Intel-IrriS

PRIMA
PARTNERSHIP FOR RESEARCH AND INNOVATION
IN THE MEDITERRANEAN AREA

Intelligent Irrigation System for Low-cost Autonomous Water Control in Small-scale Agriculture

Intel-IrriS

Building the INTEL-IRRIS LoRa IoT platform Part 5: outdoor gateway

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UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR

LIUPPA

WAZIUP
IoT – from idea to reality
WAZIHUB

Overview of the additional parts

Fixing the Raspberry to the case

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WITH POE SPLITTER

Using a PoE – micro USB 5V

Power with PoE adaptor or PoE switch

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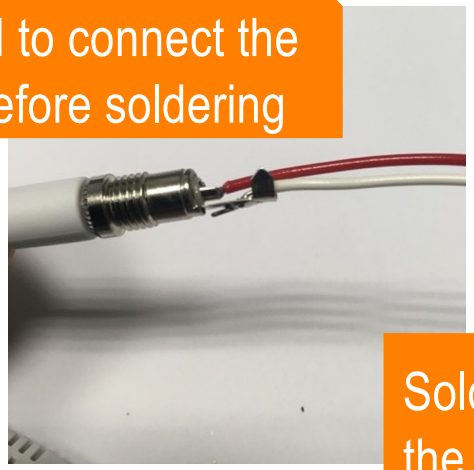
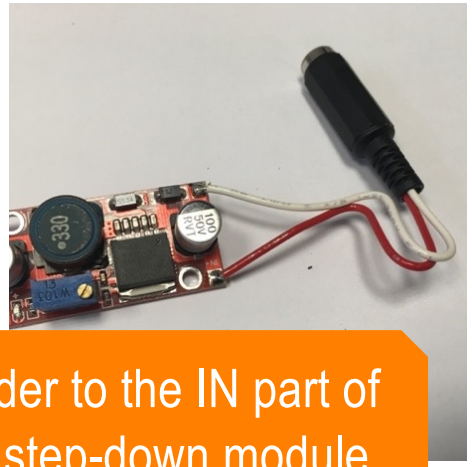
WITHOUT POE SPLITTER

Prepare the DC Step-Down (LM2596)

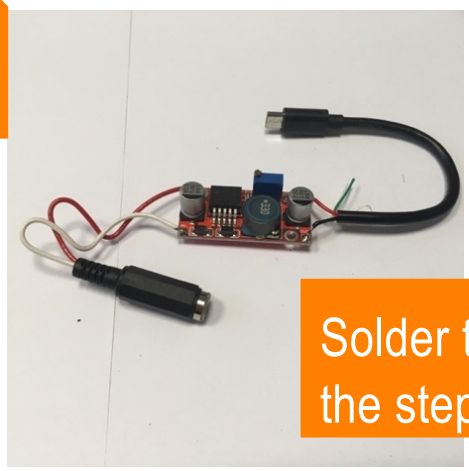
It is advised to connect the DC plugs before soldering





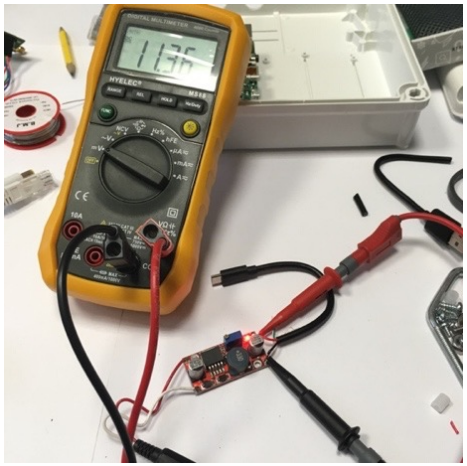
Solder to the IN part of the step-down module

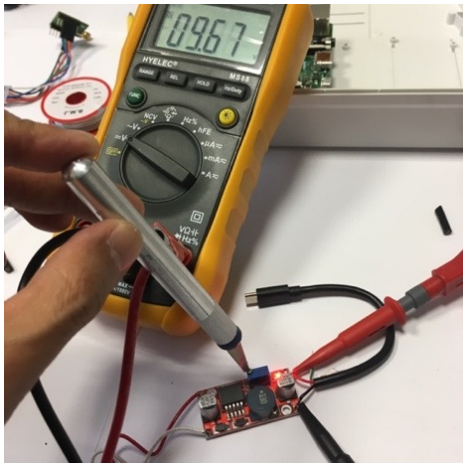
Cut a USB cable, keeping the micro-USB side

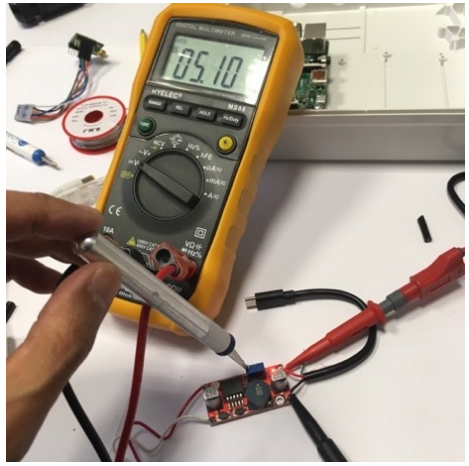


Solder to the OUT part of the step-down module

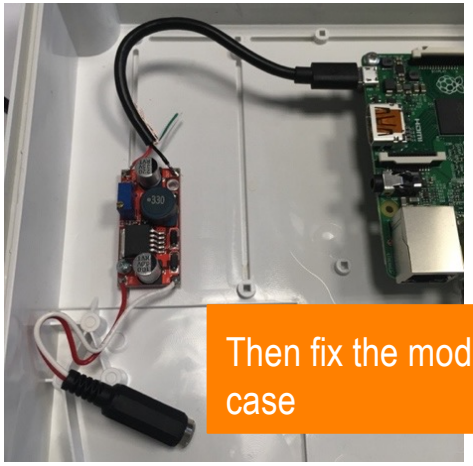
Setting the step-down module







Use for instance a 9v, 12v or 18V AC-DC adaptor, connect to the IN plug, then check the output voltage with a voltmeter and turn the regulation screw until output is about 5.1v.



Then fix the module to the case

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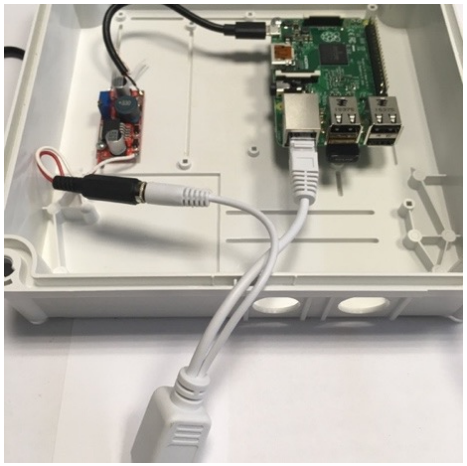
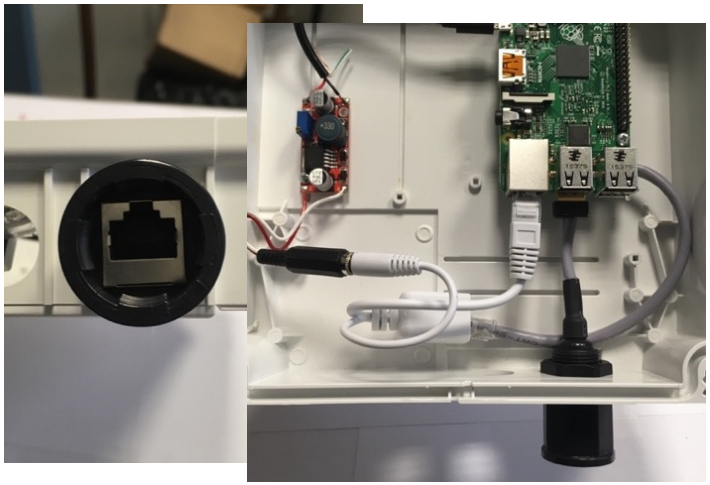
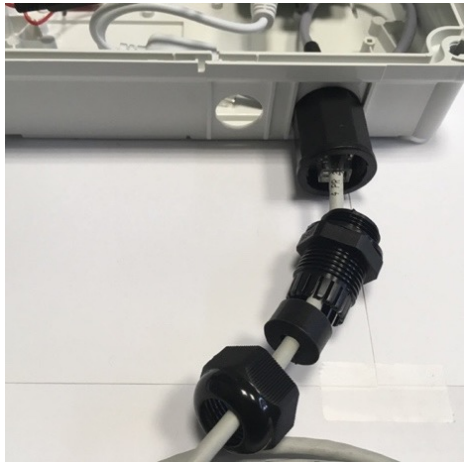
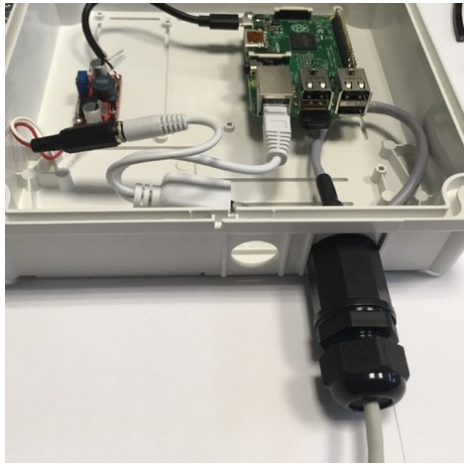
Installing the PoE injector





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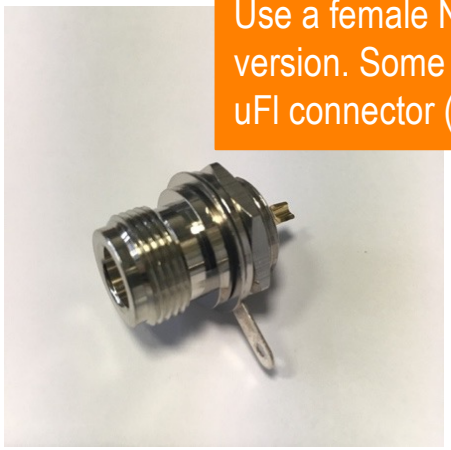
ANTENNA

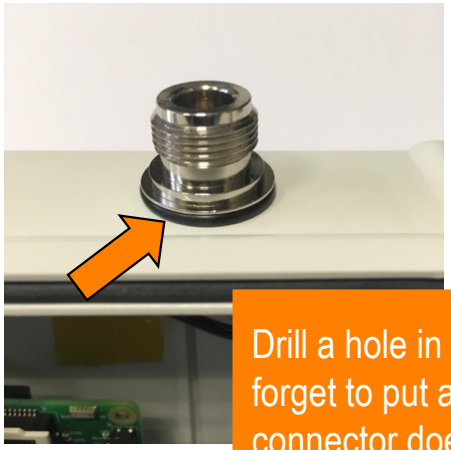
Adding external antenna connector

Outdoor antenna can have an N-connector, could be male (left) or female (right)

It is better to take an antenna with male N to be connected to a female N

Use a female N-connector in mount version. Some already have an SMA or uFl connector (pigtail) at the other end



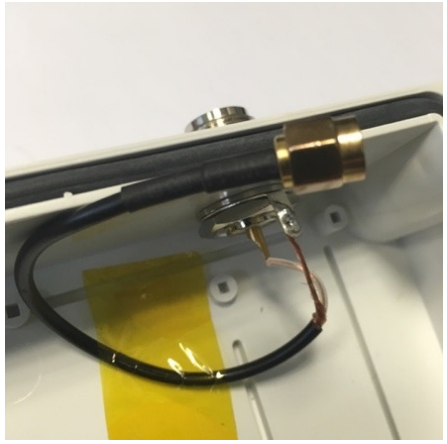


Drill a hole in the case and do not forget to put a rubber seal if your connector does not have one.

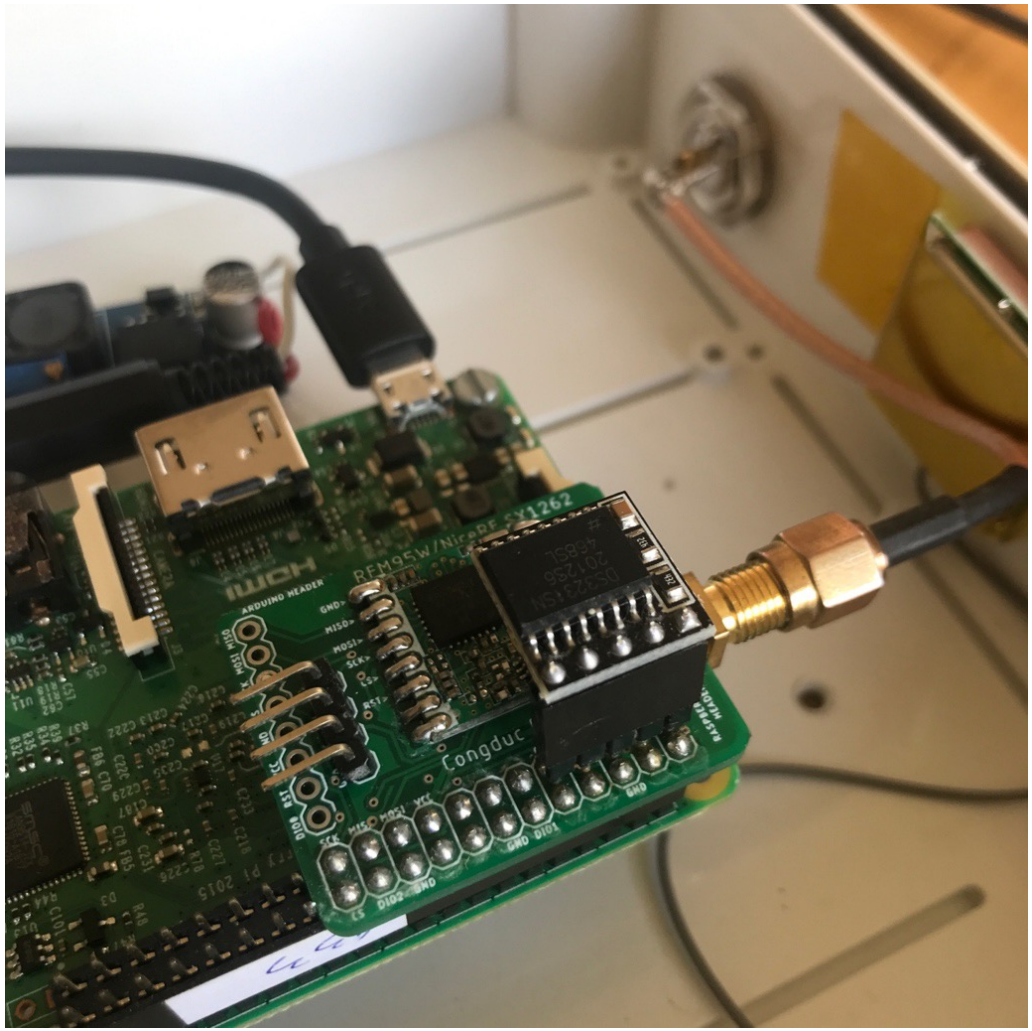
If you only have the simple version, take a short SMA cable where one end has a connector that fits your radio module. Usually it should be SMA or RP-SMA male. Cut the other end. Then solder to the N-Connector


SMA Male


RP-SMA Male



Installing & connecting the LoRa hat



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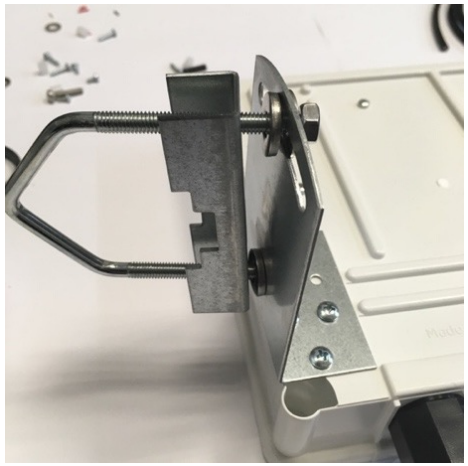
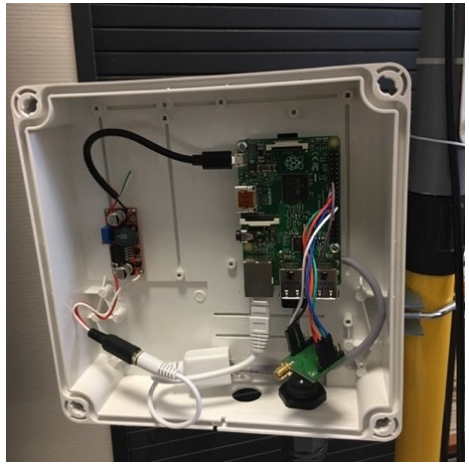
FINAL RESULT

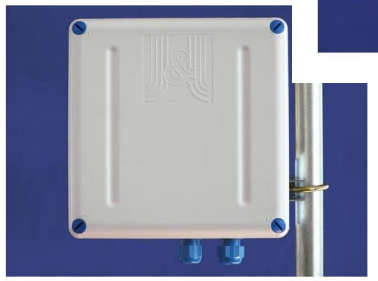
Install fixing parts of the case

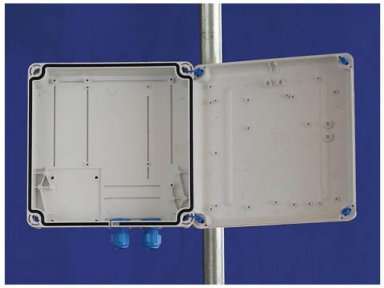




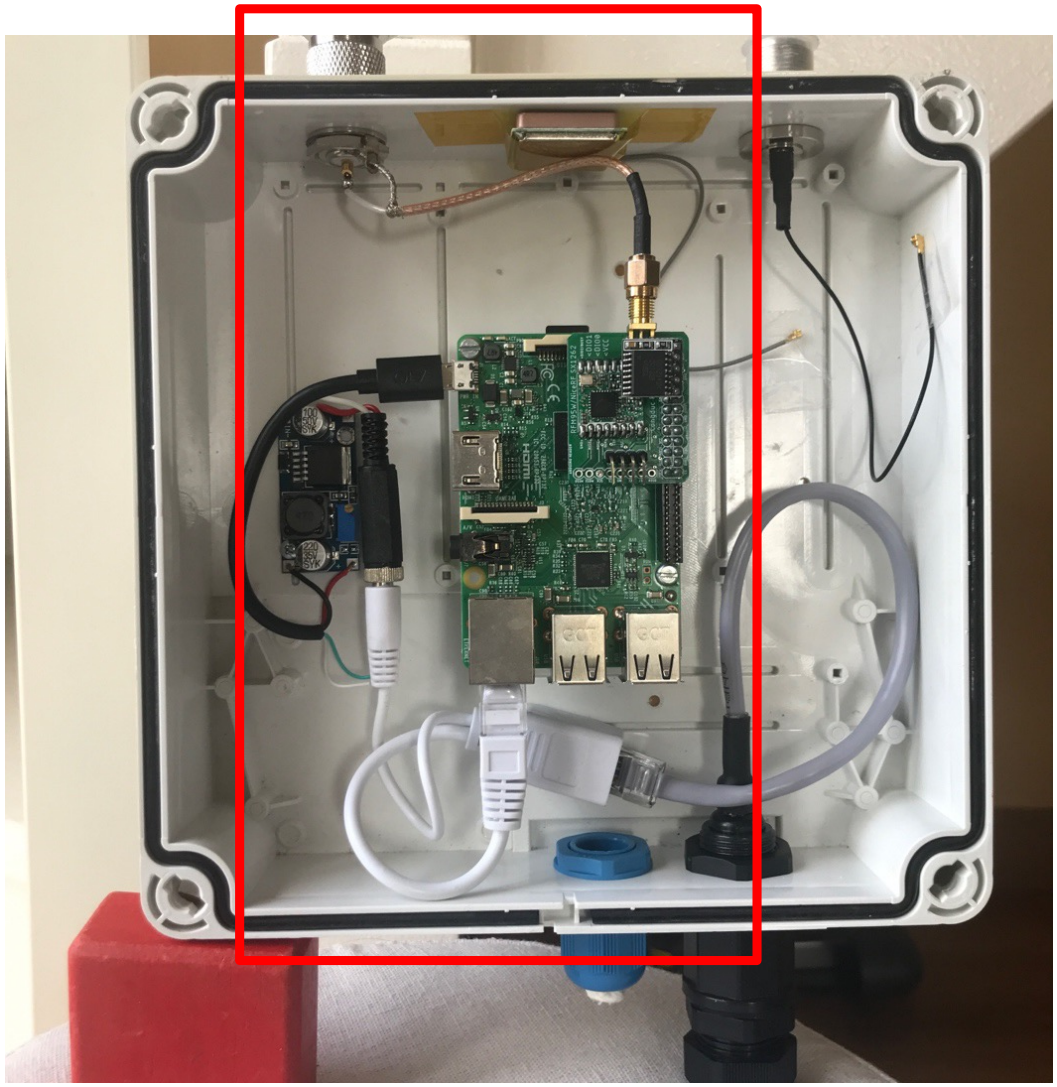
These parts of course depends on the case that you have.

Here we use the GentleBOX JE-200 case from MHzShop.





Final result



Connect to Internet

With PoE adaptor or PoE switch

Without PoE switch