LORIX One
Low cost LoRa IP43/IP65 gateway

Application note
4G LTE access with Mikrotik wAP

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1 SUMMARY

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2 INTRODUCTION

This document shows what materials you need and how to connect all elements together to use Lora Gateway with LTE. How to configure the wAP LTE from a web interface with the SIM Card and other parameters. To configure your Lora Gateway, please refer to document sent with your kit LORIX One Lora Gateway.

3 MATERIAL

To complete this application note, you will need the following material:

1. A LORIX One LoRa gateway kit

![LORIX One LoRa gateway](image1)

Wifx’s online shop name: Lora Gateway LORIX One

2. A wAP LTE kit (RBwAPR-2nD&R11e-LTE)

![wAP LTE kit](image2)

Wifx’s online shop reference: RBWAPR-2ND&R11E-LTE

3. An Outdoor Poe Splitter (POE-SPLITTER)

![Outdoor Poe Splitter](image3)

Wifx’s online shop reference: DLB-POE-SPLITTER-03
4 SETUP

Please follow the next steps in order, it is very important for an optimal configuration

At this stage, **don’t plug the SIM Card into the wAP**

4.1 HARDWARE

(The yellow, blue and grey patch cables in the following picture are not included)

Connect the wAP to the left port (Port 1) of the splitter and the LORIX One Lora Gateway to the middle port (Port 2) of the splitter then connect the injector PoE in the last port (Port 3) of the splitter. (See below picture)

![Image of setup](image)

4.2 SOFTWARE

4.2.1 CONFIGURE YOUR WAP LTE

**Warning**, your network card must be configured in DHCP, not in static IP since the wAP embeds a DHCP server.

At this stage, **don’t plug the SIM Card into the wAP**

1. Disconnect Ethernet cable from your computer if any or disable any already connected network interface to avoid any compatibility problem.
2. Connect your computer to the WiFi network; Mikrotik-XXXX(example : Mikrotik-3B1378):

For the following steps please check the screenshot on the next page.

3. Launch a web Browser and type in http://192.168.88.1. Log in User: admin Password: (no password) after login go to the Quick Set option in the right top corner see next picture and chose LTE AP.

4. Configure the following points as below for your wireless network
   a. Change the Network Name
   b. Change the Frequency and chose 2437
   c. Do not change the Band (2GHz-B/G/N)
   d. Change the country to the one which applies
   e. Set a new WiFi Password to avoid any security issue

5. Configure settings for LTE
   a. Enter PIN of your SIM CARD
   b. Set the name of an operator (optional for some operators)
   At this stage, don’t plug the SIM Card into the wAP

6. Set the Local Network
   a. Chose the IP address for your wAP (192.168.1.1)
   b. Define the subnet mask (255.255.255.0/24)
   c. DHCP range for your network (192.168.1.100-192.168.1.250)
   d. Check NAT rule for your network

7. Configure the wAP System
   a. Define the router Identity name
   b. Define your personal password for admin router login (for security reasons try to not use the same password that you already defined for the WiFi)

8. Apply your new configuration
Default wAP network address
WiFi network password
wAP interface password
Configuration mode of the wAP
4.2.2 CHECK THE CONFIGURATION

Once the configuration applied, the new parameters will be effective. If you choose to change the WiFi network name and/or password, you will be disconnected and will need to login again.

It’s now time to insert the SIM card into the wAP device:

1. Unplug the cable from the wAP device
2. Insert the SIM card
3. Reconnect the patch cable in the wAP device

Once reconnected, the wAP will boot and start the WiFi network with parameters as previously defined:

1. Connect to the wAP Wi-Fi Network with the new SSID and password
2. Launch a web Browser and type in http://192.168.1.1 or customized IP address
3. Login in wAP Router with User: admin Password: (customized password)

4. Check LTE signal of your wAP (LTE connexion can take until 15 minutes to connect)
4.3 TEST AND VALIDATION

To test the configuration you can try to contact a server through internet.

1. Ping ¹ a site to verify that you are well connected to internet:

![Ping Command Result]

If the message “Reply from ...” appears multiple times, your wAP 4G/LTE is connected to internet.

If the message “Request timed out” appears, your wAP 4G/LTE doesn’t have internet connection, go 4.2.1 step 4 and check the parameters again.

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¹ To launch the ping command, open a terminal by typing “Win+R” then write “cmd” and press enter. In the terminal (black window), type “ping <domain>”, e.g. ping lorixone.io

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