



S21 Imm. Server

User's guide

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1.Overview

The S21 Imm. server is Bitmain’s first version in the immersion server series. Power supply APW11I is part of S21 Imm. server. All S21 Imm. servers are tested and configured prior to shipping to ensure easy set up.



Front view



back view

Caution:

- (1) Please refer to the layout above to place your goods in usage in case of any damage.
- (2) The equipment must be connected to an earthed mains socket-outlet. The socket-outlet shall be installed near the equipment and shall be easily accessible.
- (3) The equipment has one- power-input, only by connecting the power supply socket can the equipment run.
- (4) DO NOT remove any screws and cables tied on the product.
- (5) DO NOT PRESS the metal button on the cover.
- (6) Please note that the actual server shall prevail.
- (7) S21 Imm. MUST be fully immersed in oil when running.
- (8) Please operate servers with heat-resist gloves in case of high oil temperature.
- (9) S21 Imm. is a kind of immersion product, we strongly recommend to run servers in following environment:

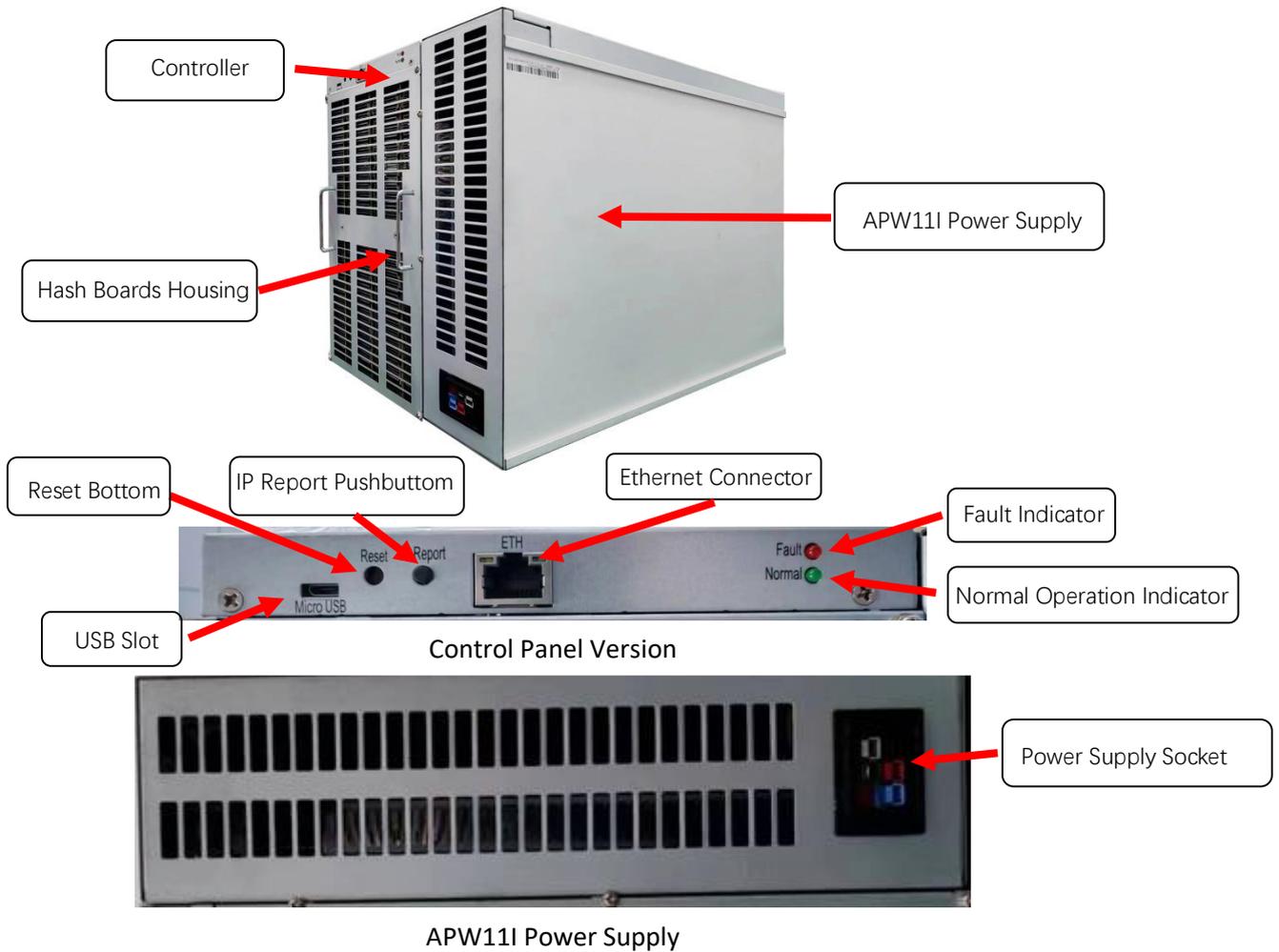
Immersion oil:

Properties	Minimum	Maximum	Unit	Test method
Specific Gravity(15.6℃)	Report	--		ASTM D4052
Appearance (-40℃)	Bright & Clear	--		Visual
Color	--	0.5		ASTM D1500
Kinematic Viscosity(40℃)	Report	--	mm ² /s	ASTM D445
Pour point	--	-60	℃	ASTM D5950/D97
Flash Point	155	--	℃	ASTM D92
Current velocity	1	--	m ³ /h/server	--

1.1 S21 Imm. Server components

The main components and controller front panel of S21 Imm. servers are shown in the

following figure:



NOTE:

- Power supply APW11I is part of S21 Imm. server.
- One ANTWIRE-20SP power cord is needed and should be connected to PDU.
- The device is powered through a PDU with above listed power cable. Don't plug in or detach the connector.
- A readily accessible disconnected device which an disconnect simultaneously L1, L2, L3 must be incorporated external to the product.

2. setting up the server

NOTE:

The file IPReporter.zip is supported **by Microsoft Windows only.**

2.1 setting up the server

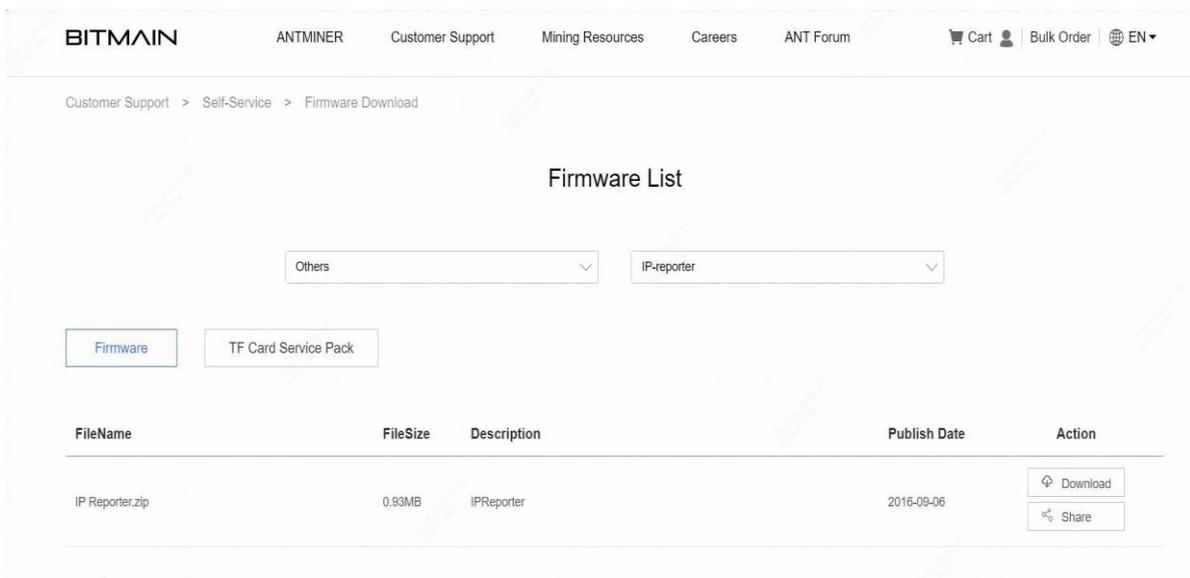
To set up the server,

(1) Go to the following sites:

Chinese web: <https://service.bitmain.com.cn/support/download?product=IP-reporter>

English web: <https://shop.bitmain.com/support/download>

in English web, please select **Others – IP-reporter, like this:**



(2) Download the following file: IPReporter.zip.

The default DHCP network protocol distributes IP addresses automatically.

(3) Extract the file

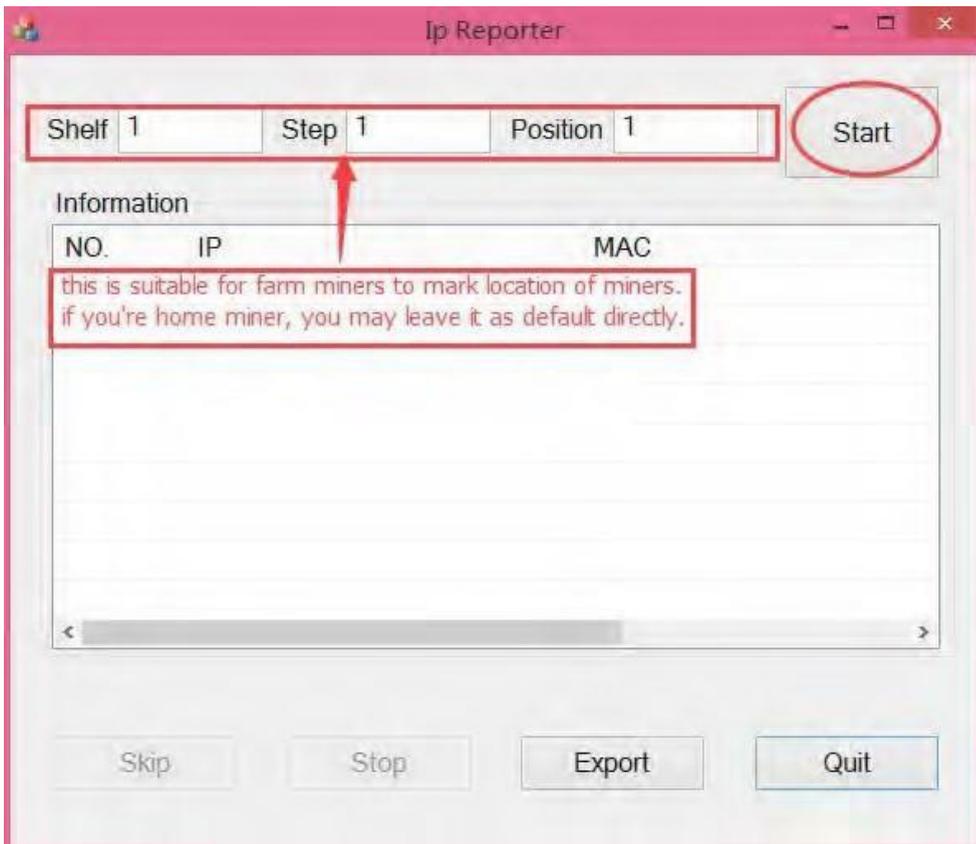
(4) Right-click IPReporter.exe and run it as Administrator.

(5) Select one of the following options:

(5.1) Shelf, Step, Position – suitable for farm servers to mark the location of the servers.

(5.2) Default – suitable for home servers

(6) Click start



(7) On the controller board, click the IP Report button. Hold it down until it beeps (about 5 seconds). The IP address will be displayed in a window on your computer screen.



(8) In your web browser, enter the IP address provided.

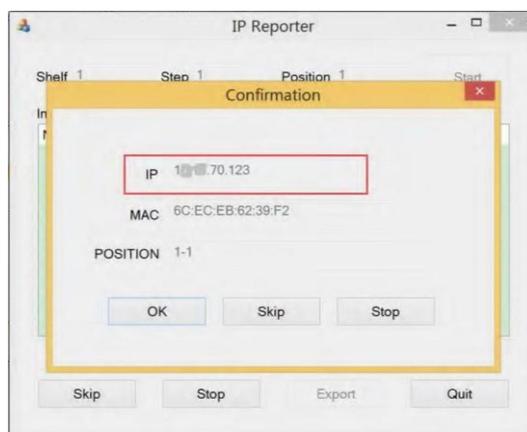
(9) Proceed to login using root for both the username and password.

(10) In the Protocol section, you can assign a Static IP address (optional).

(11) Enter the IP address, Subnet mask, gateway and DNS Server.

(12) Click Save.

(13) Click <https://support.bitmain.com/hc/en-us/articles/360018950053> to learn more about gateway and DNS Server.

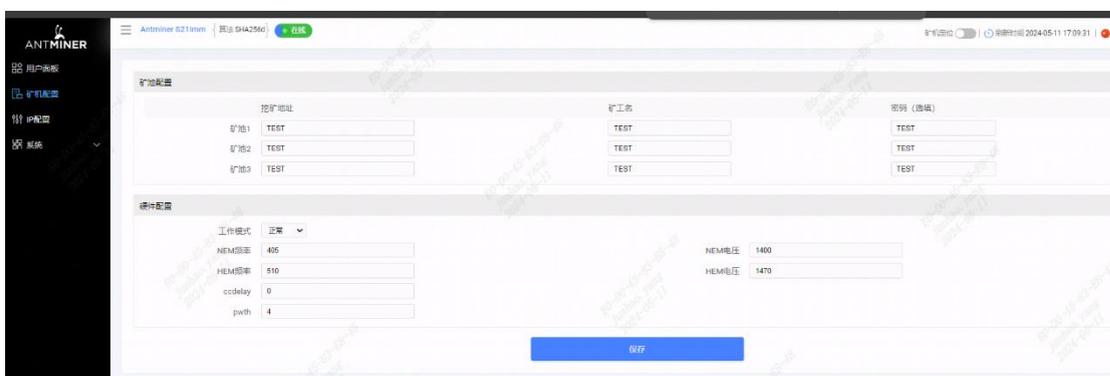




2.2 configuring the server

To configure the server:

- (1) click settings as below.



- (2) Set the options according to the following table:

Option	Description
Mining address	Enter the address of your desired pool. <div style="border: 1px solid black; border-radius: 15px; padding: 10px;">  The S21 Imm. servers can be set up with three mining pools, with decreasing priority from the first pool (pool 1) to the third pool (pool 3). The pools with low priority will only be used if all higher priority pools are offline. </div>
Name	Your worker ID on the selected pool.
Password (optional)	The password for your selected worker.

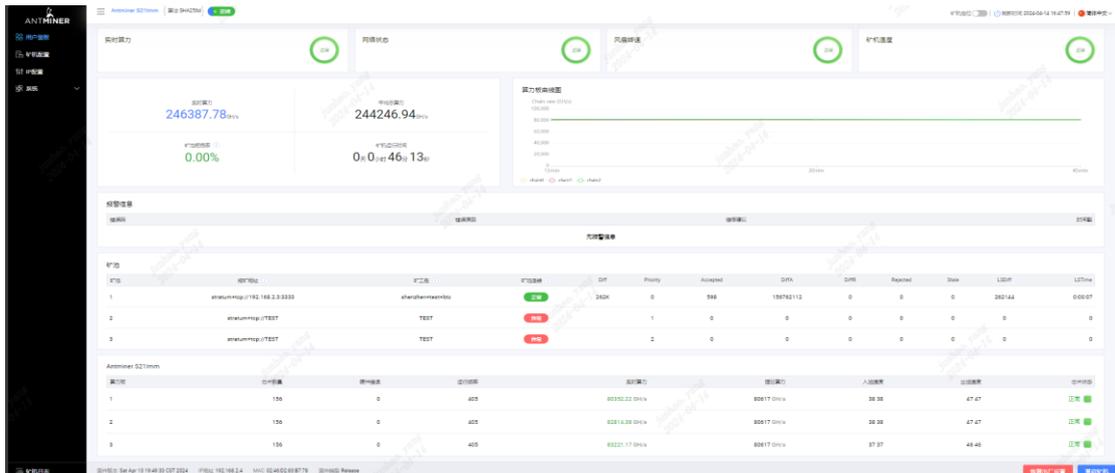
NOTE:

- Fan speed percentage can be adjusted, but we recommend to keep the default setting. The server will adjust the fan speed automatically if the fan speed percentage has yet been selected.
- There are two working modes of S21 Imm. server: Normal mode and Sleep mode. The server enters the sleep mode under the condition that the control board is powered while hashboards are not powered.

- (3) Click Save after the configuration.

2.3 monitor your server

To check the operating status of your server:



1. Click dashboard marked below to check the server status (taking S21 Imm. 239T as example).
2. Monitor your server according to the descriptions in the following table:

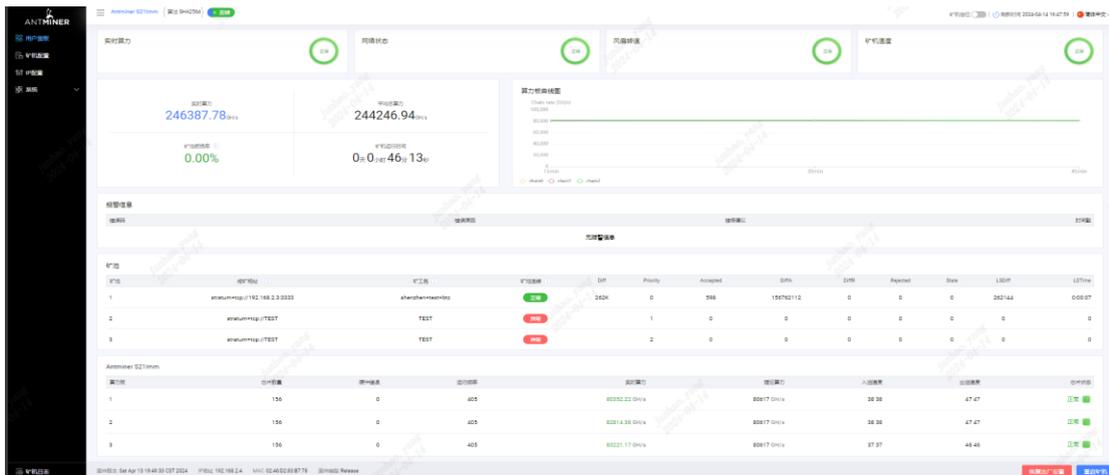
Option	Description
Number of chips	Number of chips detected in the chain.
Frequency	ASIC frequency setting.
Real Hashrate	Real-time Hashrate of each hash board (GH/s).
Inlet Temp	Temperature of the inlet (°C).
Outlet Temp	Temperature of the outlet (°C).
Chip state	One of the following statuses will appear: <ul style="list-style-type: none"> ● The Green Icon - indicates normal ● The Red Icon- indicates abnormal

2.4 Administering Your Server

2.4.1 Checking Your Firmware Version

To check your firmware version:

1. Enter the backstage of your server, find the firmware version on the bottom.
2. Firmware Version displays the date of the firmware your server uses. In the examples below, the server is using firmware version 20240413.



2.4.2 Upgrading Your System

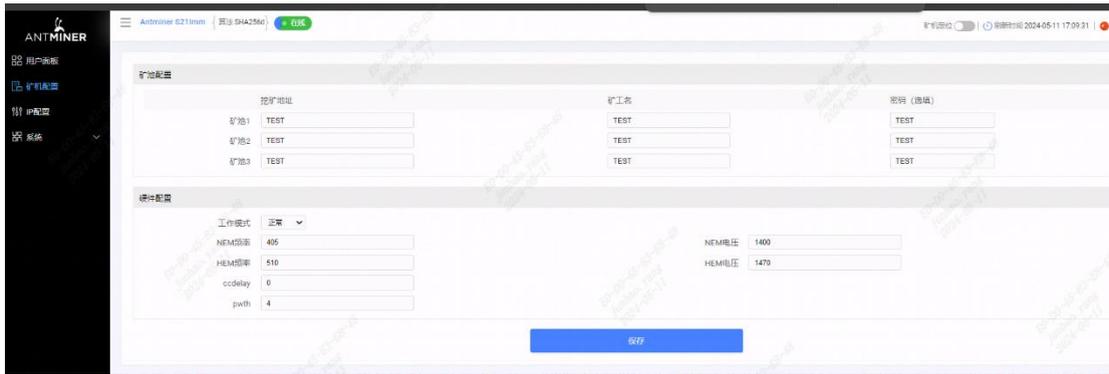
Caution: Make sure that the S21 Imm. server remains powered during the upgrade process. If power fails before the upgrade is completed, you will need to return it to Bitmain for repair.

To upgrade the server's firmware:

1. In System, click Firmware Upgrade.



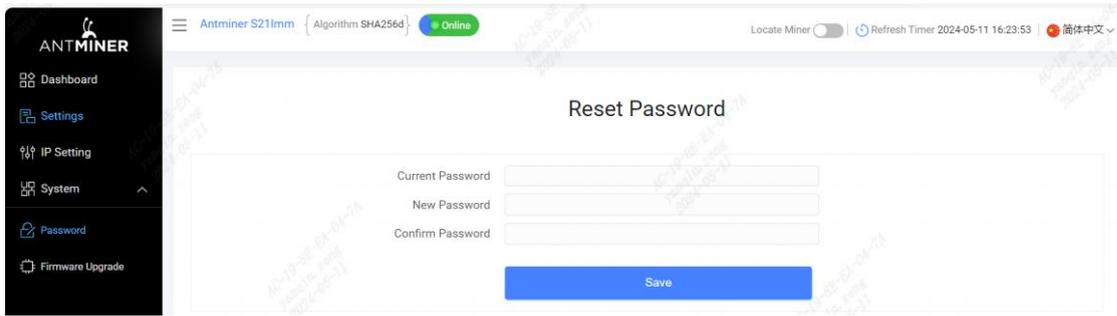
2. For Keep Settings:
 - (1) Select "keep settings" to keep your current settings (default).
 - (2) Unselect "keep settings" to reset the server to default settings.
3. Click the  button and navigate to the upgrade file. Select the upgrade file, then click Update.
4. When the upgrade is completed, restart the server and it will turn to the setting page.



2.4.3 modifying your password

To change your login password:

1. In System, click the Password tab.
2. Set your new password, then click **Save**.



2.4.4 restoring initial settings

To restore your initial settings

1. Turn on the server and let it run for 5 minutes.
2. On the controller front panel, press and hold the **Reset** button for 10 seconds.

Cautions: Resetting your server will reboot it and restore its default settings. The red LED will automatically flash once every 15 seconds if the reset is operated successfully.

3. Environmental Requirements

Please run your server in accordance with the following requirements

3.1 basic environmental requirements

3.1.1 Climatic Conditions

Description	Requirement
Operating Temperature	25-50°C
Operating Humidity	20-90%RH (non-condensing)
Storage Temperature	-20-70°C
Storage Humidity	5-95%RH (non-condensing)
Altitude	<2000m

3.1.2 Site Requirements of the Server Running Room:

Please keep the server running room away from industrial pollution sources:

For heavy pollution sources such as smelters and coal mines, the distance should be more than 5km.

For moderate pollution sources such as chemical industries, rubber and electroplating industries, the distance should be more than 3.7km.

For light pollution sources such as food factories and leather processing factories, the distance should be more than 2km. If unavoidable, the site should be chosen in the perennial upwind direction of the pollution source.

Please do not set your location within 3.7km from the seaside or the salt lake. If unavoidable, it should be built as airtight as possible, equipped with air conditioning for cooling.

3.1.3 Electromagnetic Environmental Conditions

Please keep your site away from transformers, high-voltage cables, transmission lines and high-current equipment, for example, there should be no high-power AC transformers (>10KA) within 20 meters, and no high-voltage power lines within 50 meters. Please keep your site away from high-power radio transmitters, for example, there should be no high-power radio transmitters (>1500W) within 100 meters.

3.2 Other Environmental Requirements

The server running room shall be free of explosive, conductive, magnetically conductive and corrosive dust. The requirements of mechanical active substances are shown below:

3.2.1 Requirements of Mechanical Active Substances

Mechanical Active Substance	Requirement
Sand	$\leq 30\text{mg}/\text{m}^3$
Dust (suspended)	$\leq 0.2\text{mg}/\text{m}^3$

Dust (deposited)	$\leq 1.5 \text{ mg/m}^2\text{h}$
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3.2.2 Requirements of Corrosive Gas

Corrosive Gas	Unit	Concentration
H ₂ S	ppb	< 3
SO ₂	ppb	< 10
Cl ₂	ppb	< 1
NO ₂	ppb	< 50
HF	ppb	< 1
NH ₃	ppb	< 500
O ₃	ppb	< 2

Note: ppb (part per billion) refers to the unit of concentration, 1ppb stands for the volume ratio of part per billion.

4.Regulations:

4.1 FCC Notice (FOR FCC CERTIFIED MODELS):

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.

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

4.2 EU WEEE: Disposal of Waste Equipment by Users in Private Household in the European Union

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.



4.3 台湾ROHS:

設備名稱: S21 Imm. 服務器型號: K2-10

單元	有害物質					
	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr+6)	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
外殼	○	○	○	○	○	○

電路板組件	—	○	○	○	○	○
其他線材	—	○	○	○	○	○

備考 1. “超出 0.1 wt %” 及 “超出 0.01 wt %” 係指限用物質之百分比含量超出百分比含量基準值。

備考 2. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。

備考 3. “—” 係指該項限用物質為排除項目。