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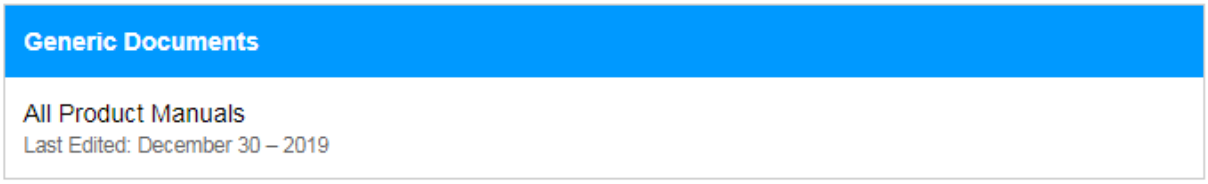
LBCAS & LSSI Manual

Introduction

This manual will cover the configuration of the LBCAS (LoRa Cabinet Analysis Sensor) & the LSSI (LoRa Signal Strength Indicator) sensor setup.

Also, this manual does not include any technical information regarding the L-DCIM, so please always refer to that manual on how to setup and configure the L-DCIM units. All of the AKCP product manuals can be downloaded from our support portal on our website here:



For the sensors full specifications, please also refer to the information and datasheet on our website here: https://www.akcp.com/wireless-cabinet-analysis-sensor/

Important Note: Due to airlines & FAA restrictions it is not possible for us to include the internal batteries for the LBCAS and LSSI wireless sensors, so they are not included.

You will need to purchase the re-chargeable AA batteries for each of the two sensors at your local retail store. You MUST USE the NiMh rechargeable batteries. If you try and use other types of batteries there is a risk of them exploding. This will void the warranty and AKCP will not be responsible for any loss due to damage, injury or otherwise if the correct batteries are not used.

Installing the batteries into the LBCAS and LSSI sensors is easy. Just simply remove the screws from the bottom of the sensor revealing the battery bank which holds the batteries, install them in the correct configuration, then secure the sensor enclosure again.

Online Live Demo

You can login to our online L-DCIM demo which also has the LBCAS sensor connected here:

https://119.92.149.189:244

uName: admin
pWord: admin

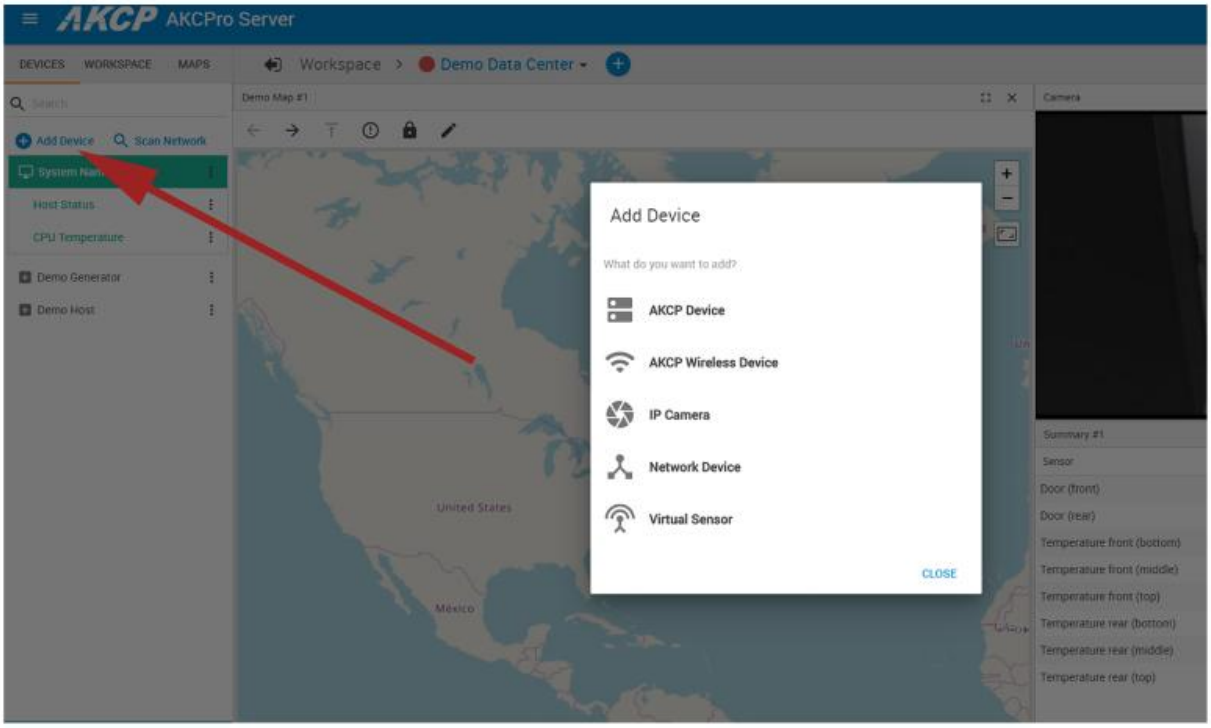
We have setup a desktop to show a floor pan, you can click on the cabinet to drill down to the hot/cold aisle containment view. There is also another desktop with two cabinet views.

As a reminder, please always use the Chrome or FF browser when connecting to the L-DCIM.

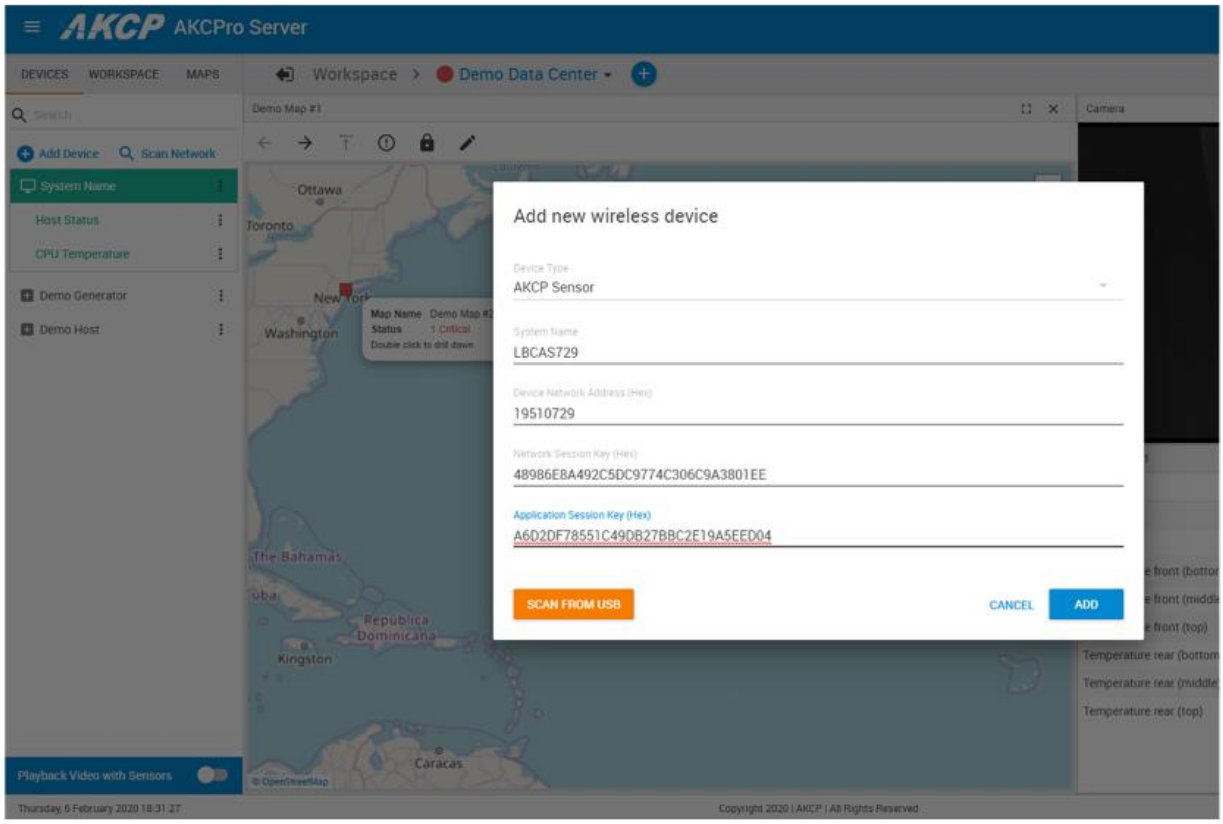
LBCAS (Cabinet Analysis Sensors)

Installation Guide

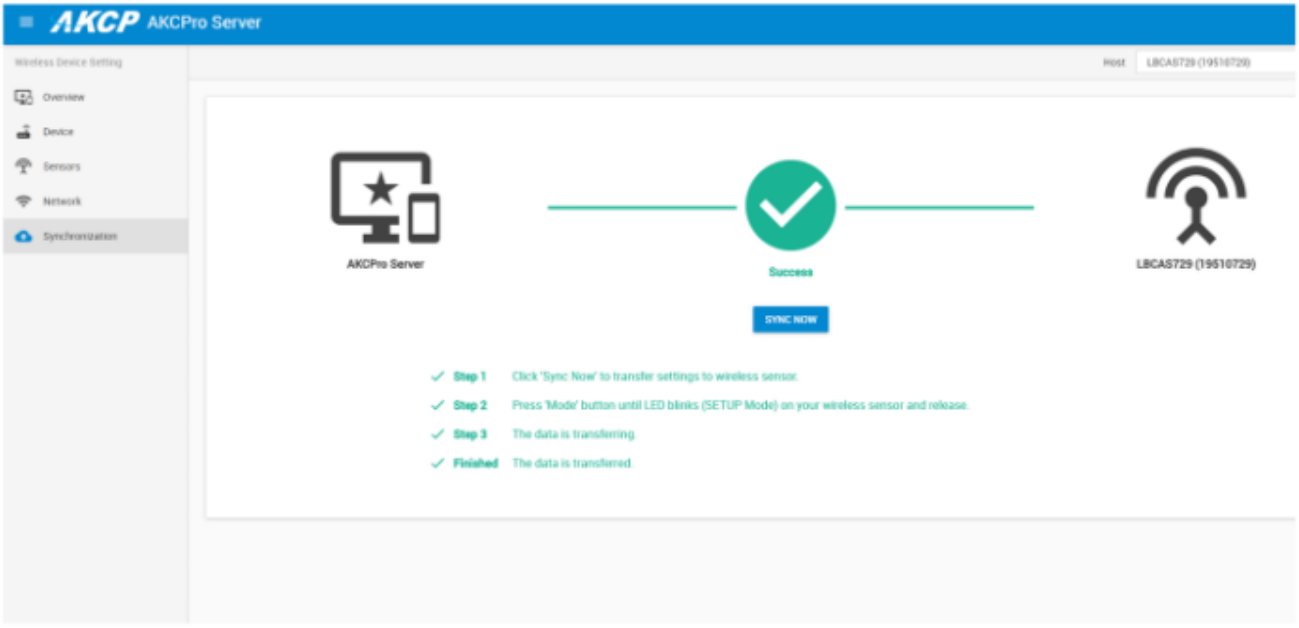
Step 1. Add device choose AKCP Wireless Device to add (LBCAS) to the LDCIM



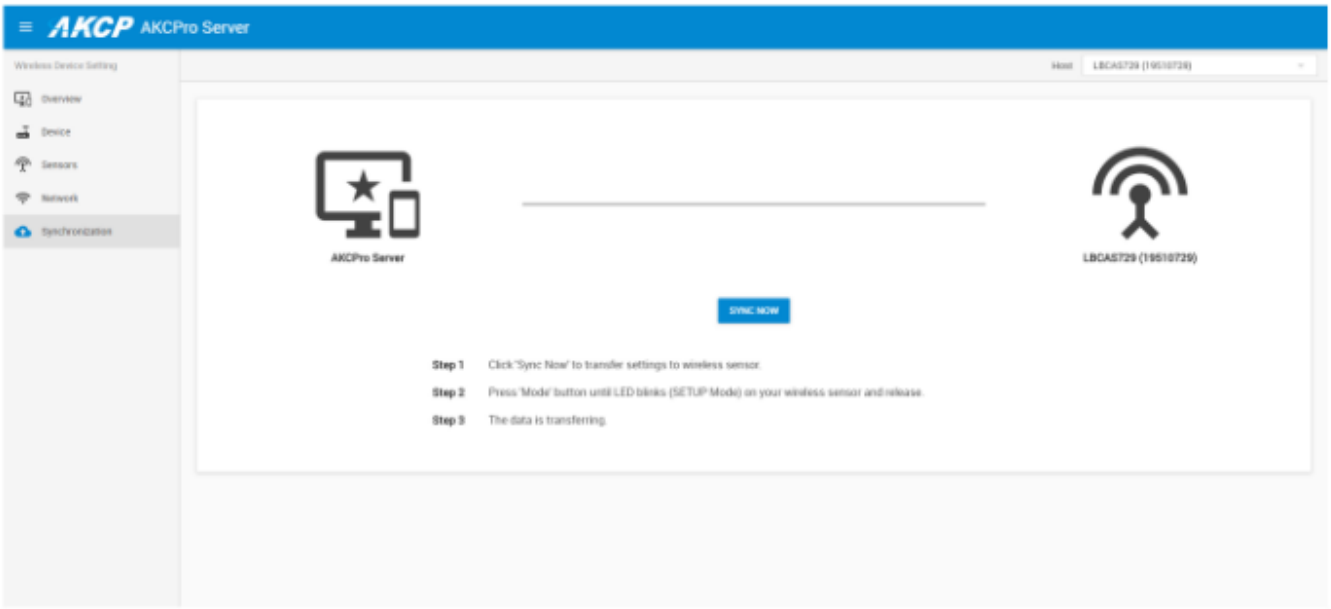
Step 2. Fill it up (the keys are located at the bottom of the device)



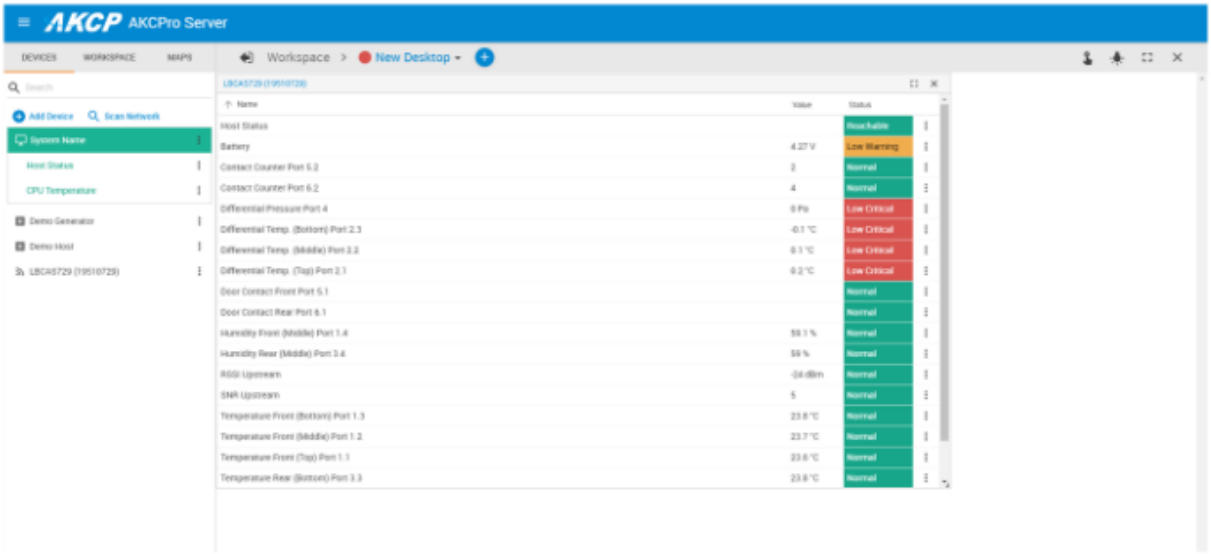
Step 3. Sync the device (hold Mode button for 3-5 seconds)



Step 4. On setting page choose synchronization and sync the device again to online the sensors
(hold Mode button for 3-5 seconds)



Step 5. Drag the LBCAS sensor to the new desktop

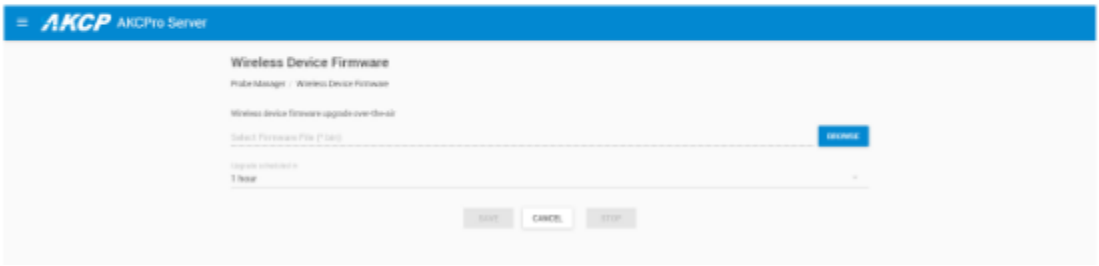


FIRMWARE UPGRADE - upgrade via over the air

Step 1. Go to Menu , Probe Manager then choose Wireless Device Firmware page

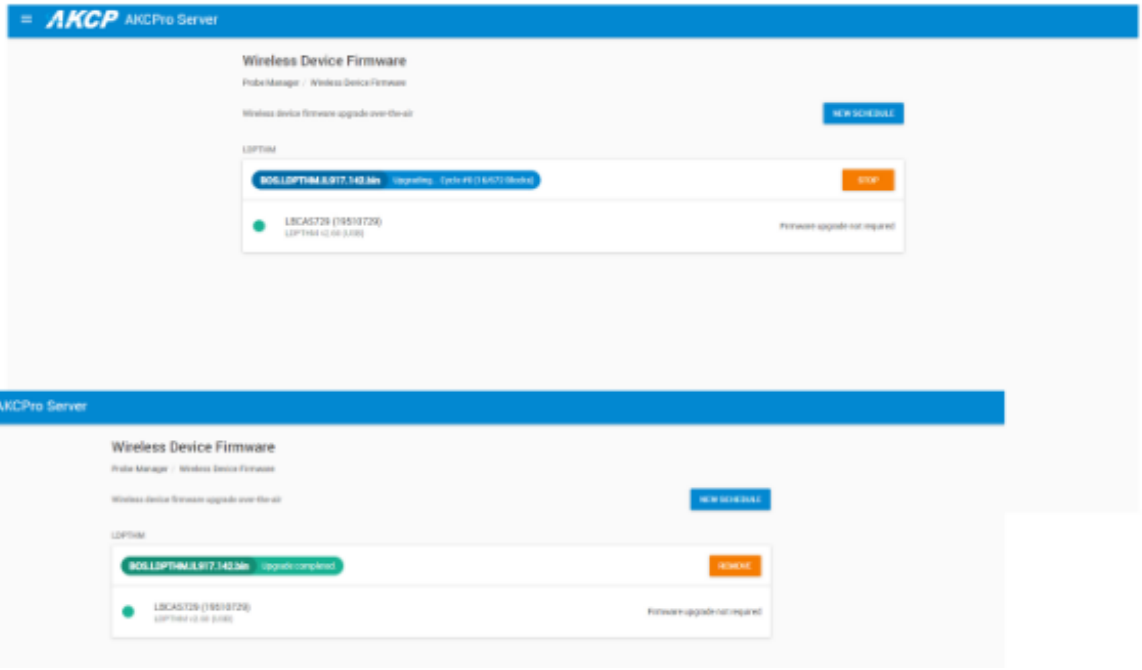
FIRMWARE UPGRADE - upgrade via over the air

Step 2. Set the new schedule for firmware upgrade, then browse the updated firmware file (.bin file) and press Save



FIRMWARE UPGRADE - upgrade via over the air

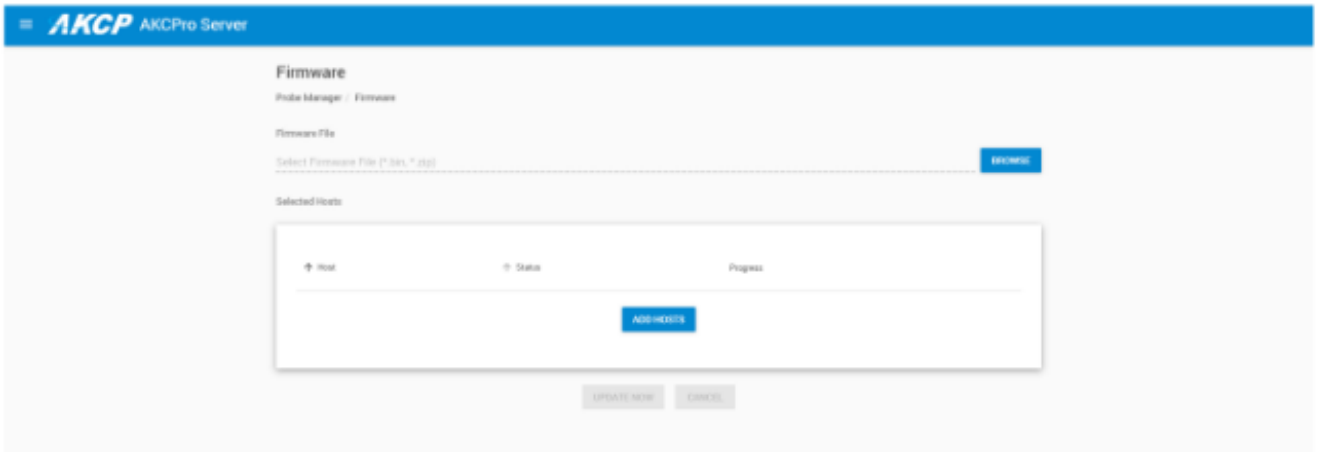
Step 3. Wait till finish to upgrade



FIRMWARE UPGRADE - via USB

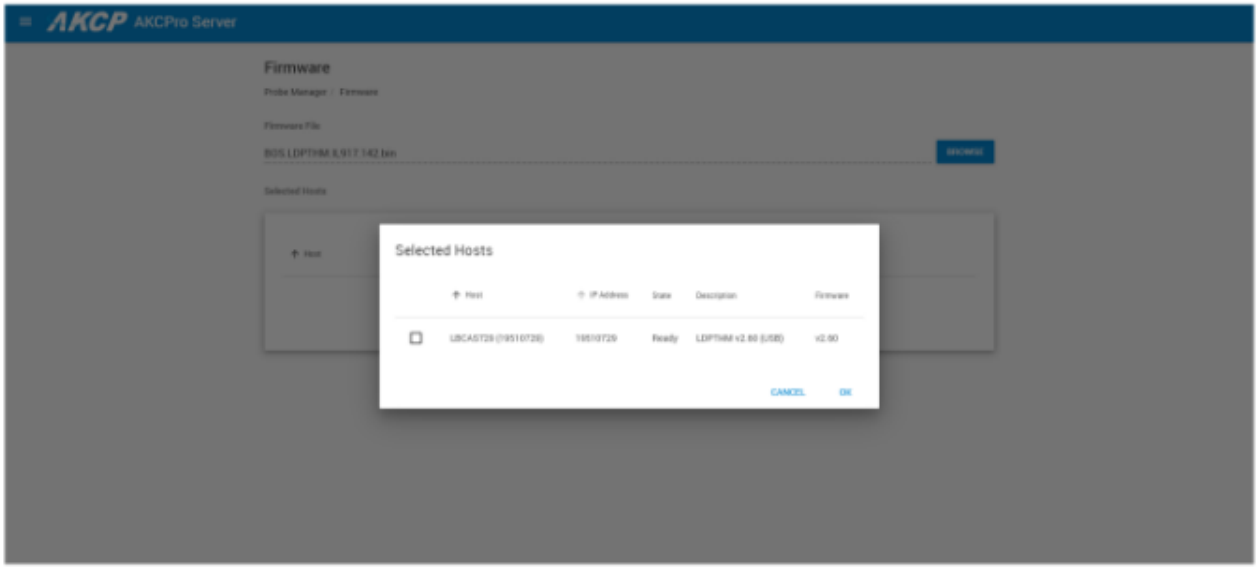
Step 1. Plug USB Cable between LBCAS to LDCIM

Step 2. Go to Menu, Probe Manager, then choose Firmware



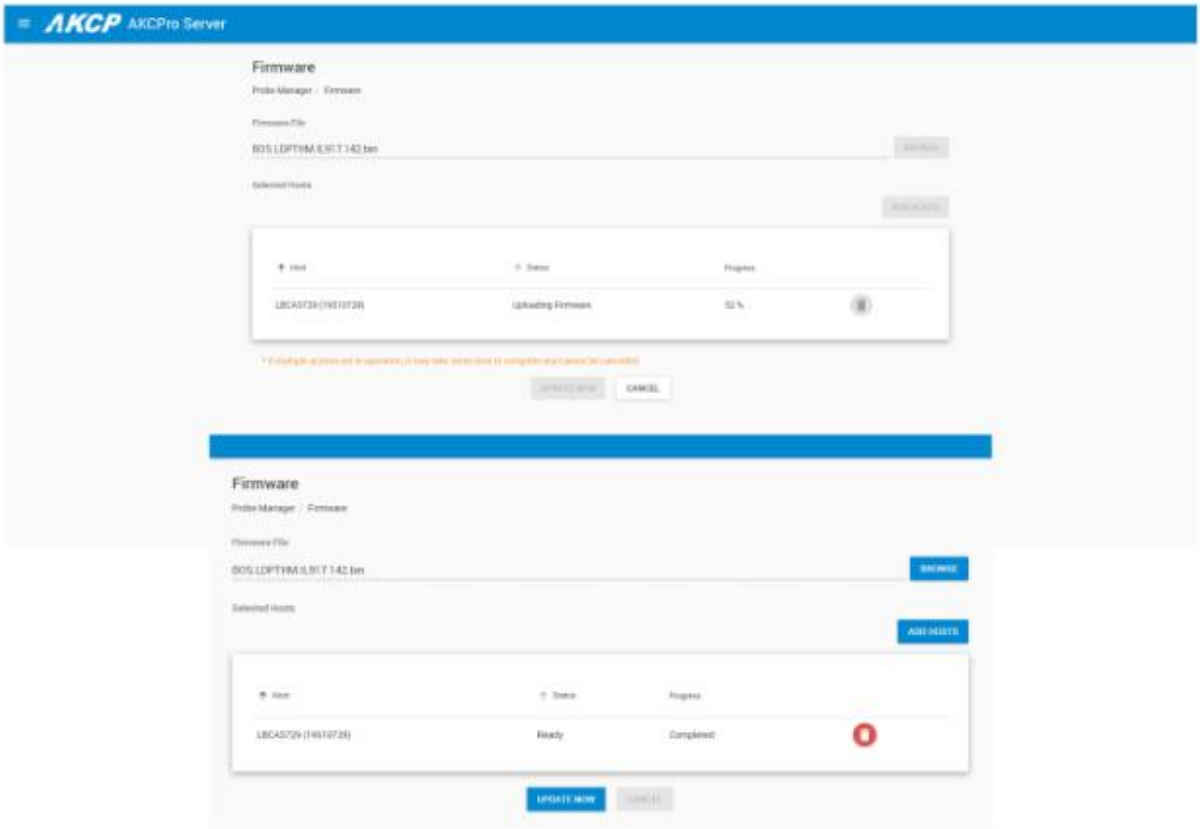
FIRMWARE UPGRADE - via USB

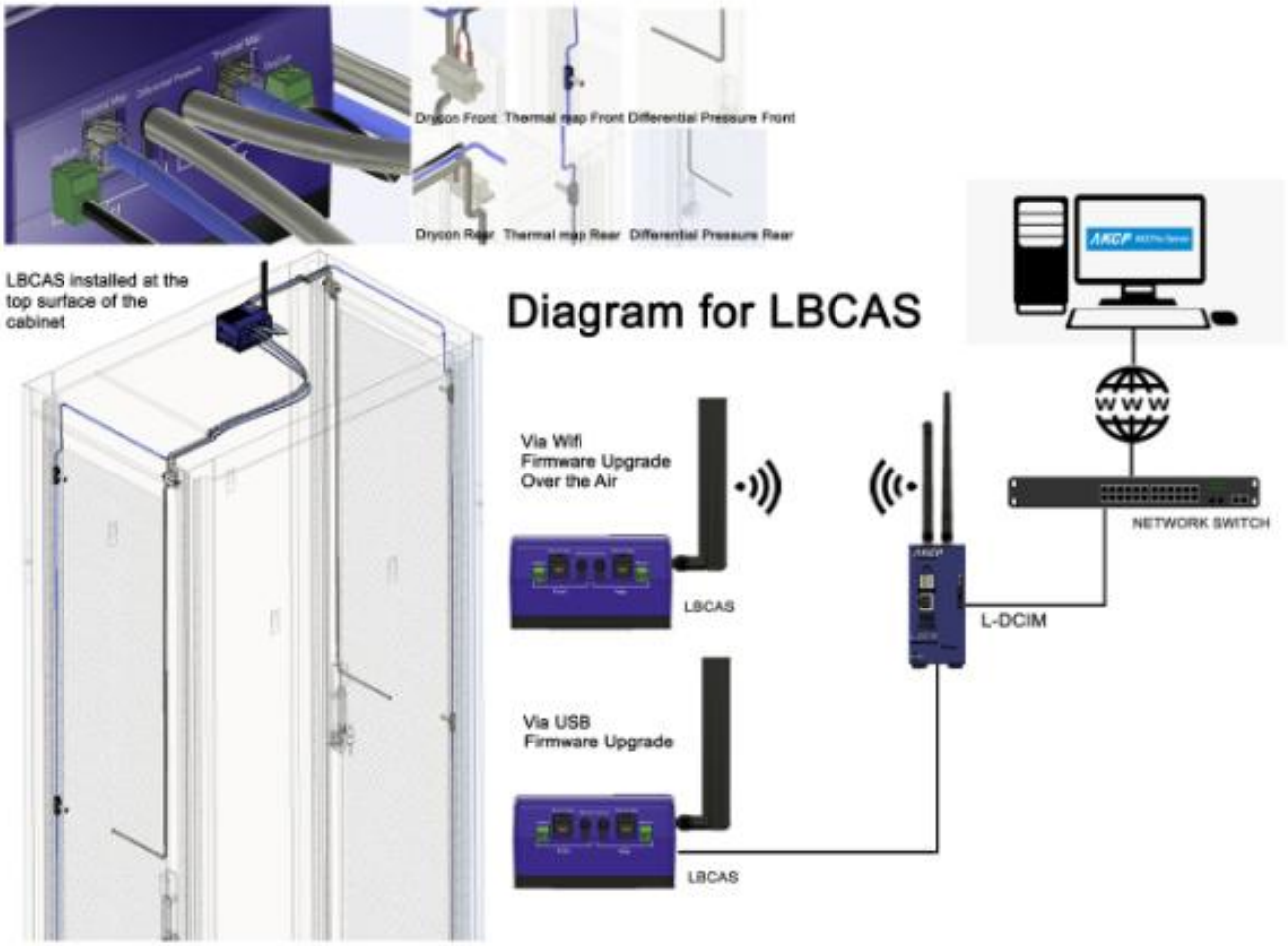
Step 3. Browse the updated firmware file (.bin) and Add host (LBCAS) then press OK



FIRMWARE UPGRADE - via USB

Step 4. Press the Update Now and wait the updating process till it finish





LSSI (LoRa Signal Strength Indicator Sensors)

Overview - The LSSI or signal strength indicator sensors go hand-in-hand with the LBCAS, providing the additional details and live monitoring of the wireless signal strength between the L-DCIM and your data center cabinets or other enclosures that the AKCP LoRa wireless sensors are installed in.

This allows for testing your signal strength when installing new server racks and cabinets to ensure the installation point of the L-DCIM will be in the most effective for the wireless communications to the sensors.

This eliminates the guess work with our LoRa based products and where to install them. The LSSI sensors provide you with not only a visual indication of the wireless signals, but also provide the LoRa wireless signal communication for each of your server racks.

The LSSI continuously sends packets to the LDCIM every 3 seconds and the L-DCIM replies back with the received packets RSSI and SNR levels (Up Stream).

The LSSI sends to the L-DCIM the RSSI and SNR of the previously received packets from the LDCIM (Down Stream)

The LSSI LEDs will turn off if it does not receive any packets from the LDCIM after 15s.

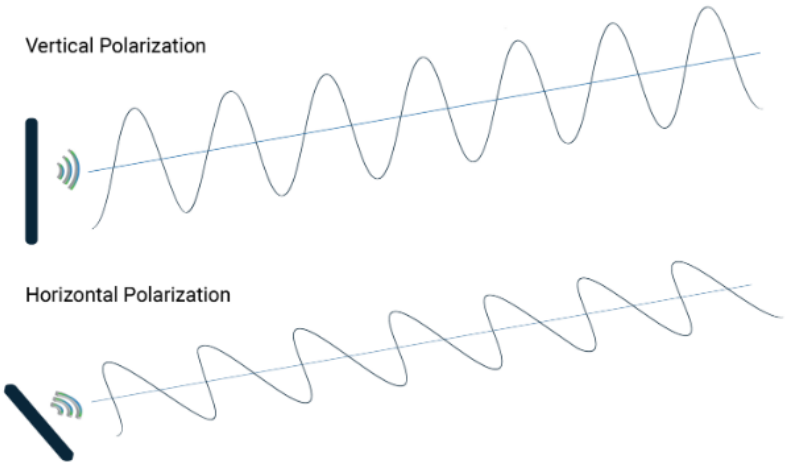
The SNR represents the Signal to Noise Ratio. RSSI represents the Received Signal Strength Intensity. The Up Stream represents the signals from sensor to the L-DCIM. The Down Stream signals are from the L-DCIM to the sensors.

Important Note: Both the LBCAS and the LSSI sensors are designed only for checking your cabinets initial communications and not for continuously monitoring these signals for the long term.

In other words they are meant to test, for example each cabinet, and then be relocated to the next cabinet and so on. However, you can always permanently install multiple LBCAS and LSSI sensors in each cabinet to periodically test your cabinet's wireless communication levels.

Important Note: The antennas on the LBCAS & LSSI sensors should match in their physical positions those of the L-DCIM. This follows the standard for wireless equipment in general. For example is a description and diagram below.

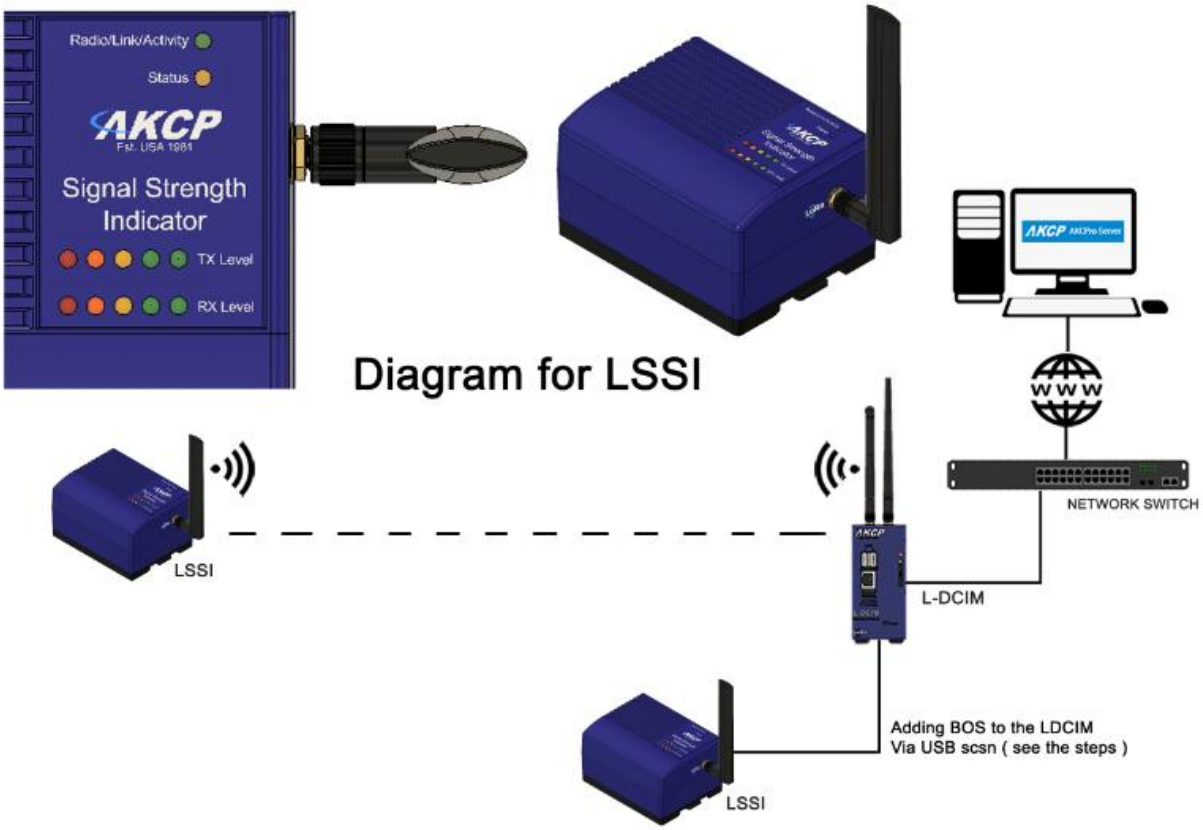
Accurate antenna orientation is vital to ensure maximum coverage. Due to variation in radiation patterns, different antenna types should be oriented differently. For example, omnidirectional antennas should be oriented vertically to obtain the best range. If the antenna must be placed horizontally, it should not be directed at the receiver. This should match the antenna position of the L-DCIM.



LED Activity

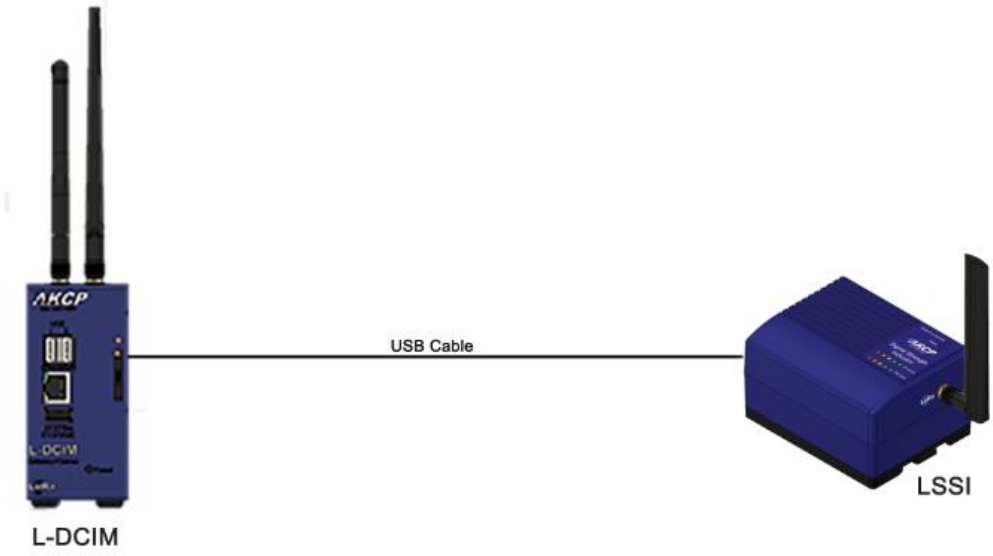
Here below are the descriptions of the LED's activity, or behavior depending on the RSSI :

-130 to -110 : red
-110 to -105 : red + orange (blink)
-105 to -100 : red + orange
-100 to -95 : red + orange + yellow (blink)
- 95 to -85 : red + orange + yellow
- 85 to -80 : red + orange + yellow + green2 (blink)
- 80 to -70 : red + orange + yellow + green2
- 70 to -50 : red + orange + yellow + green2 + green1 (blink)
- 50 to 0 : red + orange + yellow + green2 + green1

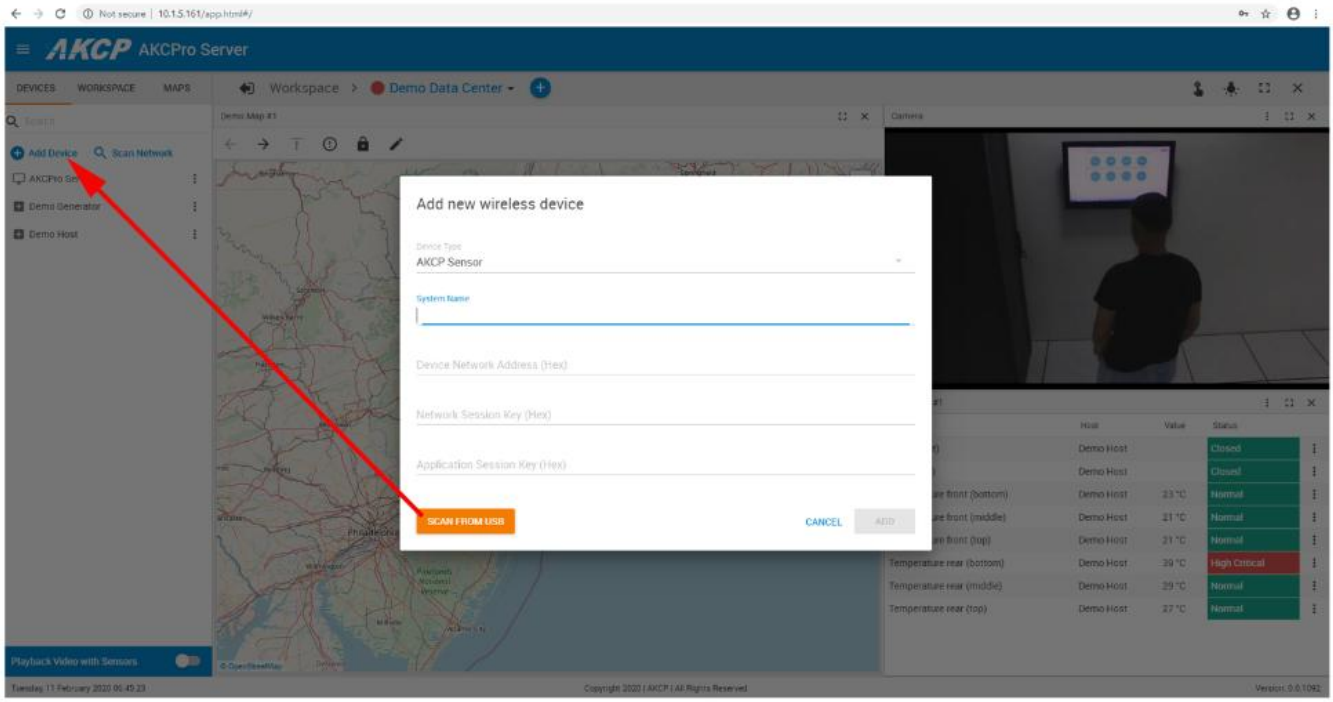


Installation Guide (Adding BOS via USB Scan)

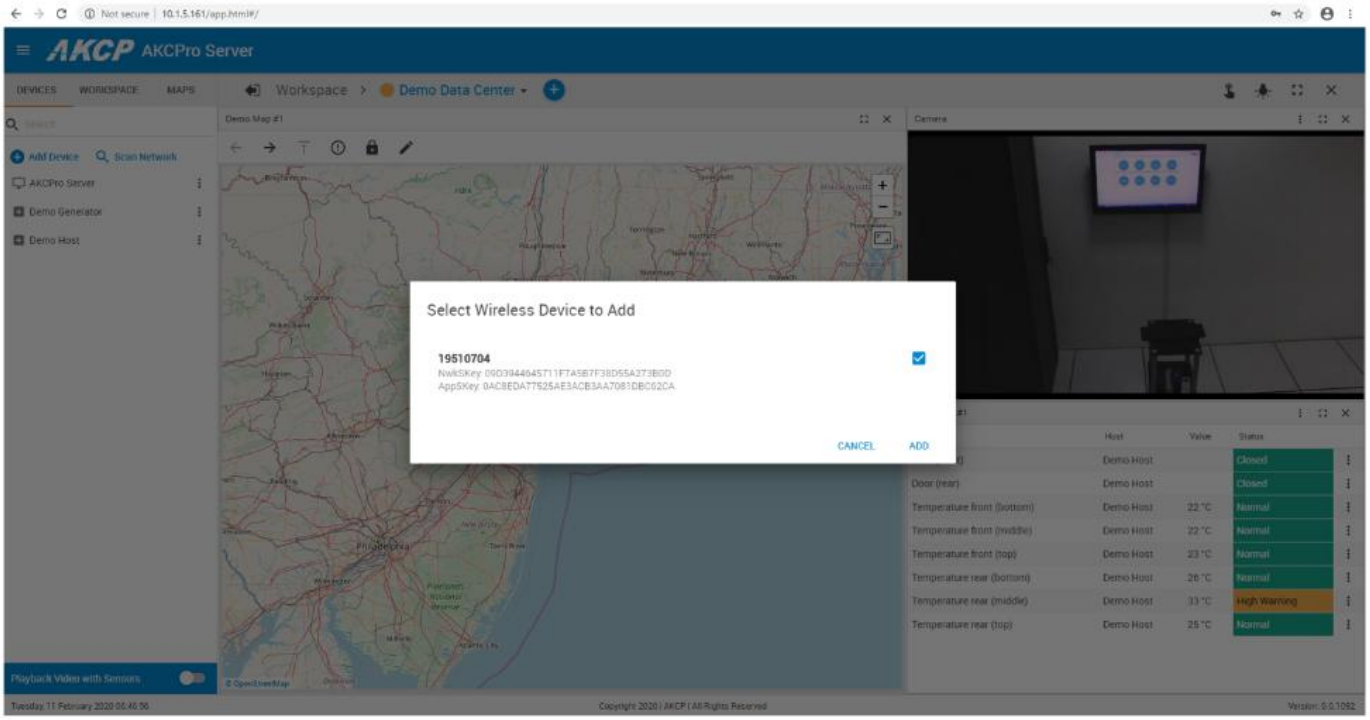
Step 1. Plug USB cable between the LDCIM and the sensor (LSSI).



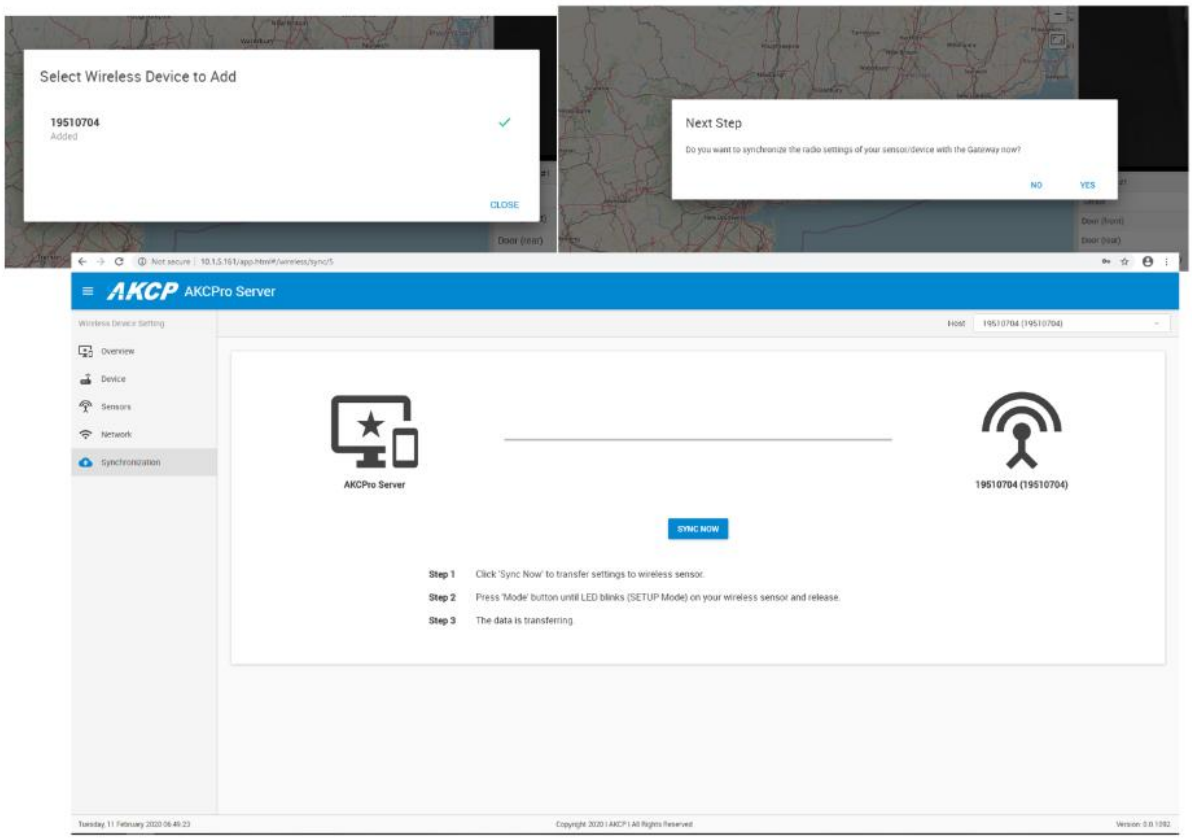
Step 2. Add device, choose AKCP Wireless Device, then click SCAN FROM USB



Step 3. Automatically it will scan the keys of your sensor, then click ADD

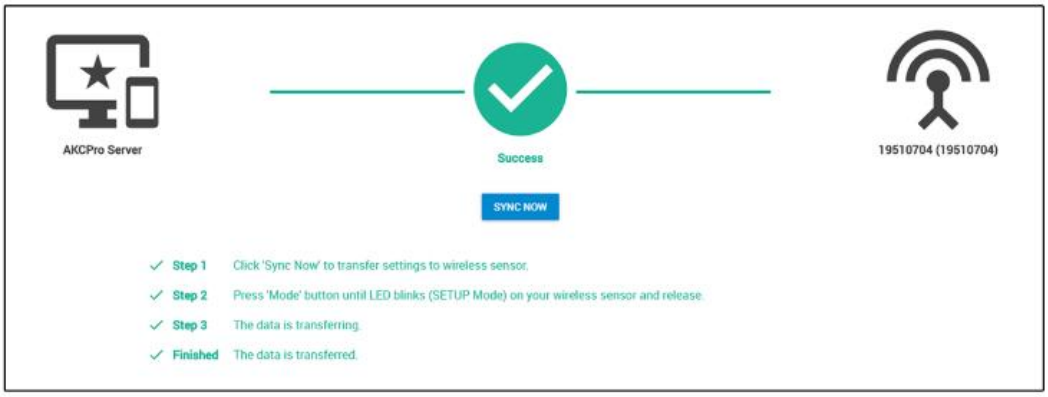


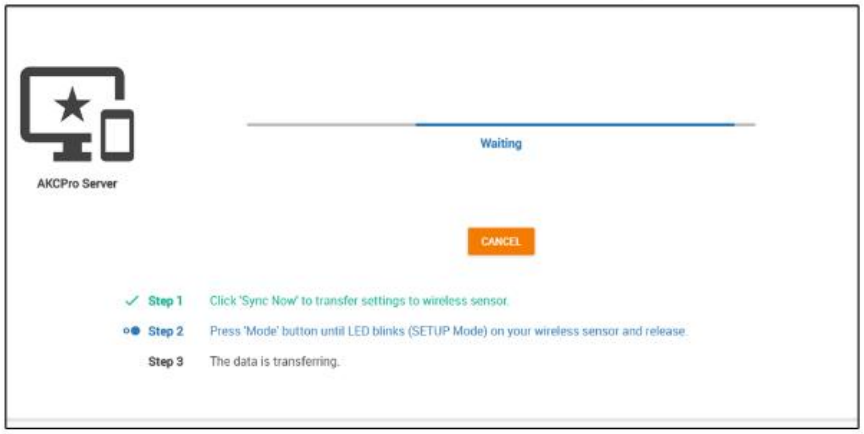
Step 4. Click CLOSE , then YES to the next step for synchronizing, click SYNC NOW



(hold Mode button for 3-5 seconds)

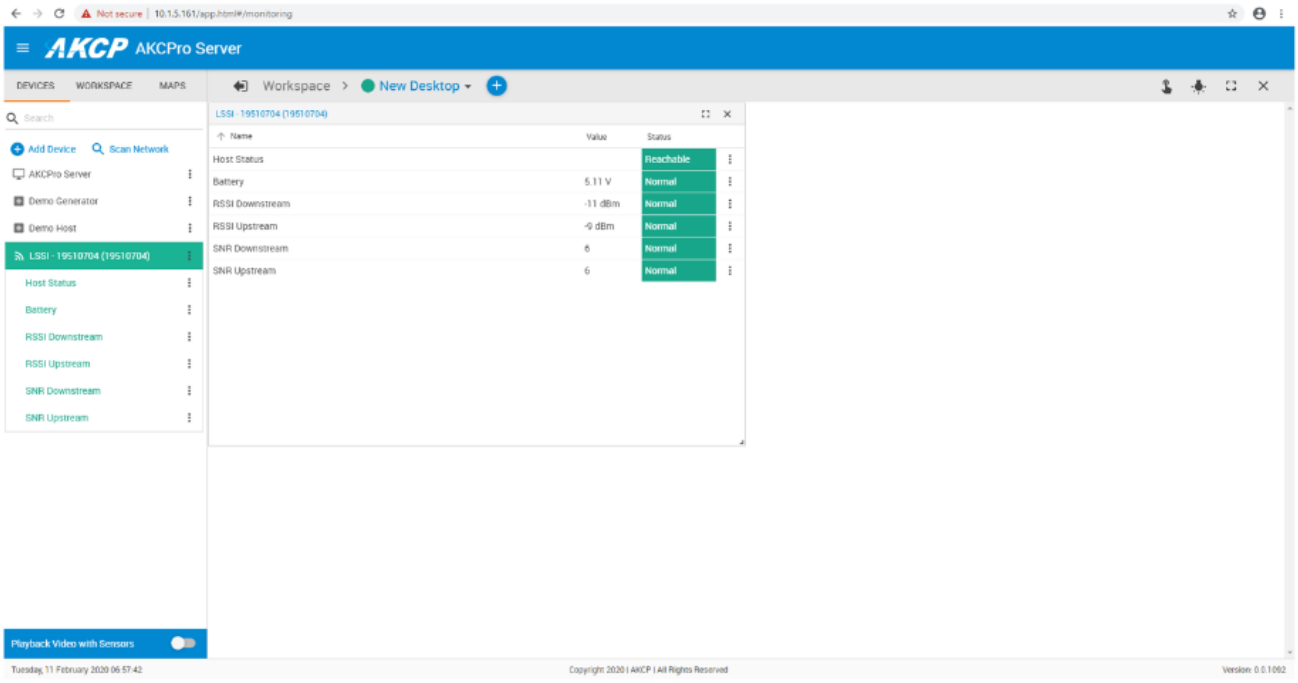
Step 5. Click SYNC NOW for the second time to online the sensors





(hold Mode button for 3-5 seconds)

Step 6. Create new desktop and drag the sensor (LSSI)



Please contact support@akcp.com if you have any further technical questions or problems.

Thanks for Choosing AKCP!