

User Guide (UG)

CENTAURI 200-AT

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TABLE OF CONTENTS

1 INTRODUCTION	5
1.1 PURPOSE	5
1.2 SCOPE	5
1.2.1 PREREQUISITES	5
1.2.2 SUPPORTED SOFTWARE AND HARDWARE PLATFORMS	5
1.3 ACRONYMS & ABBREVIATIONS	5
1.4 REFERENCES	6
1.5 DOCUMENT CONVENTIONS	6
1 SYSTEM OVERVIEW	7
2 MOBILE APPLICATION SETUP	8
2.1 INSTALLATION (ANDROID MOBILE APPLICATION)	8
2.2 INSTALLATION (IOS MOBILE APPLICATION)	8
2.3 INITIAL SETUP AND USER REGISTRATION	9
3 GATEWAY SETUP	12
3.1 GATEWAY LED INDICATION	12
3.2 GATEWAY SWITCH FUNCTION	12
3.3 GATEWAY INITIAL SETUP	13
3.3.1 Gateway Setup with Wi-Fi	13
3.3.2 Gateway Setup with Ethernet cable	13
3.4 GATEWAY COMMISSIONING [REGISTRATION]	13
3.4.1 Gateway Registration	14
3.4.2 Factory reset the gateway	17
3.5 CHANGE GATEWAY NETWORK INTERFACE FOR IP CONNECTIVITY (WI-FI OR ETHERNET)	18
3.5.1 Change from Wi-Fi to Ethernet	18
3.5.2 Change from Ethernet to Wi-Fi	18
3.6 REMOVE GATEWAY	19
3.7 RF EXPOSURE STATEMENT	20
3.8 FCC/IC WARNING	20

LISTS OF TABLES

TABLE 1 GATEWAY LED INDICATION	12
TABLE 2 GATEWAY SWITCH FUNCTION	13

LISTS OF FIGURES

FIGURE 1- 1 GATEWAY SETUP ARCHITECTURE	7
FIGURE 3- 1 MOBILE APPLICATION LAUNCH PAGE	9
FIGURE 3- 2 USER REGISTRATION FOR GATEWAY	10
FIGURE 3- 3 HOME SCREEN AFTER SUCCESSFUL LOGIN	11
FIGURE 4- 1 CENTAURI 200-AT GATEWAY	13
FIGURE 4- 2 IoTIFY DASHBOARD	14
FIGURE 4- 3 GATEWAY PROVISIONING	15
FIGURE 4- 4 GATEWAY LIST	16
FIGURE 4- 5 GATEWAY PROPERTY CHANGE	17
FIGURE 4- 6 GATEWAY WI-FI RESET BUTTON	17
FIGURE 4- 7 REMOVE GATEWAY	19

Revision History

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29-Aug-2019	1.0	First Release	MK	RT, NP
12-Dec-2019	1.1	Updated IoTify link in Section 3	NP	KB
06-02-2020	1.2	Updated section 4.3	NP	KB
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13-03-2020	1.4	Updated device provisioning section	NP	KB
06-08-2020	1.5	Updated Switch indication in Chapter 4	NP	KB
23-11-2020	1.6	Added FCC warning and remove Zigbee Zwave devices	YP	KB
01-12-2020	1.7	Change block diagram	YP	YP
16-12-2020	1.8	Added LTE power	YP	YP
13-04-2023	1.9	Updated as per CT200-AT	ND	ND/JP

1 INTRODUCTION

This document will guide an end user in getting started with the CENTAURI 200-AT.

1.1 Purpose

This document will address the following things:

1. Getting Started with CENTAURI 200-AT demonstration
2. System Overview
3. CENTAURI 200-AT Gateway Setup
4. End device setup and control

1.2 Scope

The scope of the guide is to describe the various functionalities to configure CENTAURI 200-AT using mobile application for the user. This document does not include the flashing steps of the CENTAURI 200-AT gateway.

1.2.1 Prerequisites

In this guide, it is assumed that CENTAURI 200-AT is available with the user and flashed with the latest CENTAURI 200-AT release, links for software release, mobile application and necessary accounts to set up the Cloud application.

1.2.2 Supported Software and Hardware Platforms

CENTAURI 200-AT functionality is tested with the following combination of operating system, hardware platform, software versions, phone model or iOS/Android versions. CENTAURI 200-AT application may work with other versions of operating system, hardware, software, phone model or iOS/Android version. The functionality of the CENTAURI 200-AT will not be guaranteed by Volansys on any other combinations other than the one mentioned below:

- Operating System – Yocto flavored Linux OS
- Hardware board version – 1.1
- Software version – 1.0.0
- iPhone/iOS version – 10.x and higher
- Android version – Lollipop 5.0 and higher

1.3 Acronyms & Abbreviations




Terms	Definition
AP	Access point
GW	Gateway
ED	End Device

EUI	Extended Unique Identifier
OTA	Over The Air

1.4 References

Reference Document Title	Provided by	Remarks
NA		

1.5 Document Conventions

	This element signifies a useful information or tip or suggestion
	This element signifies a warning or proceed with caution
	This element signifies that the action should be avoid

1 SYSTEM OVERVIEW

CENTAURI 200-AT Gateway is a central device to run the out of the box demonstration. To do the setup, the user needs to provide Internet connectivity to CENTAURI 200-AT Gateway. The Gateway supports Ethernet, WiFi and LTE to connect to the cloud. The user can add end devices in the system using mobile application. Once the end devices are added to the system, the user can control them via the mobile application.

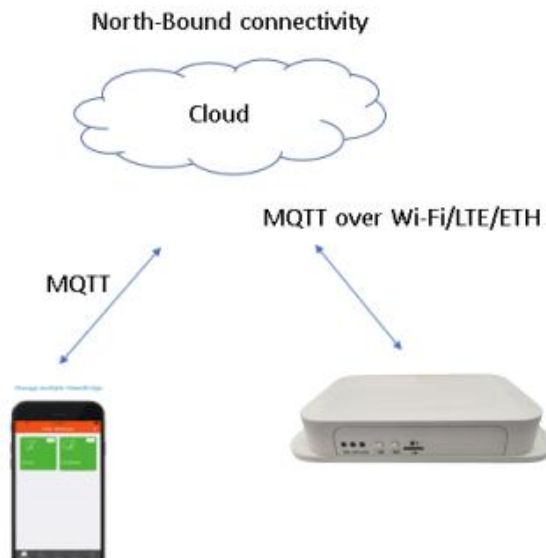


Figure 1- 1 Gateway setup architecture

2 MOBILE APPLICATION SETUP

2.1 Installation (Android Mobile Application)

1. The [IoTify](#) Android application is available on Google Play Store.

2.2 Installation (iOS Mobile Application)

1. The [IoTify](#) iOS application is available on the Apple Application store.

2.3 Initial setup and User registration

1. Launch/open installed application in the mobile. User can see below screen

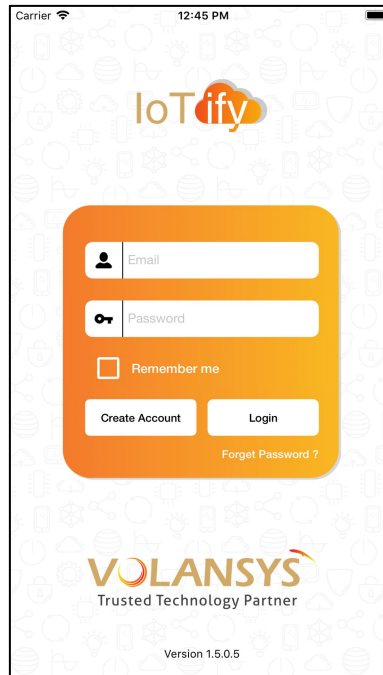


Figure 3- 1 Mobile Application Launch Page

2. If prompted for any permission, please allow.
3. Follow user registration process for creating account. Enter verification code received on email to complete registration process.

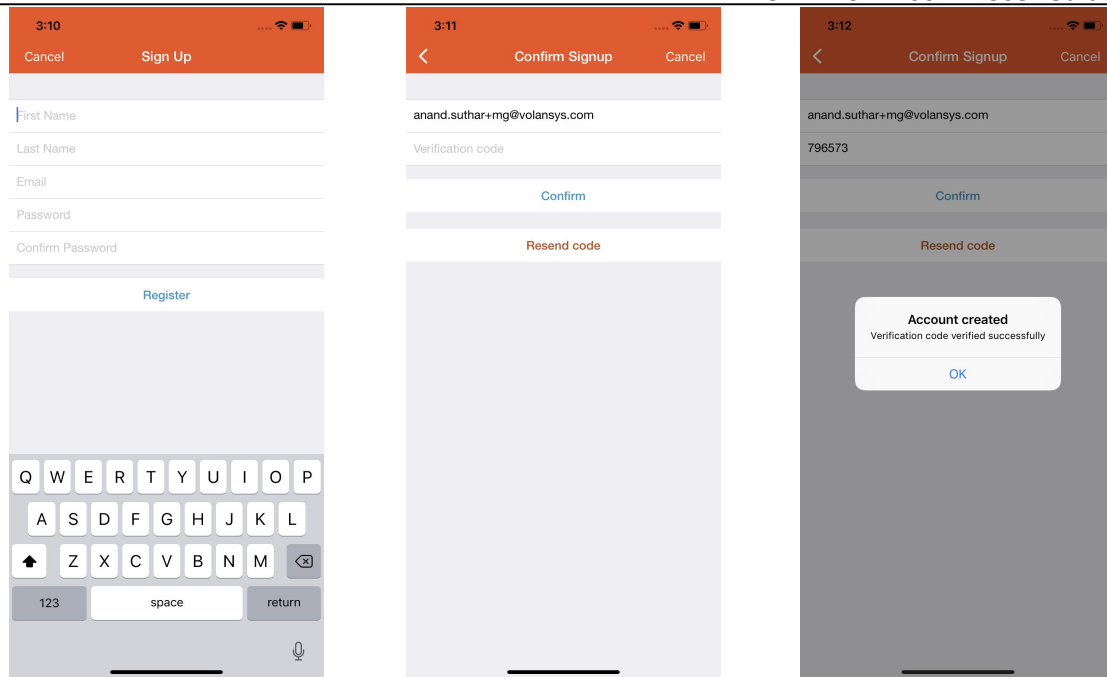


Figure 3- 2 User registration for Gateway

4. Login with the user credential created during sign-up.
5. On successful authentication, user is redirected to the list of registered gateways. The user can see registered gateway if any or can see below screen without any gateways.

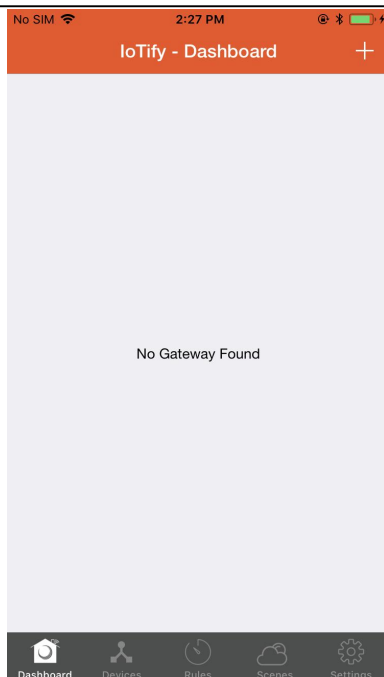


Figure 3- 3 Home screen after successful login

3 GATEWAY SETUP

3.1 Gateway LED indication

LED	Indication	Represents
POWER LED	ON	Power is available
	OFF	No Power supply is connected
LED1	OFF	Access Point mode is off
	SOLID RED	Access Point mode is on.
	Blinking RED (1 second off, 1 second on)	End Device Commissioning in progress
LED2	Green	Internet connectivity available
	Red	Internet connectivity NOT available

Table 1 Gateway LED indication

3.2 Gateway Switch function

Switch	Control	Action
SW1	Press the switch thrice where the interval between two consecutive presses should not exceed 1 second.	OTA Recovery in case of failure in the application OTA
	Press the switch for more than 10 seconds	RF Device Discovery will start to pair end devices
SW2	Press the switch thrice where the interval between two consecutive presses should not exceed 1 second.	AP mode of Gateway will be enabled
	Long press (Required switch press duration more than 5sec)	Factory reset the gateway (Clears the Wi-Fi credentials, remove the paired end devices, rules and scenes)

Table 2 Gateway Switch function

3.3 Gateway Initial setup

Follow below steps for initial Gateway setup

3.3.1 Gateway Setup with Wi-Fi

1. Plug in power cable in DC power input port of gateway available on back panel.
2. Plug-out Ethernet cable if it is plugged in.
3. Power up the Gateway.
4. After power up, Gateway will be in Access point mode. It will broadcast SSID = **Centauri_XXXX** (XXXX = Last 4 digit of MAC address).
5. Observe the LED indication.
 - LED2 as solid RED indicates no internet connectivity if gateway doesn't have valid Wi-Fi credential or does not have LAN or LTE connectivity. Wi-Fi credential can be provided to gateway through mobile application
 - LED1 as solid RED indicates Gateway is in Wi-Fi access point mode
 - Refer section [Gateway LED indication](#) for more details.

3.3.2 Gateway Setup with Ethernet cable

1. Plug in power cable in DC power input port of Gateway.
2. Plug in Ethernet cable to Gateway Ethernet port.
3. Power up the Gateway.
4. Observe the LED indication.
 - LED2 as RED indicates no internet connectivity.
 - Refer section [Gateway LED indication](#) for more details.



Figure 4- 1 CENTAURI 200-AT Gateway

3.4 Gateway Commissioning [Registration]

A user needs to register the gateway using the mobile application to use the gateway to control and monitor end devices. To register the gateway, follow below steps.

3.4.1 Gateway Registration

1. Open the mobile application and log in using user id. User can see below screen in mobile application if none of the gateway is registered previously with same user id.
2. User can add Gateway by touching “+” on top right corner. It will show below screen. Follow the instruction given on screen. On Wi-Fi setting, user shall connect to SSID **Centauri_XXXX** (XXXX=Last 4 digit of Gateway MAC). User should enter the Wi-Fi Password as **centauri_XXXX** (XXXX=Last 4 digit of Gateway MAC, e.g. “**centauri_D1A5**”)
 - If user is commissioning gateway for the first time, user does not need to reset Wi-Fi on GW by pressing SW2.
 - If user wants to factory reset the gateway, press SW2 for long duration (more than 5 seconds) as mentioned Table 2.

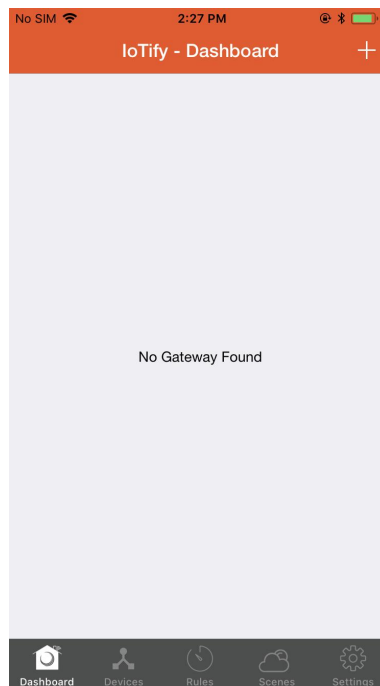


Figure 4- 2 IoTify Dashboard

Once user connects to access point of the GW, the user needs to enter the Wi-Fi password as **centauri_XXXX** (XXXX=Last 4 digit of Gateway MAC, e.g. “**centauri_D1A5**”). After the user comes back to this application, user will see below screen. In this screen, user shall select an Access point

that GW will use for getting an internet connectivity. (E.g. Home Wi-Fi router access point). User will be prompted to enter passphrase if that is configured on selected SSID)

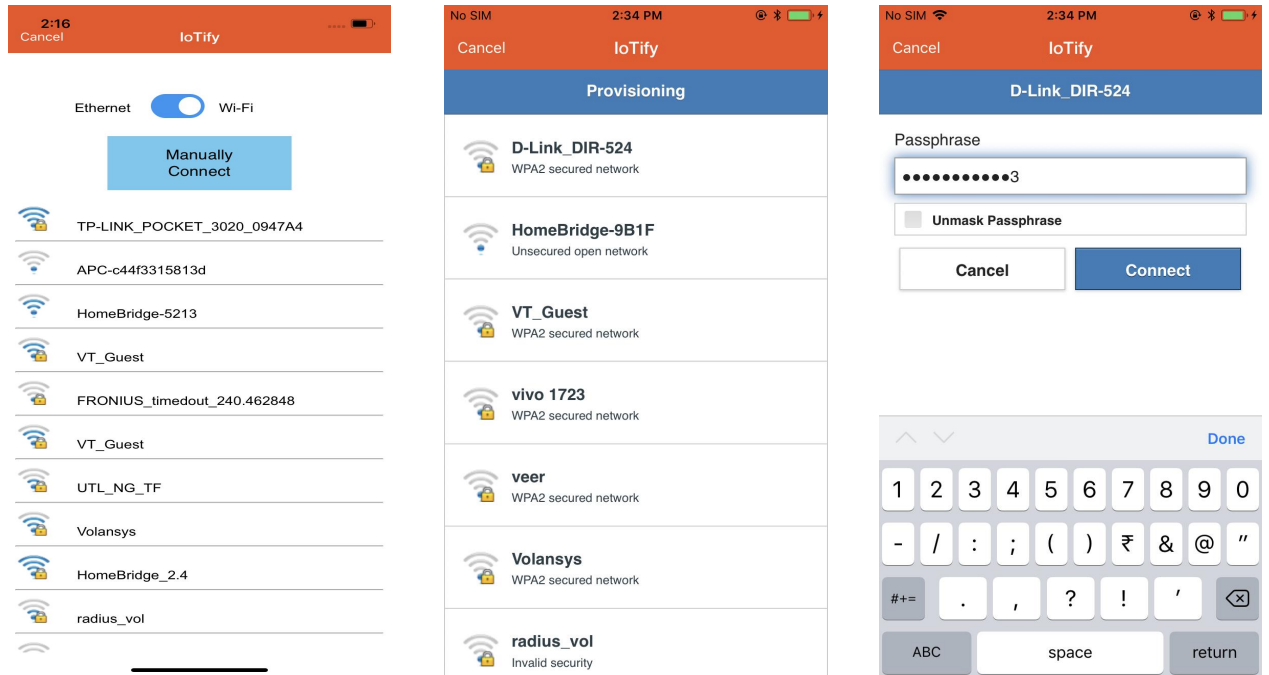


Figure 4- 3 Gateway Provisioning

1. After providing all correct input, the gateway will be commissioned, and it will be available on application as shown below. User can add multiple gateway to the application by following same process.

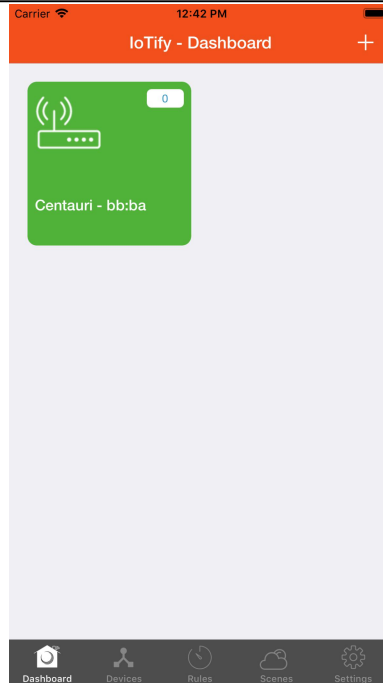


Figure 4- 4 Gateway List

2. Long press on Gateway and select Gateway information. This will open Gateway property window. User can rename the gateway in this screen.

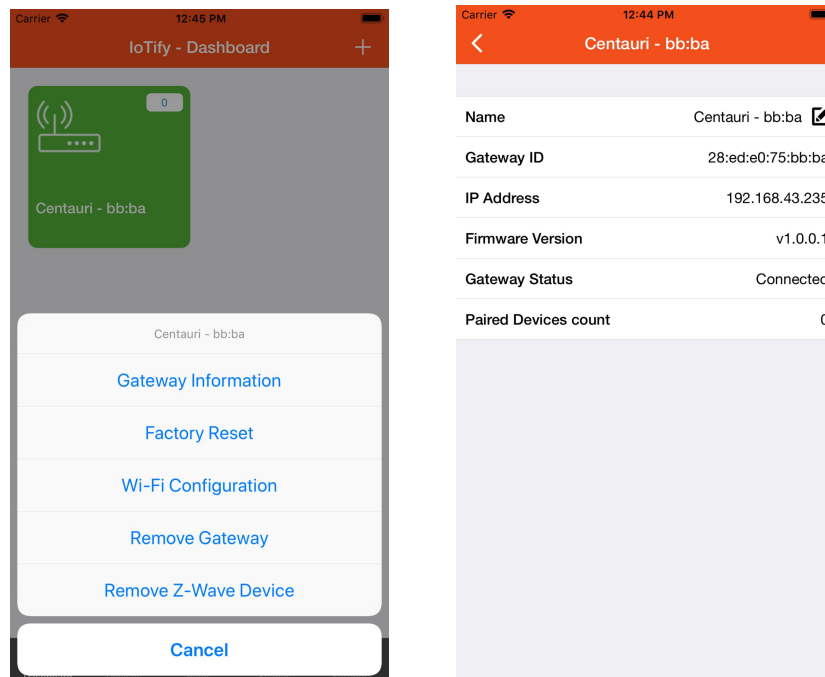


Figure 4- 5 Gateway property change

3.4.2 Factory reset the gateway

1. SW2 switch can be used (long press) to factory reset the gateway if needed. Refer [Gateway Switch indication](#) for more details



Figure 4- 6 Gateway Wi-Fi reset button

- User can see LED2 will turn green if Gateway has internet connectivity.
- LED2 will be red if there is not internet connectivity

3.5 Change Gateway Network Interface for IP connectivity (Wi-Fi or Ethernet)

3.5.1 Change from Wi-Fi to Ethernet

Follow below steps to change Network interface from Wi-Fi to Ethernet

1. Press SW2 switch more than 5sec to factory reset the Gateway. See if LED2 turns Red.
2. Plug in Ethernet cable to Gateway board.
3. Observe LED indication on Gateway board.
 - LED2 as RED indicates no IP address is assigned or no internet connectivity
 - LED2 as Solid Green indicates Gateway is connected to the cloud
 - Refer section [Gateway LED indication](#) for more details
4. Once the LED2 turns Green, connect to GW access point as mentioned earlier and select Ethernet during commissioning process.
5. The LED2 must become Solid Green for controlling and managing gateway and end devices.

3.5.2 Change from Ethernet to Wi-Fi

Follow below steps to change Network interface from Ethernet to Wi-Fi

1. Power ON Gateway and wait till the gateway comes online.
 - Press SW2 switch for more than 5sec to factory reset the Gateway.
 - See if LED2 turns Red.
2. Unplug the Ethernet cable from the Gateway.
3. Observe LED indication on the Gateway.
4. Provide Wi-Fi credential to Gateway using commissioning process mentioned above.
5. On successful connection with Wi-Fi network and cloud, the user can see LED2 as Solid Green.

3.6 Remove Gateway

To remove Gateway from registered gateway list, follow below steps.

1. The gateway must be powered on and connected to the cloud. Confirm LED2 must be solid green. GW should be shown Green on mobile application as well.
2. Open Mobile application and select the Gateway to be removed.

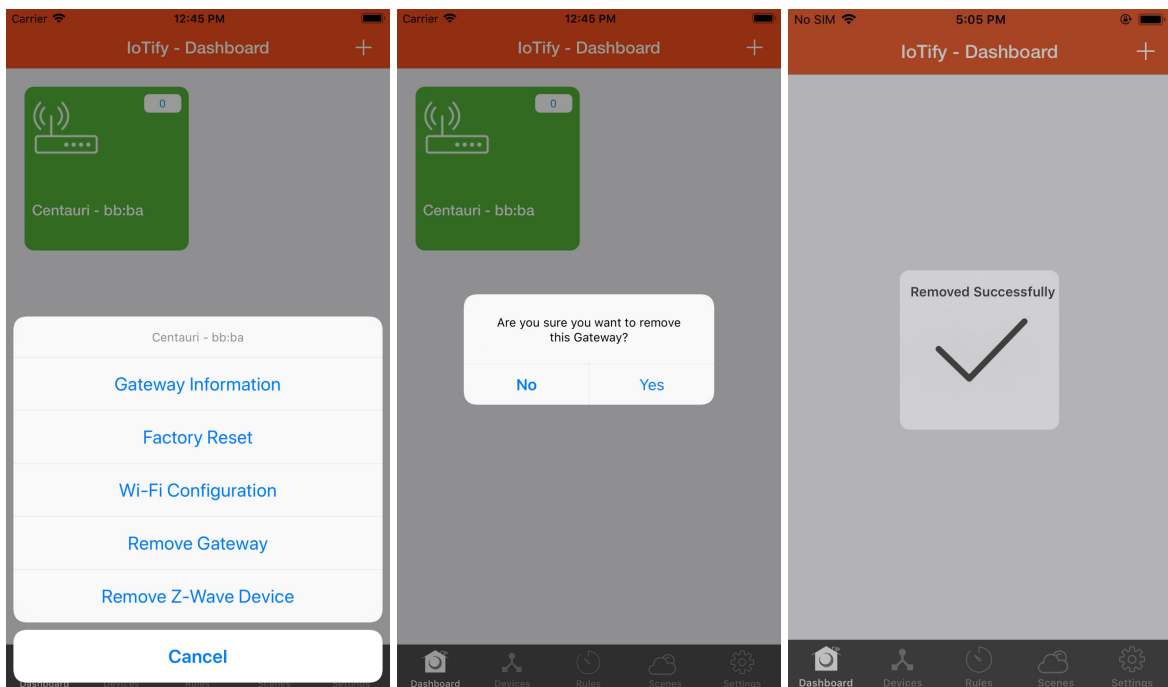


Figure 4- 7 Remove Gateway

3.7 RF Exposure statement

RF exposure information: The Maximum Permissible Exposure (MPE) level has been calculated based on a distance of $d=20\text{cm}$ between the device and the human body. To maintain compliance with RF exposure requirement, use product that maintain a 20cm distance between the device and human body.

3.8 FCC/IC Warning

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device complies with part 15 of the FCC rules and RSS-247 of Industry Canada. 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. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout

brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

15.21

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

15.105

NOTE: 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
- This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.