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Document Number	BQW_02_0027.001

Indoor Femto Gateway

User Guide

OPDK

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Revision History

Date	Description	Author	Revision
2018/8/14	1st version	Eric, Joey	temp.
2020/3/04	Update doc with FW 3.03.13	Alex	temp.2
2021/3/02	Typo corrected and layout adjusted; official release.	Demy	001

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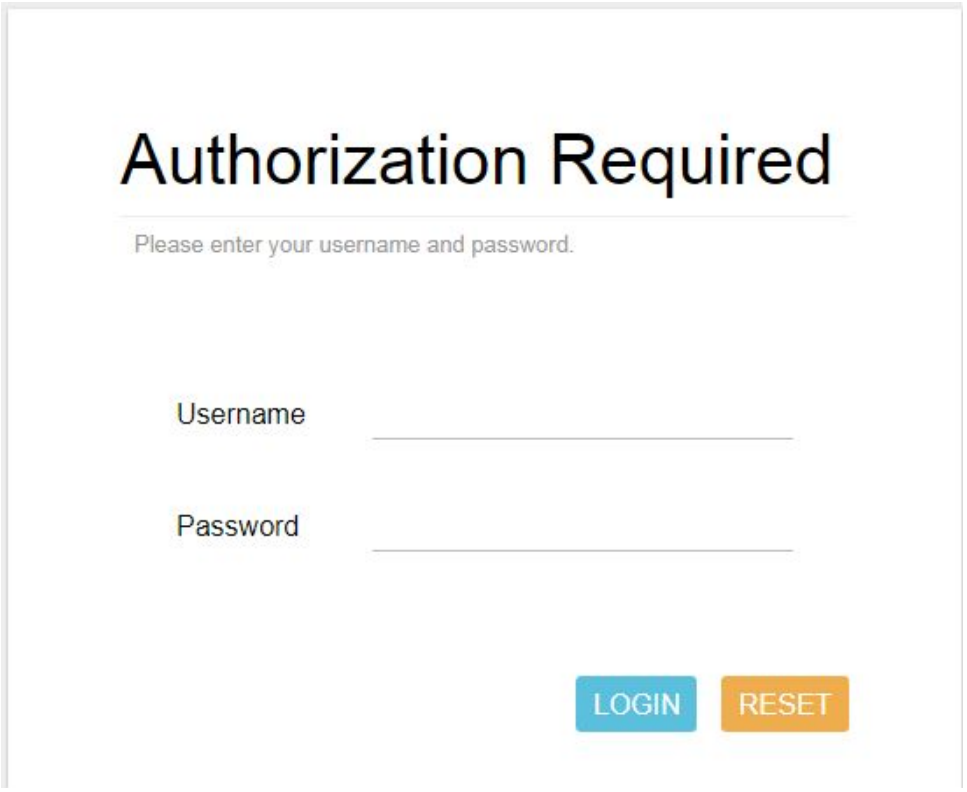
All User Guide will assist you in navigating the system with the following comprehensive guidelines.

1 Packet Forward mode

1.1 Open Admin GUI

Connect to Femto Cell via wifi (SSID: AP-last 6 numbers of mac address)
Access Femto Cell WebUI via IP address "***192.168.55.1***".
The default username is "admin" and the password is "***admin***".

Figure 1.1-A



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1.2 Status

The Status menu consists of the following categories: ***Overview, Routes, System Log, Kernel Log, Processes,*** and ***Realtime Graphs***. An introduction of each category will be distinctly stated in individual paragraphs.

1.2.1 Overview

The purpose of this category is to view the following contents: system status, memory usage, and network settings.
The contents are exhibited on one single page. Please scroll down the Status page to obtain an overall view.

Figure 1.2.1-A System Status

System

Hostname	AP-F3CE53
Model	GIOT InDoor FemtoCell
Firmware Version	Version 3.03.13-opdk Fri Nov 9 13:24:42 CST 2018
Kernel Version	3.10.14
Local Time	03/04/20 16:05:58
Uptime	0h 5m 51s
Load Average	0.27, 0.21, 0.12

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Figure 1.2.1-B Memory Usage and Network Settings

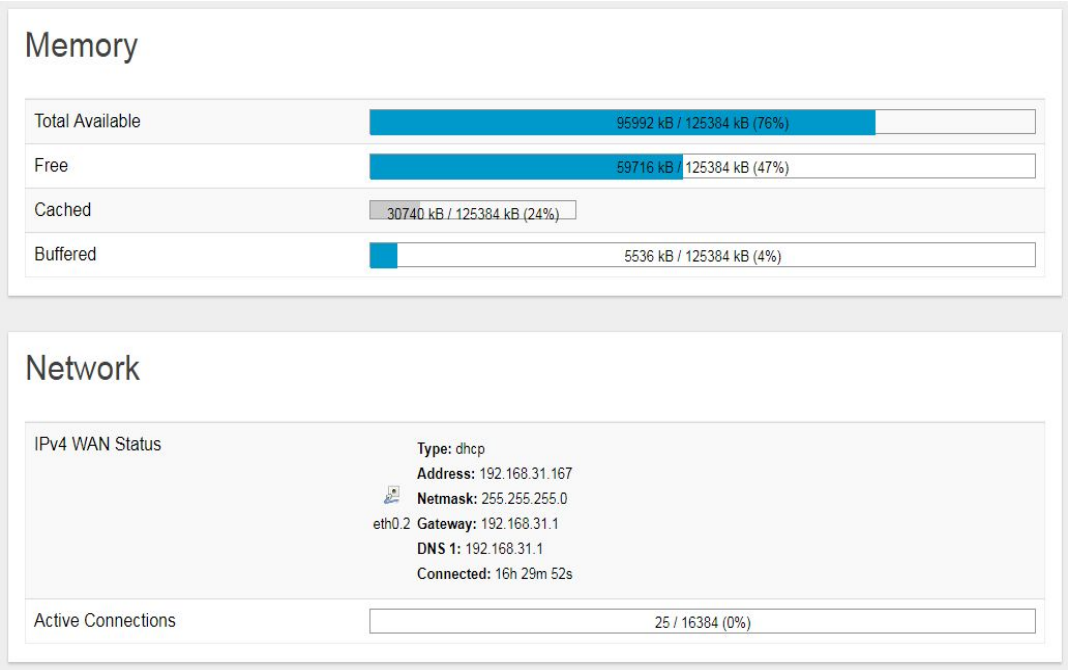
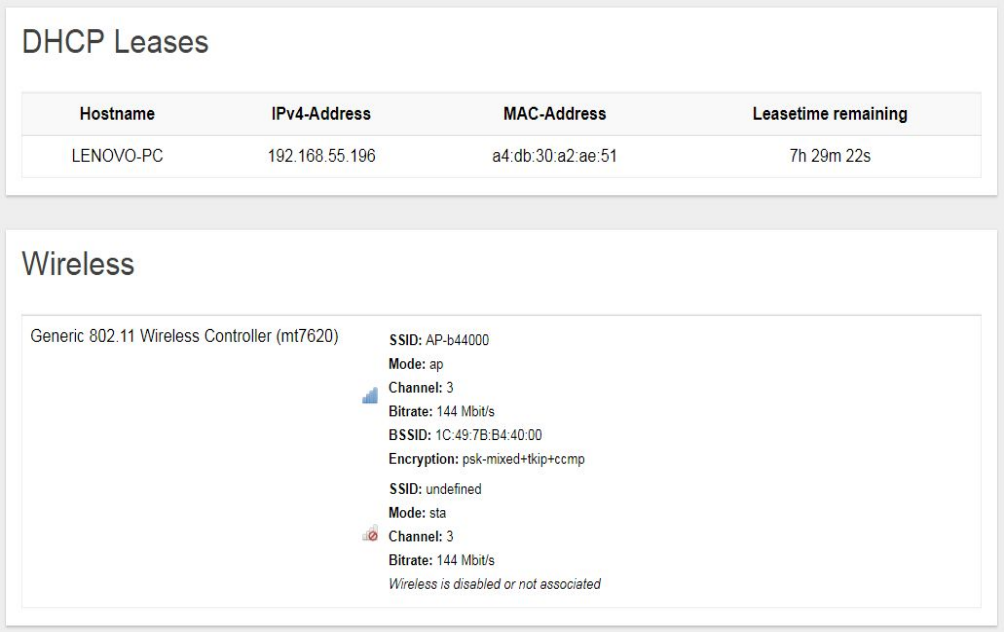


Figure 1.2.1-C DHCP Leases and Wireless Status



An “AUTO REFRESH ON/OFF” button is lodged on the top right of the panel. This function enables the status data to be refreshed every 5 seconds.

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Figure 1.2.1-D Status will auto refresh in 5 secs if the “Auto Refresh ON” button is on

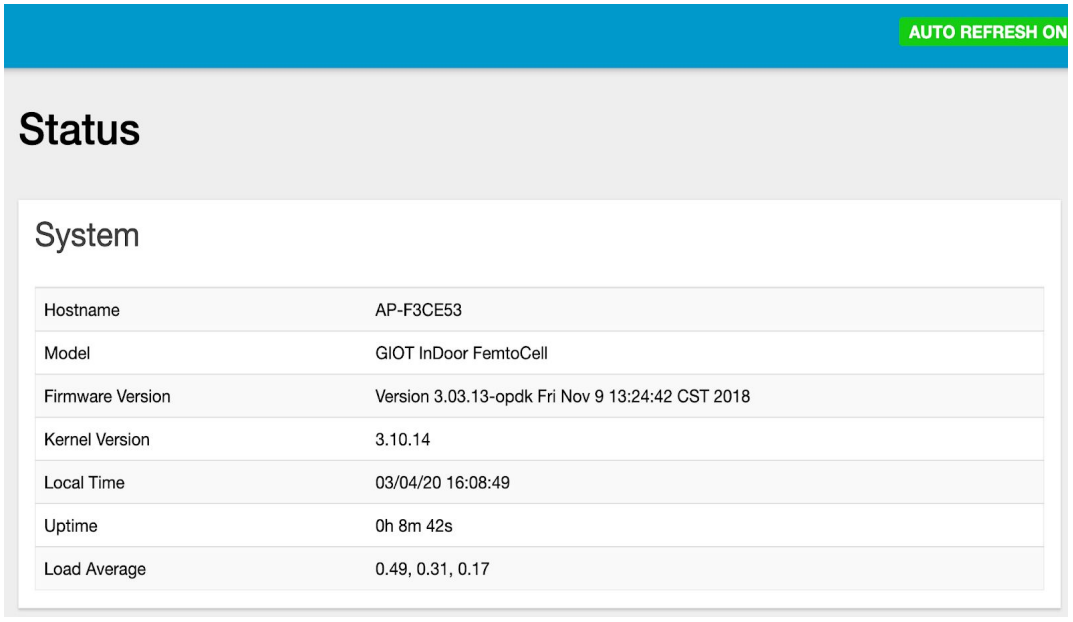
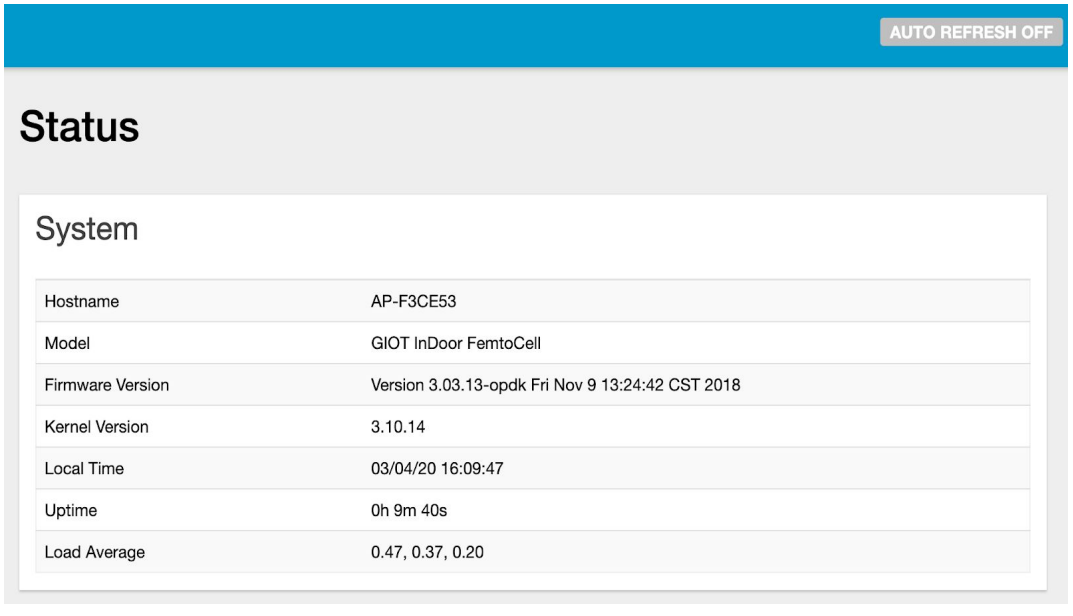


Figure 1.2.1-E Click the “AUTO REFRESH ON/OFF” button to enable/ disable auto-refresh



1.2.2 Routes

The purpose of this category is to view the ARP table and active IPv4 routes information.

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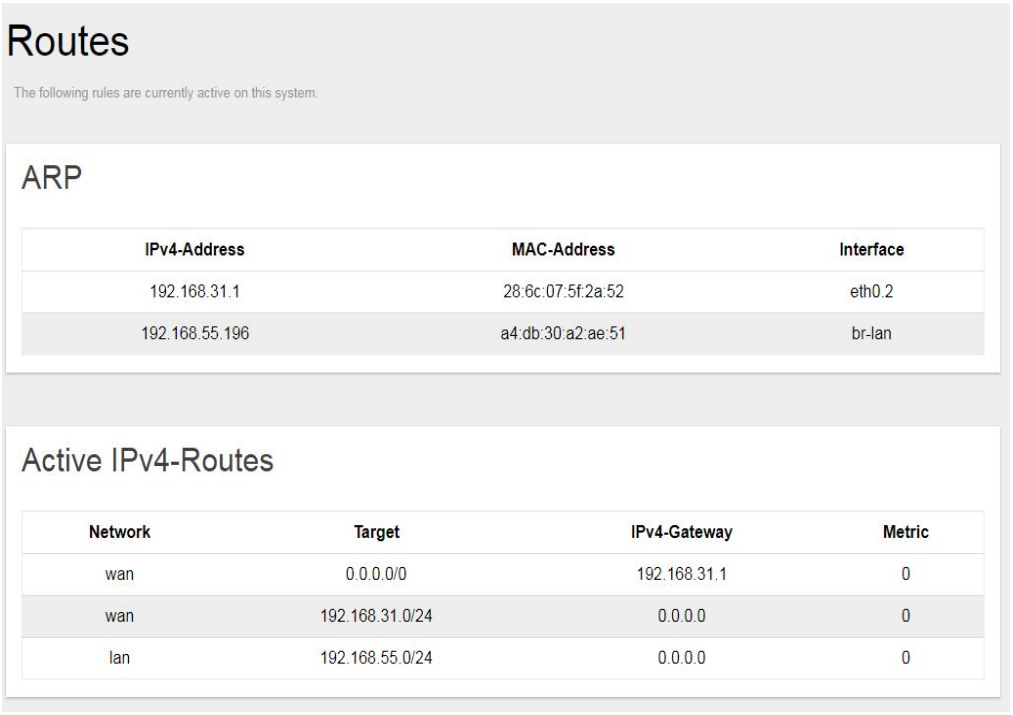
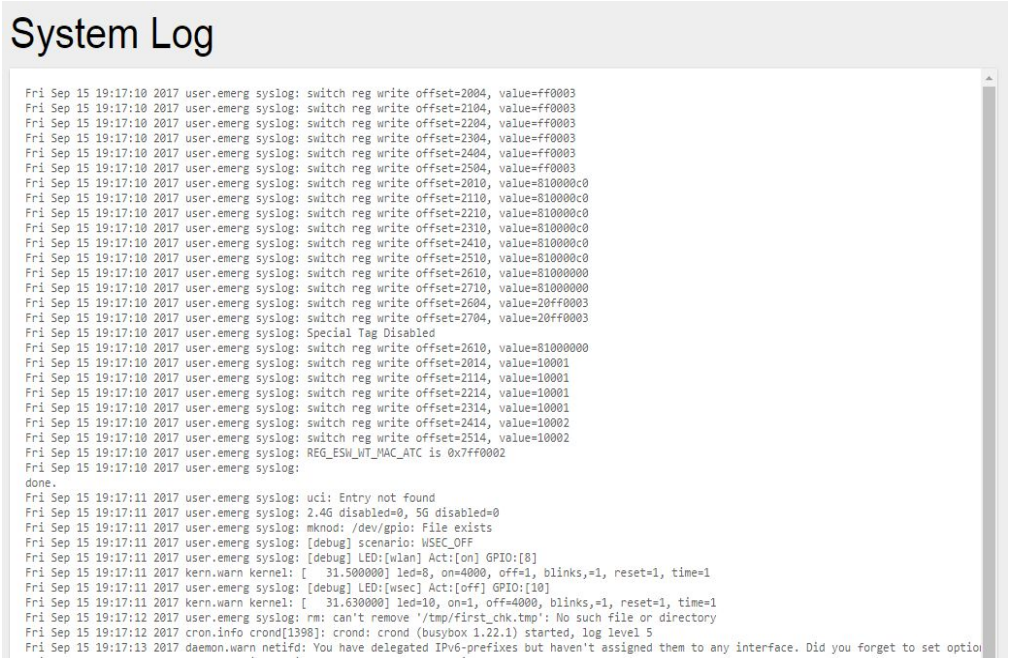
Figure 1.2.2-A ARP table and Active IPv4 Routes



1.2.3 System Log

This category is to view system log information.

Figure 1.2.3-A System Log



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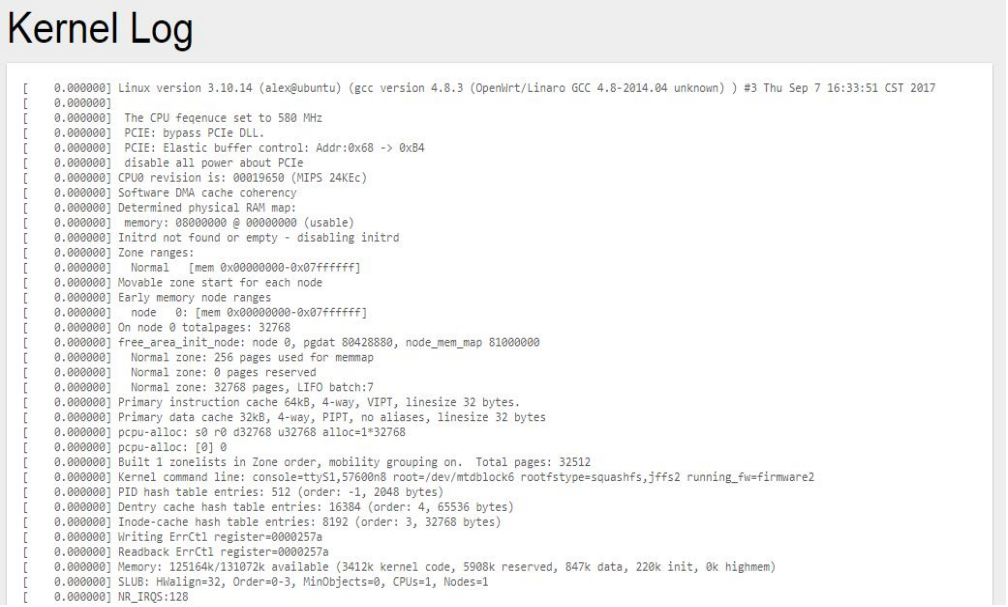
1.2.4 Kernel log

This category is to view kernel log information.

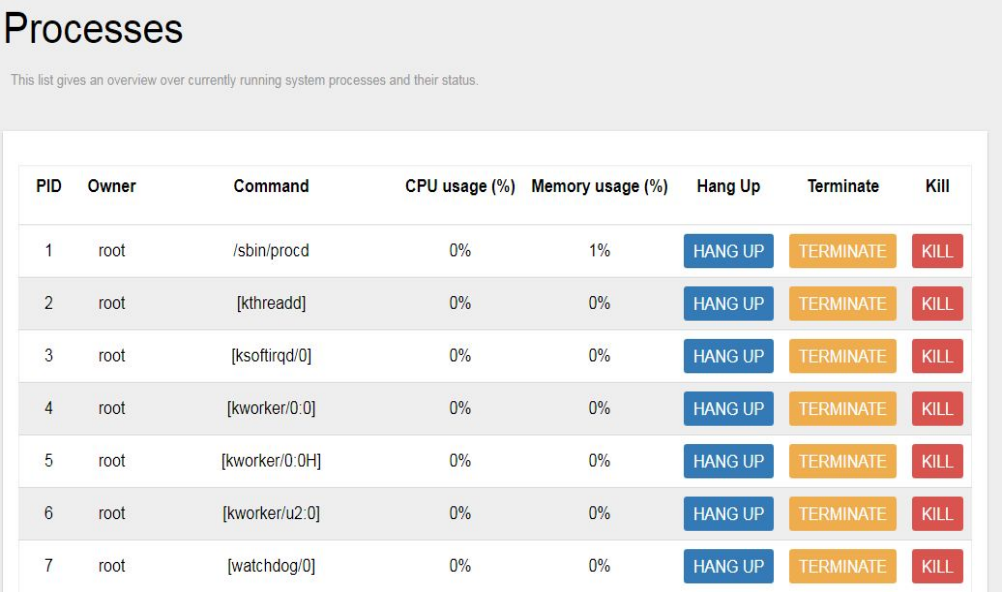
Figure 1.2.4-A Kernel Log



1.2.5 Processes

The purpose of this category is to view the system processes that are in progress. Processes can be hung up, terminated, and killed for each individual Femto Cell item.

Figure 1.2.5-A Processes



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1.2.6 Realtime Graphs

This category is further divided into the following sectors: Load, Traffic, and Connections. These options are lodged and labeled above the graph.

1.2.6.1 Realtime Load

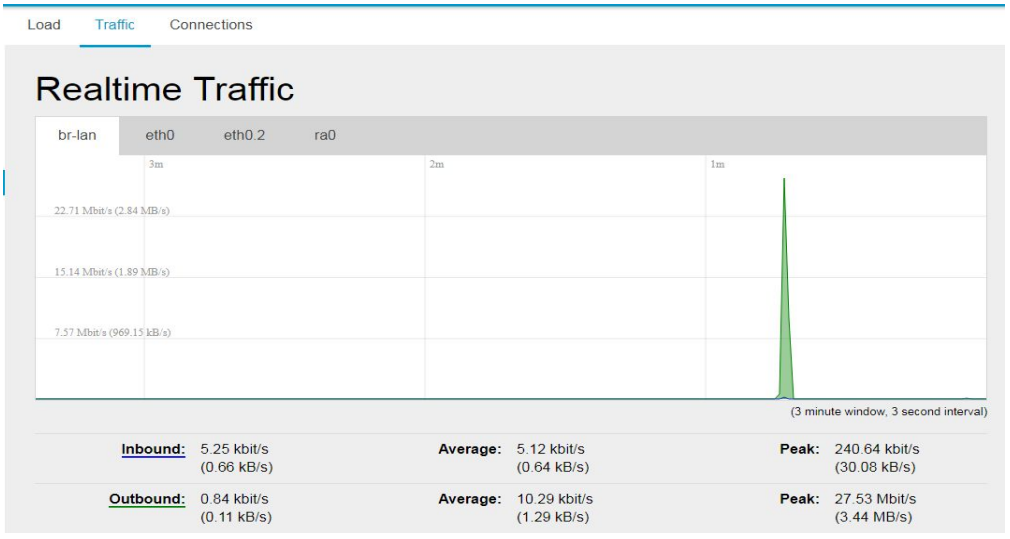
To view the current load value and the average of different time intervals.

Figure 1.2.6.1-A Realtime Load

1.2.6.2 Realtime Traffic

To view the network traffic of each interface.

Figure 1.2.6.2-A Realtime Traffic



1.2.6.3 Realtime Connections

To view the currently active network connections.

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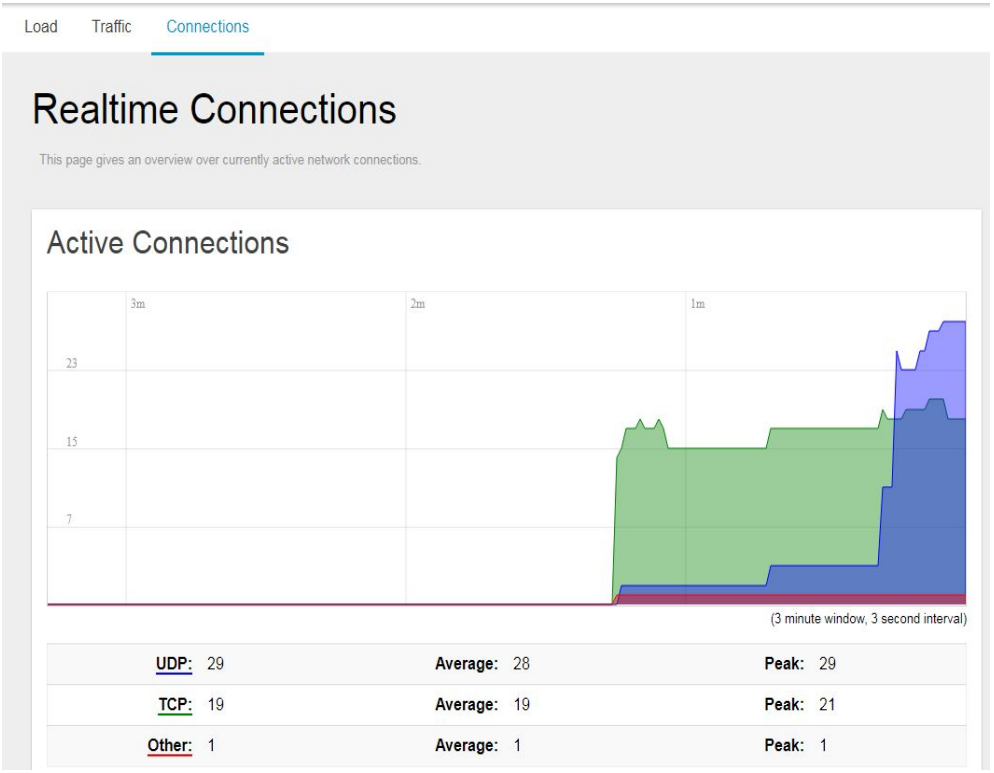
Figure 1.2.6.3-A Realtime Connections



1.3 System

The System menu consists of the following categories: System, Administration, System Firmware, and Reboot. Introduction and input procedures for each category are described in the following paragraphs.

1.3.1 System

Hostname and Timezone can be customized in the system properties.
Click the "*Sync with Browser*" button to adjust the local time.

If you choose to use another NTP server, please place a checkmark next to "*Provide NTP server*" and fill out the "NTP server candidates" text field.

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Figure 1.3.1-A System Properties

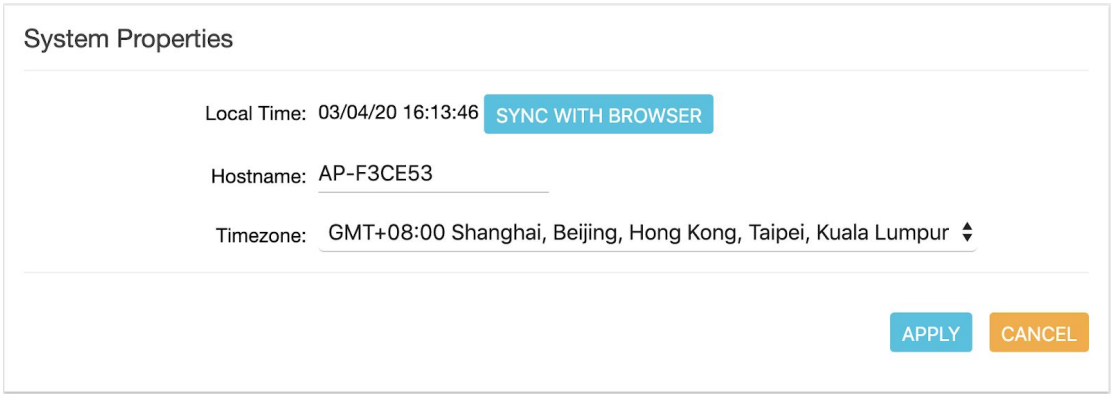
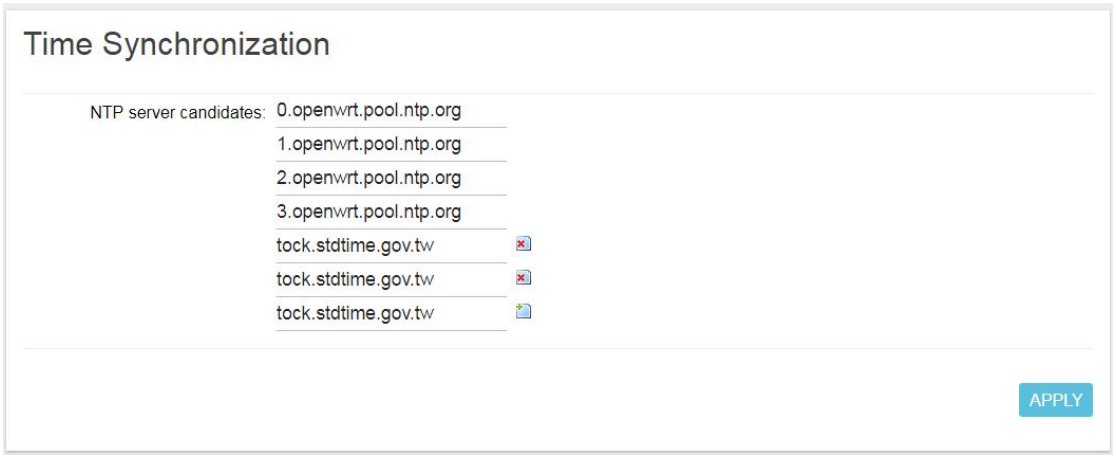


Figure 1.3.1-B Time Synchronization



1.3.2 Administration

Femto login password can be configured and change language (support English and Simplified Chinese) on this page.

Figure 1.3.2-A Router Password

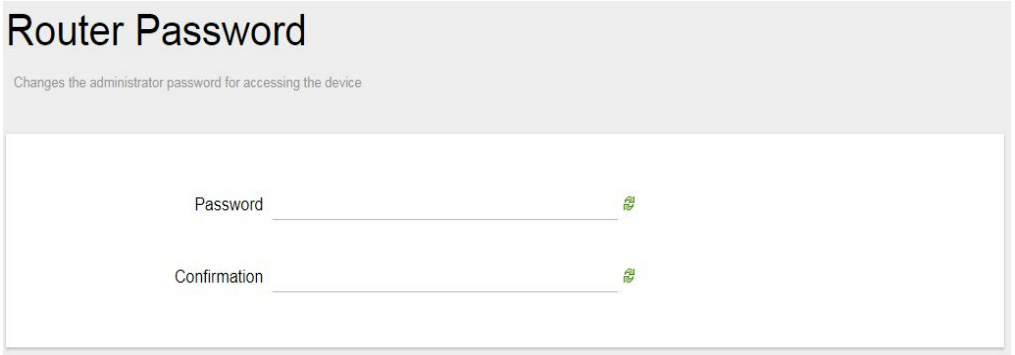


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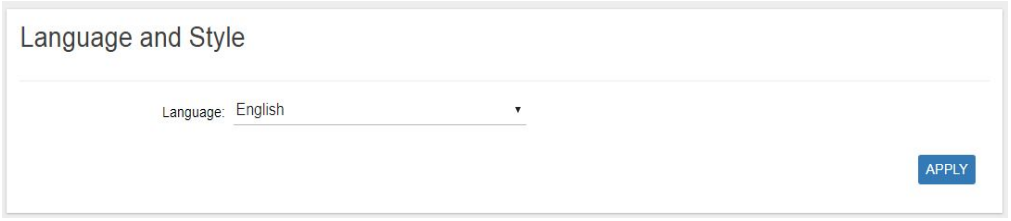
Figure 1.3.2-B Language and Style



1.3.3 System Firmware

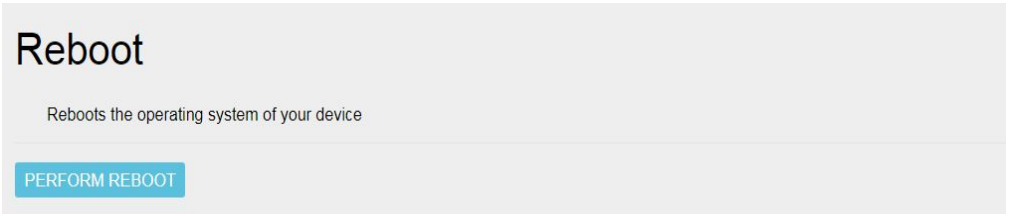
Click the "*Choose File*" button to upload the new system firmware. Click the "*UPGRADE*" button to upgrade the system firmware.

Figure 1.3.3-A System Firmware

1.3.4 Reboot

Click "*PERFORM REBOOT*" to reboot Femto.

Figure 1.3.4-A Reboot



1.4 Packet Forward

The purpose of this category is to view/edit current Packet Forward settings and logs.

1.4.1 Settings

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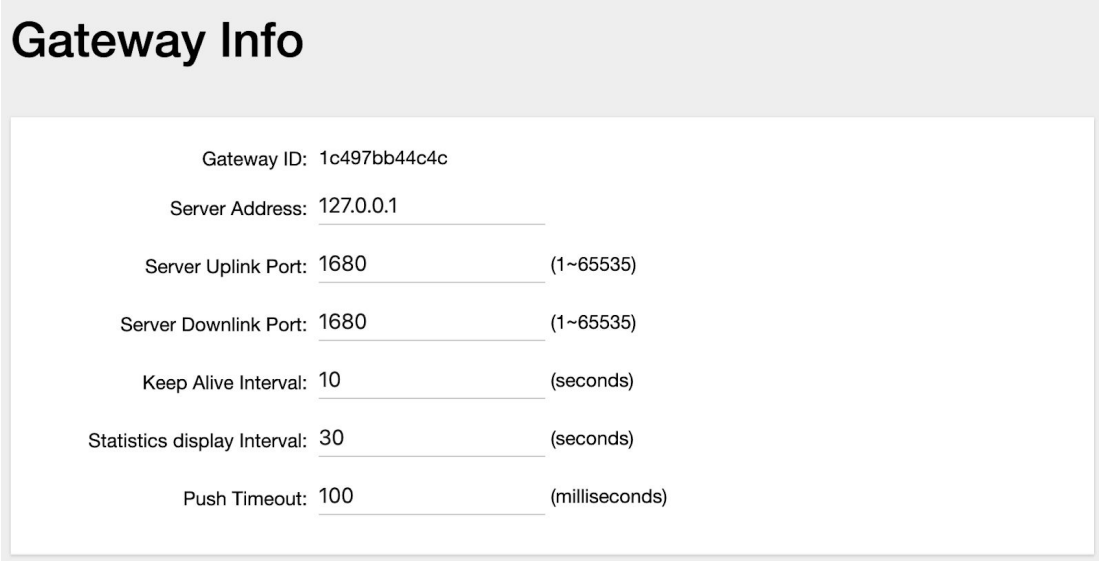
1.4.1.1 Gateway Info

This page is to set up the LoRa configuration include ***Gateway ID, Server Address, Server Uplink Port, Server Downlink Port, Keep-Alive Interval, Statistics display Interval,*** and ***Push Timeout.***

Figure 1.4.1.1-A GateWay Info



1.4.1.2 Gain

This page is to set up the ***antenna gain*** of Lora.

Figure 1.4.1.2 Gain

1.4.1.3 Radio 0

This page is to configure the radio 0 configurations of Lora include ***Status, Central Frequency, TX Status, Channel Status, and Center frequency offset.***

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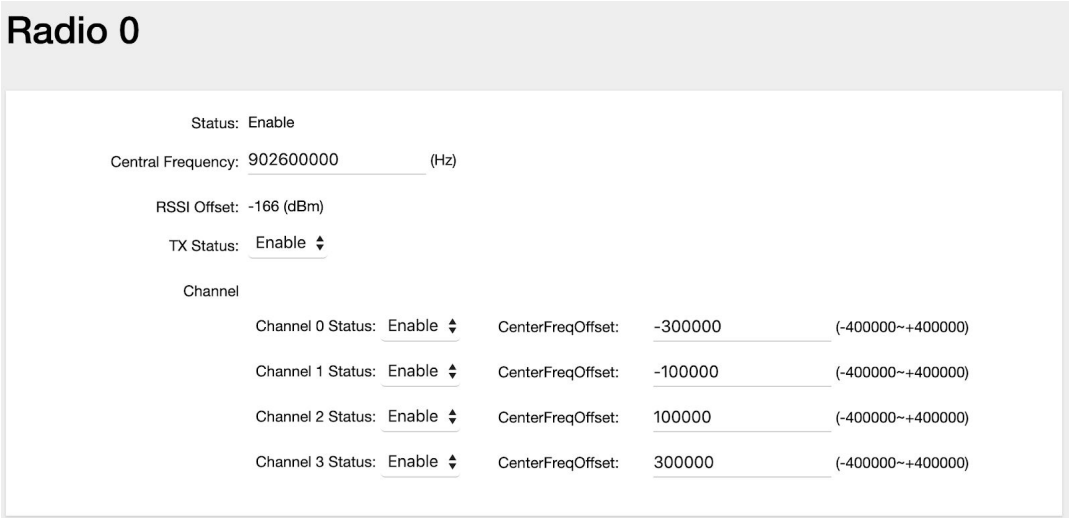
Figure 1.4.1.3-A Radio 0



1.4.1.4 Radio 1

This page is to configure the radio 1 configuration of Lora include ***Status, Central Frequency, Channel Status, and Center frequency offset.***

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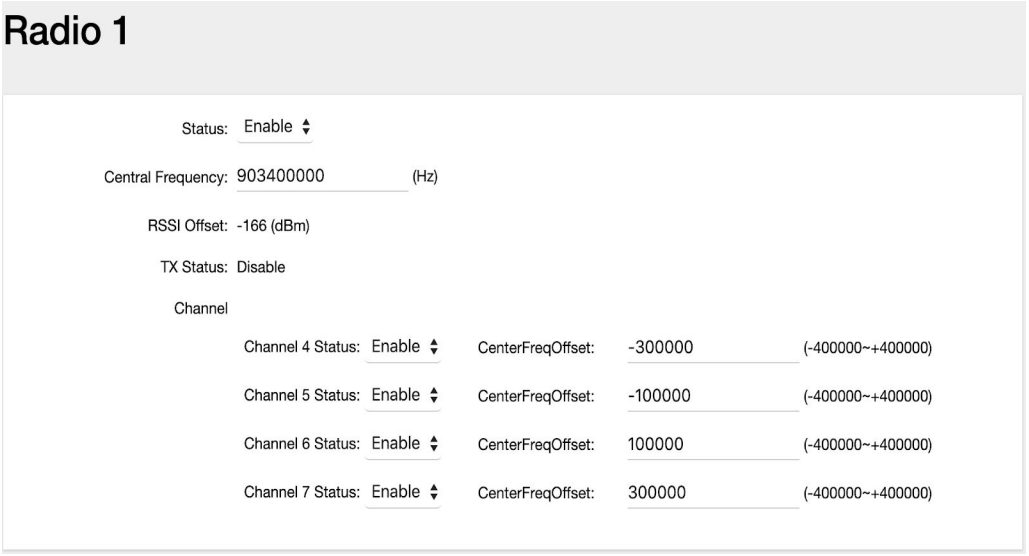
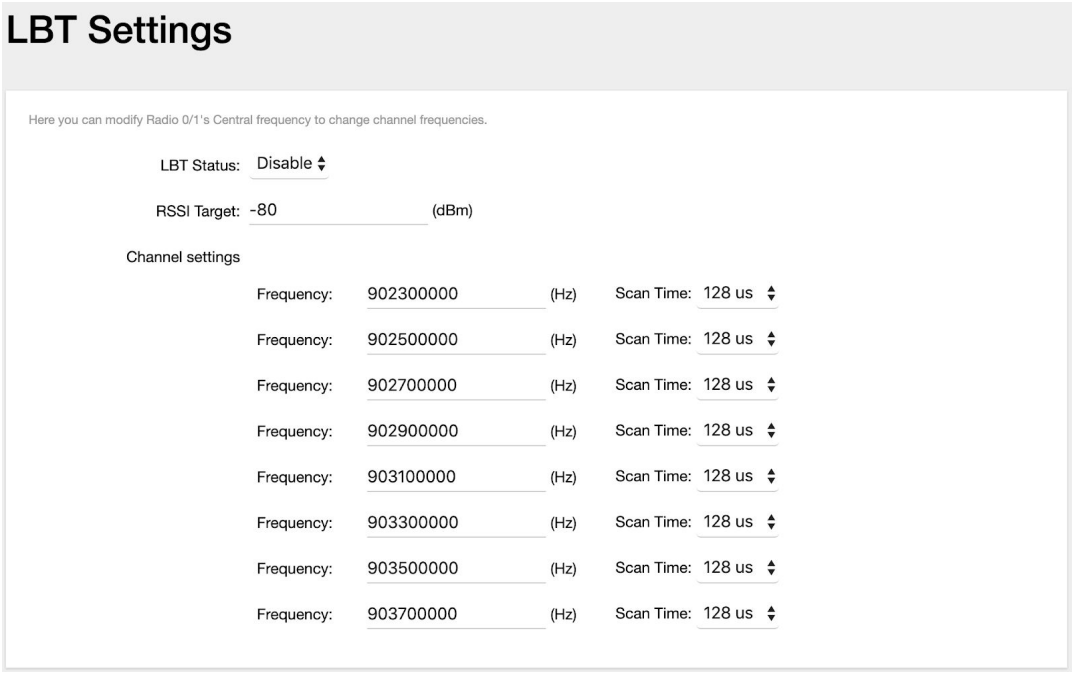
Figure 1.4.1.4-A Radio 1



1.4.1.5 LBT Settings

This page is to set up the LBT configuration of Lora include ***LBT Status, RSSI Target, Channel settings.***

Figure 1.4.1.5-A LBT Settings



1.4.2 Log

Figure 1.4.2 packet forward logs

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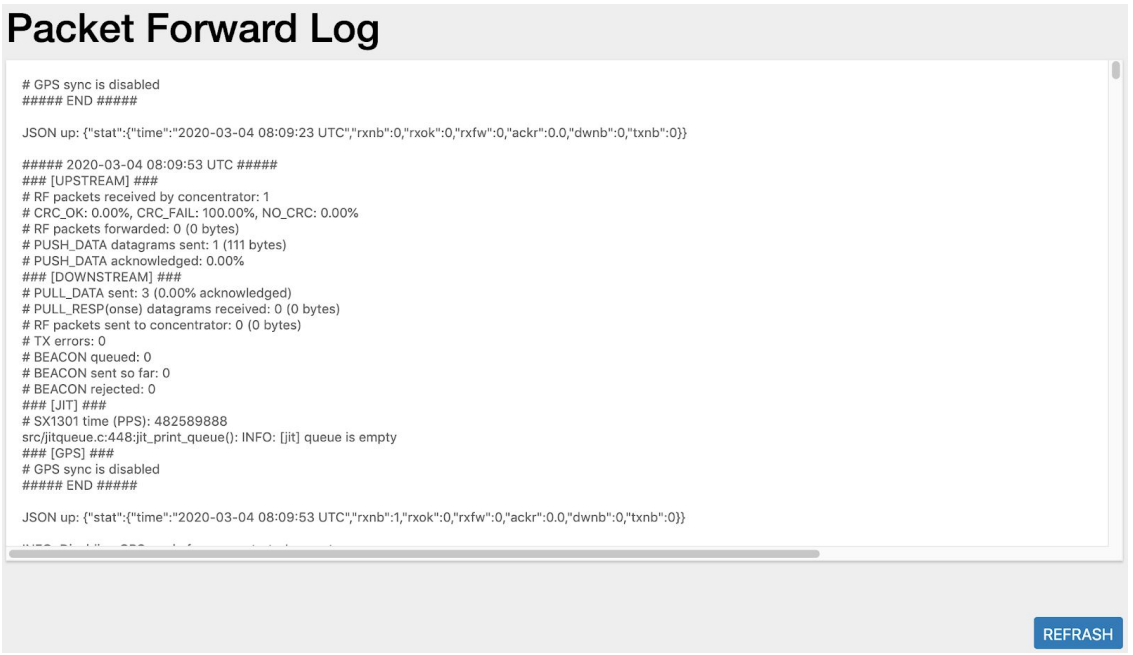

1.5 Network

The System menu consists of the following categories: WAN, Wireless, LAN, DHCP, and Diagnostics. Introduction and input procedures for each category are described in the

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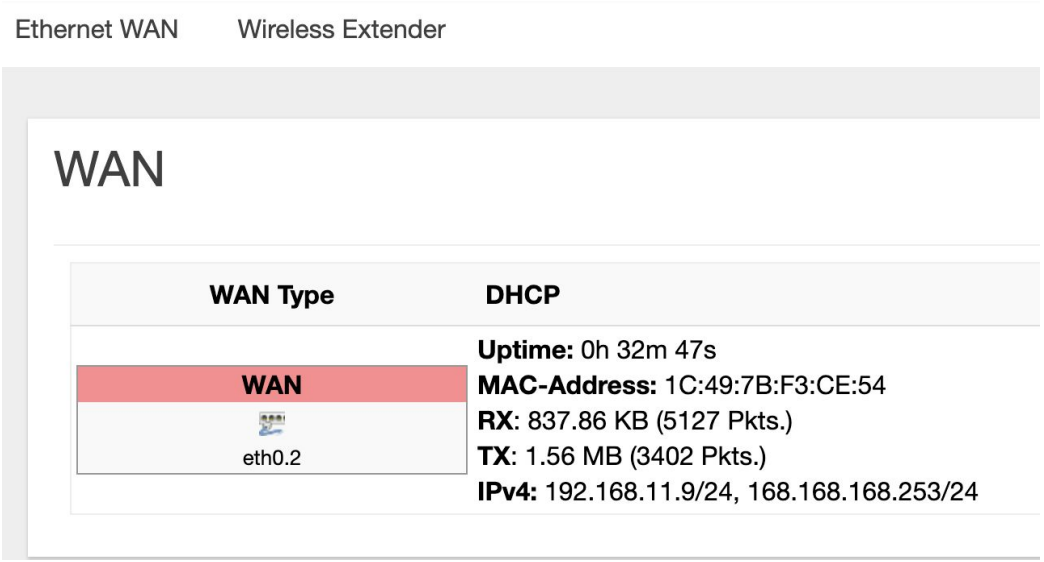
following paragraphs.

1.5.1 WAN

The purpose of this category is to view current WAN settings.
This category is further divided into three sectors: Ethernet Wan and Wireless Extender. These individual options are lodged and labeled above the main content panel.

Figure 1.5.1-A WAN



1.5.1.1 Ethernet WAN

This page is to set up the connection type in terms of Static IP, DHCP client, or PPPoE. The three different options can be selected in the drop-down menu in “wantype”. Please fill in the respective fields exhibited under each selection. Please make sure the Ethernet cable is connected to a WAN port.

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Figure 1.5.1.1-A Static IP

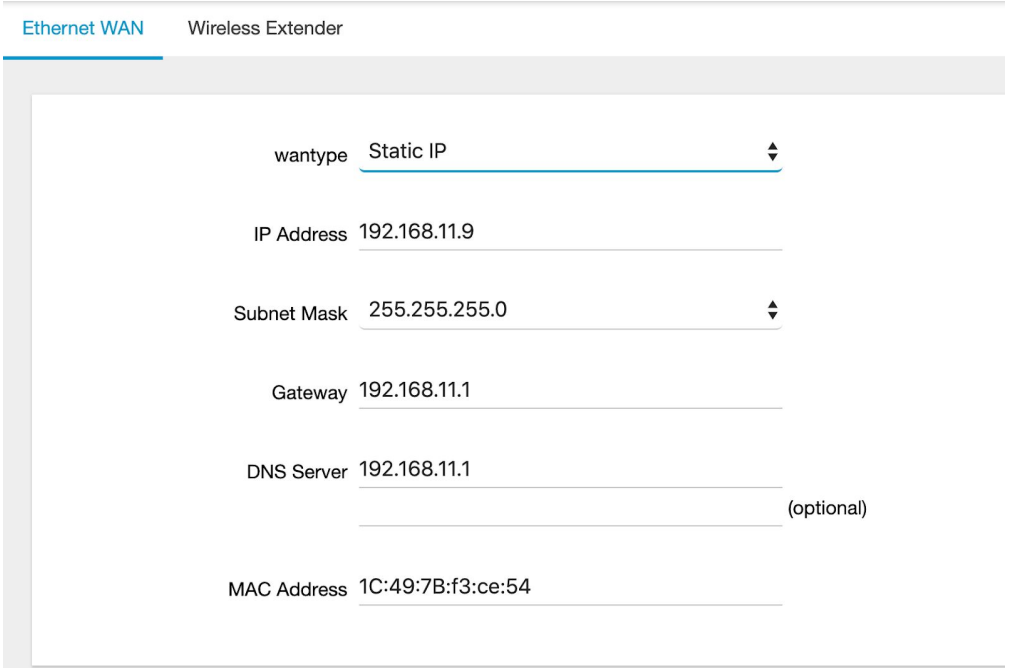


Figure 1.5.1.1-B DHCP Client

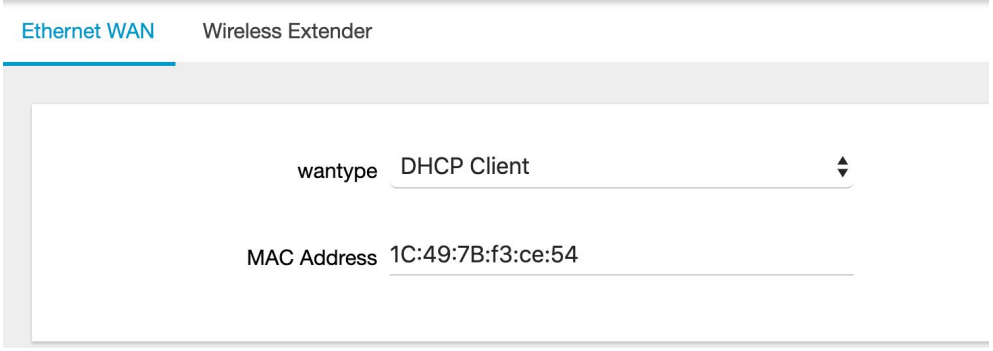
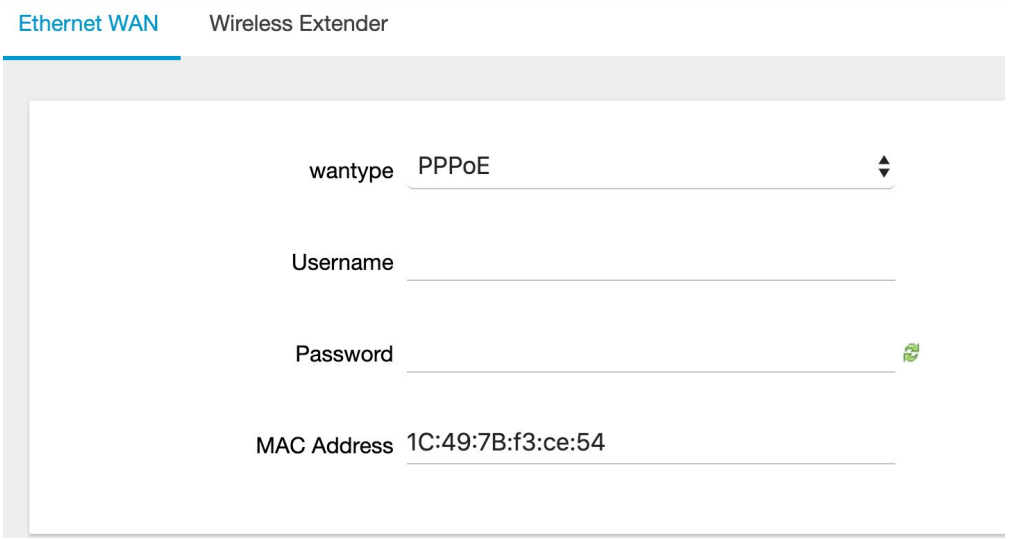


Figure 1.5.1.1-C PPPoE



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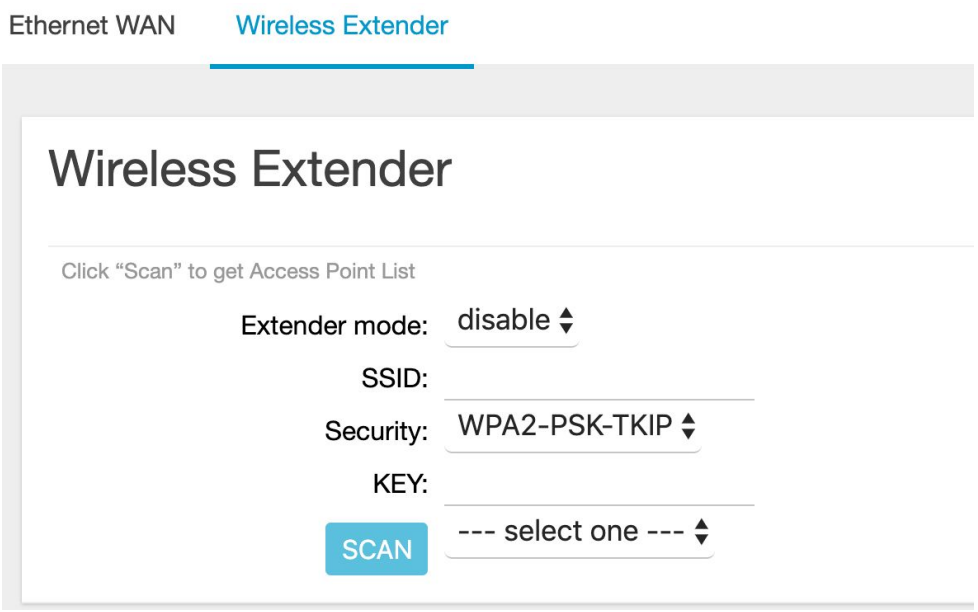
1.5.1.2 Wireless Extender

This page is to set up the Wireless Extender Mode for the WAN connection. To activate the extended wireless connection, please select "*enable*" from the Extender mode drop-down menu. Click the "*SCAN*" button to obtain the list of available Access Points within your surrounding vicinity.

Figure 1.5.1.2-A Wireless Extender



1.5.2 Wireless

2.4G Interface Configuration to setup 2.4G wireless. SSID, encryption type, and channels can be lodged within this sector.

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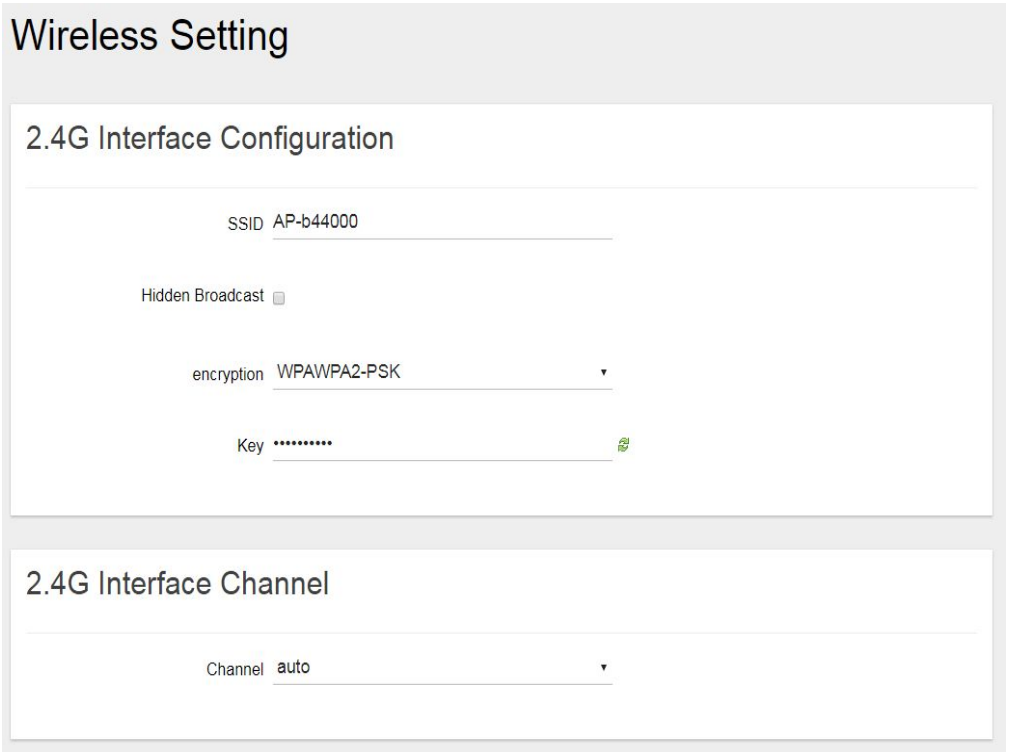
Figure 1.5.2-A Wireless Setting



1.5.3 LAN

LAN IP can be set up on this page.

Figure 1.5.3-A LAN

1.5.4 DHCP

You can manage detailed DHCP server settings, which include the First leased address, the allowed Number of leased addresses, and Lease time.

Information on Active Leases can be viewed at the bottom of this page.

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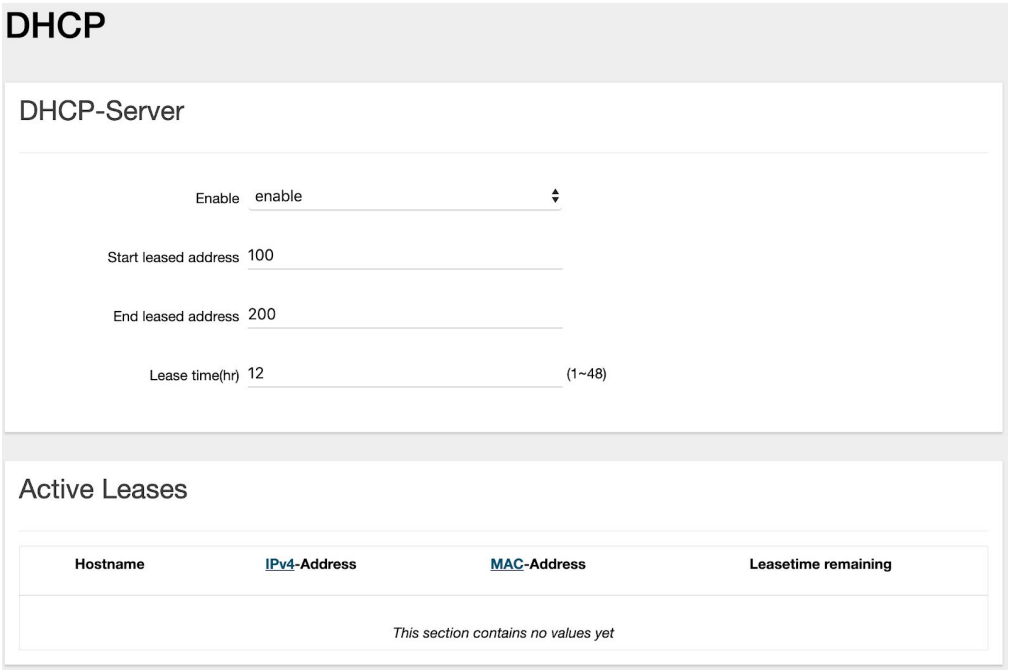
Figure 1.5.4-A DHCP



1.5.5 Diagnostic

Diagnostics is divided into three parts on the same page: PING, TRACEROUTE, and NSLOOKUP. Please see the following for input guidelines.

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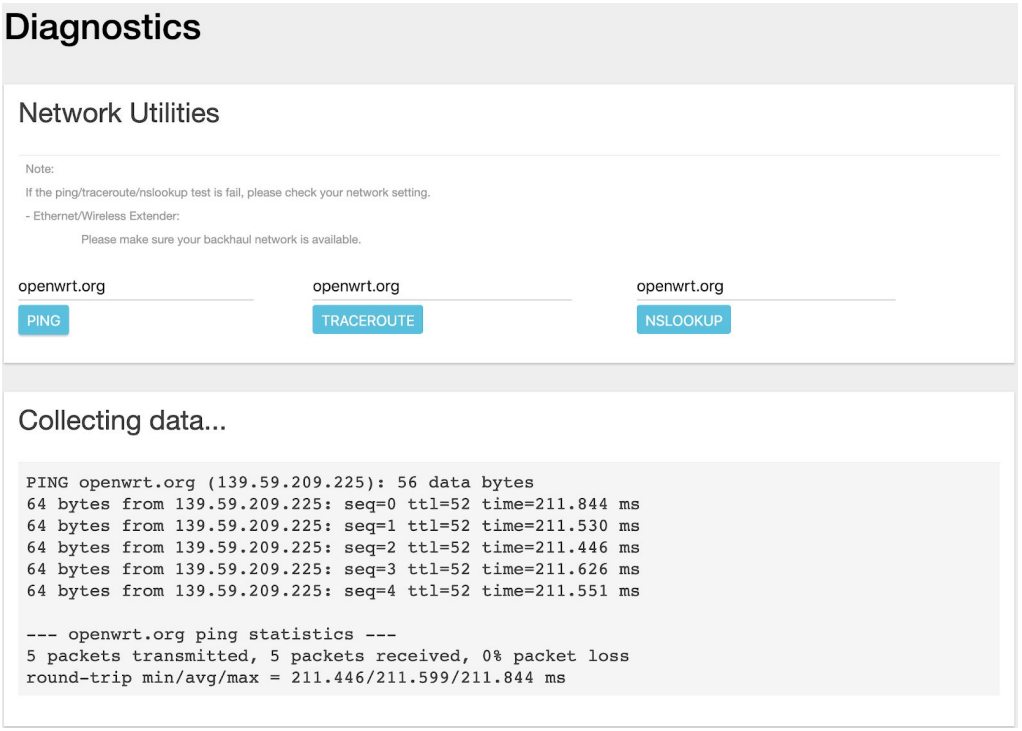
1.5.5.1 PING

Input a specific IP address in the text field above "*PING*". Click the "*PING*" button to ping the IP you have specified.

Figure 1.5.5.1-A PING



1.5.5.2 TRACEROUTE

Input a specific URL or IP address above "*TRACEROUTE*".
Click the "*TRACEROUTE*" button to trace the URL or IP address you have specified.

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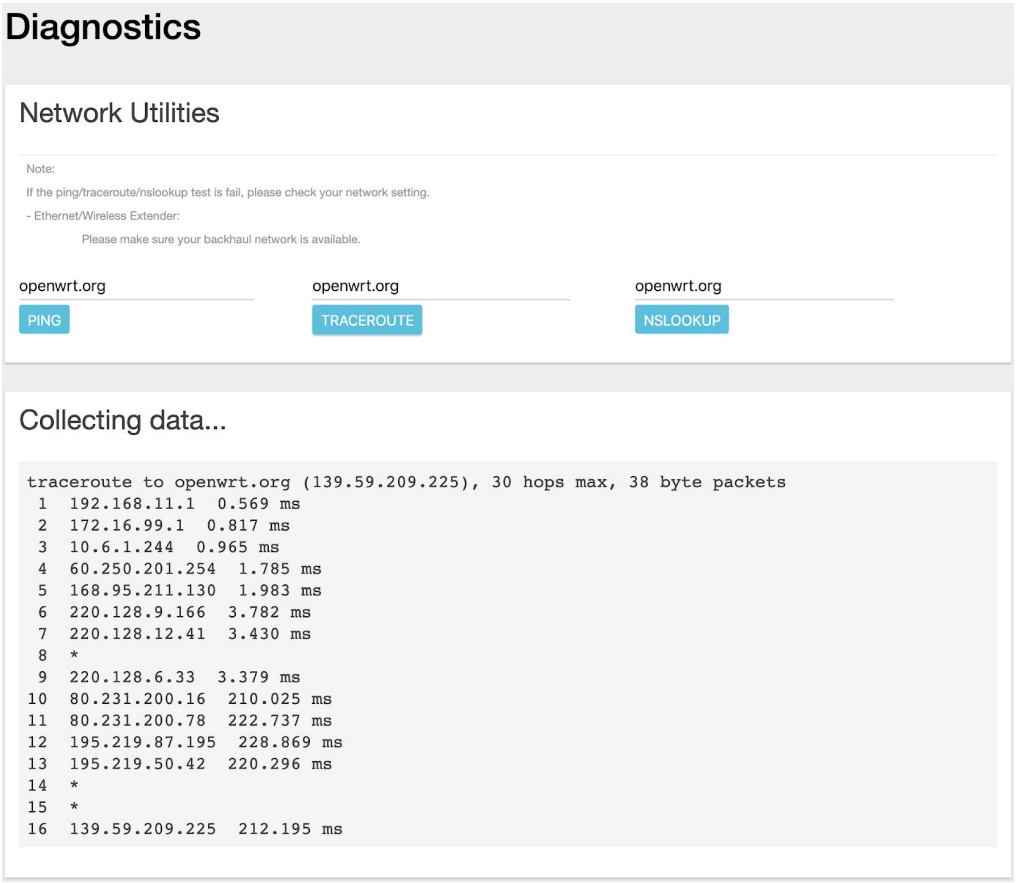
Figure 1.5.5.2-A TRACEROUTE



1.5.5.3 NSLOOKUP

Input a specific URL or IP address above "*NSLOOKUP*".
Click the "*NSLOOKUP*" button to view the DNS server of the URL or IP address you have specified.

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Figure 1.5.5.3-A NSLOOKUP