	Definition
1	Intrusion Input
2	GND

17) F_PANEL

Pin	Definition	Pin	Definition
1	Power LED+	2	5V Standby
3	-	4	ID LED+
5	Power LED-	6	ID LED-
7	HDD LED+	8	System Status LED+
9	HDD LED1	10	System Status LED-
11	Power Button	12	LAN1 Active LED+
13	GND	14	LAN1 Link LED-
15	Reset Button	16	SMBus Data
17	GND	18	SMBus Clock
19	ID Button	20	Case Open
21	GND	22	LAN2 Active LED+
23	NMI Switch	24	LAN2 Link LED-

18) CPU_FAN1
19) SYS_FAN1~6

Pin	Definition
1	GND
2	P12V
3	FAN_TACH
4	FAN_PWM

20/21) ATX_CPU/ATX_PCIE (2x4, 12V Power Connectors)
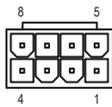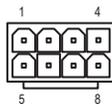
ATX_CPU   ATX_PCIE

22) ATX (2x12 Main Power Connector)

23/24) P_X4_M2_A/P_X4_M2_B (M.2 Socket 3 Connectors)

80

40

80   40

P_X4_M2_B   P_X4_M2_A
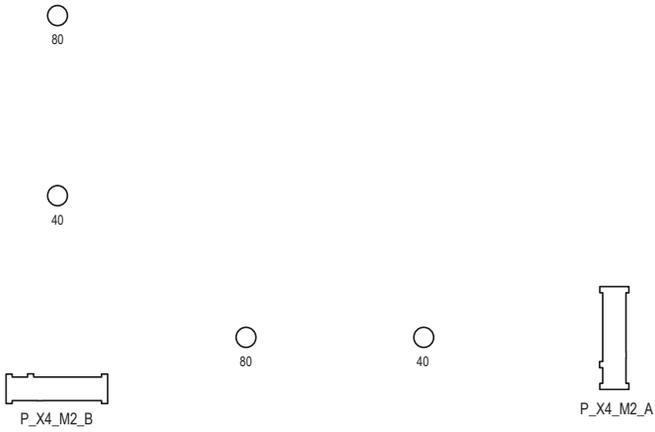
25/26) SATA_0_1/SATA_2_3 (SATA 6Gb/s Connectors)

SATA3   SATA1
SATA2   SATA0
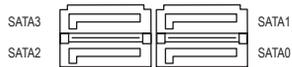
27) BAT
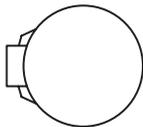
28) F_AUDIO

Pin	Definition	Pin	Definition
1	MIC2_L	2	GND
3	MIC2_R	4	NC
5	LINE2_R	6	Sense
7	FAUDIO_JD	8	No Pin
9	LINE2_L	10	Sense

29) SPEAKER

Pin	Definition
1	5V
2	NA
3	NA
4	SPK-

30) TBT (Thunderbolt™ Pin Header)

Pin	Definition
1	FORCE_POWER
2	SCI_EVENT
3	SLP_S3
4	SLP_S4
5	GND

31) PWR_SW (Power Button)
32) RST_SW (Reset Button)
33) QF_SW (Q-Flash Plus Button)

PWR_SW   QF_SW

RST_SW
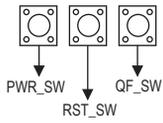
34) F_LED1 (Onboard Power LED)

State	Description
Solid Red	Standby
Solid Green	Power On

35) BMC_LED1 (BMC Heartbeat LED)

State	Description
Blinking Green	BMC Normal

Chapter 2   BIOS Setup

BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. Its major functions include conducting the Power-On Self-Test (POST) during system startup, saving system parameters and loading operating system, etc. BIOS includes a BIOS Setup program that allows the user to modify basic system configuration settings or to activate certain system features.
When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS to keep the configuration values in the CMOS.
To access the BIOS Setup program, press the <Delete> key during the POST when the power is turned on.

> • Because BIOS flashing is potentially risky, if you do not encounter problems using the current version of BIOS, it is recommended that you not flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.
> • It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values. (Refer to the "Load Optimized Defaults" section in this chapter or introductions of the battery/clear CMOS jumper in Chapter 1 for how to clear the CMOS values.)

2-1   Startup Screen

The following startup Logo screen will appear when the computer boots.

2-2 Main

Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press <Enter> to accept or enter a sub-menu.
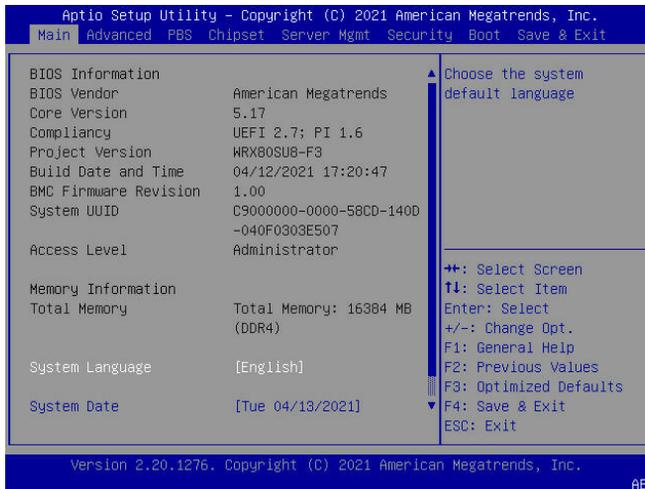
Main Menu Help
The on-screen description of a highlighted setup option is displayed on the right of the Main Menu.
Submenu Help
While in a submenu, press <F1> to display a help screen (General Help) of function keys available for the menu. Press <Esc> to exit the help screen. Help for each item is in the Item Help block on the right side of the submenu.

> • When the system is not stable as usual, select the **Restore Defaults** item to set your system to its defaults.
> • The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

```
          Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.
     Main  Advanced  PBS  Chipset  Server Mgmt  Security  Boot  Save & Exit

   BIOS Information                                ▲ Choose the system
   BIOS Vendor               American Megatrends     default language
   Core Version              5.17
   Compliancy                UEFI 2.7; PI 1.6
   Project Version           WRX80SU8-F3
   Build Date and Time       04/12/2021 17:20:47
   BMC Firmware Revision     1.00
   System UUID               C9000000-0000-58CD-140D
                             -040F0303E507

   Access Level              Administrator
                                                   →←: Select Screen
   Memory Information                              ↑↓: Select Item
   Total Memory              Total Memory: 16384 MB Enter: Select
                             (DDR4)                 +/-: Change Opt.
                                                    F1: General Help
   System Language           [English]             F2: Previous Values
                                                    F3: Optimized Defaults
   System Date               [Tue 04/13/2021]   ▼  F4: Save & Exit
                                                    ESC: Exit

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                                                                        AB
```

This section provides information on your motherboard model and BIOS version. You can also select the default language used by the BIOS and manually set the system time.

☞ **System Language**
Selects the default language used by the BIOS.

☞ **System Date**
Sets the system date. The date format is week (read-only), month, date, and year. Use <Enter> to switch between the Month, Date, and Year fields and use the <+> or <-> key to set the desired value.

☞ **System Time**
Sets the system time. The time format is hour, minute, and second. For example, 1 p.m. is 13:00:00. Use <Enter> to switch between the Hour, Minute, and Second fields and use the <+> or <-> key to set the desired value.

2-3 Advanced
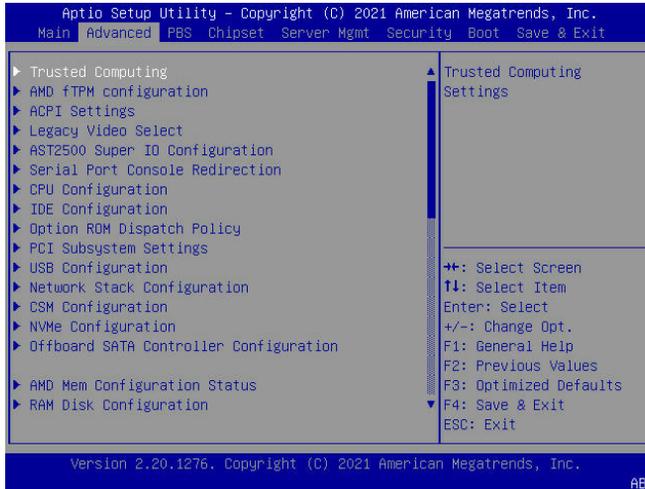
▶ **Trusted Computing(TPM)**
  Enables or disables Trusted Platform Module (TPM).

▶ **AMD fTPM**

☞ **AMD fTPM switch**
  Allows you to select the TPM device. Options are: AMD CPU fTPM, OffBoard LPC TPM, OnBoard SPI TPM. (Default: AMD CPU fTPM)

☞ **Erase fTPM NV for factory reset**
  When new CPU is installed, select **Enabled** to reset fTPM, if you have BitLocker or encryption-enabled system, the system will no boot without a recovery key. Select **Disabled** to keep previous fTPM record and continue system boot, fTPM will NOT be enabled with new CPU unless fTPM is reset (reinitialized), you could swap back to the old CPU to recover TPM related keys and data. (Default: Enabled)

▶ **ACPI Settings**

☞ **Enable ACPI Auto Configuration**
  Enables or disables BIOS ACPI auto configuration. (Default: Disabled)

☞ **Enable Hibernation**
  Enables or disables system ability to Hibernate (OS/S4 sleep state). This option may not be effective with some operating systems. (Default: Enabled)

☞ **ACPI Sleep State**
  Select the highest ACPI sleep state the system will enter when the suspend button is pressed.
  Options are: Suspend Disabled and S3 (Suspend to RAM) (Default).

▶ **Legacy Video Select**

☞ **On Board/External VGA Select**
  Specifies the first initiation of the monitor display from the onboard graphics or the external graphics card. (Default: Onboard)

▶ **AST2500 Super IO Configuration**

☞ **Serial Port 1 Configuration (the COM Port on the back panel)**

  ☞ **Serial Port**
    Enables or disables the serial port on the back panel.

  ☞ **Change Settings**
    Select an optimal settings for Super IO Device. (Default: Auto)
    Please note that This item is available when **Serial Port** is set to **Enabled**.

☞ **Serial Port 2 Configuration (the onboard COM2 Header)**

  ☞ **Serial Port**
    Enables or disables the onboard serial port.

  ☞ **Change Settings**
    Select an optimal settings for Super IO Device. (Default: Auto)
    Please note that This item is available when **Serial Port** is set to **Enabled**.

▶ **Serial Port Console Redirection**
This section allows you to enable/disable serial port console redirection for remote server management through a serial port.

▶ **CPU Configuration**

☞ **SVM Mode**
Enables or disables the CPU Virtualization Technology. (Default: Enabled)

☞ **SMM Mode**
Enables or disables the CPU SMM Lock function. (Default: Enabled)

☞ **CPU 0 Information**
This item shows the CPU informations.

▶ **IDE Configuration**
This section allows you to configure the onboard IDE devices.

▶ **Option ROM Dispatch Policy**

☞ **Restore if Failure**
If system fails to boot and this option is set to **Enabled**, software will reset settings of this page as well as CSM page to its default values automatically. (Default: Disabled)

☞ **Primary Video Ignore**
If software will detect that due to the Policy settings, Option ROM of Primary Video Device will not dispatch, it will ignore this device policy settings, and restore it to **Enable** automatically. (Default: Enabled)

☞ **On Board Display Controller**
Enables or disables the onboard display controller. (Default: Enabled)

☞ **On Board Network Controller**
Enables or disables the onboard network controller. (Default: Enabled)

☞ **Slot #1~#12 Empty**
Enables or disables Option ROM execution for selected slot. (Default: Enabled)

▶   **PCI Subsystem Settings**

☞ **Above 4G Decoding**
Enables or disables 64-bit capable devices to be decoded in above 4 GB address space (only if your system supports 64-bit PCI decoding). Set to **Enabled** if more than one advanced graphics card are installed and their drivers are not able to be launched when entering the operating system (because of the limited 4 GB memory address space). (Default: Disabled)

☞ **SR-IOV Support**
If system has SR-IOV capable PCIe devices, this option enables or disables single root IO Virtualization support. (Default: Disabled)

☞ **BME DMA Mitligation**
Re-enable bus master attribute disabled during PCI enumeration for PCI bridges after SMM locked. (Default: Disabled)

☞ **Hot-Plug Support**
Globally enables or disables hot plug support for the entire system. If system has hot plug capable slots and this option set to **Enabled**, it provides a setup screen for selecting PCI resource padding for hot plug. (Default: Enabled)

☞ **I210 LAN1/LAN2, X550 LAN3/LAN4**
Globally enables or disables hot plug support for the entire system. If system has hot plug capable slots and this option set to **Enabled**, it provides a setup screen for selecting PCI resource padding for hot plug. (Default: Enabled)

▶   **USB Configuration**

☞ **Legacy USB Support**
Allows USB keyboard/mouse to be used in MS-DOS. (Default: Enabled)

☞ **XHCI Hand-off**
Determines whether to enable XHCI Hand-off feature for an operating system without XHCI Hand-off support. (Default: Enabled)

☞ **USB Mass Storage Driver Support**
Enables or disables support for USB storage devices. (Default: Enabled)

☞ **Port 60/64 Emulation**
Enables or disables emulation of I/O ports 64h and 60h. This should be enabled for full legacy support for USB keyboards/mice in MS-DOS or in operating system that does not natively support USB devices. (Default: Disabled)

☞ **USB transfer time-out**
The time-out value for Control, Bulk, and Interrupt transfers. (Default: 20 sec)

☞ **Device reset time-out**
USB mass storage device Start Unit command time-out. (Default: 20 sec)

☞ **Device power-up delay**
Maximum time the device will take before it properly reports itself to the Host Controller. **Auto** uses default vale: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor. (Default: Auto)

☞ **Mass Storage Devices**
Displays a list of connected USB mass storage devices. This item appears only when a USB storage device is installed.

▶ **Network Stack Configuration**

☞ **Network Stack**
Disables or enables booting from the network to install a GPT format OS, such as installing the OS from the Windows Deployment Services server. (Default: Enabled)

☞ **IPv4 PXE Support**
Enables or disables IPv4 PXE Support. This item is configurable only when **Network Stack** is enabled.

☞ **IPv4 HTTP Support**
Enables or disables HTTP boot support for IPv4. This item is configurable only when **Network Stack** is enabled.

☞ **IPv6 PXE Support**
Enables or disables IPv6 PXE Support. This item is configurable only when **Network Stack** is enabled.

☞ **IPv6 HTTP Support**
Enables or disables HTTP boot support for IPv6. This item is configurable only when **Network Stack** is enabled.

☞ **PXE boot wait time**
Allows you to configure how long to wait before you can press <Esc> to abort the PXE boot. This item is configurable only when **Network Stack** is enabled.

☞ **Media detect count**
Allows you to set the number of times to check the presence of media. This item is configurable only when **Network Stack** is enabled.

▶ **CSM Configuration**

☞ **CSM Support**
Enables or disables UEFI CSM (Compatibility Support Module) to support a legacy PC boot process.
▶▶ Enabled   Enables UEFI CSM.
▶▶ Disabled   Disables UEFI CSM and supports UEFI BIOS boot process only.

☞ **GateA20 Active**
▶▶ Upon Request   GA20 can be disabled using BIOS services. (Default)
▶▶ Always   GA20 cannot be disabled.
This option is useful when any RT code is executed above 1 MB. This item is configurable only when **CSM Support** is set to **Enabled**.

☞ **Option ROM Messages**
Set display mode for Option ROM. Options available: Force BIOS, Keep Current.
This item is configurable only when **CSM Support** is set to **Enabled**.

☞ **INT19 Trap Response**
Configures BIOS reaction on INT19 trapping by Option ROM.
▶▶ Immediate   The system executes the trap right away.
▶▶ Postponed   The system executes the trap during legacy boot.
This item is configurable only when **CSM Support** is set to **Enabled**.

☞ **Native NVME OPROM Support**
Determines NVME OPROM execution policy for devices. This item is configurable only when **CSM Support** is set to **Enabled**.

☞ **Boot option filter**
Controls Legacy/UEFI ROMs priority.
▶▶ UEFI and Legacy   Disables option ROM.
▶▶ Legacy only   Enables legacy option ROM only.
▶▶ UEFI   only   Enables UEFI option ROM only.
This item is configurable only when **CSM Support** is set to **Enabled**.

- **Network**
  Allows you to select whether to enable the legacy option ROM for the LAN controller.
  - Legacy   Enables legacy option ROM only.
  - UEFI   Enables UEFI option ROM only.
  This item is configurable only when **CSM Support** is set to **Enabled**.
- **Storage**
  Allows you to select whether to enable the UEFI or legacy option ROM for the storage device controller.
  - Legacy   Enables legacy option ROM only.
  - UEFI   Enables UEFI option ROM only.
  This item is configurable only when **CSM Support** is set to **Enabled**.
- **Video**
  Allows you to select whether to enable the UEFI or Legacy option ROM for the graphics controller.
  - Legacy   Enables legacy option ROM only.
  - UEFI   Enables UEFI option ROM only.
  This item is configurable only when **CSM Support** is set to **Enabled**.
- **Other PCI devices**
  Allows you to select whether to enable the UEFI or Legacy option ROM for the PCI device controller other than the LAN, storage device, and graphics controllers.
  - Legacy   Enables legacy option ROM only.
  - UEFI   Enables UEFI option ROM only.
  This item is configurable only when **CSM Support** is set to **Enabled**.

▶ **NVMe Configuration**
  Displays information on your M.2 NVME PCIe SSD if installed.

▶ **Offboard SATA Controller Configuration**
  Enables or disables the SATA controllers integrated in the Chipset.

▶ **AMD Mem Configuration Status**
  Displays memory configuration status.

▶ **RAM Disk Configuration**
  Press <Enter> to add/remove RAM disks.

▶ **T1s Auth Configuration**
  Press <Enter> to select T1s Auth Configuration.

▶ **iSCSI Configuration**
  Configure the iSCSI parameters.

▶ **Intel(R) I210 Gigabit Network Connection**
  This sub-menu provides information on LAN configuration and related configuration options.

▶ **VLAN Configuration**
  Press <Enter> to configure VLAN.

▶ **MAC IPv4/IPv6 Network Configuration**
  Press <Enter> to configure IPv4/IPv6 network parameters.

▶ **Inter(R) Ethernet Controller X550**
Press <Enter> to configure 10 Gigabit Ethernet device parameters.

▶ **Driver Health**
Provides health status for the drivers/controllers.

2-4   PBS
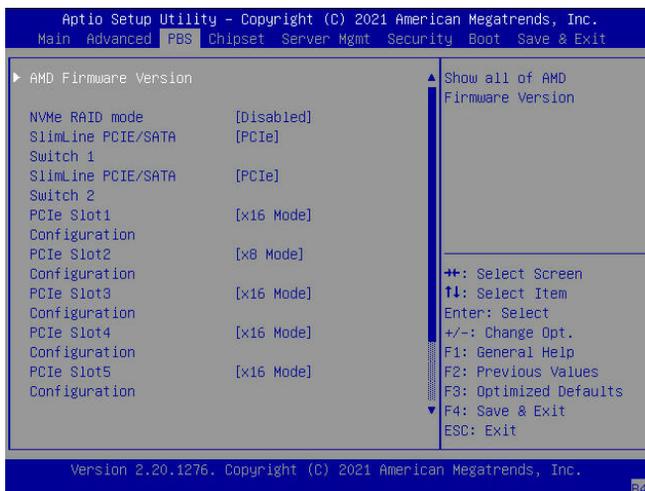
▶   **AMD Firmware Version**
The sub-menu displays the information of AMD Firmware.

☞   **NVMe RAID mode**
Enables or disables the NVMe RAID mode. (Default: Disabled)

☞   **SlimLine PCIE/SATA Switch 1/Switch 2**
The signals are auto switched by HW detection. Options are: PCIe, SATA. (Default: PCIe)

☞   **PCIe Slot1 Configuration**
Allows you to configure the PCIEX16_1 slot. Options are: x16 Mode, X4X4X4X4 Mode. (Default: x16 Mode)

☞   **PCIe Slot2 Configuration**
Allows you to configure the PCIEX8_2 slot. Options are: x8 Mode, X4X4 Mode. (Default: x8 Mode)

☞   **PCIe Slot3 Configuration**
Allows you to configure the PCIEX16_3 slot. Options are: x16 Mode, X4X4X4X4 Mode. (Default: x16 Mode)

☞   **PCIe Slot4 Configuration**
Allows you to configure the PCIEX16_4 slot. Options are: x16 Mode, X4X4X4X4 Mode. (Default: x16 Mode)

☞   **PCIe Slot5 Configuration**
Allows you to configure the PCIEX16_5 slot. Options are: x16 Mode, X4X4X4X4 Mode. (Default: x16 Mode)

☞   **PCIe Slot6 Configuration**
Allows you to configure the PCIEX16_6 slot. Options are: x16 Mode, X4X4X4X4 Mode. (Default: x16 Mode)

☞   **PCIe Slot7 Configuration**
Allows you to configure the PCIEX16_7 slot. Options are: x16 Mode, X4X4X4X4 Mode. (Default: x16 Mode)

☞   **Thunderbolt Support**
Enables or disables the Thunderbolt function. (Default: Disabled)

2-5 Chipset

▶ **South Bridge**

  ▶ **SB USB Configuration**
  This page allows you to configure the SB USB ports.

  ☞ **Rom Armor**
  Enables or disables Rom Armor.

▶ **North Bridge**

  ☞ **Total Memory**
  Displays the total memory information.

  ▶ **Socket 0 Information**
  Displays the information related to Socket 0.

2-6   Server Mgmt
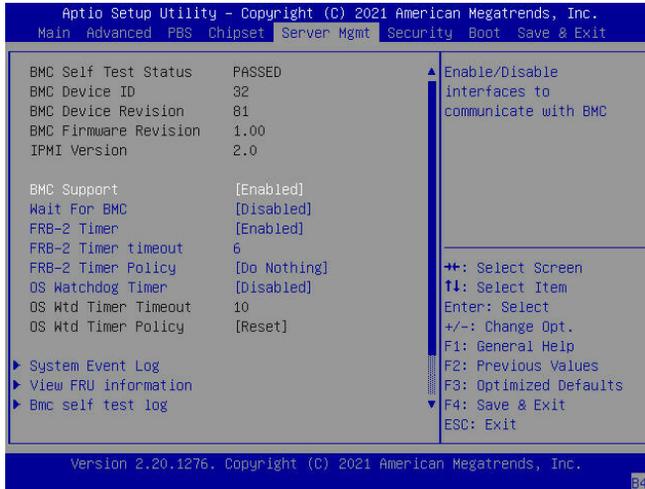
⌐ **BMC Support**
Enables or disables interfaces to communicate with BMC. (Default: Enabled)

⌐ **Wait For BMC**
Allows you to determine whether to wait for BMC response for specified time out. In PILOTII, BMC starts at the same time when BIOS starts during AC power ON. It takes around 30 seconds to initialize Host to BMC interfaces. (Default: Disabled)

⌐ **FRB-2 Timer**
Enables or disables the FRB-2 Timer. (Default: Enabled)

⌐ **FRB-2 Timer timeout**
Enters value between 1 to 30 minute(s) for FRB-2 Timer Expiration. This item is available when **FRB-2 Timer** is set to **Enabled**.

⌐ **FRB-2 Timer Policy**
Configures how the system should respond if the FRB-2 Timer expires. This item is available when **FRB-2 Timer** is set to **Enabled**. Options are: Do Nothing (default), Reset, Power Down, and Power Cycle.

⌐ **OS Watchdog Timer**
Enables or disables the OS Watchdog Timer function. (Default: Disabled)

⌐ **OS Wtd Timer Timeout**
Enters value between 1 to 30 minute(s) for OS Boot Watchdog Timer Expiration. This item is available when **OS Watchdog Timer** is set to **Enabled**.

⌐ **OS Wtd Timer Policy**
Configures how the system should respond if the OS Boot Watchdog Timer expires. This item is available when **OS Watchdog Timer** is set to **Enabled**. Options are: Do Nothing, Reset (default), Power Down, and Power Cycle.

▶ **System Event Log**
   Press [Enter] to change the SEL event log configuration.

   ☞ **SEL Components**
   Enables or disables the event logging for error/progress codes during boot. (Default: Enabled)

   ☞ **Erase SEL**
   Chooses options for erasing SEL. Options are: No (default), Yes, On next reset, Yes, On every reset.

   ☞ **When SEL is Full**
   Chooses options reactions to a full SEL. Options are: Do nothing (default), Erase Immediately, Delete Oldest Record.

   ☞ **Log EFI Status Codes**
   Enables or disables the logging of EFI Status Codes. Options are: Disabled, Both, Error code (default), Progress code.

▶ **View FRU information**
   This page displays the basic system ID information, as well as system product information. Items on this page are non-configurable.

▶ **Bmc self test log**
   Logs the report returned by BMC self test command.

   ☞ **Erase Log**
   Selects the options for ease log. Options are: Yes, On every reset (default), No.

   ☞ **When log if full**
   Selects the action to be taken when log is full. Options are: Clear Log (default), Do not log any more.

▶ **BMC network configuration**
   Press [Enter] to configure BMC network parameters.

   ☞ **Configuration Address source**
   Selects to configure LAN channel parameters statically or dynamically (by BIOS or BMC). **Unspecified** will not modify any BMC network parameters during BIOS phase. Options are: Unspecified (default), Static, DynamicBmcDhcp, DynamicBmcNonDhcp.

   ☞ **Station IP address**
   Enters IP Address. This item is available when **Configuration Address source** is set to **Static**.

   ☞ **Subnet mask**
   Enters Subnet mask. This item is available when **Configuration Address source** is set to **Static**.

   ☞ **Router IP address**
   Enters Router IP address. This item is available when **Configuration Address source** is set to **Static**.

   ☞ **Router MAC address**
   Enters Router MAC address. This item is available when **Configuration Address source** is set to **Static**.

   ☞ **IPv6 Support**
   Enables or disables IPv6 support. (Default: Enabled)

   ☞ **Configuration Address source**
   Selects to configure LAN channel parameters statically or dynamically (by BIOS or BMC). **Unspecified** will not modify any BMC network parameters during BIOS phase. Options are: Unspecified (default), Static, DynamicBmcDhcp.

   ☞ **Station IPv6 address**
   Enters IPv6 Address. This item is available when **Configuration Address source** is set to **Static**.

☙ **Prefix Length**
Changes the prefix length. This item is available when **Configuration Address source** is set to **Static**.

☙ **Configuration Router Lan1/Lan2 Address source**
Selects to configure LAN channel parameters statically or dynamically (by BIOS or BMC). **Unspecified** will not modify any BMC network parameters during BIOS phase. Options are: Unspecified (default), Static, DynamicBmcDhcp.

☙ **IPv6 Router IP Address**
Changes IPv6 Router1 IP Address. This item is available when **Configuration Router Lan Address source** is set to **Static**.

☙ **IPv6 Router Prefix Length**
Changes the prefix length. This item is available when **Configuration Router Lan Address source** is set to **Static**.

☙ **IPv6 Router Prefix Value**
Changes the IPv6 Router prefix value. This item is available when **Configuration Router Lan Address source** is set to **Static**.

▶ **View System Event Log**
Press [Enter] to view the system event log records.

▶ **BMC User Settings**
Press [Enter] to add new BMC user.

2-7 Security
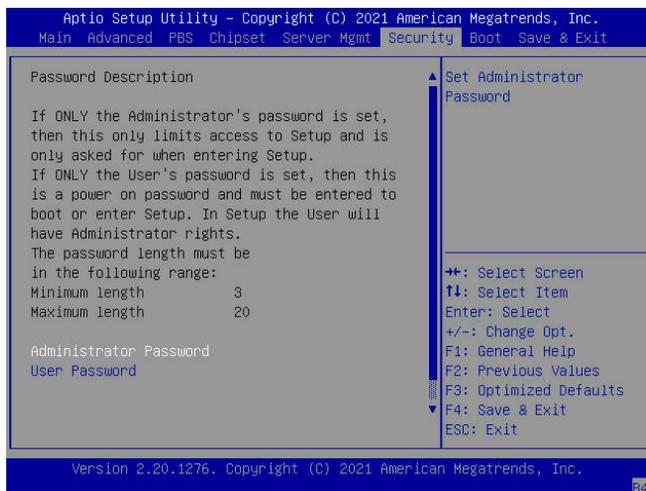
→ **Administrator Password**
Allows you to configure an administrator password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. Differing from the user password, the administrator password allows you to make changes to all BIOS settings.

→ **User Password**
Allows you to configure a user password. Press <Enter> on this item, type the password, and then press <Enter>. You will be requested to confirm the password. Type the password again and press <Enter>. You must enter the administrator password (or user password) at system startup and when entering BIOS Setup. However, the user password only allows you to make changes to certain BIOS settings but not all. To cancel the password, press <Enter> on the password item and when requested for the password, enter the correct one first. When prompted for a new password, press <Enter> without entering any password. Press <Enter> again when prompted to confirm.
NOTE: Before setting the User Password, be sure to set the Administrator Password first.

2-8 Boot

```
              Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.
       Main   Advanced   PBS   Chipset   Server Mgmt   Security   Boot   Save & Exit

        Boot Configuration                              ▲ Number of seconds to
        Setup Prompt Timeout          1                   wait for setup
        Bootup NumLock State          [On]                activation key.
        Quiet Boot                    [Enabled]           65535(0xFFFF) means
        Boot Mode                     [UEFI without Secure indefinite waiting.
                                      boot]

        Boot Option Priorities
        Boot Option #1                [UEFI: PXE IPv4
                                      Intel(R) I210 Gigabit
                                       Network Connection]
        Boot Option #2                [UEFI: PXE IPv4      ↔: Select Screen
                                      Intel(R) I210 Gigabit ↑↓: Select Item
                                       Network Connection]  Enter: Select
        Boot Option #3                [UEFI: PXE IPv4      +/-: Change Opt.
                                      Intel(R) Ethernet    F1: General Help
                                      Controller X550]   ▼ F2: Previous Values
                                                           F3: Optimized Defaults
                                                           F4: Save & Exit
                                                           ESC: Exit

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```

☞ **Setup Prompt Timeout**
Number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.

☞ **Bootup NumLock State**
Enables or disables Numlock feature on the numeric keypad of the keyboard after the POST.

☞ **Quiet Boot**
Allows you to determine whether to display the GIGABYTE Logo at system startup. (Default: Enabled)

☞ **Boot Mode**
Selects the boot mode. Options are Legacy Only, UEFI without Secure boot, UEFI with Secure boot.

☞ **Boot Option #1/2/3/4/5**
Specifies the boot order for a specific device type.

☞ **Fast Boot**
Enables or disables Fast Boot to shorten the OS boot process. (Default: Enabled)

☞ **SATA Support**
▶▶ Last Boot SATA Devices Only   Except for the previous boot drive, all SATA devices are disabled before the OS boot process completes. (Default)
▶▶ All SATA Devices   All SATA devices are functional in the operating system and during the POST.
▶▶ HDD Only   Except for the previous boot drive, all SATA devices are disabled before the OS boot process completes.
This item is available only when **Fast Boot** is set to **Enabled**.

☞ **NVMe Support**
Allows you to enable or disable NVMe device(s). (Default: Enabled)
This item is available only when **Fast Boot** is set to **Enabled**.

☞ **VGA Support**
Allows you to select which type of operating system to boot.
▶▶ Auto   Enables legacy option ROM only.
▶▶ EFI Driver   Enables EFI option ROM. (Default)
This item is available only when **Fast Boot** is set to **Enabled**.

☈ **USB Support**
    ▶ Disabled   All USB devices are disabled before the OS boot process completes.
    ▶ Full Initial   All USB devices are functional in the operating system and during the POST. (Default)
    ▶ Partial Initial   Part of the USB devices are disabled before the OS boot process completes.
This item is available only when **Fast Boot** is set to **Enabled**.

☈ **PS2 Devices Support**
Enables or disables the PS/2 devices be functioned in the operating system and during the POST. This item is available only when **Fast Boot** is set to **Enabled**. (Default: Enabled)

☈ **NetWork Stack Driver Support**
Enables or disables booting from the network. This item is available only when **Fast Boot** is set to **Enabled**. (Default: Disabled)

☈ **Redirection Support**
Enables or disables Redirection function. This item is available only when **Fast Boot** is set to **Enabled**. (Default: Disabled)

2-9 Save & Exit

```
        Aptio Setup Utility - Copyright (C) 2021 American Megatrends, Inc.
   Main  Advanced  PBS  Chipset  Server Mgmt  Security  Boot  Save & Exit

  Save Options                            ▲  Exit system setup after
  Save Changes and Exit                      saving the changes.
  Discard Changes and Exit

  Save Changes and Reset
  Discard Changes and Reset

  Save Changes
  Discard Changes

  Default Options                            ↔: Select Screen
  Restore Defaults                           ↑↓: Select Item
  Save as User Defaults                      Enter: Select
  Restore User Defaults                      +/-: Change Opt.
                                             F1: General Help
  Boot Override                              F2: Previous Values
  UEFI: PXE IPv4 Intel(R) I210 Gigabit  Network  F3: Optimized Defaults
  Connection                            ▼  F4: Save & Exit
                                             ESC: Exit

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                                                                    B4
```

☞ **Save Changes and Exit**
Press <Enter> on this item and select **Yes**. This saves the changes to the CMOS and exits the BIOS Setup program. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

☞ **Discard Changes and Exit**
Press <Enter> on this item and select **Yes**. This exits the BIOS Setup without saving the changes made in BIOS Setup to the CMOS. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

☞ **Save Changes and Reset**
Press <Enter> on this item and select **Yes** to save the changes to the CMOS. Select **No** or press <Esc> to return to the BIOS Setup Main Menu. Reboot the system after saving the changes.

☞ **Discard Changes and Reset**
Press <Enter> on this item and select **Yes** to cancel the BIOS changes. Select **No** or press <Esc> to return to the BIOS Setup Main Menu. Reboot the system without saving any changes.

☞ **Save Changes**
Press <Enter> on this item and select **Yes** to save the changes to the CMOS. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

☞ **Discard Changes**
Press <Enter> on this item and select **Yes** to cancel the BIOS changes. Select **No** or press <Esc> to return to the BIOS Setup Main Menu.

☞ **Restore Defaults**
Press <Enter> on this item and select **Yes** to load the BIOS factory default settings. The BIOS defaults settings help the system to operate in optimum state. Always load the Optimized defaults after updating the BIOS or after clearing the CMOS values.

☞ **Save as User Defaults**
Save to current BIOS settings as user-defined default settings.

☞ **Restore User Defaults**
Load the user-define default settings for all BIOS options.

☞ **Boot Override**
Allows you to select a device to boot immediately. Press <Enter> on the device you select and select **Yes** to confirm. Your system will restart automatically and boot from that device.

Chapter 3   Application

BMC Web

You can use the IP from BIOS Setup Manu to connect to BMC Web UI. For example, login to BMC Web using the link https://10.1.9.89.
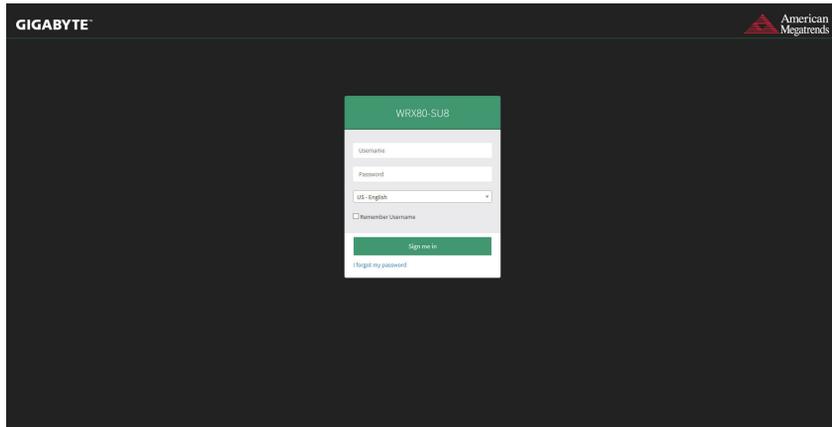
Login

After entering the IP address into web browser, you can see the login page. You can enter your username and the password (default username is **admin**, default password is **admin**), select the language, and then click on the **Sign me in button** to enter the Web UI.

Dashboard

This page shows the overall monitoring information of the device status. The user warning messages and quick buttons are located at the top right of the Web UI.

1. Click on to check notification messages.
2. Click on to check warning messages.
3. Click on US - English to change language.
4. Click on Sync to synchronize with latest sensor status.
5. Click on Refresh to reload current page.
6. Click on admin to logout.

Sensor

On this page, details for all the available sensors e.g. Name, Type, Status, Current Reading and Behavior are displayed. Sensor readings are available for Temperature, Fan, Watchdog and Voltage Sensors as well as for supported Discrete Sensors. This page will refresh automatically with the latest data retrieved from the database. Please note that there may be some delay in retrieving this live data. Sensors are organized by their Type and State (Critical, Discrete, Normal and Disabled).

Sensor Details

Click on any sensor to view more information about it. For each sensor, thresholds (if supported) and graphical representation of all associated events (read-only) are shown. You can enter the threshold values and click on **Save** to configure the threshold values. If you select a sensor from the Normal Sensors sections, a Live Widget is also displayed showing its behavior over time.

FRU Information

This page displays Basic Information, Chassis Information, Board Information, and Product Information for the BMC's FRU devices.

FRU Device ID
Select a FRU Device ID from the drop-down list to view the details of the device.

FRU Device Name
The device name of the selected FRU will be displayed.

System Information

This page displays BIOS, CPU, and DIMM Device information list.

Sensor Scanning
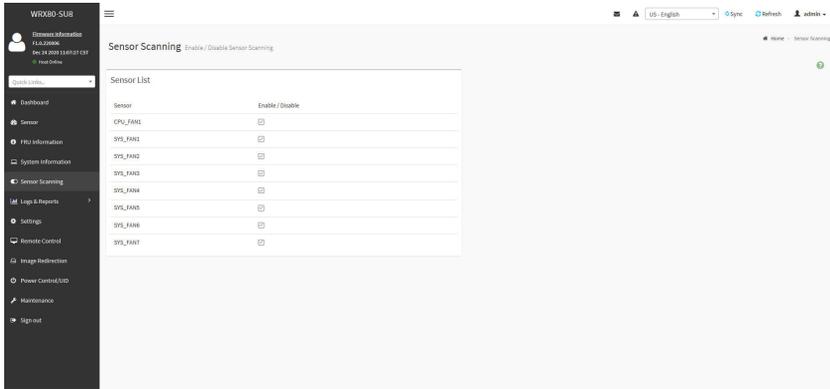
In this page, you can set to enable or disable CPU FANs and System FANs scanning.

IPMI Event Log
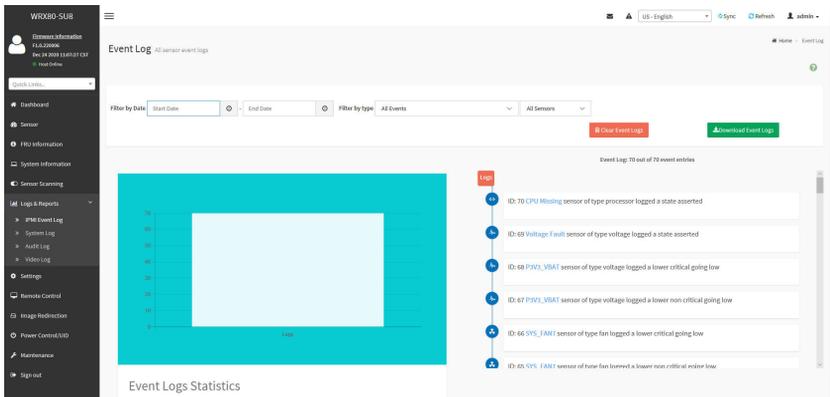
This page displays the list of events incurred by the different sensors on this device. Click on a record to see the details of that entry. You can hover over the graph with your cursor to view the number of events by date. You can use the date range, sensor type, or sensor name filter options to view those specific events. Click **Clear Event Logs** option to delete all existing records for all sensors. Click **Download Event Logs** option to download the logs in a text file format.

System Log

This page displays logs of system events for this device (if the options have been configured).
Note: Logs must be configured under "Settings/Log Settings/Advanced Log Settings" to display any entries. Filtering options are also available for this and all logs in this section.

Audit Log

This page displays audit events for this device (if configured).
Note: For configuration, go to "Settings/Log Settings/Advanced Log Settings."

Video Log
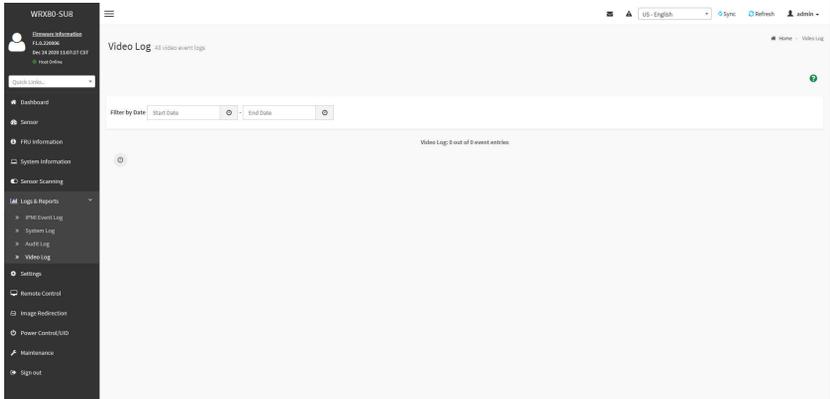
This page displays available recorded video files (if the options have been configured).
Note: For configuration, go to "Settings/Video Recording/Auto Video Settings/Video Trigger Settings."

Settings
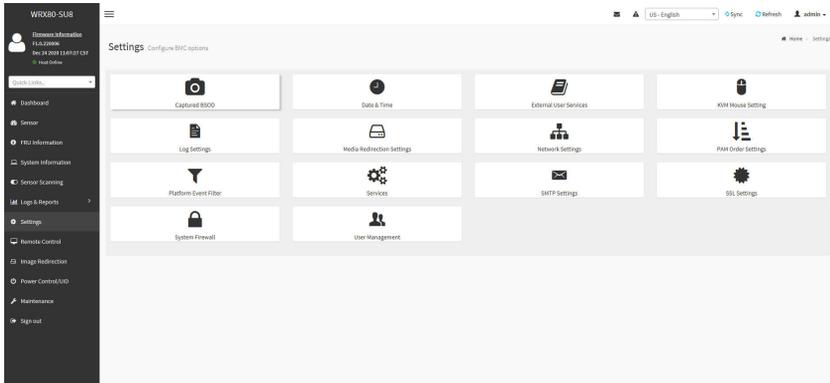
This page allows you to configure BMC options. The options are: Captured BSOD, Date & Time, External User Services, KVM Mouse Setting, Log Settings, Media Redirection Settings, Network Settings, PAM Order Settings, Platform Event Filter, Services, SMTP Settings, SSL Settings, System Firewall, and User Management.

Remote Control
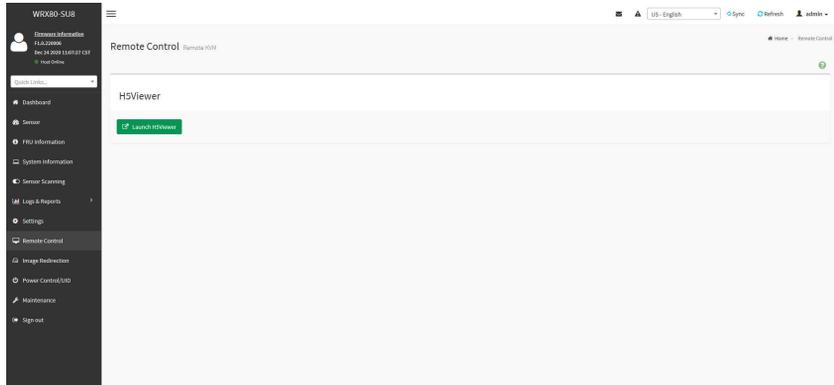
On this page, you can remote control your host system on BIOS Setup or Operating System. Click the **Launch H5Viewer** button to launch the H5viewer window.
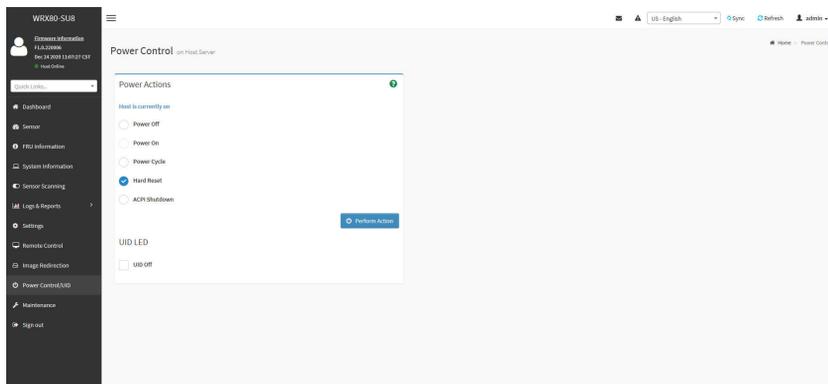
Remote Control- Example (BIOS Setup menu)
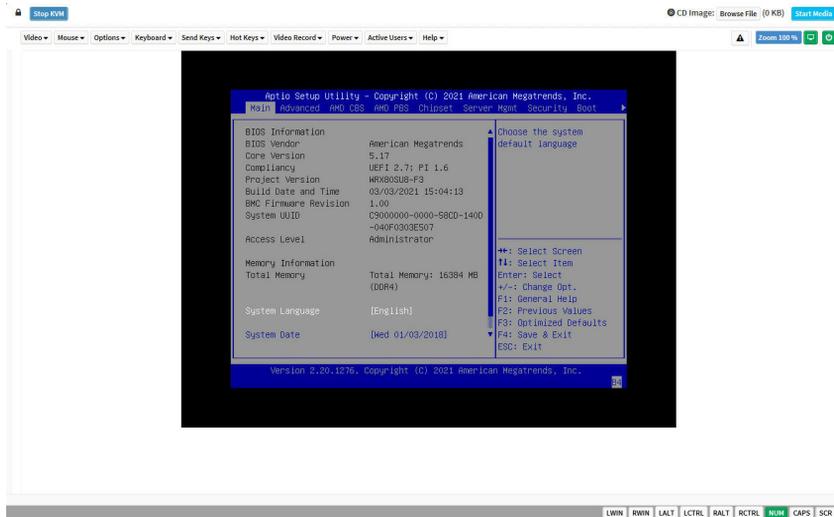
This page shows the BIOS Setup settings.

Image Redirection
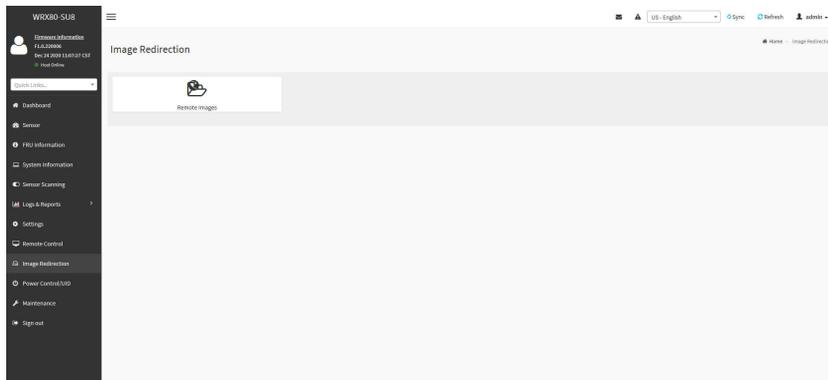
The displayed table shows remote images available to the BMC. You can start redirection or clear the images from here. Up to 4 images can be added for each image type, depending on your configuration.

Power Control/UID

On this page, you can remote control the power of your host system. Also, you can turn on/off the UID LED.

Maintenance
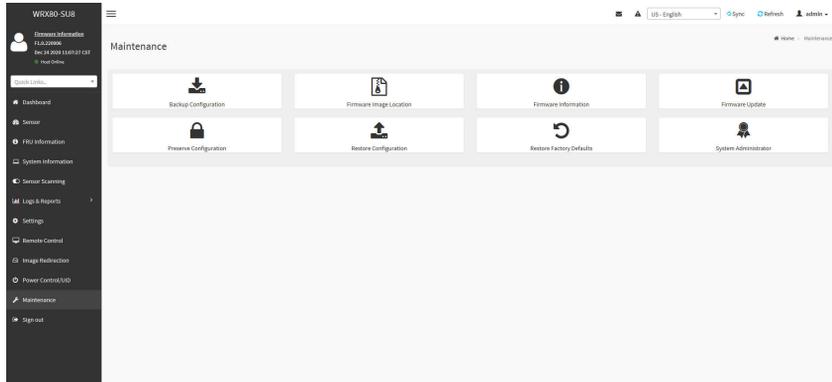
This page allows you to configure BMC options. The options are Backup Configuration, Firmware Image Location, Firmware Information, Firmware Update, Preserve Configuration, Restore Configuration, Restore Factory Defaults, and System Administrator.

Firmware Update
BMC Update Procedure:
1. Click on **Maintenance** > **Firmware Update** from the menu bar.
2. Select Update type to **BMC** and Firmware Image.
3. Click on **Start firmware update**.
4. Click on **Preserve all Configurations**.
5. Upload **Public Key** if needed.
6. Click on **Start firmware update** and click on **OK** from the warning message.
7. Verify for section based flashing. Selecting **Full Flash** is recommended.
8. Click on **Flash selected sections** and **OK** from the warning message.

BIOS Update Procedure:
1. Click on **Maintenance** > **Firmware Update** from the menu bar.
2. Select Update type to **BIOS** and Firmware Image.
3. Click on **Start firmware update** and click on **OK** from the warning message.
4. Click on **Flash BIOS**.

Regulatory Notices

United States of America, Federal Communications Commission Statement

Supplier's Declaration of Conformity
47 CFR § 2.1077 Compliance Information

Product Name: **Motherboard**
Trade Name: **GIGABYTE**
Model Number: **GA-WRX80-SU8-IPMI**

Responsible Party – U.S. Contact Information: **G.B.T. Inc.**
Address: 17358 Railroad street, City Of Industry, CA91748
Tel.: 1-626-854-9338
Internet contact information: https://www.gigabyte.com

FCC Compliance Statement:
This device complies with Part 15 of the FCC Rules, Subpart B, Unintentional Radiators.
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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Statement
This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications. This class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

European Union (EU) CE Declaration of Conformity
This device complies with the following directives: Electromagnetic Compatibility Directive 2014/30/EU, Low-voltage Directive 2014/35/EU, RoHS directive (recast) 2011/65/EU & the 2015/863 Statement. This product has been tested and found to comply with all essential requirements of the Directives.

European Union (EU) RoHS (recast) Directive 2011/65/EU & the European Commission Delegated Directive (EU) 2015/863 Statement
GIGABYTE products have not intended to add and safe from hazardous substances (Cd, Pb, Hg, Cr+6, PBDE, PBB, DEHP, BBP, DBP and DIBP). The parts and components have been carefully selected to meet RoHS requirement. Moreover, we at GIGABYTE are continuing our efforts to develop products that do not use internationally banned toxic chemicals.

European Union (EU) Community Waste Electrical & Electronic Equipment (WEEE) Directive Statement
GIGABYTE will fulfill the national laws as interpreted from the 2012/19/EU WEEE (Waste Electrical and Electronic Equipment) (recast) directive. The WEEE Directive specifies the treatment, collection, recycling and disposal of electric and electronic devices and their components. Under the Directive, used equipment must be marked, collected separately, and disposed of properly.

WEEE Symbol Statement
The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.

For more information about where you can drop off your waste equipment for recycling, please contact your local government office, your household waste disposal service or where you purchased the product for details of environmentally safe recycling.

End of Life Directives-Recycling
The symbol shown below is on the product or on its packaging, which indicates that this product must not be disposed of with other waste. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.

Déclaration de Conformité aux Directives de l'Union européenne (UE)
Cet appareil portant la marque CE est conforme aux directives de l'UE suivantes: directive Compatibilité Electromagnétique 2014/30/UE, directive Basse Tension 2014/35/UE et directive RoHS II 2011/65/UE. La conformité à ces directives est évaluée sur la base des normes européennes harmonisées applicables.

European Union (EU) CE-Konformitätserklärung
Dieses Produkte mit CE-Kennzeichnung erfüllen folgenden EU-Richtlinien: EMV-Richtlinie 2014/30/EU, Niederspannungsrichtlinie 2014/30/EU und RoHS-Richtlinie 2011/65/EU erfüllt. Die Konformität mit diesen Richtlinien wird unter Verwendung der entsprechenden Standards zurEuropäischen Normierung beurteilt.

CE declaração de conformidade
Este produto com a marcação CE estão em conformidade com das seguintes Diretivas UE: Diretiva Baixa Tensão 2014/35/EU; Diretiva CEM 2014/30/EU; Diretiva RSP 2011/65/UE. A conformidade com estas diretivas é verificada utilizando as normas europeias harmonizadas.

CE Declaración de conformidad
Este producto que llevan la marca CE cumplen con las siguientes Directivas de la Unión Europea: Directiva EMC (2014/30/EU), Directiva de bajo voltaje (2014/35/EU), Directiva RoHS (recast) (2011/65/EU). El cumplimiento de estas directivas se evalúa mediante las normas europeas armonizadas.

Dichiarazione di conformità CE
Questo prodotto è conforme alle seguenti direttive: Direttiva sulla compatibilità elettromagnetica 2014/30/UE, Direttiva sulla bassa tensione 2014/35/UE, Direttiva RoHS (rifusione) 2011/65/UE. Questo prodotto è stato testato e trovato conforme a tutti i requisiti essenziali delle Direttive.

Contact Us

GIGA-BYTE TECHNOLOGY CO., LTD.
Address: No.6, Baoqiang Rd., Xindian Dist., New Taipei City 231, Taiwan
TEL: +886-2-8912-4000, FAX: +886-2-8912-4005
Tech. and Non-Tech. Support (Sales/Marketing) : https://esupport.gigabyte.com
WEB address (English): https://www.gigabyte.com
WEB address (Chinese): https://www.gigabyte.com/tw

• **GIGABYTE eSupport**

To submit a technical or non-technical (Sales/Marketing) question, please link to:
https://esupport.gigabyte.com