# Univiso UR100 User Manual
# v1.1




July 9, 2025

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# 1.Overview

## 1.1 Scope and audience

This document is a technical document of Univiso, and its readers are the company's technical maintenance personnel, system testers, and other technical and business personnel who use this product.

This document is intended to provide relevant readers with quick start and basic management technical guidance, including basic terminal function introduction, quick configuration guide and solutions to common problems.

## 1.2 System Overview

Univiso UR100 is a high-performance portable 5G aggregation router designed for professional mobile communication needs. This product integrates the i-Mux Multi-Link Intelligent Aggregation Transmission Engine, supporting multi-path access via 5G, 4G, Wi-Fi, and wired networks. Through intelligent dynamic scheduling, it achieves bandwidth bonding and redundant backup, delivering efficient and stable transmission capabilities. This effectively resolves issues such as weak single-network signals, high latency, and frequent interruptions.

UR100 is optimized for user scenarios, supporting simultaneous operation in AP Access Mode and STA Hotspot Mode. It features an integrated 1/4-inch screw

hole for easy mounting on brackets or rack trays. The Type-C port supports 30W fast charging and reverse power delivery, while its built-in battery delivers ⩾6 hours of full-load operation.With cloud-based web management via mobile/PC, it offers efficient control—ideal for outdoor mobile operations. Whether for live streaming, emergency command, or remote production, the UR100 delivers reliable high-bandwidth connectivity, serving as an efficient communication solution for industrial users.

# 2.Quick Start

Please refer to the following quick start steps:

(1)Verify accessories:

Ensure all components are present:

SIM card (customer-provided)

Power adapter

(2)Install SIM card:

Follow instructions in Chapter 5 of this manual.

(3)Power on device:

Press and hold the power button for 2 seconds.

System boots in ~30 seconds → Automatically initiates 4G/5G dial-up and server connection.

(4)First-time registration:

New users must complete registration per Chapter 6.

(5)Terminal login:

Press OK button to generate login QR code.

Authenticate with system account/password → Aggregation unlocks.

(Refer to Chapter 8)

(6)Network configuration:

After successful login:

Internet access: Web browsing/upload/download enabled.

Personal hotspot: Configure via Section 9.3.

Wired LAN: Setup per Section 9.4.

(7)More operations:

For DNAT, account top-up, or centralized management:

Consult subsequent chapters.

# 3. Physical Interface Introduction

The terminal interface of Univiso UR100 aggregation router is shown in the figure below:

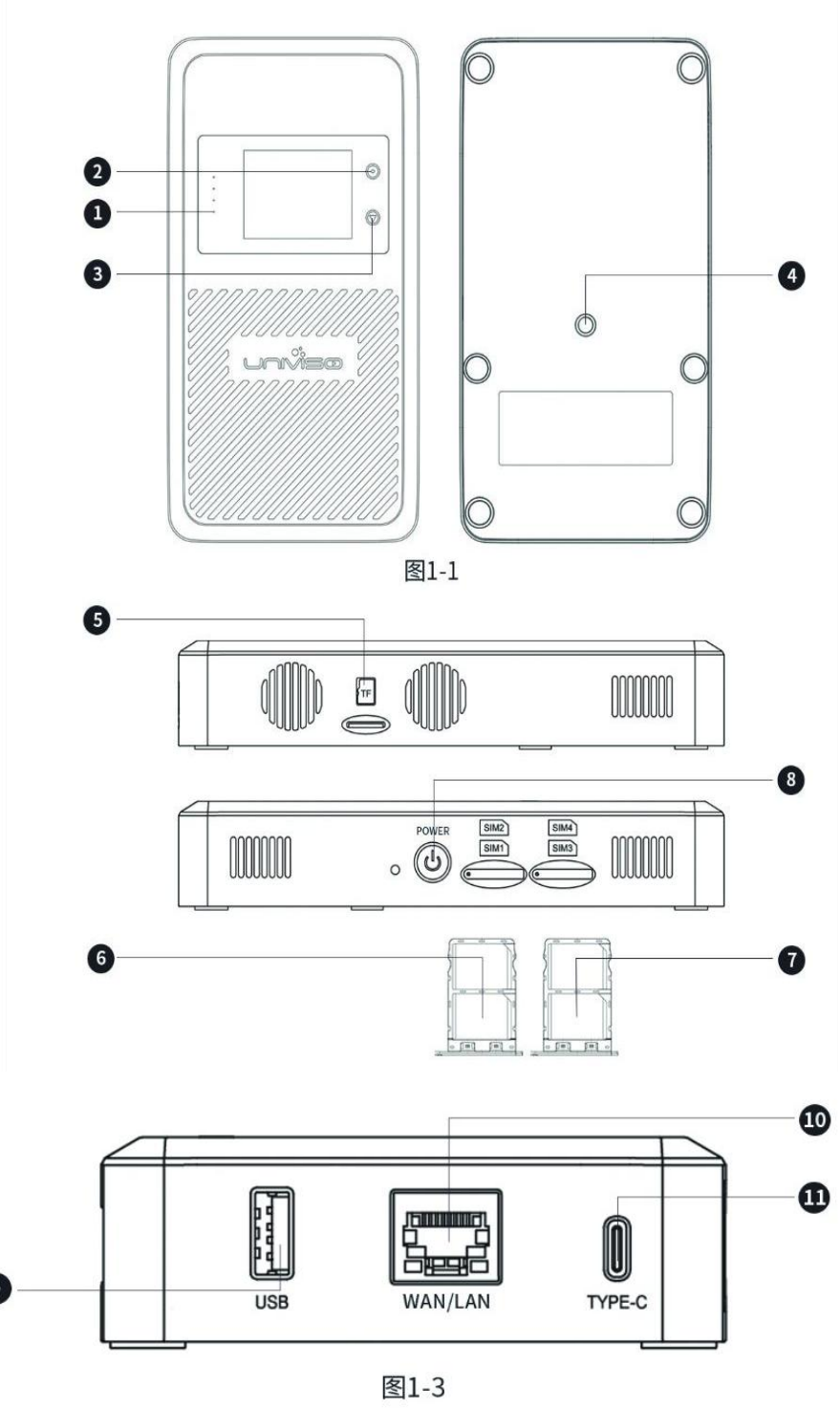



Figure 1: UR100 physical interface diagram

As shown in the figure above, the meanings of each interface parameter are as follows:

| Number | Name |
|---|---|
| ❶ | Battery indicator |
| ❷ | Confirm button |
| ❸ | Down button |
| ❹ | 1/4 conversion connector |
| ❺ | TF card slot(For internal upgrade only) |
| ❻ | SIM-1/2 card slot |
| ❼ | SIM-3/4 card slot |
| ❽ | Power button |
| ❾ | USB interface |
| ❿ | Ethernet interface |
| ⓫ | TYPE-C interface |

4G/5G network supported frequency bands are as follows:

| | | |
|---|---|---|
| Frequency bands | 5G NR | n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29/n30 /n38/n40/n41/n48/n66/n71/n75/n76/n77/n78/n79 |
| | LTE-FDD | B1/B2/B3/B4/B5/B7/B8/B12/B13/B14/B17/B18/B19/B20/B25/B26 /B28/B29/B30/B32/B66/B71 |
| | LTE-TDD | B34/ B38/ B39/ B40/ B41 |
| | WCDMA | B1/ B2/ B5/ B8 |

# 4. SIM card installation

## 4.1 Type of SIM card supported by the system

UR100 aggregation router supports NANO SIM card. Other types of cards cannot be installed and used normally, as shown in the following figure:

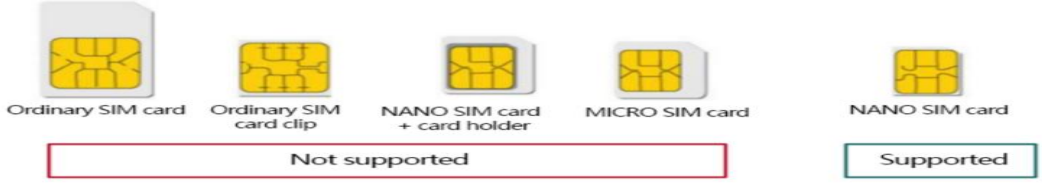
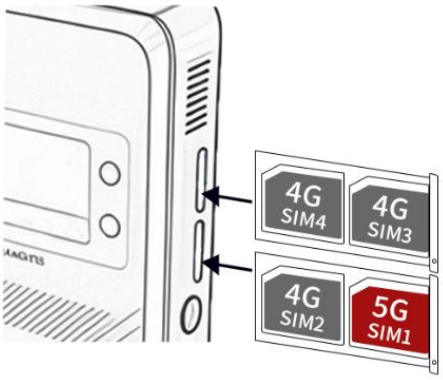


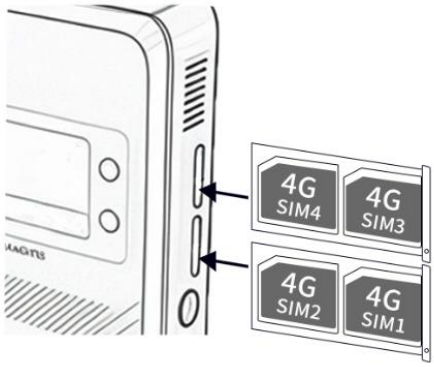

Figure2: SIM card supported

## 4.2 SIM card removal and installation steps

Please strictly follow the following procedures when installing and removing the SIM card. Otherwise, the SIM card or SIM card slot may be irreparably damaged:




5G version-SIM card installation diagram




4G version-SIM card installation diagram

Figure 3: SIM card installation diagram

(1) Before the operation, please make sure that the router is turned off and the device logo is facing forward;

(2) Use the card pin provided with the device to insert the small hole next to the SIM card tray of the UR100 terminal. Press the card pin slightly with force. The card pin will trigger the spring switch of the card tray and eject the SIM card tray;

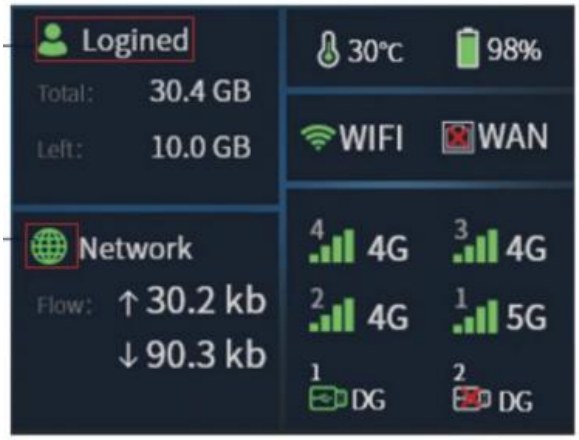
(3) Place the NANO SIM card on the SIM card tray in the direction indicated by the angle of the SIM card tray, and then insert it into the UR100 together with the card tray.

(4) Check whether the SIM card tray is installed correctly. At this time, the upper surface of the card tray and the casing should be on the same plane, so that the

card tray cannot go deeper when pressed lightly.

(5) Plug in the TYPE-C power input, press and hold the power button for more than 2 seconds, and then turn on the device again;

(6) When all SIM cards are installed correctly and the operator signal is normal, the LCD screen will display the network standard and signal strength of each card after the system is turned on, as shown in the figure below. The explanations of each icon are as follows:




| Name | | State |
|---|---|---|
| LAN/WAN | | Not connected |
| | | Connected |
| WIFI | | Not connected |
| | | Connected |
| SIM card | | No SIM card inserted |
| | | Dial-up failed |
| | | Connected |
| Dongle | | Not connected |
| | | Connected |
| Network | Normal mode | Not connected |
| | | Connected |
| | Aggregation mode | Not connected |
| | | Connected |

【】： Power adapter charging status;

【】Built-in battery power display, using different icons and power percentage to display the battery power status. When charging via a power adapter, a lightning symbol appears in the middle of the battery charging icon.

【】，When the battery power is less than 25% of the rated power, the battery power indicator icon turns red ；

【】： This refers to the current operating temperature of the terminal device CPU;

【】:This refers to the wired network link. When the terminal recognizes that an available network cable is plugged in, a green icon is displayed ， Otherwise, a red warning icon is displayed ， When the icon is red, it means that the network is not connected or the network is disconnected. Please check whether the network cable is plugged in or troubleshoot network issues;

【】： This refers to the WIFI link,When the icon is highlighted in white , it means that the terminal wifi link is connected normally，The icon  means that the wifi link is not connected or the connection is unsuccessful. Please check whether the wifi parameter configuration is correct.

【】： This means that the inserted SIM card currently has a 4G or 5G network signal. The more signal bars there are, the stronger the signal is.

【】： This means that the SIM card is not inserted or the terminal does not correctly recognize it.

【】： This means that the current SIM card registration dial-up is successful,

but it failed to obtain the network standard.

【】： This means that the current SIM card dialing failed and the operator network failed to be obtained.

Note: The signal strength of the SIM card is divided into four bars. A full bar indicates a normal signal. Only one or two bars indicate a weak signal. At this time, network communication may be interrupted. If conditions permit, try to choose an environment and placement direction with a strong signal.

# 5. New User Registration

Enter the URL https://eu.univiso.tv/ in the browser of your computer or mobile phone to enter the Univiso Spark cloud management system interface, as shown in Figure 4. Users who use the platform for the first time must first register an account on the platform and log in before they can use it. The Univiso cloud management system platform supports two registration methods: email and mobile phone number (it is recommended to register by email).

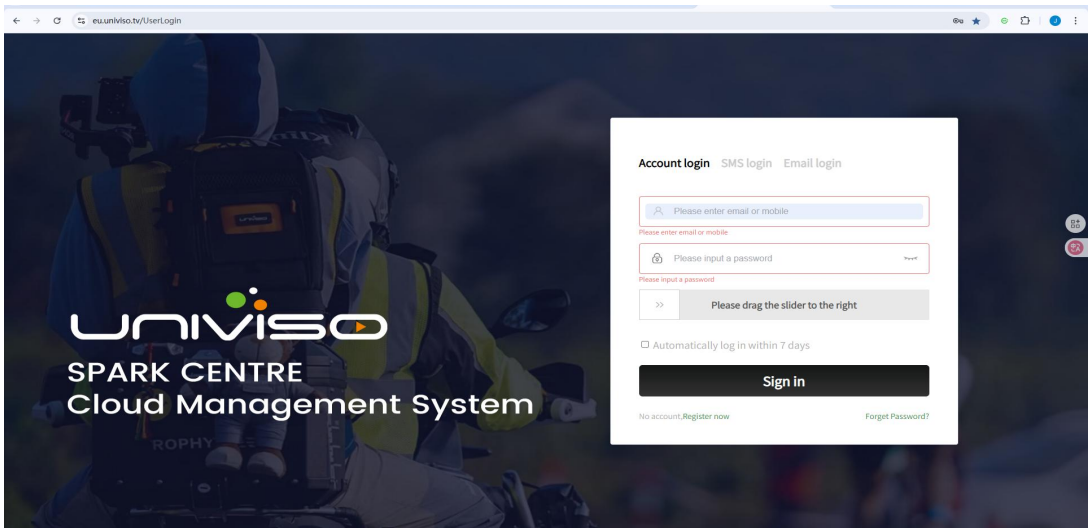
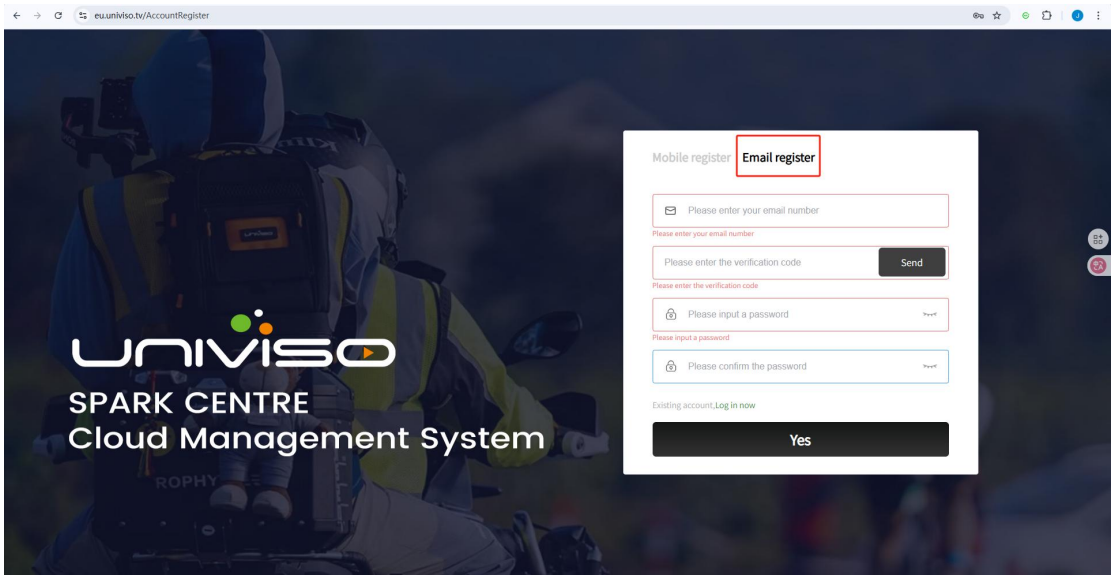



Figure 4:Univiso cloud platform computer management system login interface

## 5.1 Email Registration

On the homepage of the Univiso cloud management platform system, click [Register Now] to jump to the registration page, enter the correct email account, fill in the email verification code, and confirm the password. After that, click OK to successfully register. If you register an email as an account, users can set up a binding mobile phone number in the account center, and then log in to the management platform with a mobile phone password for management. The email registration interface is shown below:



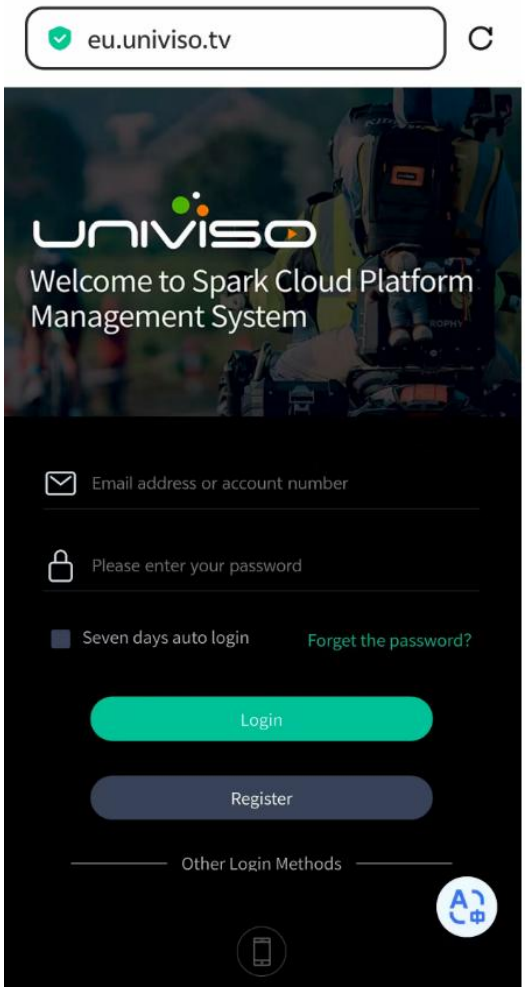



Figure 5:H5 web page registration

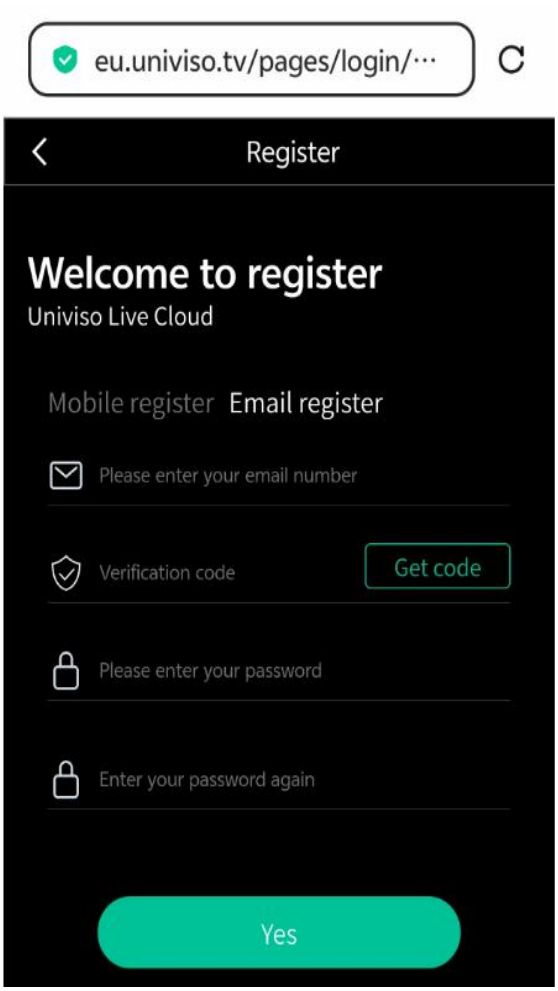
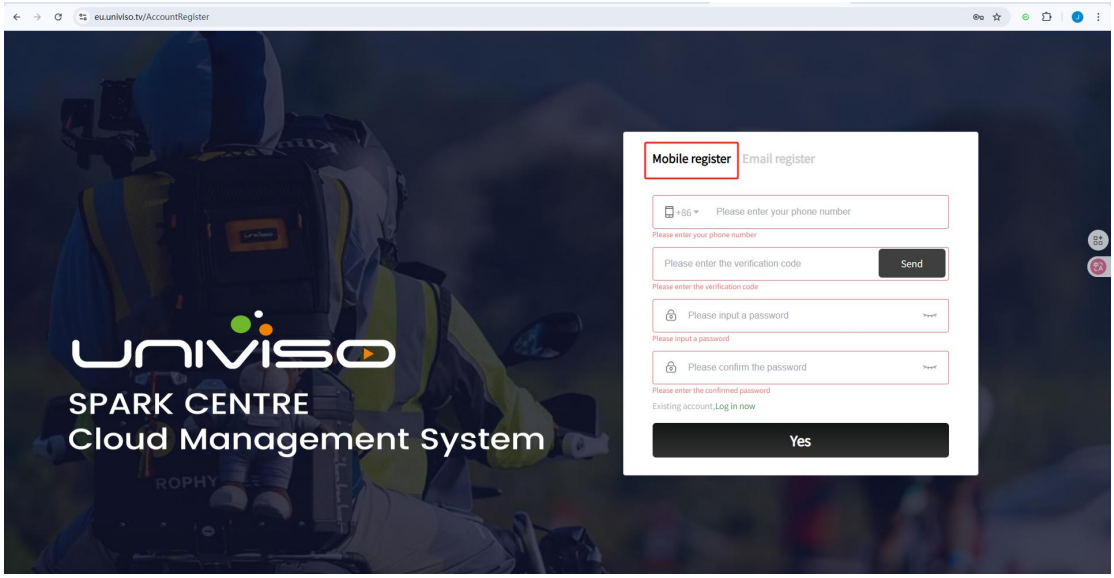



Figure 6:H5 web email registration

Note: The password supports 6-16 characters, including letters, numbers, and symbols and must contain letters and numbers.

## 5.2 Mobile Number Registration

On the homepage of the Univiso cloud management platform system, click [Register Now] to jump to the registration page, enter the correct mobile phone number, fill in the mobile phone verification code and password to confirm, and click OK to successfully register. The mobile phone number registration interface is shown in the figure below:



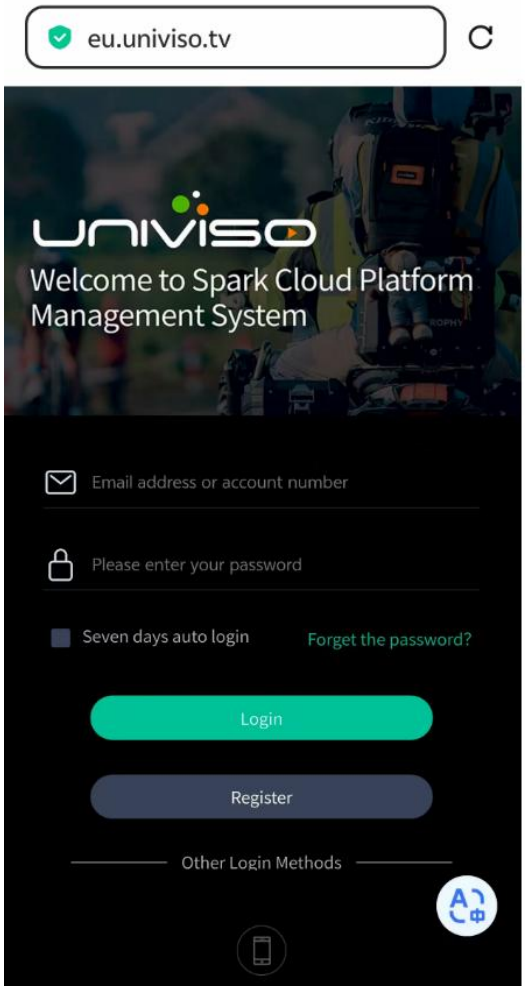




Figure 7:H5 web page registration

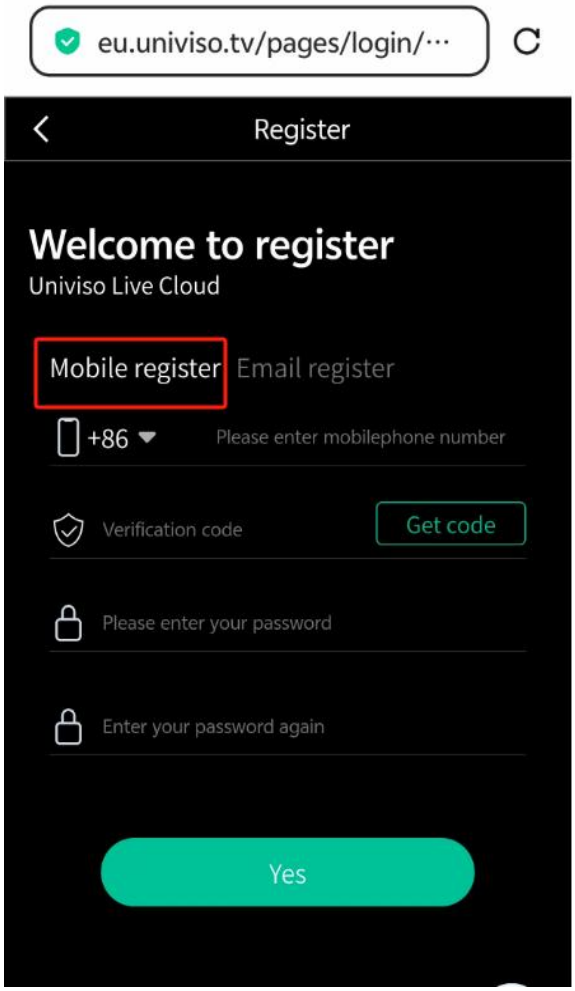



Figure 8:H5 web mobile registration

# 6. Working Mode

UR100 supports two working modes: Aggregation Mode and Normal Mode. Before the user completes login, the UR100 defaults to Normal Mode, where the system automatically assigns working links for data transmission based on the current network link connectivity status. After the user logs in, the UR100 defaults to Aggregation Mode. In this mode, the system delegates all data transmission tasks to the iMux Aggregation Engine for scheduling, ensuring data transmission stability to the greatest extent possible.

## 6.1 Aggregation Mode

In Aggregation Mode, the aggregation router integrates multiple communication links (mobile network, WiFi, fixed network, satellite) into a high-bandwidth channel, providing users with high-capacity, high-availability broadband transmission capabilities. The usage method is as follows:

**Step 1: Select Aggregation Node**

Press the selection button on the right side of the LCD screen, navigate to "Management > Spark Cloud," and choose an available cloud node. The default overseas cloud node is eu.univiso.tv, as shown below:






Figure 11: Aggregation mode setting interface

**Step 2: Complete User Login**

Click the "Confirm" button in the upper-left corner of the LCD main window and complete the user login according to the system prompts. After successful login,the system will display the current user status and the remaining account.

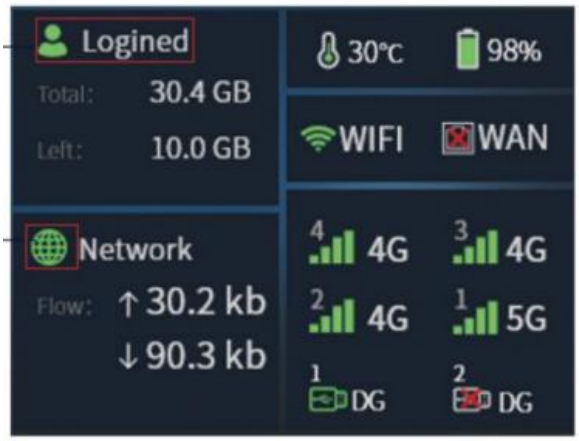



Figure 12: Aggregate mode login success interface

## 6.2 Normal Mode

UR100 can operate using an optimal link without requiring login, essentially functioning as a multi-SIM CPE. In this mode, it does not consume cloud aggregation data but cannot benefit from the reliability assurance provided by link aggregation. Users may choose this option based on their network needs.

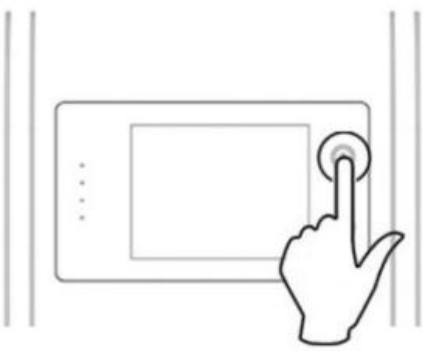
# 7. Terminal login

When using the UR100 aggregation routing terminal, the terminal needs to log

in successfully to use the multi-network link aggregation function to superimpose a larger network bandwidth and provide stable and reliable broadband transmission for audio and video streaming, file sending and receiving, Internet access and other scene applications.

The UR100 aggregation routing terminal supports scanning QR code login, and the account can be your previously registered mobile phone number or email address.

When the terminal logs in successfully, the terminal will automatically complete the login connection by the system the next time it is turned on, and the validity period is 7 days. At this time, the user can also scan the QR code through the browser to automatically log in to remotely control and manage the terminal device. The mobile terminal scans the QR code to log in as shown in Figure 13:



press confirm button




Login QR code

Figure 13: Scan code login interface on mobile phone side

## 7.1 QR code login

Click the confirm button in the upper-right corner of the terminal's LCD screen, and a login QR code will pop up. Users can scan this QR code using their mobile browser's scan function. Upon recognition, the browser will redirect to the cloud management platform's H5 interface, as shown in Figure 14. Enter the correct account credentials to complete QR code login, illustrated in Figure 15.

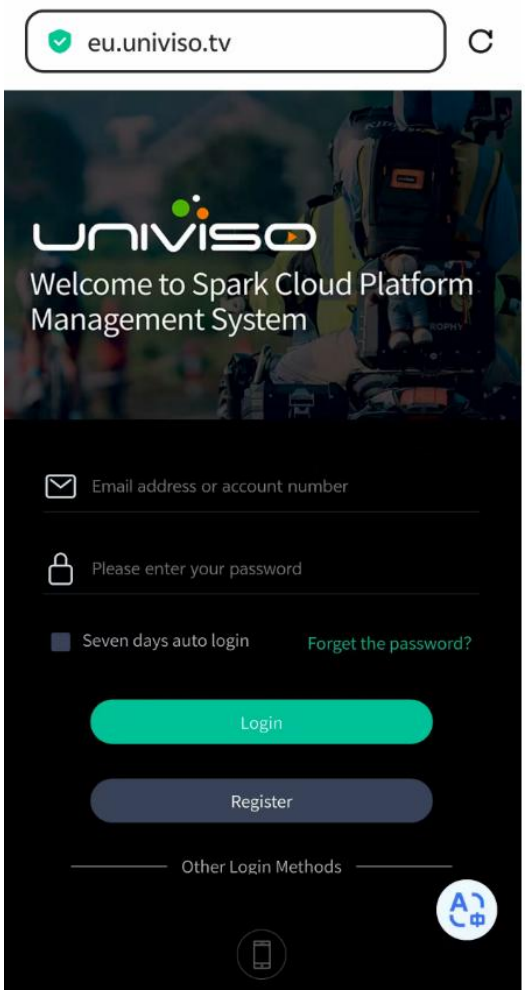



Figure 14: Mobile phone account login

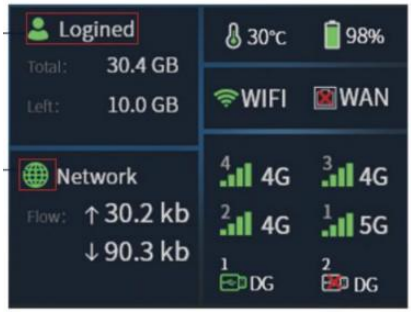
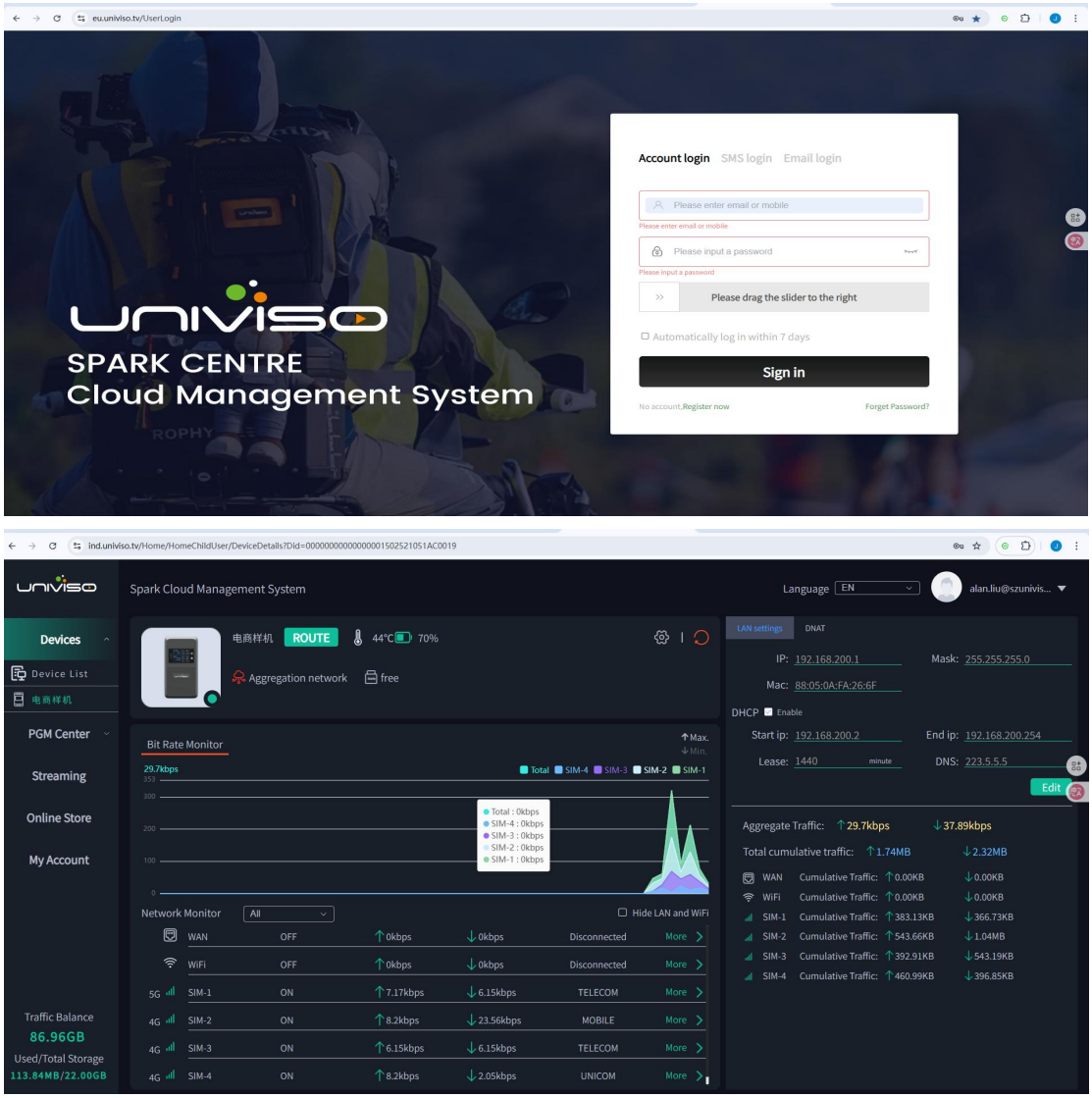



Figure 15: QR code login successful




PC browser device management interface

## 7.2 Troubleshooting Methods for Device Login Issues

If you are unable to log in to your UR100 terminal account, please troubleshoot using the following methods:

(1)Verify your account and password for accuracy, paying attention to letter case sensitivity.

(2)For wired connections, check if the Ethernet cable is damaged and whether the port indicator light is blinking.

(3)Confirm DHCP settings for wired networks (dynamically assigned IP, Gateway, Subnet Mask, and DNS) are correct.

(4)For WiFi-only connections:

Open the "WiFi" > "Wireless Connection Details" under "Local Network" on the LCD screen.If the WiFi gateway address shows 0.0.0.0, disconnect and reconnect the WiFi link.Login requires a valid WiFi gateway address.

(5)Check SIM card status:

Ensure sufficient data balance, active service, and normal connectivity.

For IoT SIM cards:Rebind the communication module if misplaced (misplacement may lock the card).Note regional restrictions by certain carriers may cause abnormalities.Contact your service provider for specifics.

(6)If issues persist after all checks, contact Univiso after-sales technical support.

# 8. Parameter configuration description

## 8.1 WAN Interface Settings

UR100 supports gigabit wired network access. Users can either manually configure a static IP address or use DHCP to dynamically obtain parameters such as IP address, subnet mask, and DNS. This configuration must be performed in

the Spark Cloud Management System:

Navigate to "Network Monitor" > "WAN", then select "More", as shown below:

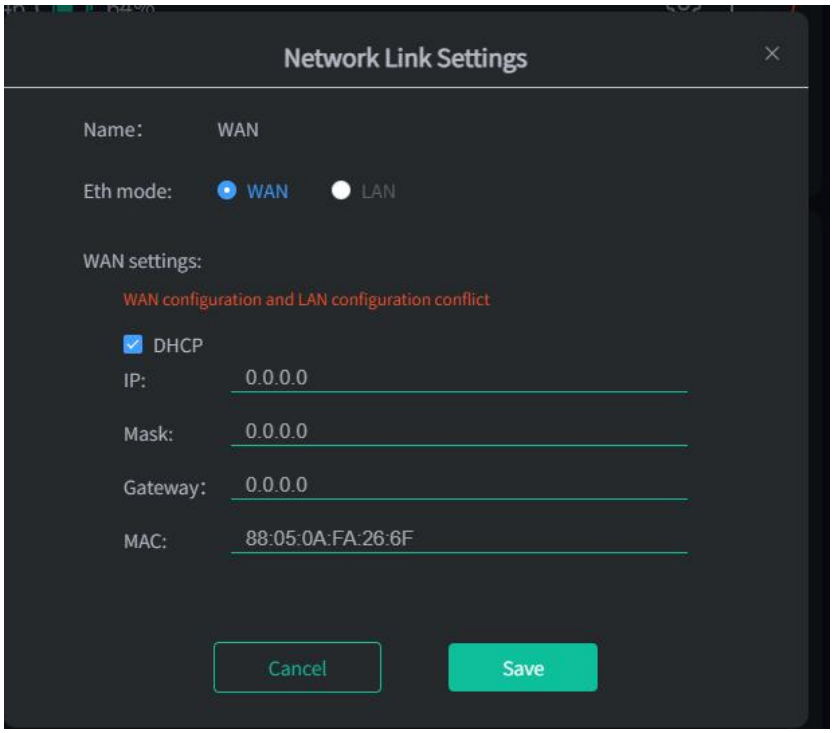



Figure 21: WAN configuration interface

As shown in the figure above, the parameters are defined as follows:

① **【Local IP】**： The IP address of the router terminal's WAN port.

② **【Gateway】**： Gateway address.

③ **【Mask】**： Subnet mask address.

④ **【DNS】**： DNS server address.

⑤**【MAC】**：Displays the physical MAC address of the terminal's wired network card.

⑥**【DHCP】**： Toggle button to enable/disable dynamic IP address acquisition.

## 8.2 Wireless network

The WiFi module of the UR100 supports both AP (Access Point) mode and STA (Station) mode, and can operate in both modes simultaneously.

In AP mode, it provides wireless hotspot services for other WiFi devices. All wireless terminals connected to the UR100 can access the external network through the UR100's aggregation services.

In STA mode, the WiFi link is automatically incorporated into the WAN link pool. If this link establishes a valid external connection, it will be included in the aggregation link pool to provide aggregated services for the local network.

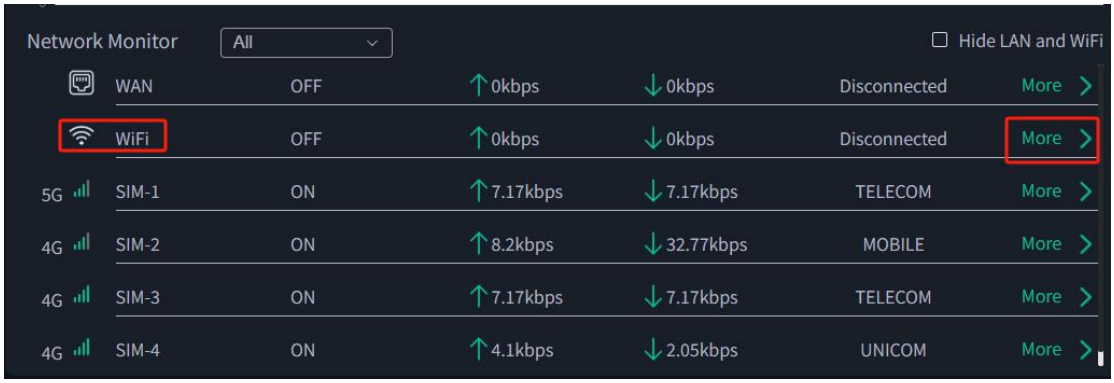
When the UR100's WiFi operates in STA mode, follow these steps:

(1)In the Spark Cloud Management System, navigate to the device details page → "Network Monitor" > "WiFi" → select "More" to view available WiFi networks near the terminal.

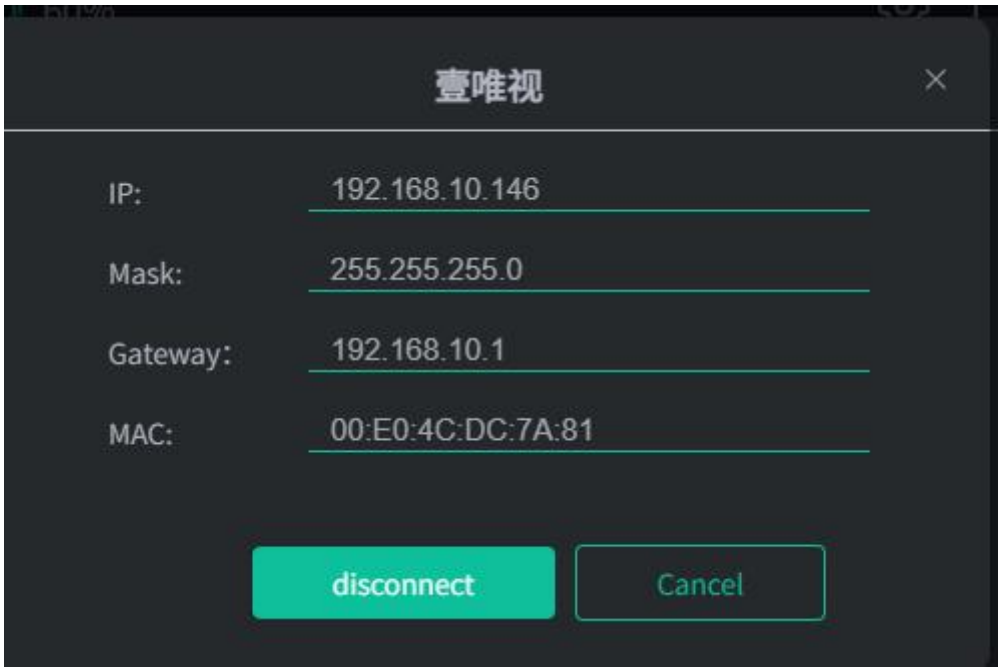
(2)Connect to an available WiFi network based on signal strength.

(3)Disconnect from a connected WiFi network if needed.

The process is illustrated below:


Network Monitor
All
Hide LAN and WiFi
WAN OFF 0kbps 0kbps Disconnected More
WiFi OFF 0kbps 0kbps Disconnected More
5G SIM-1 ON 7.17kbps 7.17kbps TELECOM More
4G SIM-2 ON 8.2kbps 32.77kbps MOBILE More
4G SIM-3 ON 7.17kbps 7.17kbps TELECOM More
4G SIM-4 ON 4.1kbps 2.05kbps UNICOM More


WiFi list
DIRECT-48-HP 4104fdw LJ
SMSZ-23
TP-LINK_D525
CVTE-sz
壹唯视
Cancel
Save


壹唯视
IP: 192.168.10.146
Mask: 255.255.255.0
Gateway: 192.168.10.1
MAC: 00:E0:4C:DC:7A:81
disconnect
Cancel

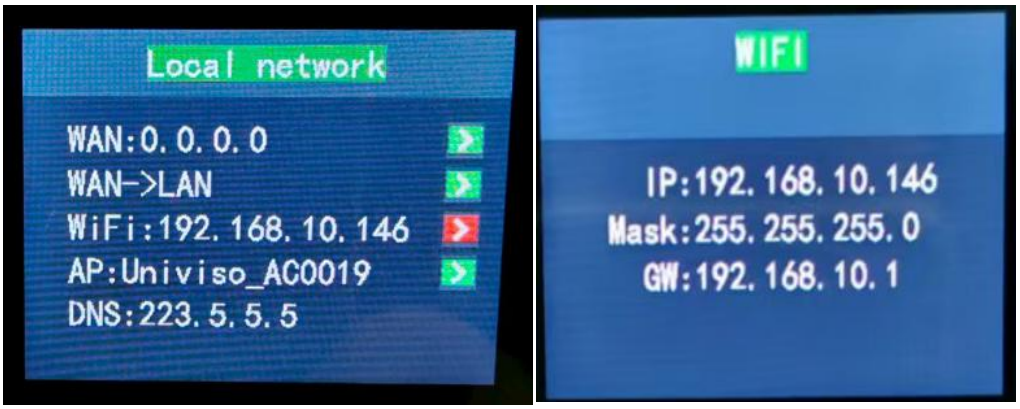
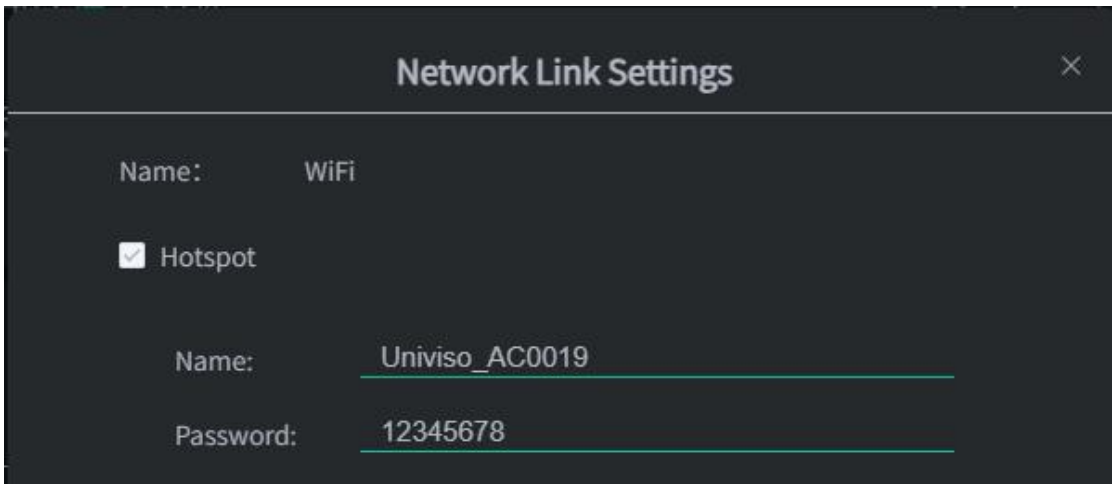



Figure 22: Wireless network configuration interface

## 8.3 Personal AP

You can select a wireless hotspot based on your operational needs to provide wireless network access for on-site wireless devices (this feature is enabled by default). The configuration steps are as follows:

In the Spark Cloud Management System, navigate to "Network Monitor" > "WiFi", select "More", and configure the hotspot name (SSID) and password in the personal hotspot settings interface that appears, as shown below:



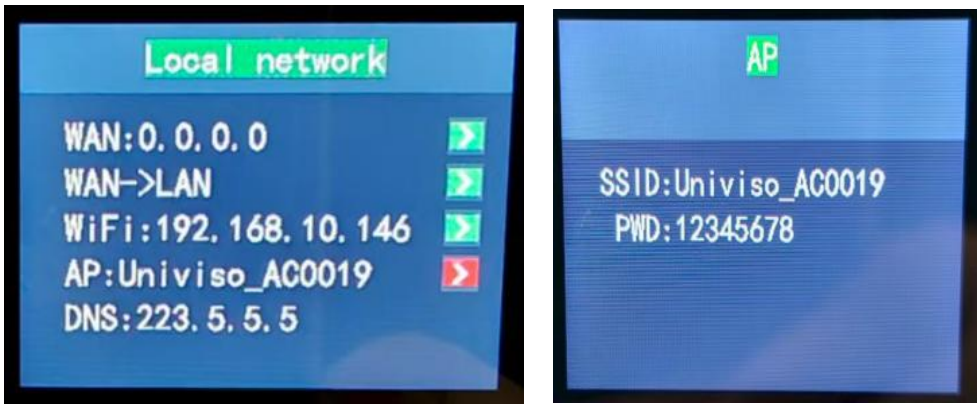



Figure 23: Personal hotspot configuration interface

As shown in the figure above, the meanings of each parameter are as follows:

①【SSID】: Personal hotspot wireless network name, the value range is 0-31 strings, support English, numbers and underscores as hotspot names, and can be modified;

②【PWD】: Personal hotspot password, the value range is 0-16 strings, support English, numbers and special characters;(The default password is 12345678).

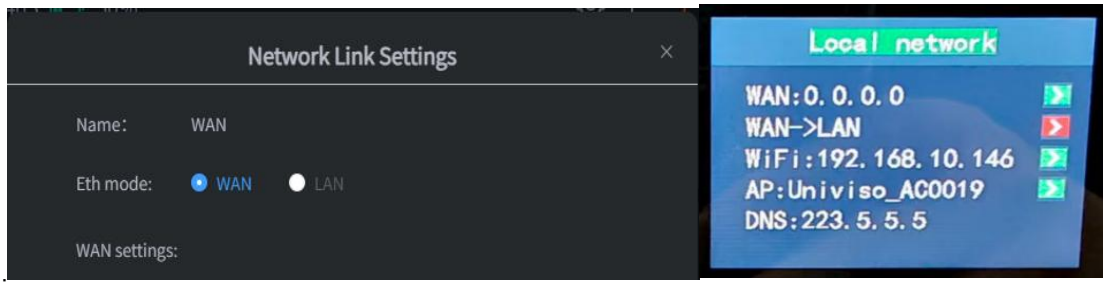
## 8.4 LAN Interface Settings

The UR100 aggregation router supports LAN/WAN port switching. This function allows you to reconfigure local Ethernet ports either via the UR100's LCD screen or the Spark Cloud Management Platform.（Note: It works in WAN mode by default.)

Configuration methods:

In the Spark Cloud Management Platform: Adjust LAN settings directly.

On the LCD screen: Navigate to Local Network → "WAN→LAN" option




LAN/WAN switching option

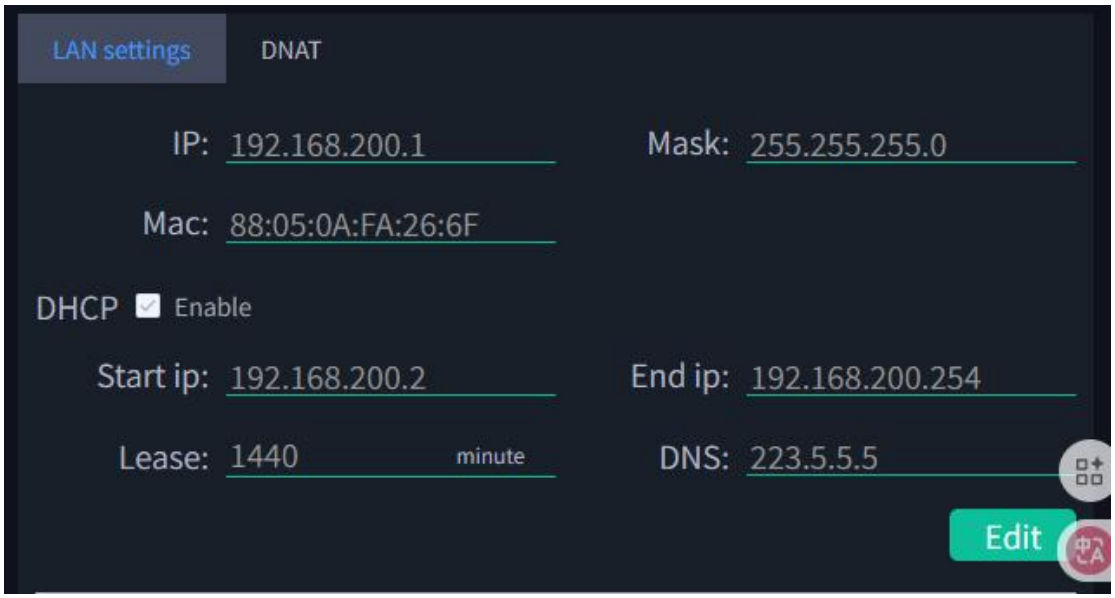



Figure 24: LAN port settings interface

As shown in the figure above, the parameters are defined as follows:

① 【IP Address】：

The LAN port address (gateway for connected clients).

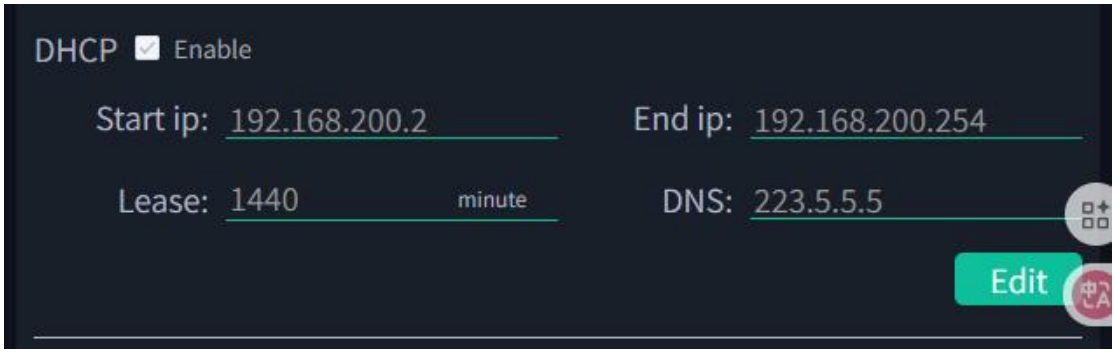
Default IP: 192.168.200.1 (user-configurable).

② 【Mask】： Subnet mask address for the LAN port.

③ 【MAC】： Physical MAC address of the LAN port.

Note: If no DNS is configured for the LAN interface, the interface address will be used as the DNS address by default.

When dynamic DHCP address pool is enabled, the system will automatically assign IP parameters (including configured starting/ending IP addresses, lease time, DNS, etc.) to connected terminals. The LAN DHCP configuration interface is shown below:




①【Enable】: Enable/disable DHCP dynamic address pool switch

②【Start Ip】: The starting IP address assigned to the access client

③【End IP】: The ending IP address assigned to the access client

④【Lease】: Refers to the usage period of each IP address assigned to the client, the value range is: 0-2880 minutes; the default is 1440 minutes;

⑤【DNS】: DNS address

## 8.5 DNAT

DNAT (Destination Network Address Translation) technology is widely used in enterprise networks and emergency communication environments to enable internal-external network communication, provide public services, and enhance network security. The UR100 aggregation router offers DNAT support, allowing traffic from the internet to access specific devices or services within a private internal network through configuration. The DNAT service parameter settings are

shown below:

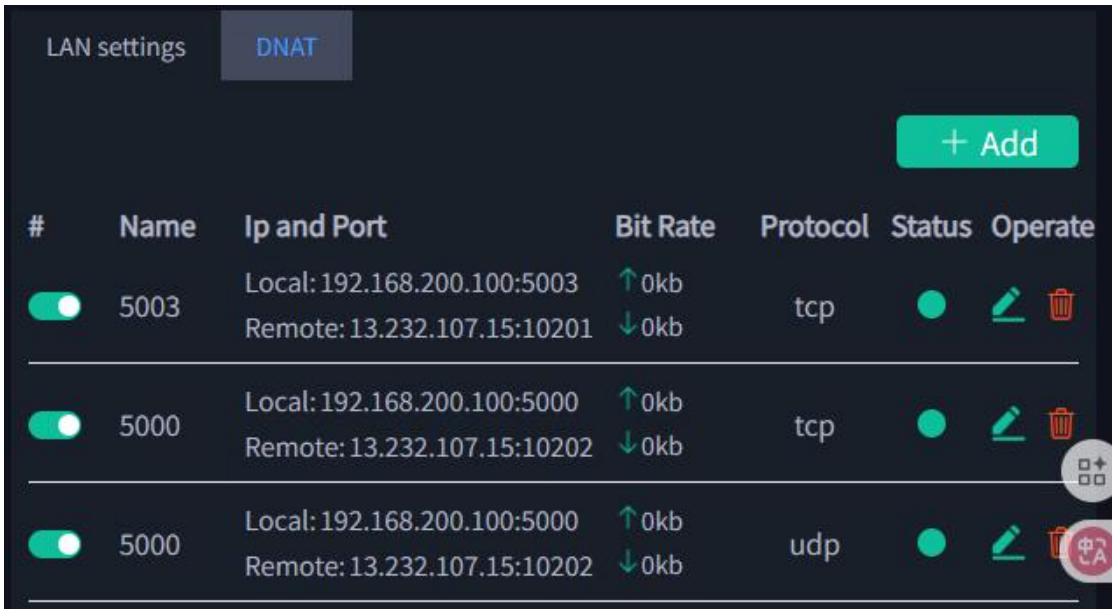



Figure 26: DNAT function list display interface

As shown in the figure above, the meanings of the fields of the DNAT function are as follows:

①【Name】: the name of the created DNAT rule;

②【Local】: the local IP address and port number of the internal server for which the DNAT rule has been created;

③【Remote】: the IP address and port number for remote access of the created DNAT rule;

④【Protocol】: the service protocol name of the created DNAT rule;

⑤【Status】: the running status of the created DNAT rule, value: idle or uplink and downlink bit rate display;

⑥【】： Edit and modify DNAT rule parameter setting button;

⑦【】： Delete the DNAT rule action button;

⑧【Add】: Click the Add DNAT Rule button to jump to the Add DNAT Parameter

Setting page as shown below:

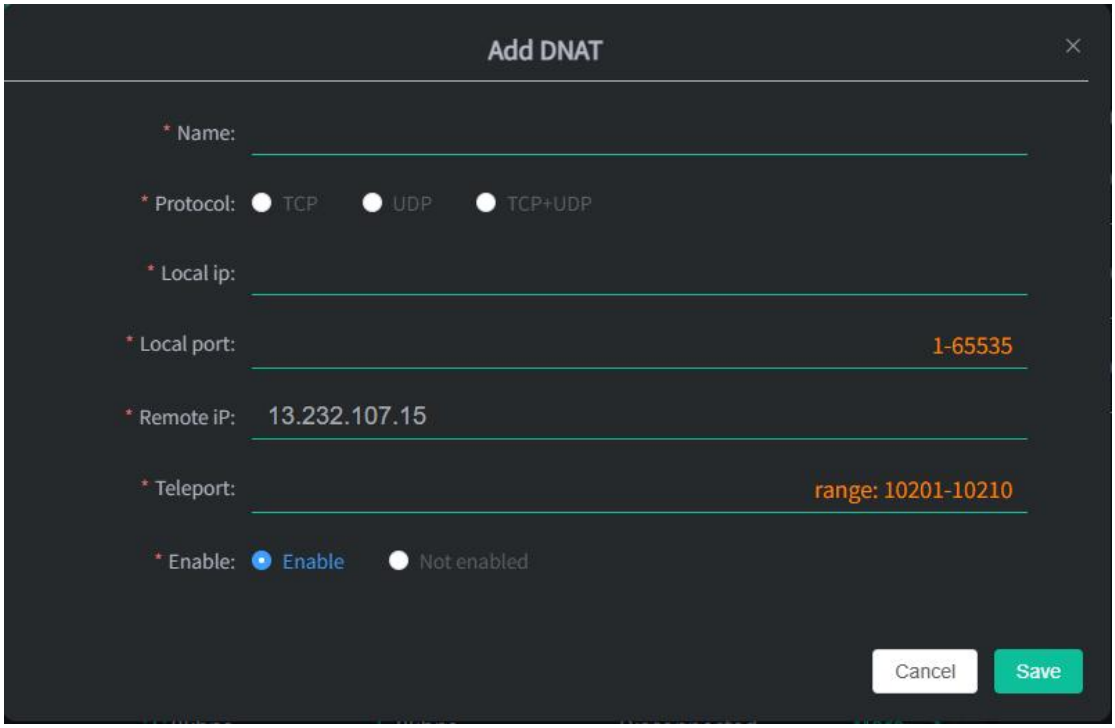



Figure 27: Add DNAT rule interface

The explanations of DNAT parameter settings are as follows:

①【Name】: Fill in the name of the newly created DNAT rule, the value range is 1-32 characters;

②【Protocol】: Select the service protocol for creating DNAT rules, supporting TCP/UDP/TCP+UDP options;

③【Local IP】: Fill in the intranet IP address that requires local DNAT rules;

④【Local port 】: Fill in the intranet port number that requires the local DNAT rule address;

⑤【Remote Port】: Fill in the remote port number (Note: only the remote port range provided by the system can be filled in)

⑥【Remote IP】: The system provides a fixed remote access IP address display

based on the principle of regional proximity allocation;

⑦【Remote Port】: Display the remote port number range filled in by the user when mapping the port;

Note: The maximum number of DNAT TCP/UDP rules that a user is allowed to create in UR100 is no more than 10.

## 8.6 Network Monitoring

In the UR100 aggregation router's cloud management system, the system automatically displays the operational status of all network links, including:

Network signal type (RAT)

Signal strength

Carrier name

Real-time transmission bitrate

Administrators can quickly review this information. If a link fails to establish a dial-up connection or behaves abnormally:

Users may manually restart the link for a specific built-in SIM card.

Based on actual network conditions, the network mode can be set to Auto/3G/4G/LTE to maximize multi-link stability.

The interface is shown below:

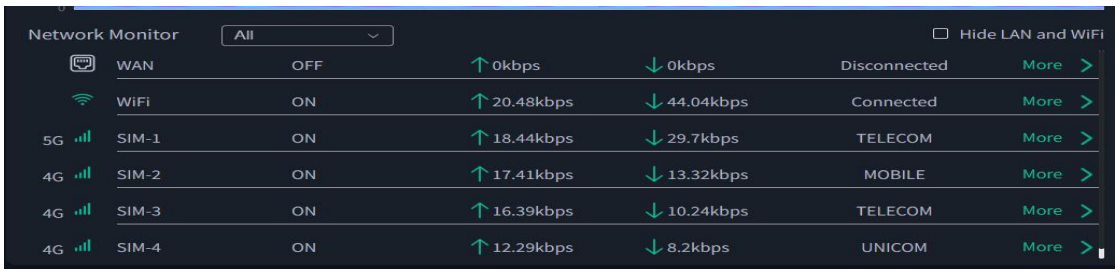


Figure 32: Network links status monitoring

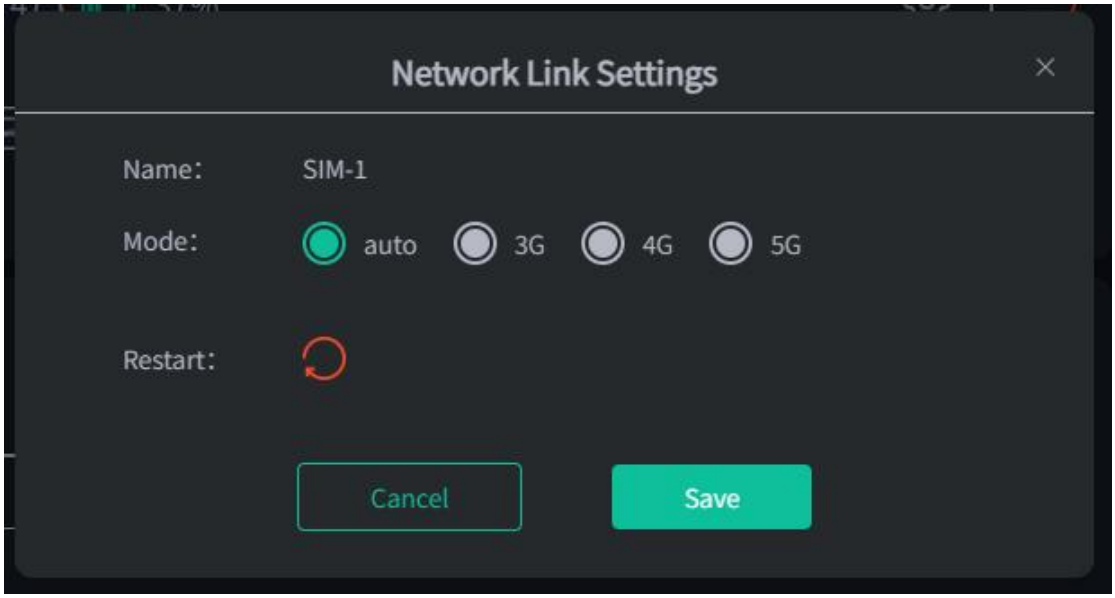



Figure 33: SIM card network link configuration

As shown in the figure above, the meanings of each parameter are as follows:

①【Restart】: Single link restart operation, which does not affect the normal operation of other modules;

②【5G/Priority】: The module preferentially locks the 5G frequency band signal;

③【4G】: The module only locks the 4G frequency band signal;

④【3G】: The module only locks the 3G frequency band signal;

## 8.7 Recharge Data

To purchase aggregated data packages via your mobile phone, scan the QR code displayed on the "Manage" page of the terminal's LCD screen:

Navigate to "Manage" → "Recharge" to access the QR code interface.Use your mobile browser's scan function to capture the QR code.You will be redirected to the online store package list page.

Then select and pay for a data plan according to your needs.

Upon successful purchase, the data balance updates in real time on both this page and the main interface. The data package purchase interface is shown below:




Figure 34: QR code for purchasing data plan

## 8.8 My Account

Users can click "Manage->My Account" to view the current account name,device data and user data, as shown in the following figure:

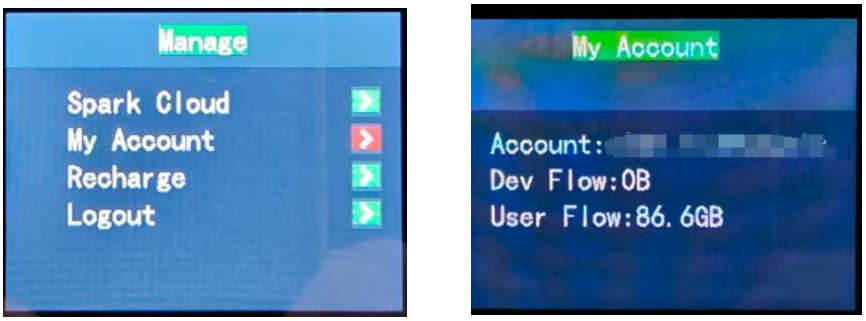



Figure 35: My data package monitoring

## 8.9 System Settings

Switch to the "System Set" page, where you can set the language, screen brightness, screen lock switch, device information, restore factory parameter settings, software upgrade, etc., as shown in the following figure:

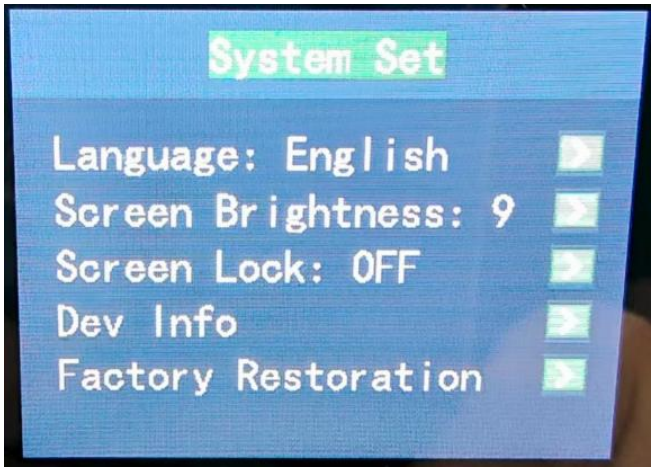



Figure 36: System settings interface

As shown in the figure above, the meanings of each parameter are as follows:

①【Language】: You can set the terminal display language to Chinese/English;

②【Screen brightness】: You can set the terminal screen brightness to 1~10 levels;

③【Screen lock: On】: You can set the screen lock to be turned on or off, and the screen will be locked after 1~10 minutes;

④【Device information】: You can view the terminal device information, model, serial number, hardware version, and software version.

⑤【Factory Restore】: The terminal restores factory settings.

⑥【Software Upgrade】: When the terminal has the latest version, the "Software Upgrade" option will be displayed, and the user can upgrade it by himself. If there is no latest version, this item will not be displayed.

# 9. Aggregate data operation monitoring

By monitoring network traffic and connections, we can gain real-time insights into system operations and promptly detect anomalies to take appropriate corrective actions. The UR100 aggregation router provides operational monitoring in two distinct modes:

(1) Aggregated Routing Traffic Monitoring

This monitoring interface is divided into four sections:

System Status Monitoring

Multi-Link Monitoring

Total Traffic Monitoring

User Account info Monitoring

The interface is shown below:

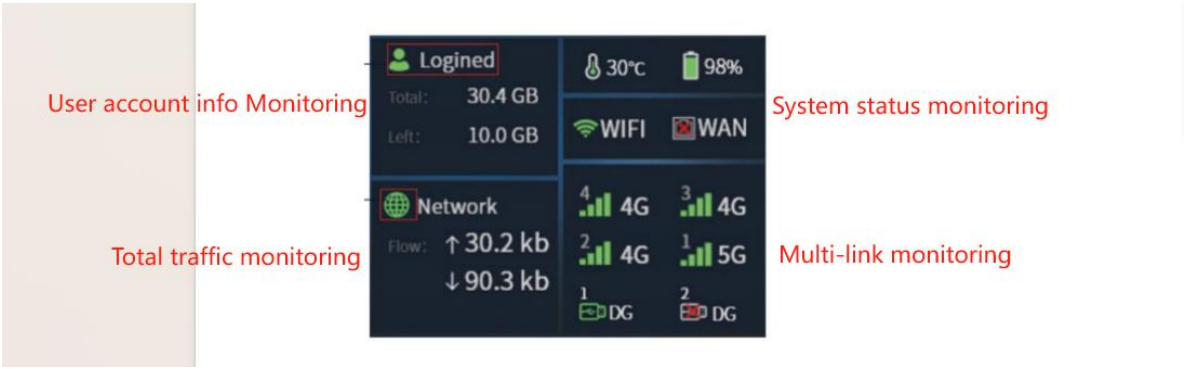



Figure 38: Aggregate traffic monitoring interface

As shown in the figure above, the meanings of the parameters in each area are

as follows:

①System status monitoring

【】： Built-in battery power display, showing the battery power status through different icons and power percentage  ， when the battery is charged via a power adapter, a lightning symbol appears in the middle of the icon. ， when the battery power is less than 25% of the rated power, the battery power indicator icon will turn red ；

【】: Wired network link, a green icon is displayed when the terminal recognizes an available wired connection  ， otherwise, a white warning icon is displayed  ,when the icon is white, it means that the network is not connected or the network is disconnected. Please check whether the network cable is plugged in or troubleshoot network problems.

【】： WIFI link, when icon  is highlighted, it means the terminal WiFi link is connected normally.， If the icon is grayed out  it means that the WiFi link is not connected or the connection is unsuccessful. Please check whether the WiFi parameters are configured correctly.

②Multi-link monitoring

【】： This refers to the SIM card's 4G or 5G network signal, and the current signal strength or weak working status display.

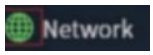
Note: The network signal status of the SIM card is divided into four bars. A full bar indicates a normal signal. Only one or two bars indicate a weak signal. At this

time, network communication may be interrupted. If conditions permit, try to choose an environment and placement direction with a strong signal.

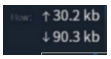
【】: The current SIM card signal is zero and the SIM card dialing fail.

【】: The SIM card is not inserted or is not correctly recognized.

③Total traffic monitoring

【

】: It shows whether the current aggregation status is successful, green for success and red for failure;

【

】: Displays the sum of the aggregated upstream and downstream data traffic of all network links;

④User account info monitoring

【

】: Display the current login status, which is divided into "Logged in" and “Confirm”;

【Total】: Displays the sum of the aggregated upstream and downstream data traffic of all network links;

【Left】: Display the remaining aggregated traffic of the account;

(2)Normal Routing Traffic Monitoring

In Normal Routing Traffic Monitoring, the system displays only the uplink and downlink data traffic transmitted through a single optimal network link selected by the policy algorithm, as shown below:

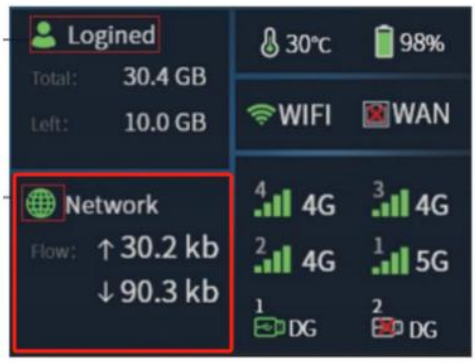



Figure 39:Normal Routing Traffic Monitoring

# 10. Packing List

| Item Name | QTY |
|---|---|
| UR100 Aggregation Router | 1 |
| Power adapter | 1 |
| SIM card needle | 1 |
| Product certificate | 1 |
| Warranty card | 1 |