R50 Wireless Router & Access Point (for FCC)

FCC ID: 2ALJJR50

User Manual

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FCC Warning:

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 the 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 into 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.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

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.

Specific Absorption Rate (SAR) information:

This CPE meets the government's requirements for exposure to radio waves. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons regardless of age or health. FCC RF Exposure Information and Statement the SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue.

Federal Communication Commission (FCC) Radiation Exposure Statement

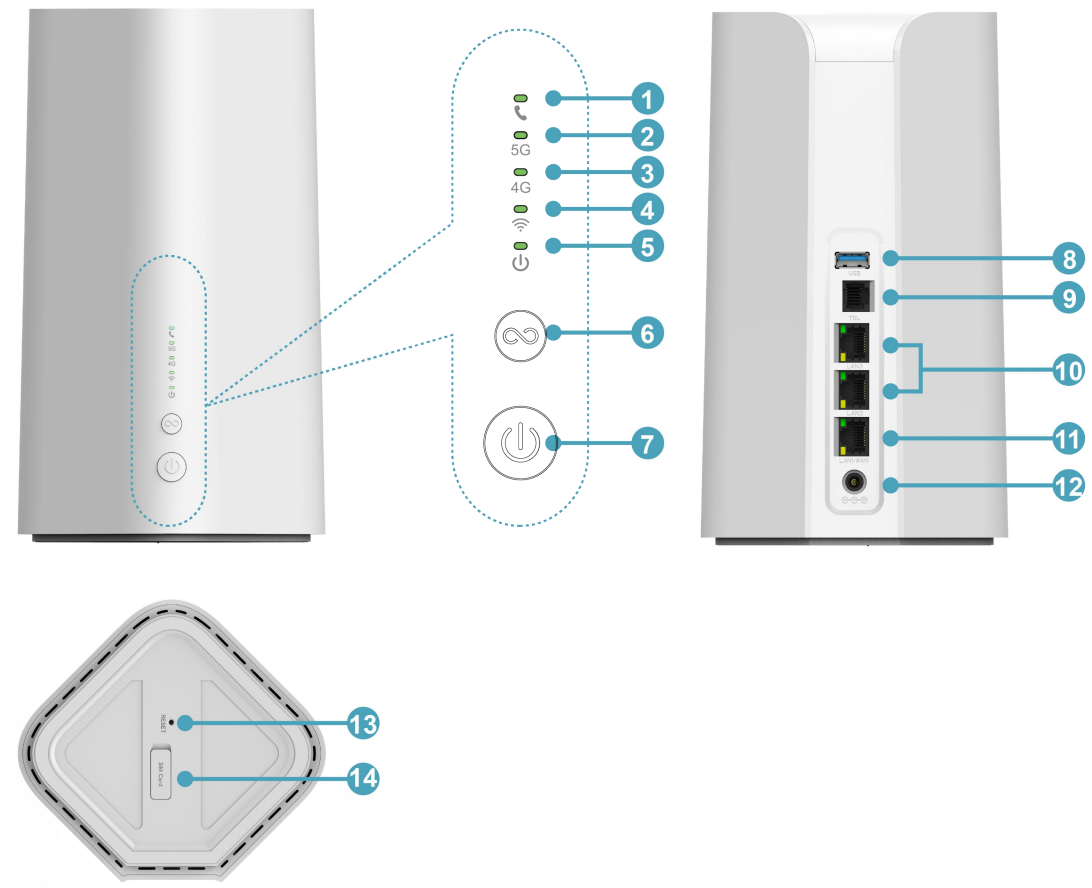
When using the product, maintain a distance of 20cm from the body to ensure compliance with RF exposure requirements.

Chapter 1：Product Overview

1.1 Introduction

Thanks for purchasing R50 broadband router. This router, equipped with the latest 5G and Wireless-N technology, is a full function network equipment. It can support you to freely access network connection in different occasions, such as meeting, exhibition, factory, or home. When using SIM card to access network, you could also make phone calls or send text messages Simultaneously. R50 has extraordinary performance, and is very easy to use and manage. It supports multiple devices sharing one broadband link and ISP account, to offer you great convenience and cost efficiency. In the meanwhile, it provides multiple management functions, to configure system, DHCP server, firewall, static route table. R50 broadband router is easy to configure, so non-professionals could configure the device. Before you start to configure R50, please read this user guide, to fully understand the functions of R50.

1.1.1 Product Layout



LED

Number	LED	Description
1	TEL	Telephone on: Blue,Solid
2	Internet(5G)	Register to 5G(not connect): Blue , Solid Connected to 5G network: Blue , Blink- 0.5s
3	Internet（LTE/3G）	Register to LTE(not connect): Blue , Solid Connected to LTE network: Blue , Blink- 0.5s Register to 3G(not connect) : Blue , Solid Connected to 3G network : Blue , Blink- 0.5s No SIM card or No network Service: Light is Not on
4	WiFi（2.4G/5G）	2.4G WiFi 1. 2.4G WiFi is enabled(No Users):Blue , Solid ; 2. Users connected to 2.4G WiFi (or by WPS):Blue, Blink- 0.5s 3. 2.4G WPS is enabled(flash 120s if no users connected):Blue, Blink- 0.2s 5G WiFi 1. 5G WiFi is enabled(No Users):Blue , Solid ; 2. Users connected to 5G WiFi (or by WPS):Blue, Blink- 0.5s 3. 5G WPS is enabled(flash 120s if no users connected):Blue, Blink- 0.2s
5	Power	Power on: Blue,Solid

KEY

Number	Connections	Description
6	WPS	Click this button to start WPS encryption.
7	Power	Turn on the router.
8	USB	External U-disk or hard disk.
9	TEL	Connect the telephone

Interface

Number	Connections	Description
10	LAN	LAN ports provide connections to Ethernet enabled devices.
11	WAN/LAN	If the WAN sets to the WAN Mode, it will be as the WAN interface.If WAN sets to LAN mode,it will be a LAN interface.
12	Power Adapter	Connect Power to DC-Jack 12V/3A Power Adapter. Using power supplies with a different voltage from the one included with the R50 will cause damage and void the warranty.
13	Reset	Press the reset button for about 6 seconds to restore the device to the factory default settings.
14	SIM Card	Insert SIM card to automatically identify registration.

Chapter 2：Quick Setup Guide

2.1 System Requirements

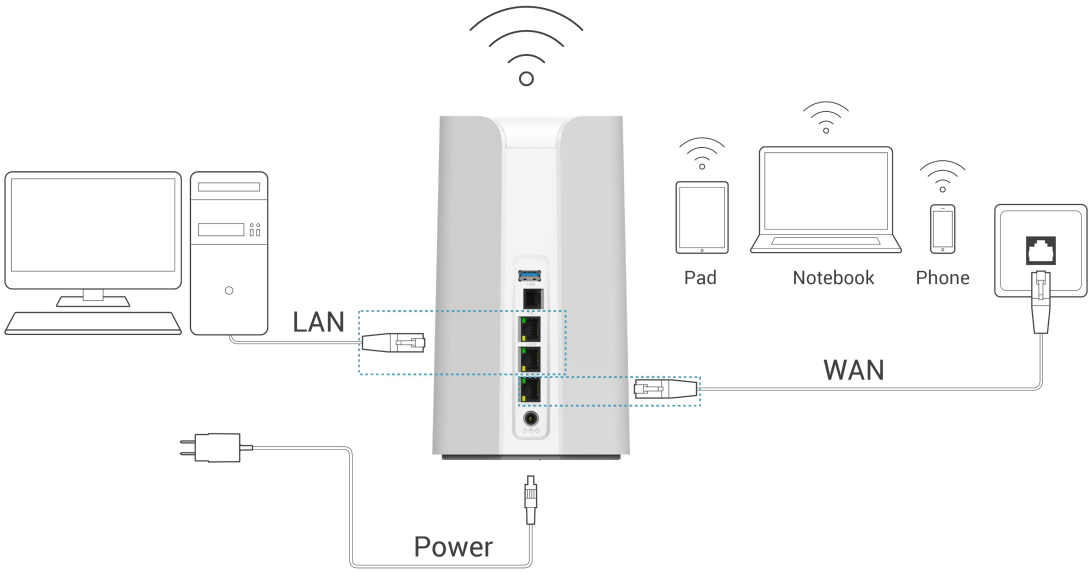
- Ethernet ADSL/Cable with an Ethernet port (RJ-45) **OR** Internet SIM card
- Computer with Windows, Macintosh, or Linux-based operating system with an installed Ethernet adapter.
- Internet Explorer version 8.0 or above, Google Chrome, Safari, Firefox, Opera.

2.1.1 R50 Placement

You can place R50 on a desk or other flat surface. Please keep R50 away from heating. For optimal performance, please place your R50 in the center of your home (office), in a location that is away from any potential interference source, such as metal walls or microwave oven.

2.2 Network Setup

2.2.1 WAN Setting



1) Connect Ethernet cable between your PC/Notebook and one of the Two available LAN ports on R50.
2) Connect Ethernet cable between WAN ports of your ADSL/CABLE modem and WAN port of R50. Please make sure your ADSL/CABLE modem is working properly. Contact your ISP if you have any question.
3) Power up R50.

2.2.2 3G/4G/5G Setting

When using SIM card to access network, you could also make phone calls or send text messages.

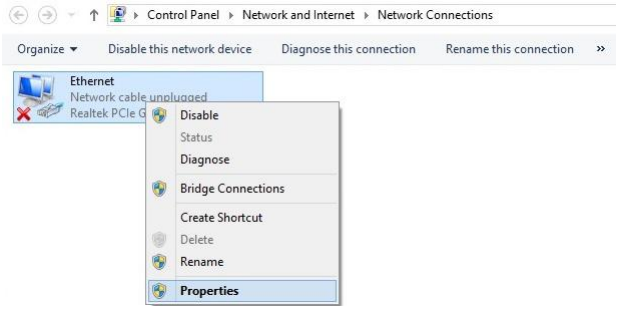
1) Insert SIM card into the port.
2) R50 support hot swap：The SIM card can be replaced without shutting down the R50.
3) Power up R50. Press Power button, then front panel will light up and remain stable.

Chapter 3：Product Setting

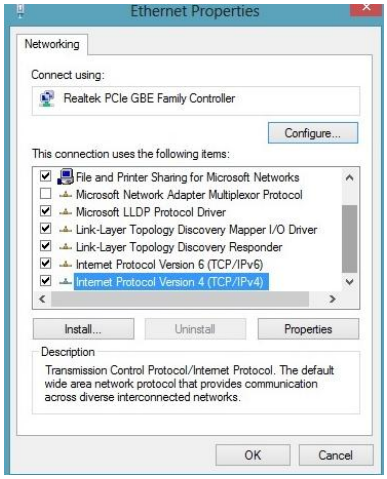
3.1 Configuration wizard

3.1.1 TCP/IP Setting

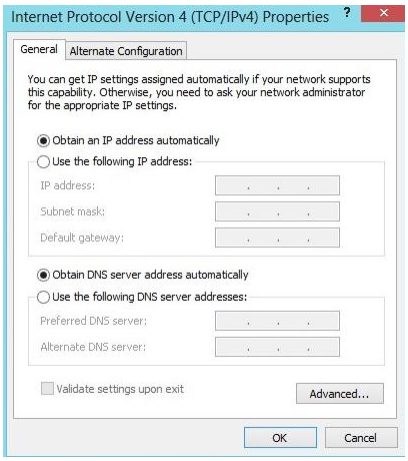
Enter [Start Menu]—Select [Control panel]—Select [Network]—Select [Local Area Connection]—Select [Properties]



Select [Internet Protocol (TCP/IP)]—Click [Properties]



R50 supports [DHCP] function, please select both [Obtain an IP address automatically] and [Obtain DNS server address automatically].



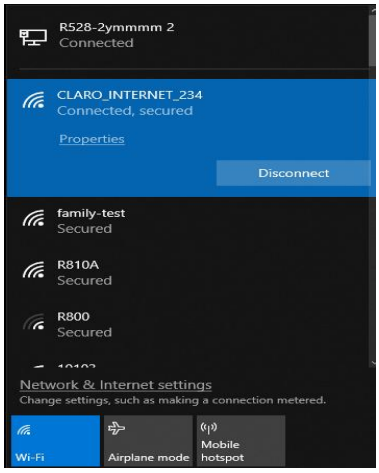
3.2 Connection the Device

1) **Ethernet Connection:** Connect Ethernet cable between your PC/Notebook and one of the Two available LAN ports on R50

2) **Establish Wi-Fi connection:**

you must ensure that the computer equipped with a wireless network card. If the computer showed the presence of Wi-Fi connectivity, the wireless LAN is available. Otherwise, you need to check your wireless network card is working properly.

In the Wi-Fi list, select the SSID consistent with R50 Wi-Fi, click “Connect”. Then enter the correct Wi-Fi password, click “OK”. A moment later, Wi-Fi connection is displayed next to the name, Wi-Fi connection is successful.



Chapter 4： Configuration

4.1 Login management page view

Whenever you want to configure your network or the R50 you can access the Configuration Menu by opening the web-browser and typing in the IP Address of the R50. For example, http://192.168.1.1

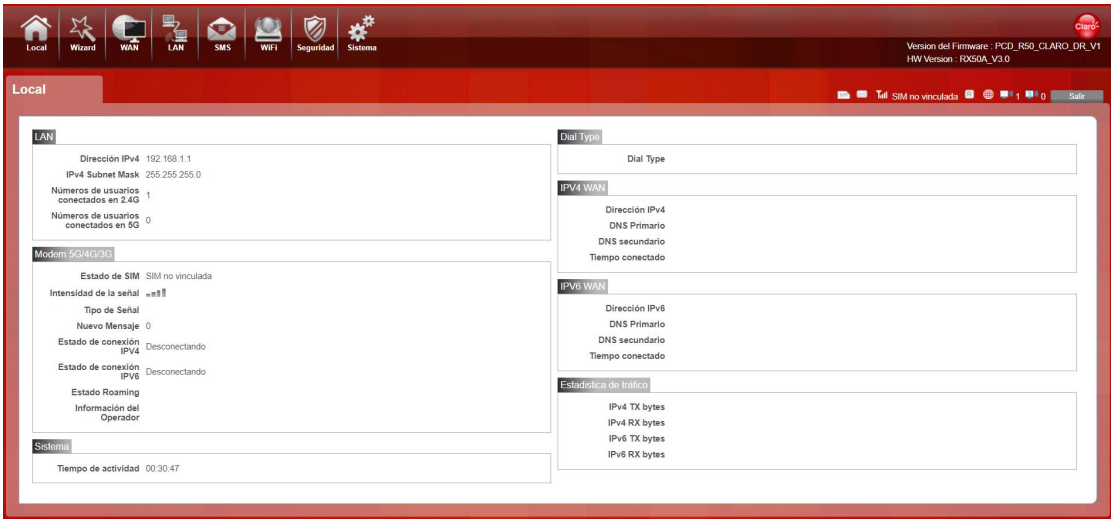
Note: If you changed the default IP Address assigned to the R50, make sure to enter the correct IP Address.

You will go to the overview and log in page. The Factory default user name is admin， and the default password is **claro1234.** It is recommended to change the admin password for security purpose. Its default language is Spanish.

4.2 Home

This page mainly displays settings and network status information, such as IP address, SIM

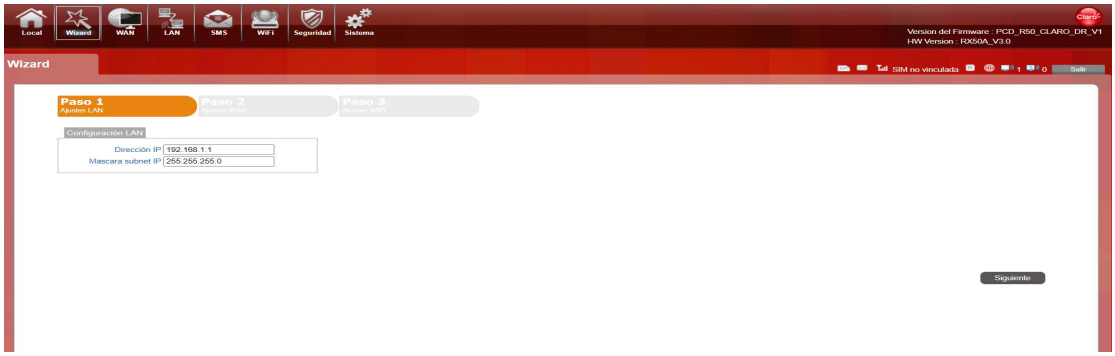
card status, network signal type and quality, roaming, new messages, traffic statistics, system normal operation time, etc.

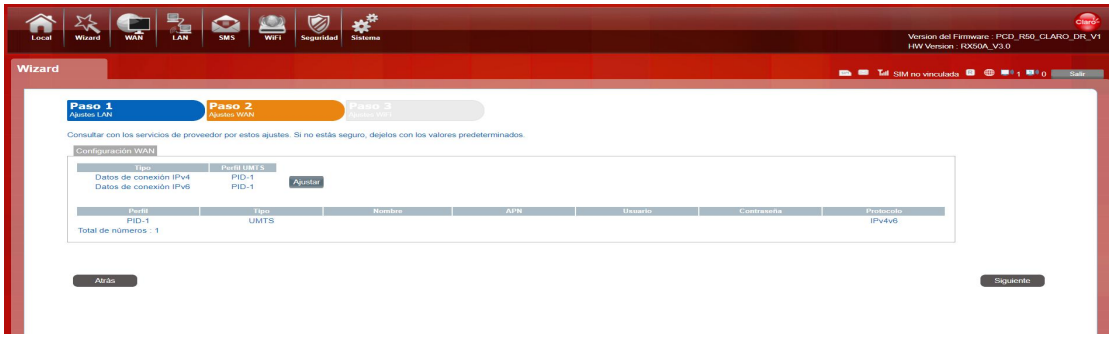


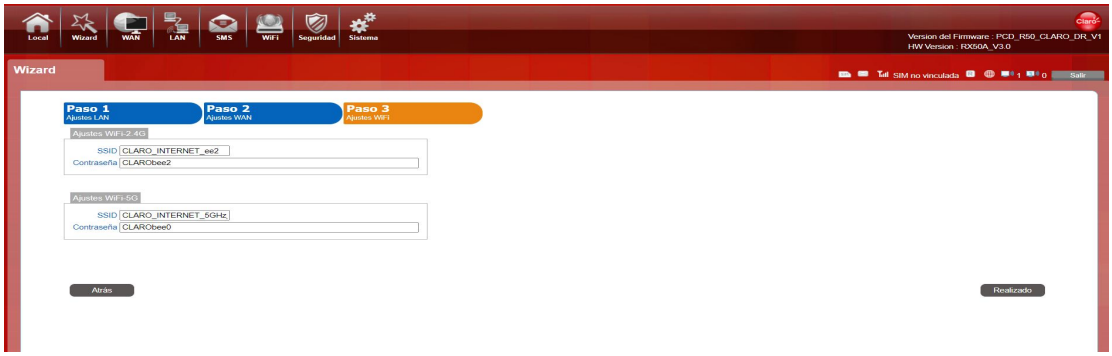
4.3 Wizard

You can quickly change the LAN configuration, set the APN, and modify and set the SSID and password of 2.4G and 5G by the wizard function.

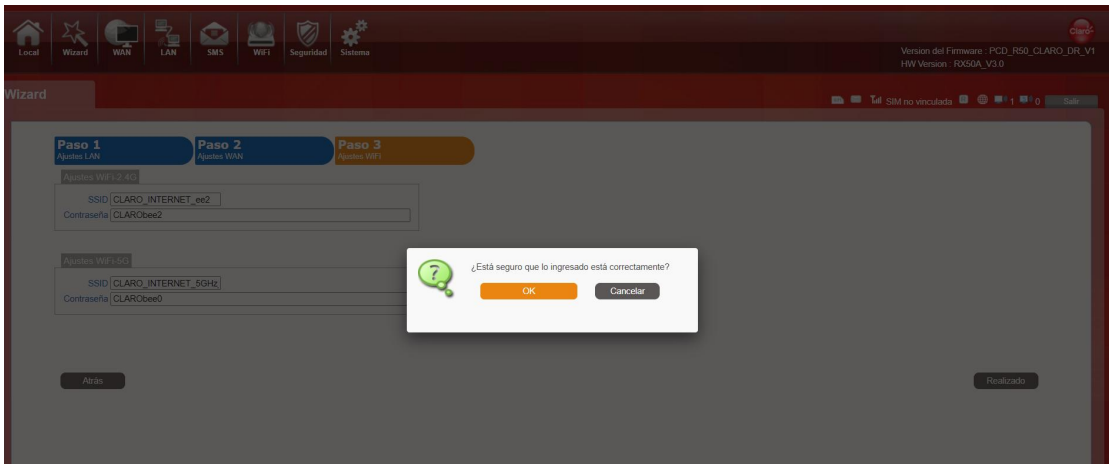
- The factory default 2.4G WIFI SSID is CLARO_wxyz (where wxyz are the 2.4G MAC' s last 4-digits), and the factory default 2.4G WIFI Key is CLAROIXXX (XXX are the 2.4G MAC' s last 3-digits)
- The factory default 5G WIFI SSID is CLARO_5G_wxyz (where wxyz are the 5G MAC' s last 4-digits), and the factory default 5G WIFI Key is CLAROIXXX (XXX are the 5G MAC' s last 3-digits) .

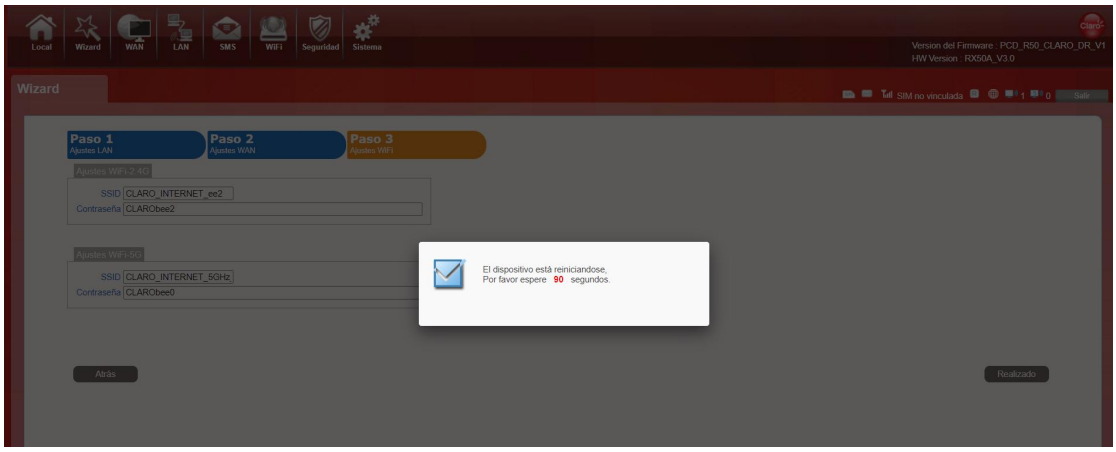






After the setting is completed, you select confirm, and the device will pop up the countdown 90 seconds prompt box. After the timing is completed, the device will restart automatically.



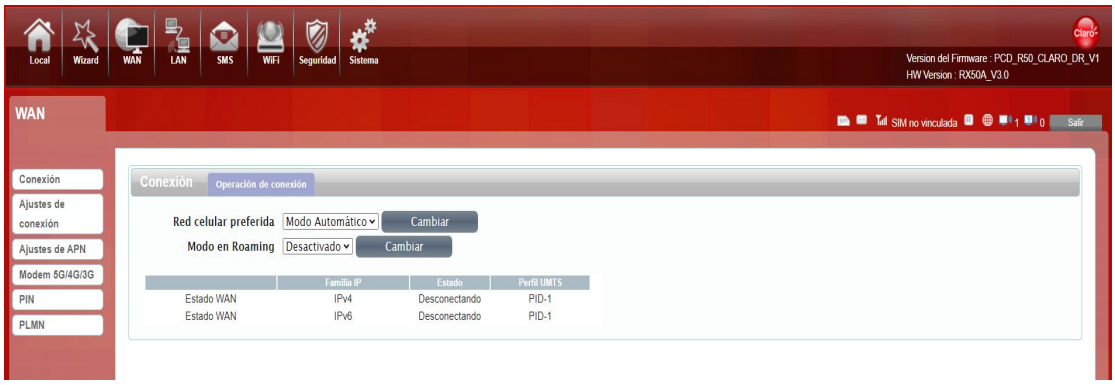


4.4 WAN

4.4.1 Connection

Dialing Mode:

Select the Auto Mode, after you turn on R50 without additional operations, the device will automatically connect to the network; select the Manual Mode, you need to manually connect to the network after opening the R50 management page.



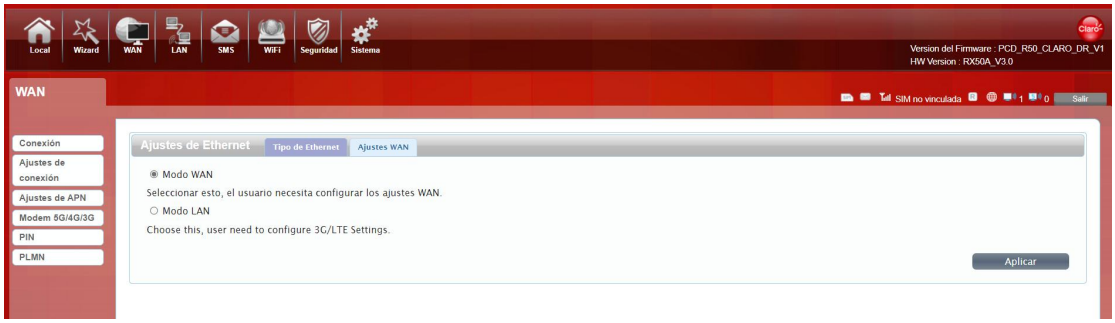
4.4.2 Connection Setting

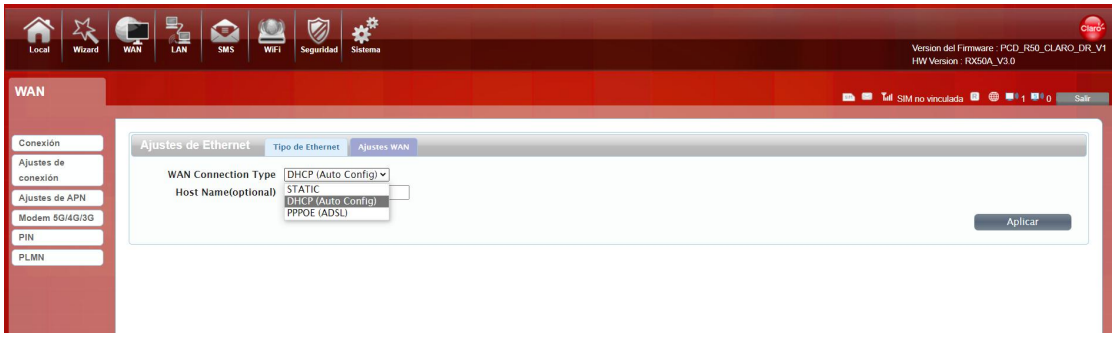
Two Internet access modes are available: LAN mode and WAN mode. The default is wan mode.

WAN Mode： Users can surf the Internet through the WAN network. If it is not connected to the WAN network, the user can still dial-up the Internet via the SIM card.

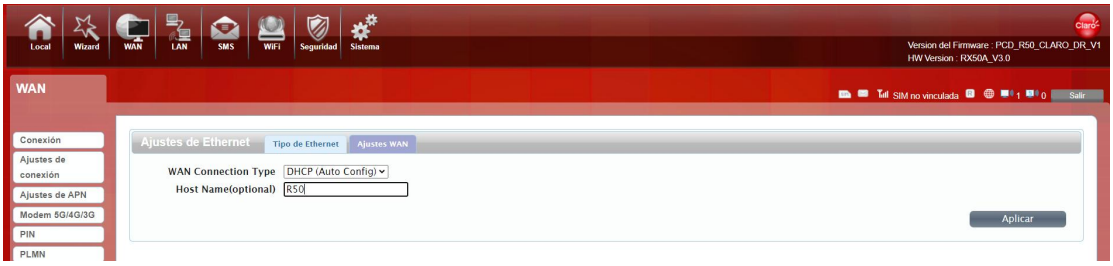
LAN Mode：Users can dial-up internet via SIM card. Users can choose to switch between different

networks in the 5G/4G/3G Modem function. Under this function, users cannot access the Internet through the WAN network.

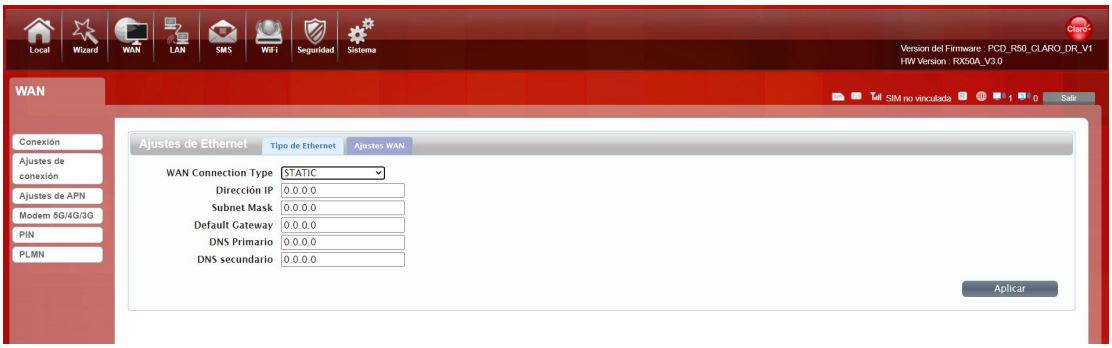




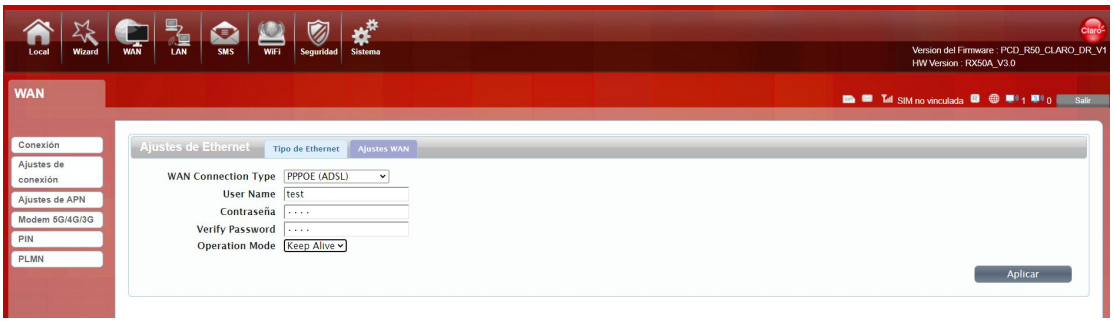
DHCP： Dynamic IP address connection that configures the router to automatically obtain IP address from DHCP server on the ISP network.



Static Mode: Please enter the IP address information provided to you by your ISP. The subnet mask of R50 is pre-configured as 255.255.255.0. Other configurations can be made, but not recommended. This feature is for advanced users. Your ISP should also provide the Default Gateway, Primary DNS and Secondary DNS (optional).

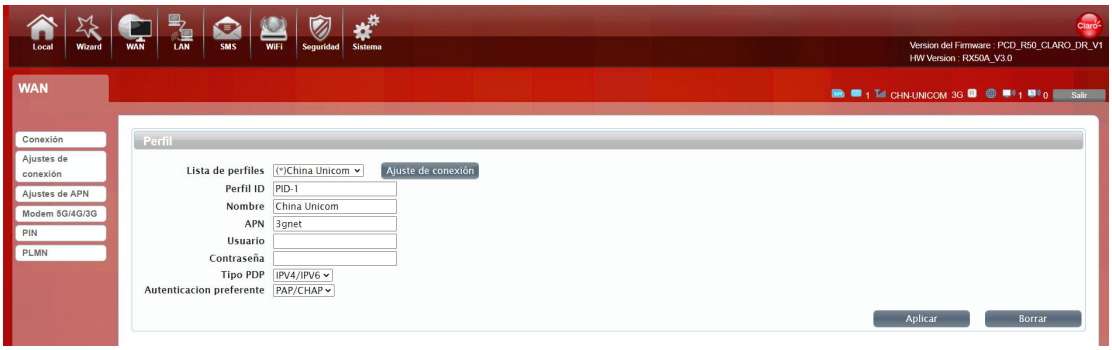


PPPoE: Please enter the PPPoE username and password assigned by your ISP. Enable the Keep Alive option to automatically re-establish the connection when an application attempts to access the Internet again.



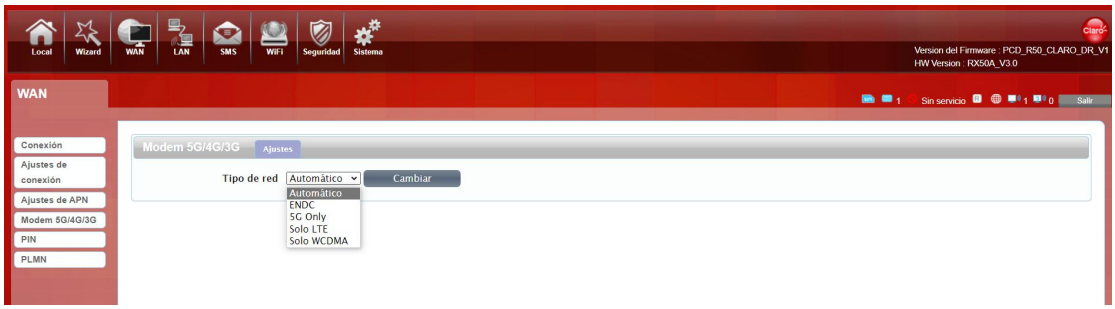
4.4.3 APN Setting

You can customize the network configuration or manually add the new APN and set default APN.



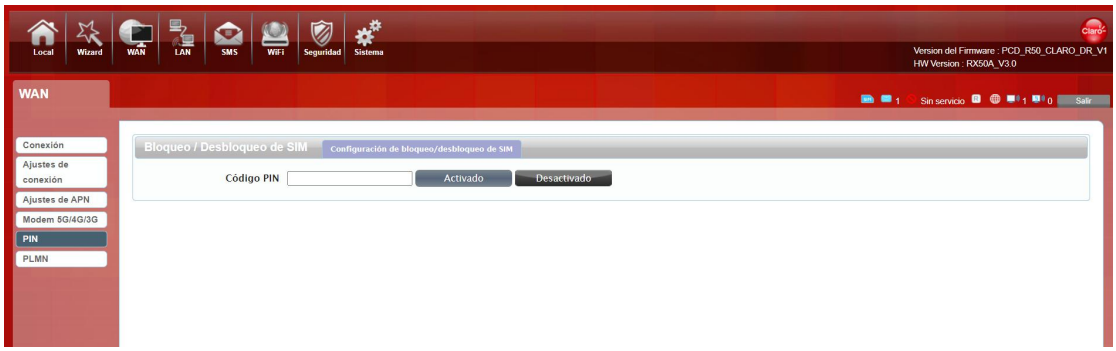
4.4.4 5G/4G/3G Modem

There are five types of networks can be choose: Automatic、ENDC、5G only、LTE only、WCDMA only



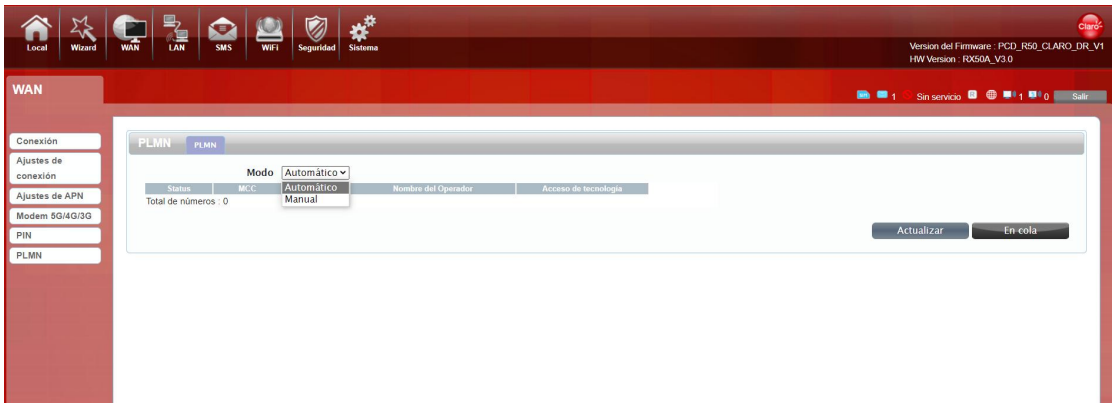
4.4.5 PIN

Open your PIN, if you reboot the device, you need to login management page, and the page will prompted to enter the correct PIN code, you can use the SIM card. PIN / PUK code supplied with the SIM card provided by your carrier, please consult your carrier.

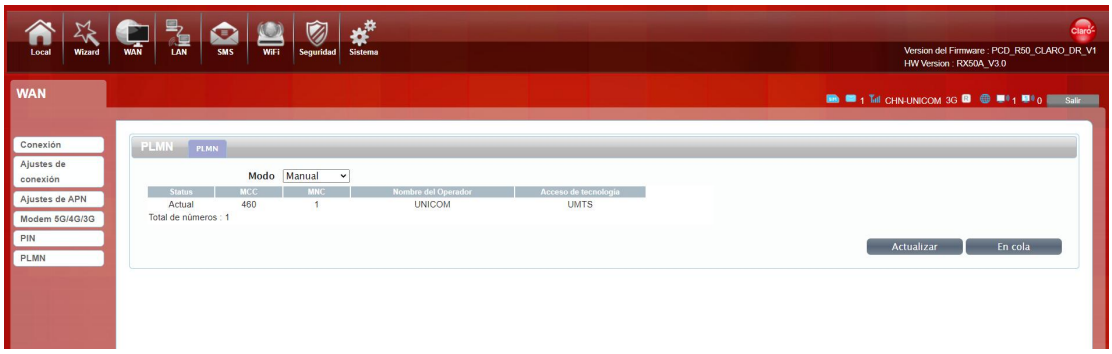


4.4.6 PLMN

Automatic:The R50 will automatically select the most appropriate network registration connection.



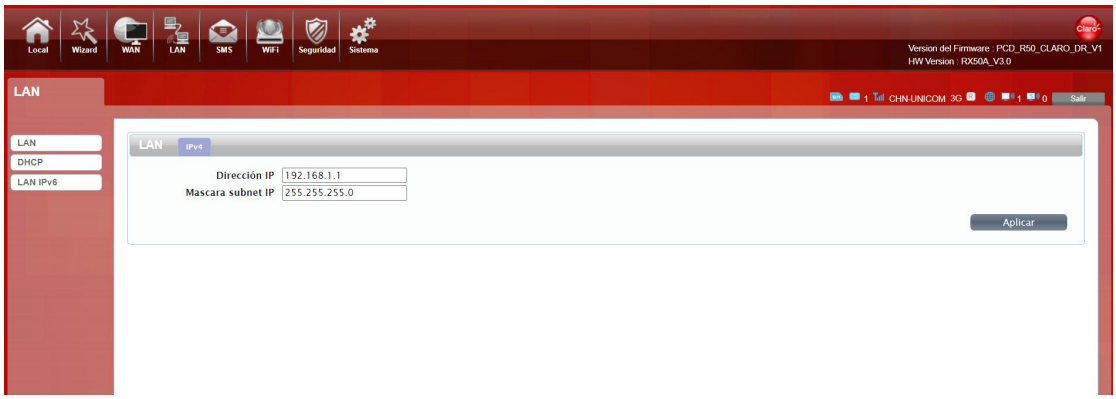
Manual: click the "query" button and select the available network to register the connection.



4.5 LAN

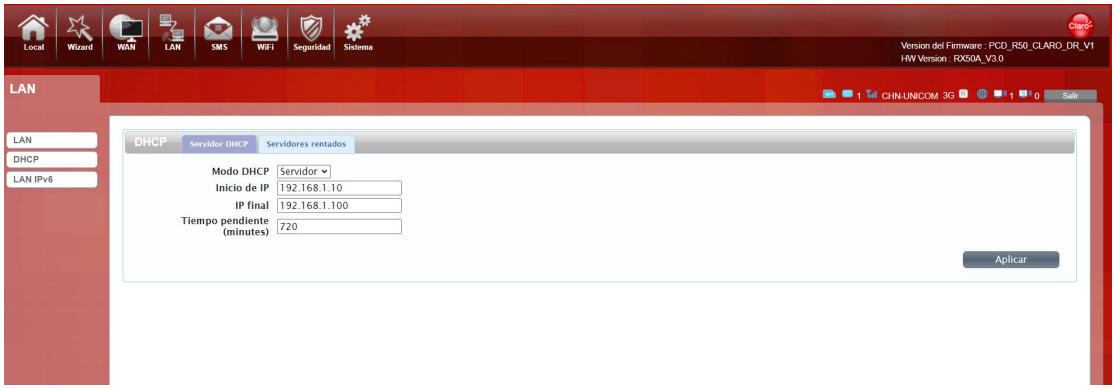
4.5.1 LAN

You can configure the LAN port parameters here.
IP Address: Set LAN IP address of the router.
IP Subnet Mask: Set subnet mask of the router.

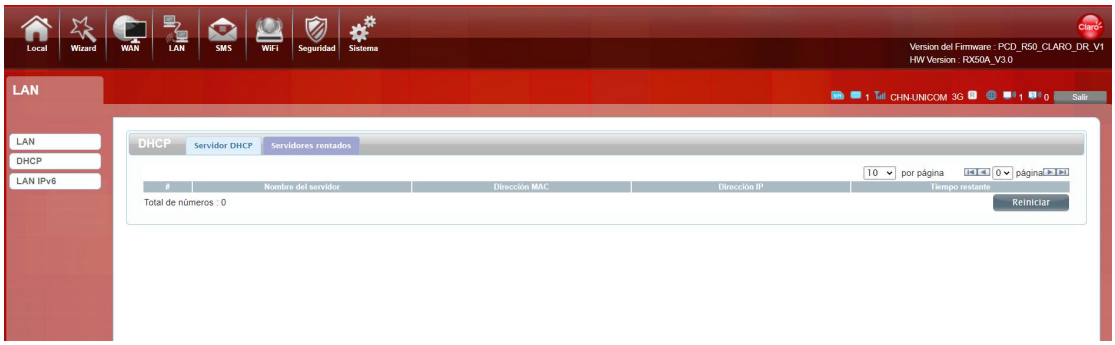


4.5.2 DHCP

You can configure the DHCP Settings parameters here.
Start IP Address & End IP Address: The IP range obtained through DHCP by LAN host.
Lease Time: The time limit for the IP address configuration information obtained by the client device at the DHCP server

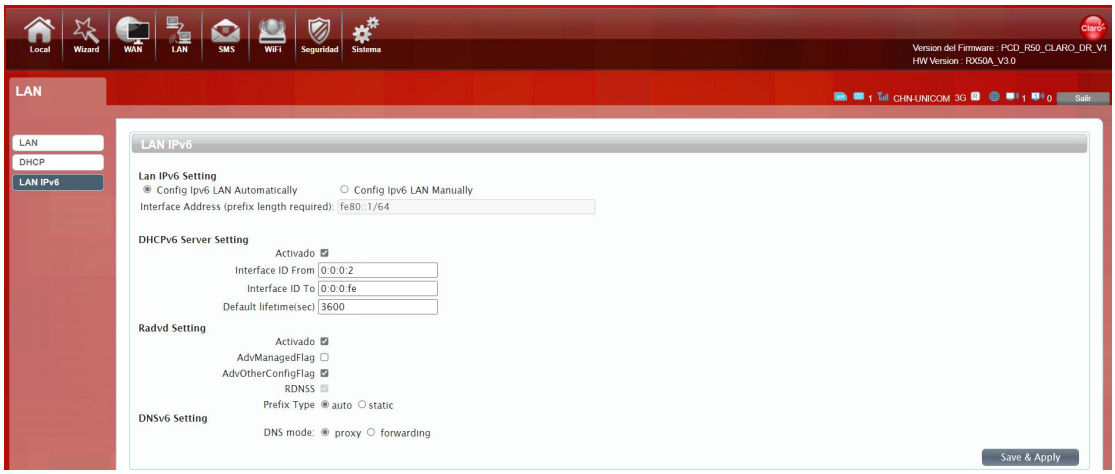


The leased host menu displays the wired and wireless IP address and MAC address of all currently connected devices, hostname and the remaining time of connection.



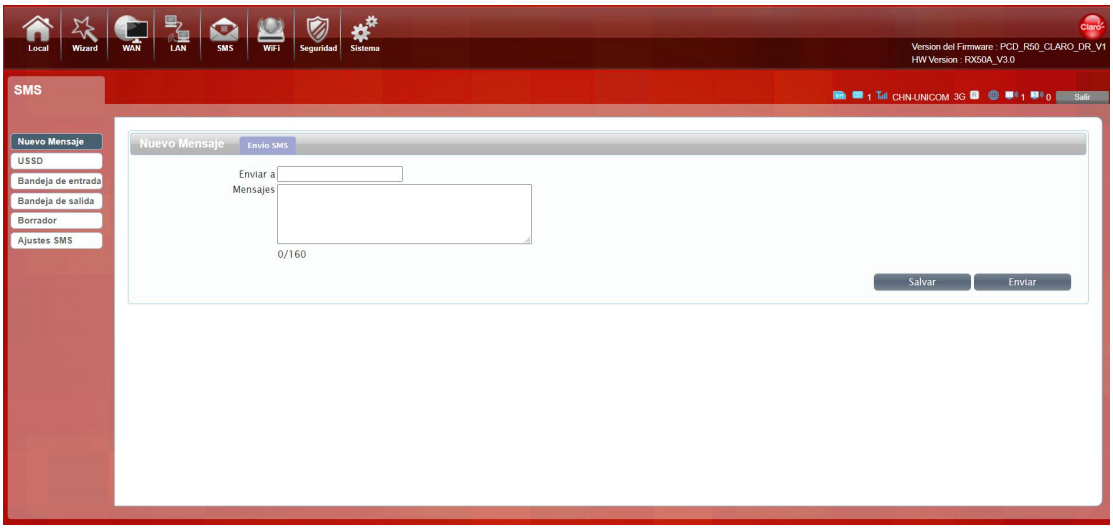
4.5.3 LAN IPV6

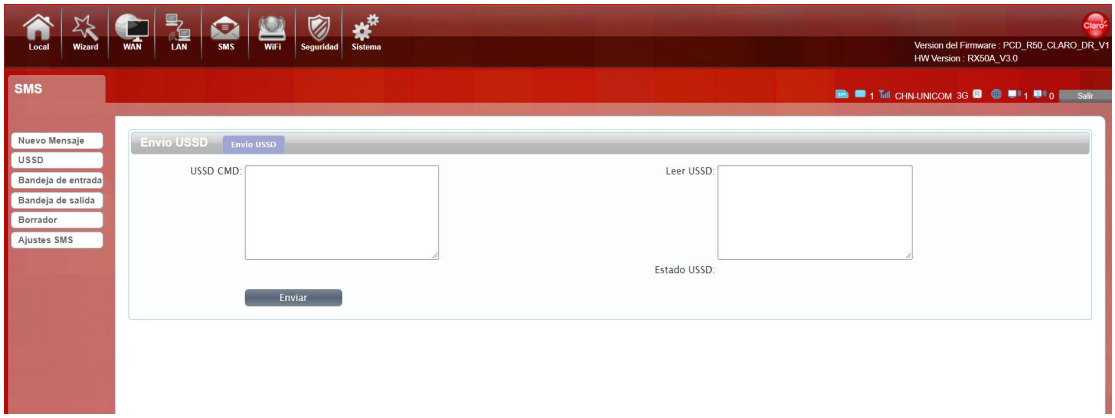
On this page you can set the IPV6 address of the LAN side network. You can choose to assign automatically or manually.



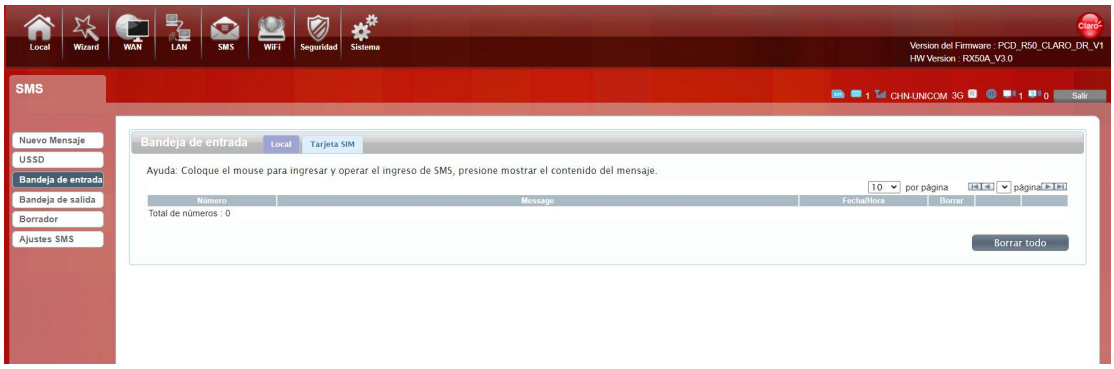
4.6 SMS

When using SIM card to access network, you could also send text messages at the time. You can send, receive , reply , forward, and save test messages. You can send 10 text messages at the same time, SMS number intervals with a semicolon. This version also supports the USSD function.

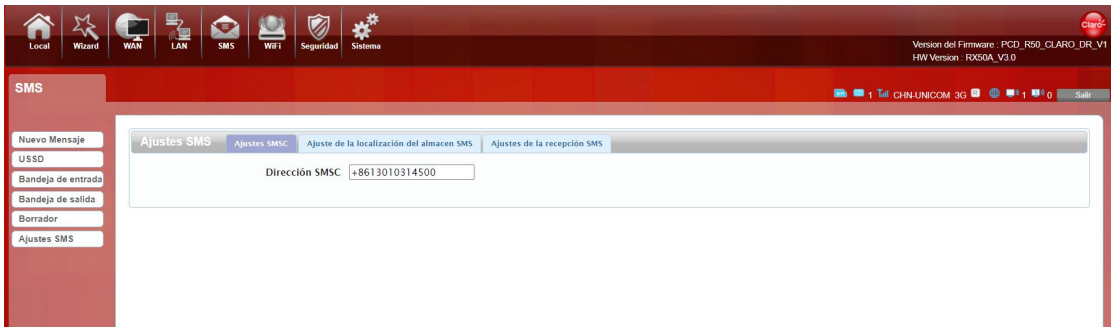




You can view the received SMS in the inbox, the received SMS in the Outbox, and the stored SMS in the draft box.



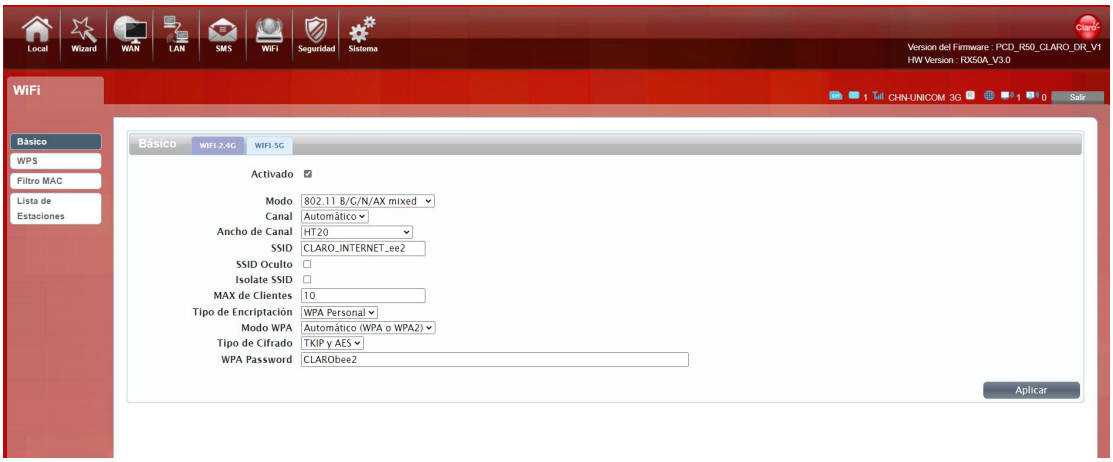
Also you can check the SMS center number and can set the storage location of messages, and so on.

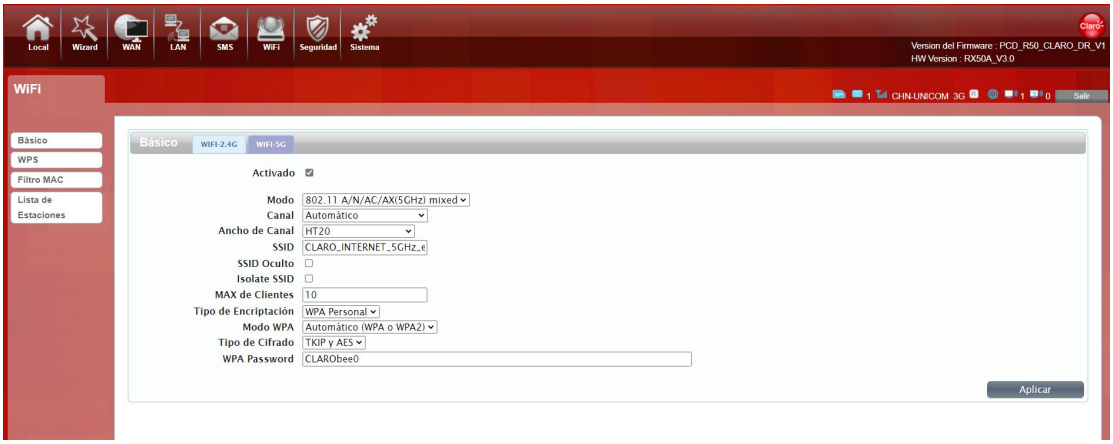


4.7 Wi-Fi

4.7.1 Basic(The project supports 2.4G and 5G WiFi)

You can set and change some WiFi related information on this page, such as mode, channel, bandwidth, SSID name, password, encryption method, etc. WiFi is turned on by default. It shows some information of the wireless connection.

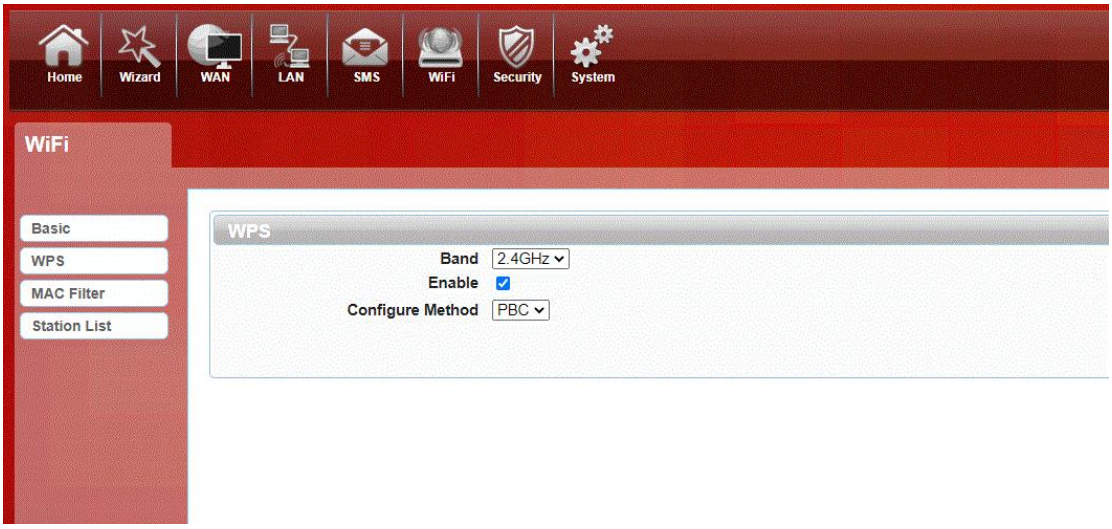




4.7.2 WPS

WPS is the easiest way to establish a connection between a wireless client and a wireless router. You don't have to choose encryption mode and fill in a long encryption password every time you try to set up a wireless connection.

WPS has two connection modes: PBC and PIN.



Take 2.4G WiFi as an example:

If your WiFi Enabled, Device supports WPS (WiFi Protected Setup) and you have forgotten or do not wish to enter your password to connect to your R50, you may use the following available procedures for quick access to WiFi.

Open the WPS:

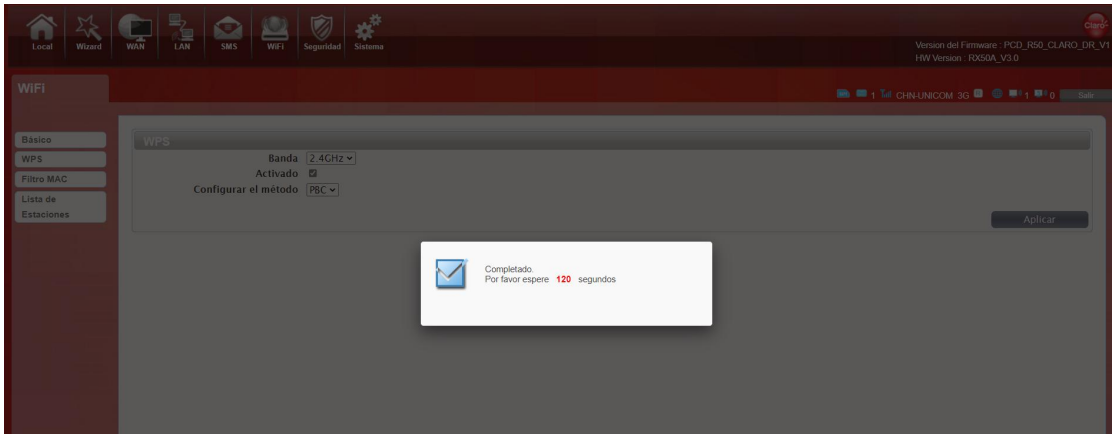
WPS can be opened by two methods.

- PBC methods:

You press the PBC function on the page and confirm, 120 second countdown prompt box will pop up on the page. At the same time ,press the WPS button of other wireless network cards to start matching search.

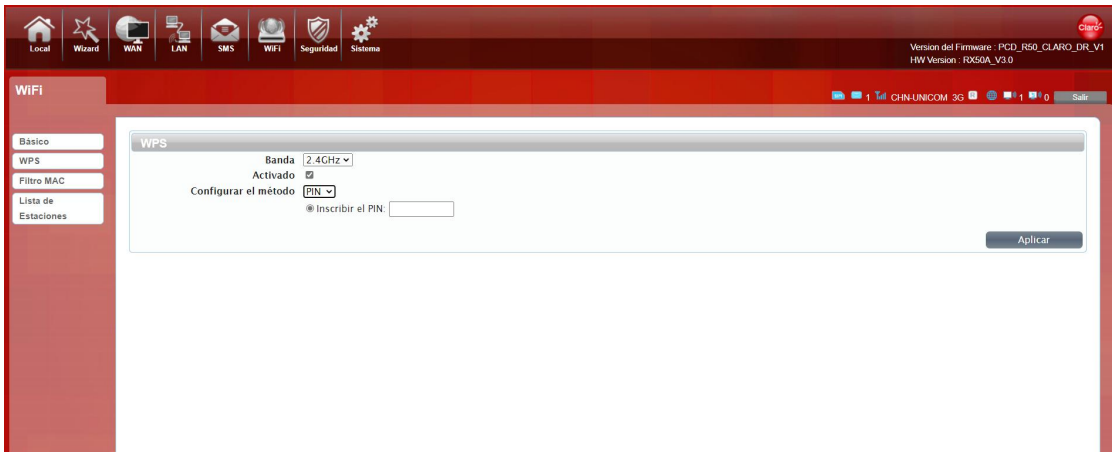
If the pairing connection between other wireless network cards and R50 is successful within 120 seconds, it will prompt that the connection is successful and the countdown will not be counted down.

If the other wireless network card and R50 are not paired successfully within 120 seconds , the countdown ends.



- WPS PIN authentication:

The connection to the R50 is achieved by inputting the relevant PIN key into the enrollee PIN text box, which you may find in the wireless network card. When you applied. It will lasting 120 seconds. The premise is that the wireless network card or the clients must support WPS PIN authentication. Like the following pictures.



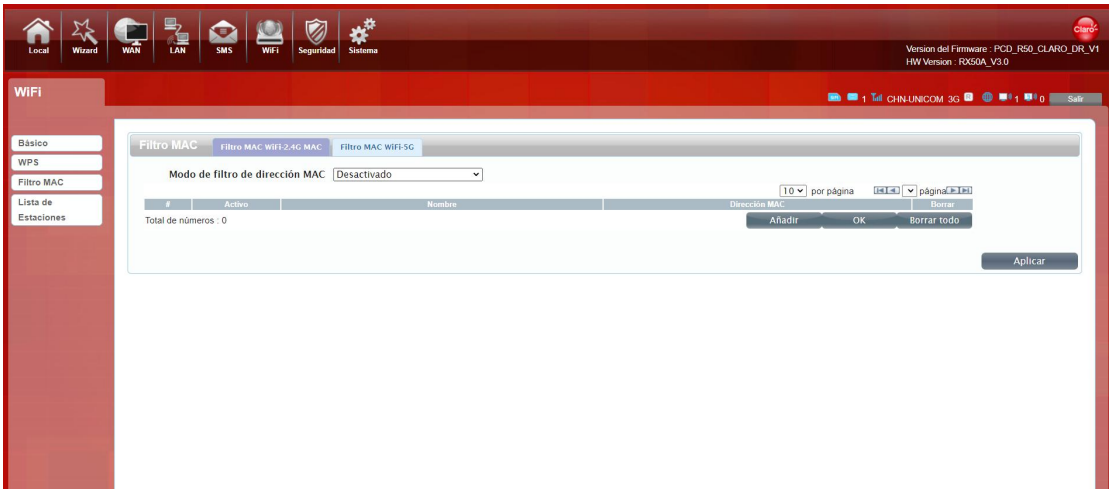
4.7.3 MAC Filter

Deny list Stations: If you add the computers or wireless devices MAC address into the list, it can prohibiting the computers or wireless devices connect to the R50.The computes or wireless devices MAC address which are not in the list can able to connect to R50.

Allow list Stations: Opposite with Deny list Stations. It only allows the devices in the list to

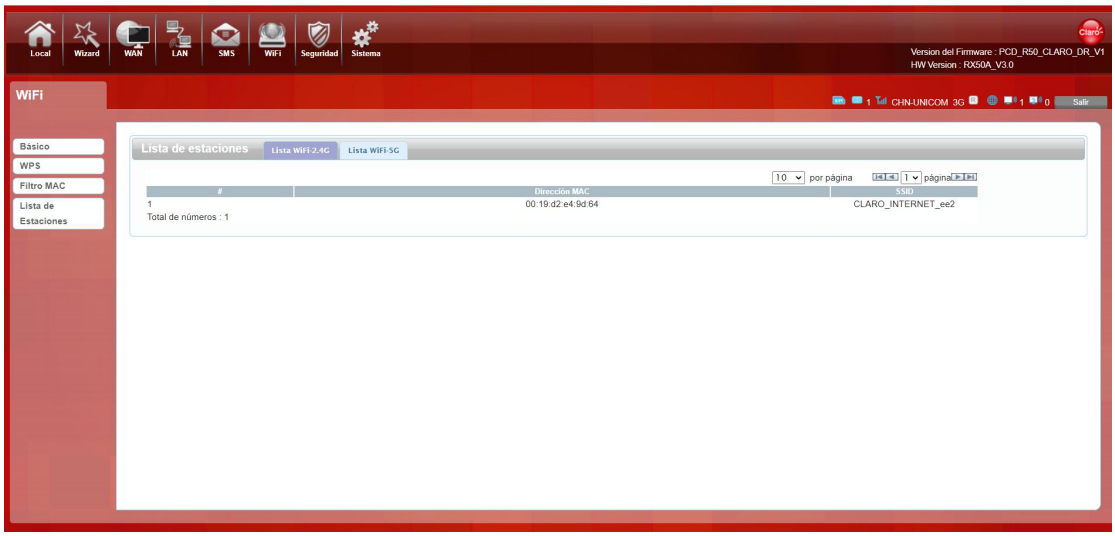
connect to the R50, other wireless devices are unable to connect to the R50

Disable: It means close the function of the MAC Address Filter.



4.7.4 Station List

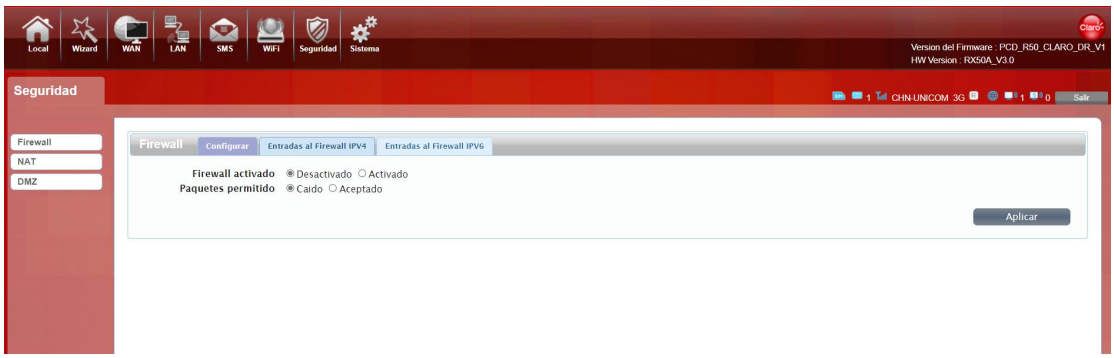
Show the information of 2.4G and 5G wireless devices which are connected to the R50.



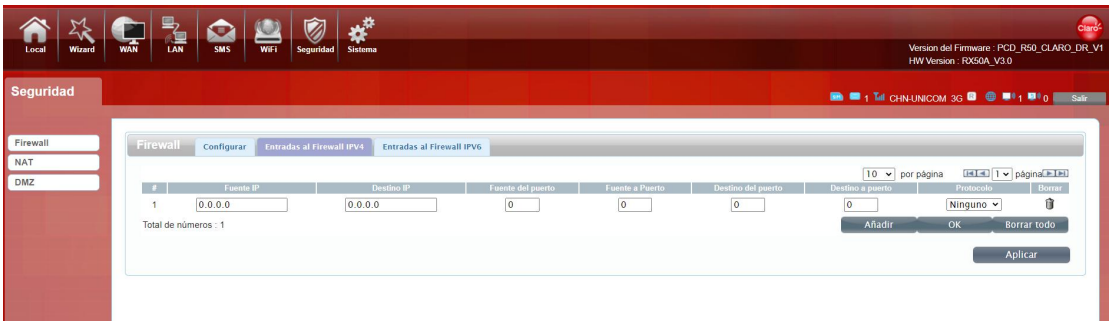
4.8 Security

4.8.1 Firewall

Firewall configuration: You can Disable or Enable the Firewall function. Also you can set the matching packets rule to receive or reject.



If you want to enable the firewall function, please go to the IPV4 Firewall Entries or IPV6 Firewall Entries tab and configure the necessary parameters. You can add the rule in the list.



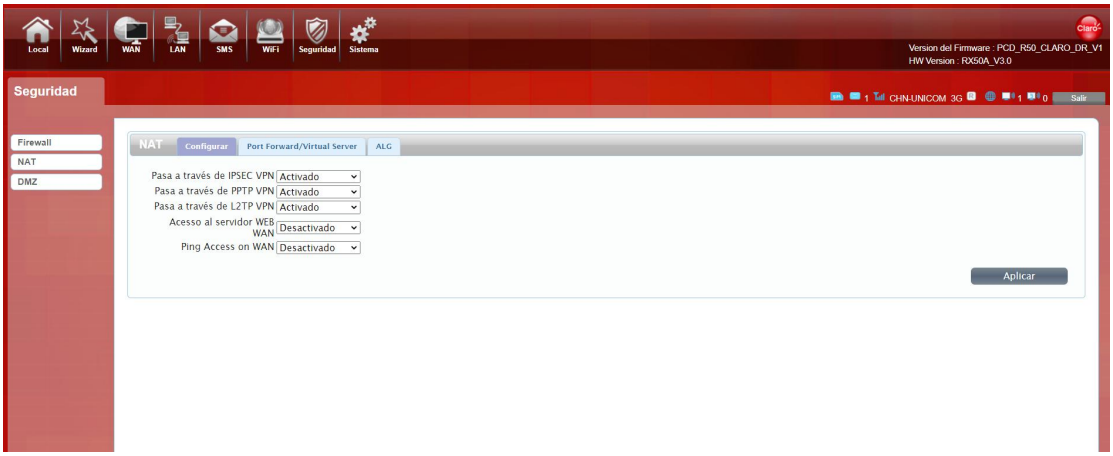
4.8.2 NAT

4.8.2.1 Configure

You can set enable IPSEC VPN Pass Through,PPTP VPN Pass Through,L2TP VPN Pass Through,Web server WWAN Access and Ping Access on WAN and so on.

Web WWAN Access : Remote management allows you to manage the router from a remote location.

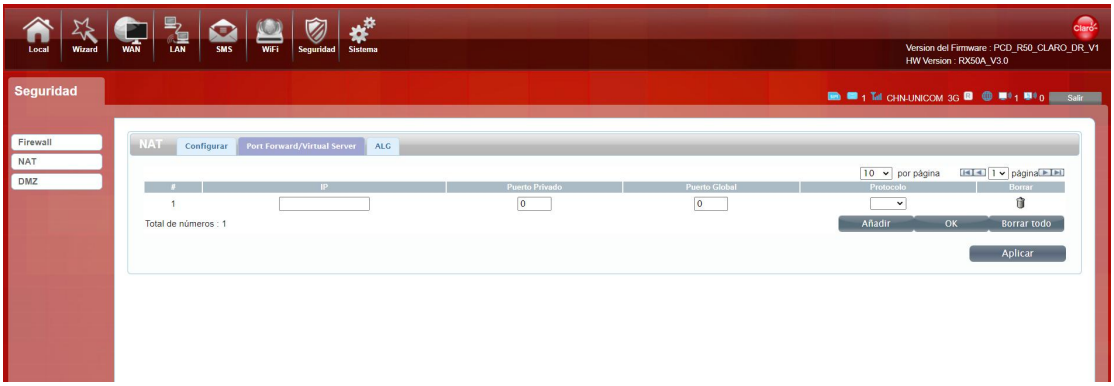
Ping Access on WAN: The router's WAN port will not respond to any ping requests.



4.8.2.2 Port Forward/Virtual Server

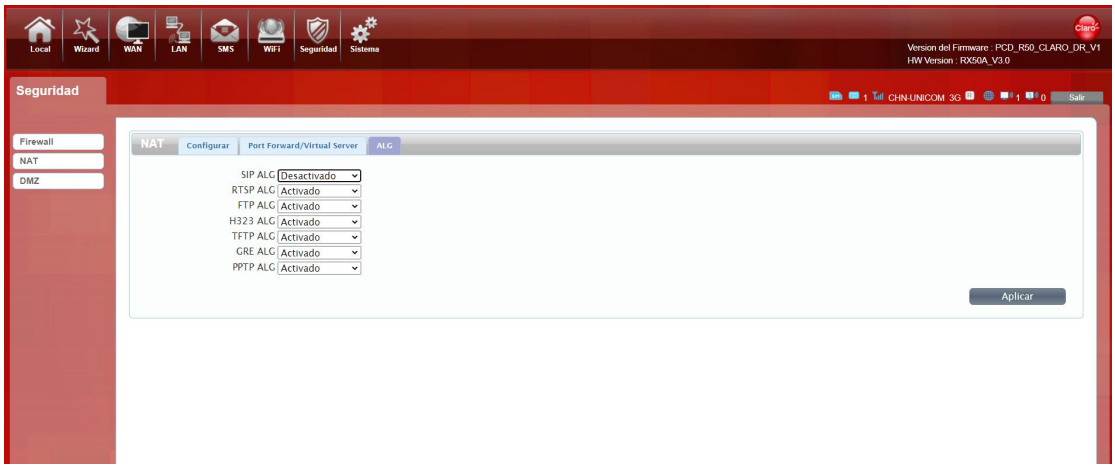
After you turn on the NAT function, you can add a new rule.

- **Port Forwarding**
  Port Forwarding: use the Port Forwarding function when you want different servers/client in your LAN to handle different service/Internet application type (e.g. Email, FTP, Web Server etc) from the Internet.
- **Virtual Server**
  The Virtual Server allows you to re-direct a particular service port number (from the Internet/WAN Port) to a particular LAN private IP address and its service port number.



4.8.2.3 ALG

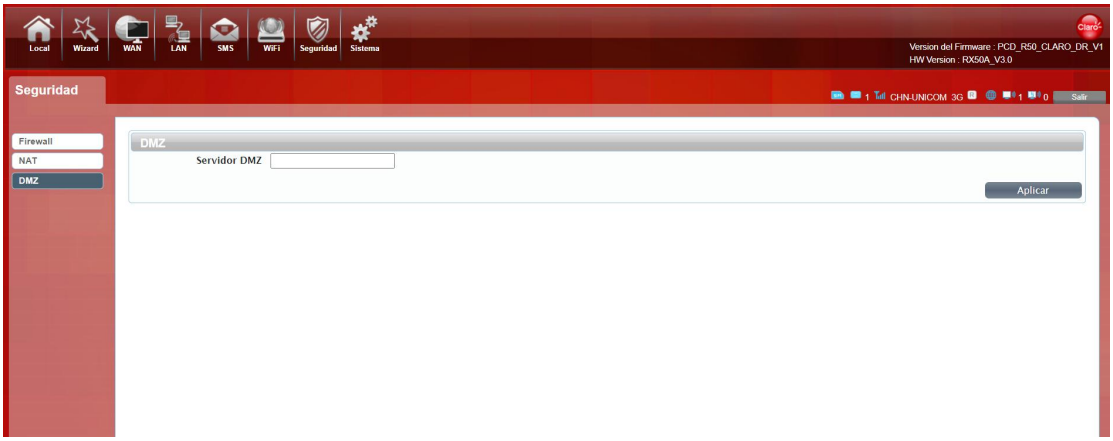
ALG（Application layer firewall or application layer proxy firewall）usually described as a third-generation firewall. When a user on a trusted network intends to connect to a service on an untrusted network (such as the Internet), the application is directed to a proxy server in the firewall. The proxy server can pretend to be a real server on the Internet without any flaws. It can evaluate the request and decide to allow or deny the request based on a set of rules for a single network service.When ALG is used as a NAT traversal application, because we know that traditional NAT cannot change the IP address in the application layer, one of the most direct methods is to directly change the IP address of the application layer and bind it directly when it gets the private address of the terminal. Determine its public network address, and prepare for the intercommunication that may be involved in the future.



4.8.3 DMZ

Receive all the data from external network interface forwarded to “DMZ IP address”

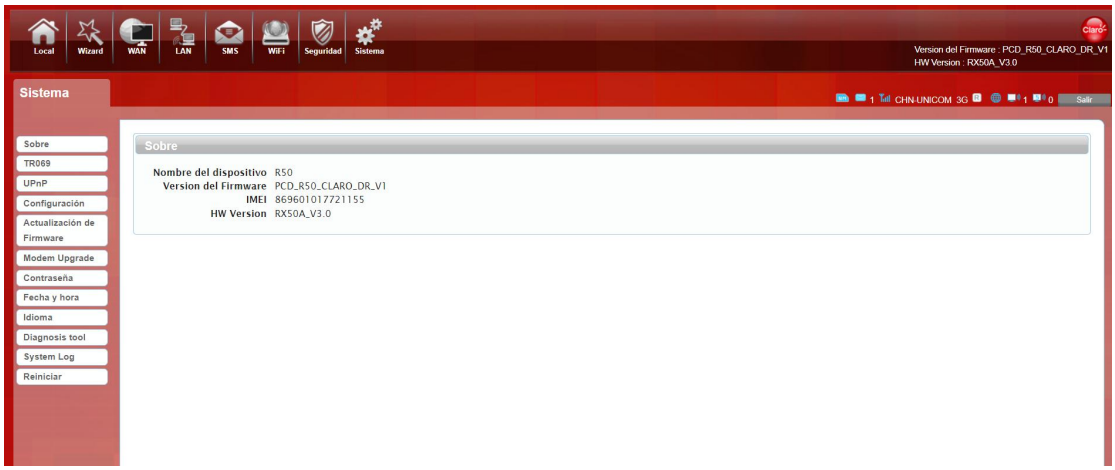
DMZ Address: Specify the IP address of the computer on the LAN that you want to have unrestricted Internet communication.



4.9 System

4.9.1 About

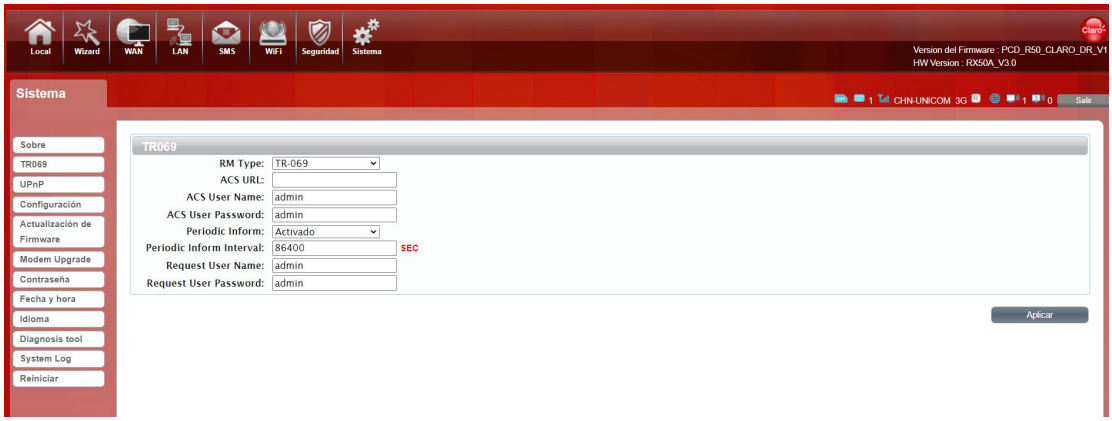
R50 displays some basic information, such as Device Name, FW version, IMEI, HW version.



4.9.2 TR069

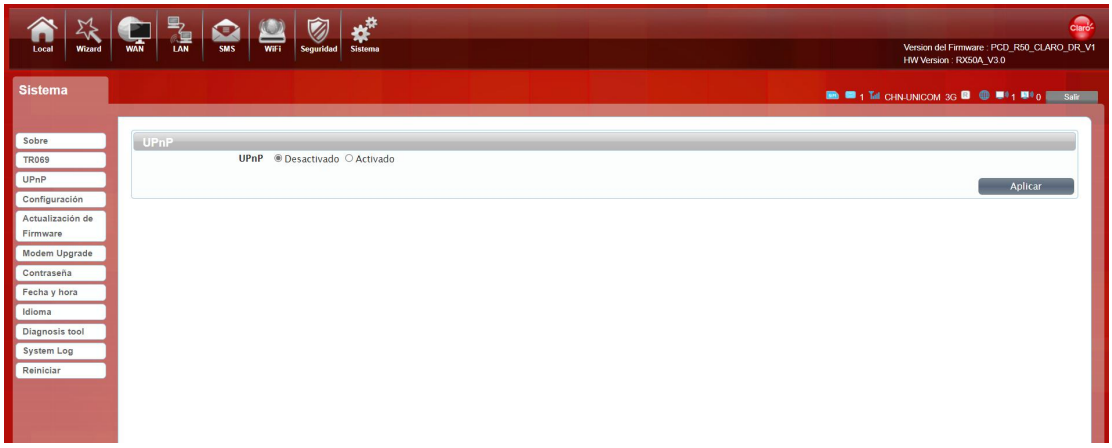
TR069 is a communication protocol for communication between CPE and ACS. CPE can use this agreement to complete the necessary actions such as service activation, function setting, file upload and download, system detection, etc. initialization and operation management.

Enter the server address in the ACS URL column, through which you can find the set ACS User Name. Click the user name to see the parameters of the device, and run the corresponding functions by modifying the parameters.



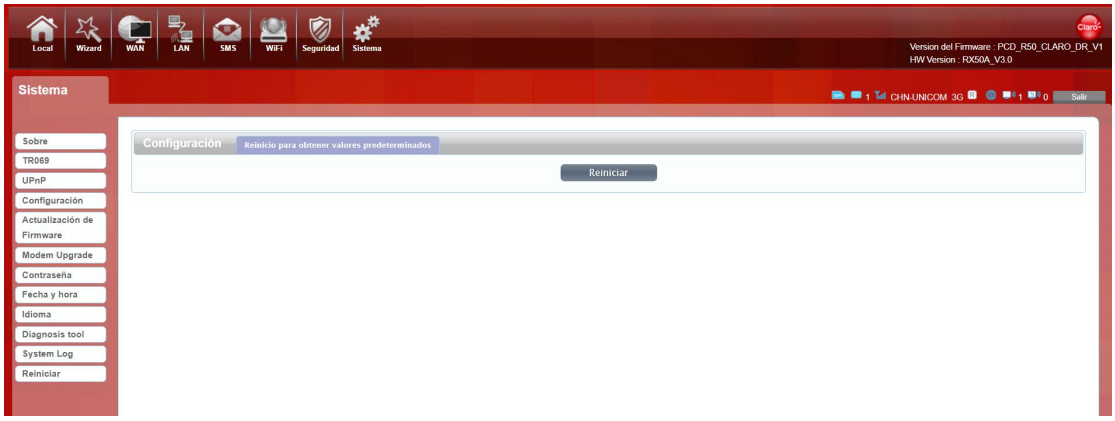
4.9.3 UPnP

UPNP , Universal Plug and Play. Router UPNP function is used to implement LAN computers and smart mobile devices, which automatically connect to each other peer-to-peer through the network, and the connection process does not require user participation.



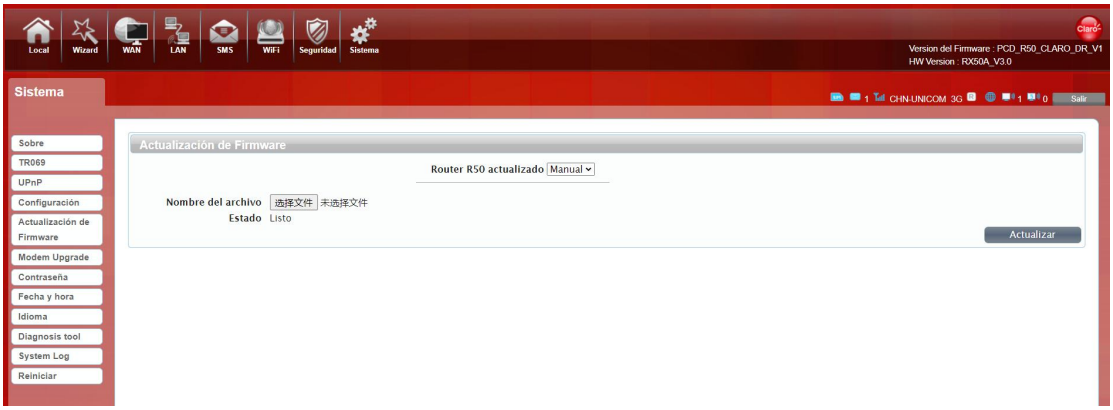
4.9.4 Configuration

Reset to Default：Restore the factory settings, all of the personal configuration will be deleted, all configuration pages will be restored to the factory defaults.



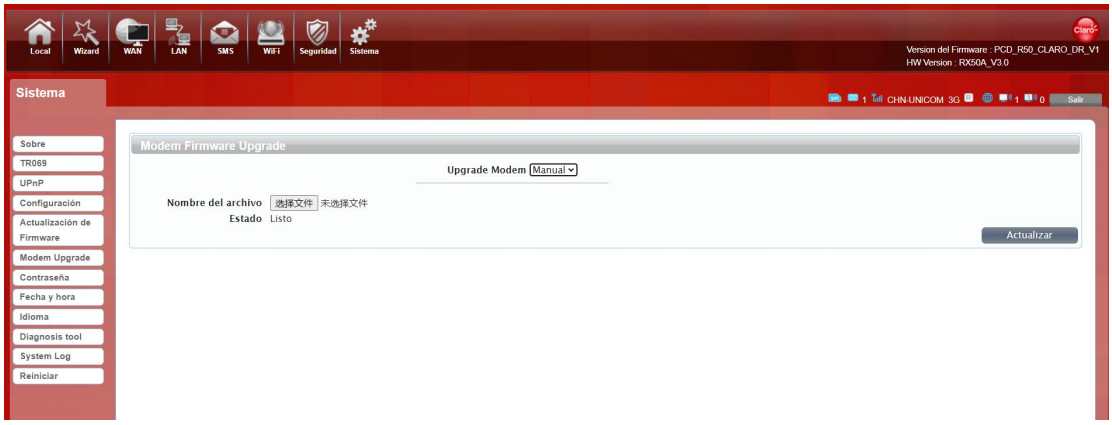
4.9.5 Firmware Upgrade

The page allows you to upgrade the router's firmware. To upgrade the firmware of your router, you need to download the firmware file to your local hard disk, and enter that file name and path in the appropriate field on this page. You can also use the Browse button to find the firmware file on your computer.



4.9.6 Modem Upgrade

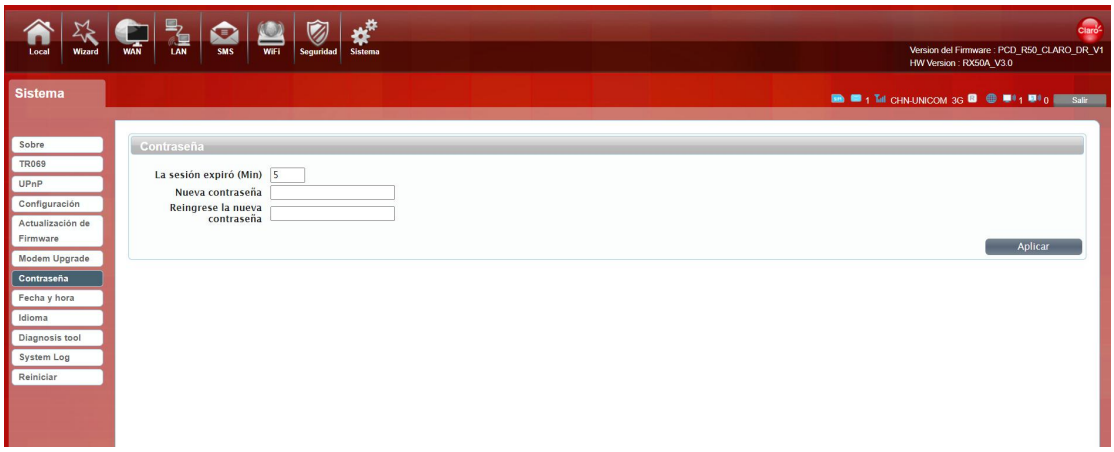
The page allows you to upgrade the modem's firmware. To upgrade the firmware of your modem, you need to download the firmware file to your local hard disk, and enter that file name and path in the appropriate field on this page. You can also use the Browse button to find the firmware file on your computer.



4.9.7 Password

You modify the login password of the administrator interface. After the modification is completed, the user page will be automatically logged out. At this time, you need to use the changed password to log in to the user page.

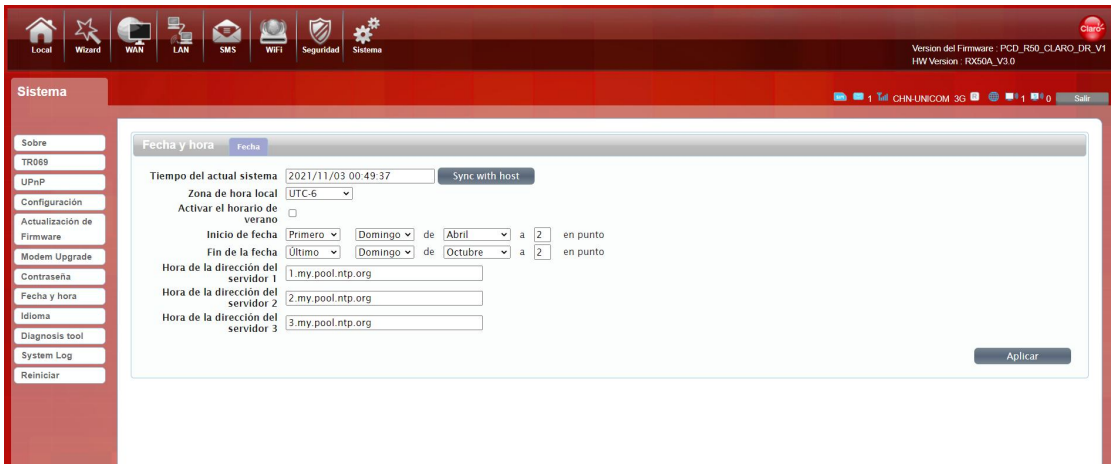
You can also set the time to automatically log out of the user interface. After setting the time, if there is no operation under the user interface within the set time, the user interface will automatically log out.



4.9.8 Date and Time

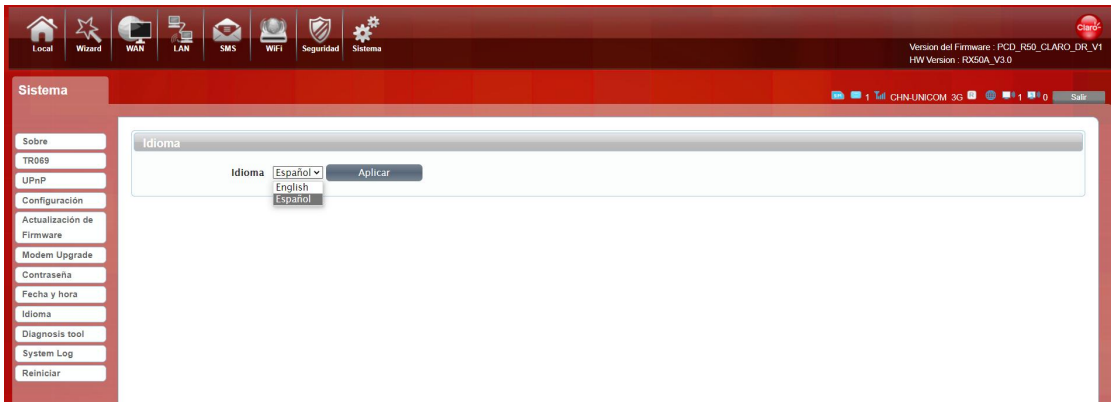
The local time can be synchronized or the time zone can be selected. Set different time zones according to your time zone.

You can set the daylight saving time, if the current month is within the daylight saving time period you set, then your current time will automatically increase by 1 hour.



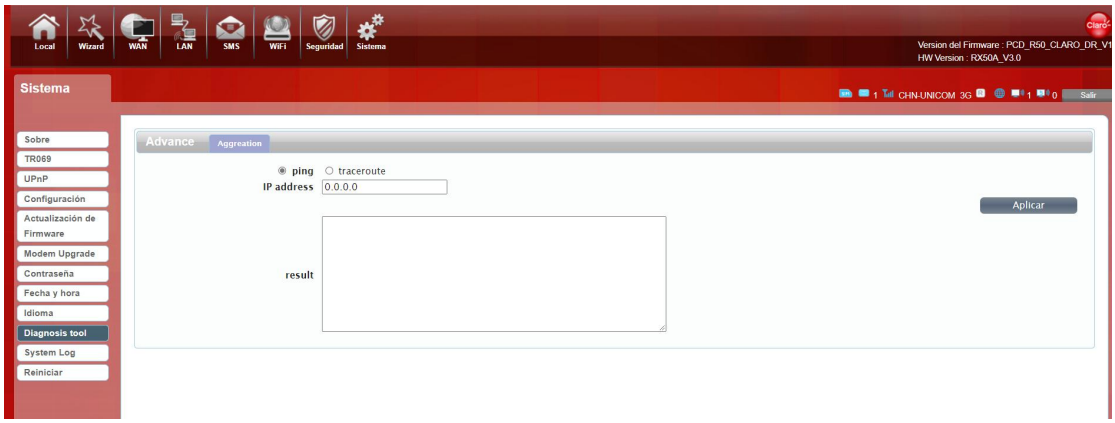
4.9.9 Language

You can change the Languages of different countries in this page. The default language is Spanish.



4.9.10 Diagnosis tool

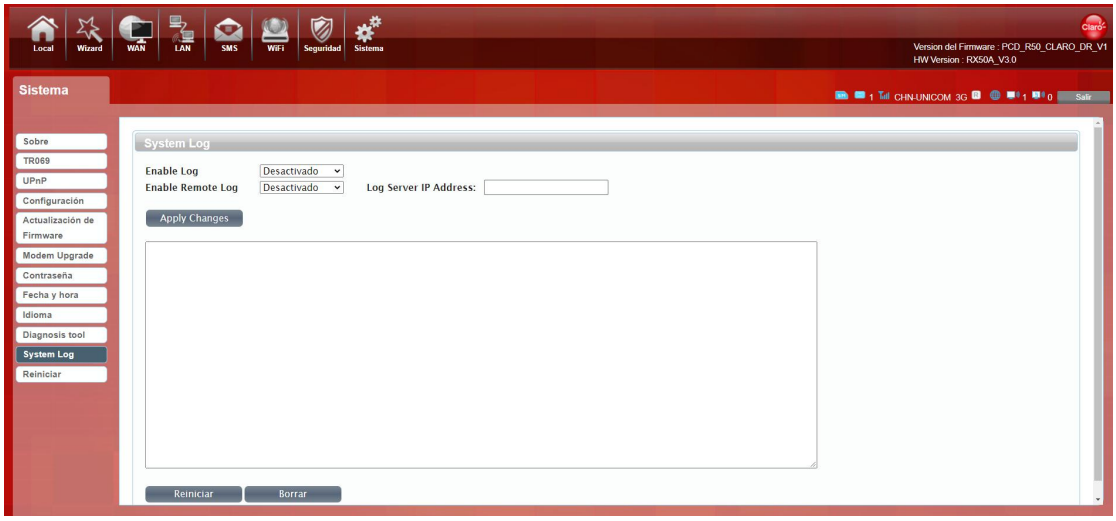
On this page, you can enter the local IP address or the IP address of the external network. After clicking Apply, the device will automatically ping the address you entered, and observe the status of the device through the log printed in the print box below.In the traceroute interface, you can ping the external network address. The return value will be printed below, and you can check whether the R50 is accessed through the LAN network or the WAN network.



4.9.11 System Log

Enable Log：When this function is turned on, the log will be automatically printed out in the print box below, and the operating status of the device can be checked by observing the log.

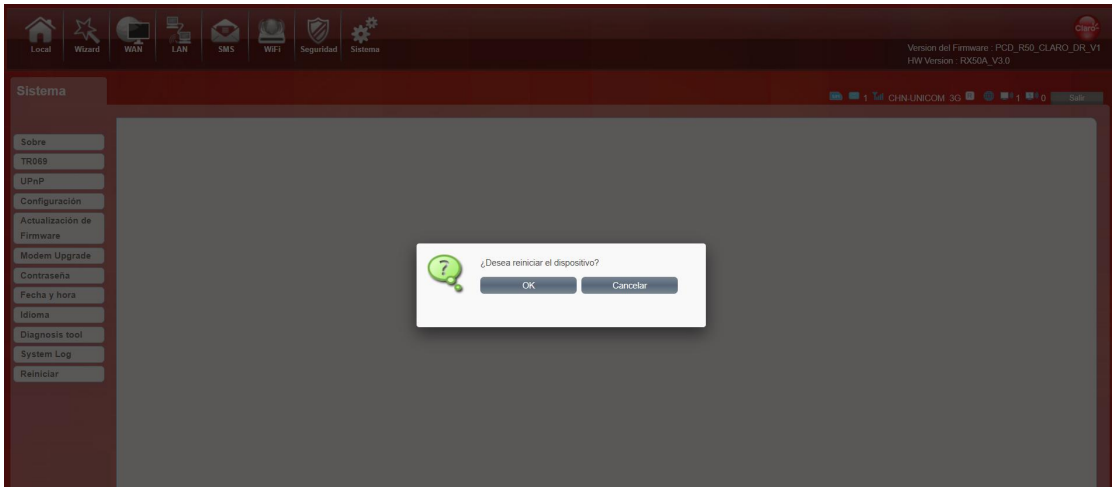
Enable Remote Log： Turn on this function, you can save the log to the set IP address. Enter the address where you want to store the Log in the Log Server IP Address.



4.9.12 Reboot

After clicking "OK", the page enters the countdown, except for the power light, the other four lights of R50 are all off. After waiting for the countdown to finish, the R50 restarts and the four lights that went out turn on again. The device connected to the R50 can get the address again and connect to the network. Enter 192.168.1.1 in the browser to successfully enter the management page.

After clicking "Cancel", the page will return to the previous function page (parental control page).



Appendix I

FAQ:

This Appendix provides solutions to some problems that could be seen when install and use the device. Please read the following instruction, it will help you to solve these problems. If you fail to solve your issues from this FAQ, please contact us.

Problem	Solution
Wireless device cannot connect to SSID.	■ Please make sure the wireless function of your PC is turned on. If it is already on, please refresh the network list. ■ Please make sure your PC is in the wireless signal coverage of the device. ■ Please make sure your device is away from the electromagnetic interference. ■ Please make sure your device's wireless function is turned on. If the problem is still not solved, please try to reset your device to default settings.
Cannot Access internet:	■ Please make sure your PC is in the wireless signal coverage of the device. ■ Please make your device's DHCP function is turned on. ■ Please make sure your firewall is turned off. If the problem is still not solved, and your PC has got connected to the network, but the wireless icon shows an yellow exclamation mark. It means your wireless card could not be allocated an IP address. Please use the static IP settings, and fill

	DNS and gateway according to instructions of your operator.
Input IP, but fail to login to the administration page.	■ Please make sure the problem is not caused by the Cache of the internet browser, please clean up the Cache. ■ Please make sure the network connection is good, and the light of connected ports are on. ■ Please make sure the username and password are correct If the problem is still not solved, and your PC already gets the IP address. You can try to use wireless connection or static IP methods to try it again. If connected via wireless connection, please try to ping 192.168.1.1 to see if there is any response. If responses are received, please check if you set an agent server for connection. If no agent server is set, then please not to set an agent server, and reset the device.
IP conflict ion when turn on the device:	■ Please make sure if your LAN has other DHCP servers. ■ Please make sure that IP address is not occupied by other computers or devices. If occupied, please change the IP address of that device to avoid the IP conflicts.

Appendix I I

Safety warning:
Read the user guide:
Please read the user guide before using this device.

Stay away from interference:
All the wireless devices could be possibly interfered, and it will affect the performance of the device

Turn off the device in restricted area:
Please follow any instruction, turn off the device around airplanes, medical devices, gases, chemicals or explosive areas

Qualified services:
Please don't disassemble this device yourself. Please contact professionals to repair and install the device.

Accessories:
Please don't touch the device using wet hands, when it is in charge. Please only use the accessories and that are recognized to be compatible to the device.

Danger of explosion:
Turn off your device in any areas that explosion could possibly happen. Please follow all the notices in the areas where spark could cause fire or explosion.

Operating temperature range:
The equipment is used between 0 ° and 45 °.