

FCC ID : 2BSNU-EFSV01STO01

Functionnal description :

This tool queries the sensor and asks it for the received signal strength (RSSI).

The operator can then estimate whether they are getting closer (RSSI increases) or further away (RSSI decreases) from the sensor by repeating the measurement while moving around.

4G

Collector 4G - LoRa

Communications uplink et downlink :

- Modulation : LoRa
- Frequency : 915MHz
- Bandwidth : 500KHz
- SF: 10

Sensor LoRa

Search Tool

SEARCH FOR A SENSOR

90345678
Start?

18350003
Connecting

18350003
> 1998 <

- The foaling sensor with the system name EASYFOAL
- The calving sensor with the system name SMARTVEL

The searching tool Outdoor contains

- The battery makes the searching tool autonomous for years, according to the usage.

LoRa modulation description :

- Modulation : LoRa
- Frequency : 915MHz
- Spreading factor : SF10
- Bandwidth : 500KHz
- Error coding : 4/5

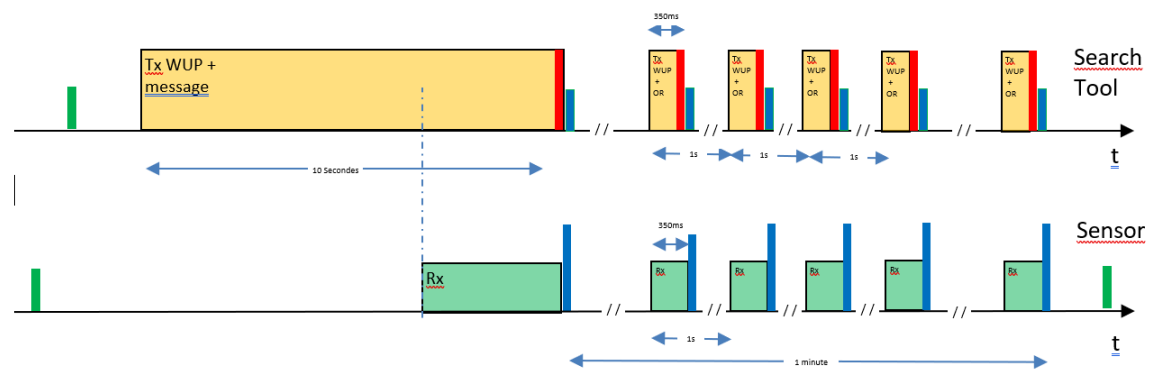
LoRa Protocol description :

The search tool wakes up the sensor by sending it a 10-second wakeup signal.

The sensor then listens every second for the RSSI query requested by the search tool and transmits the RSSI result every second.

Each RSSI query lasts 350 ms and the sensor's response lasts 80 ms.

The search tools stop their RSSI requests after 1 minute.



The range of the LoRa link is about 500m around the searching tool.

This area can be reduced if there are major obstacles (storage building, metal cladding, wood...).

Mechanical description :

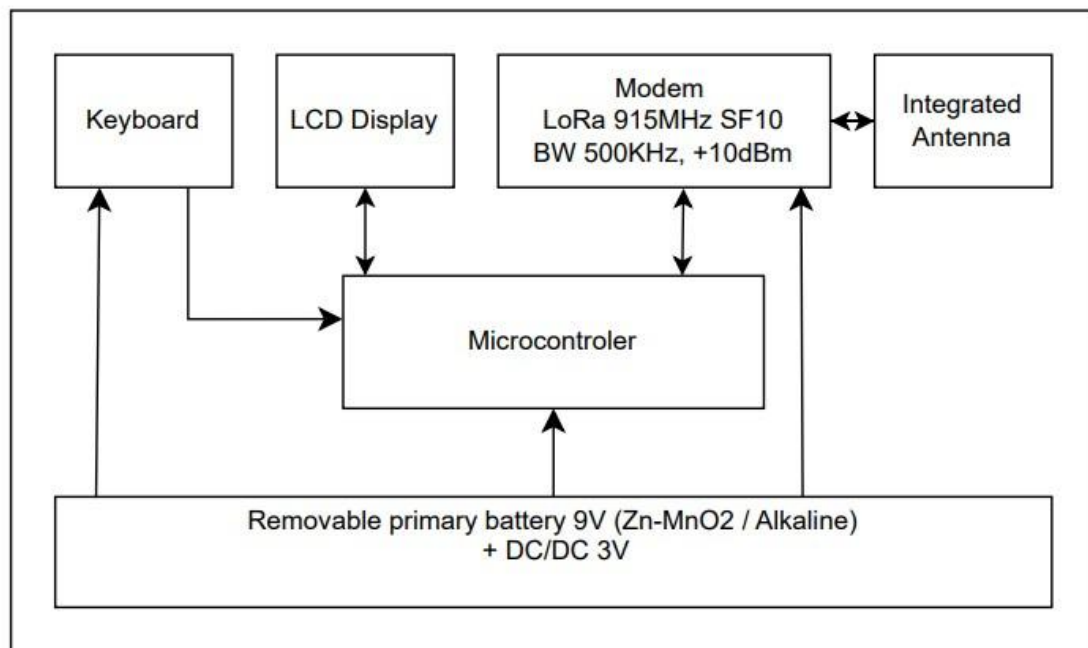
The ABS enclosure is a H659V, GY from Serpac company.

The Search Tool IP Class is 54.

Bloc diagram :

Search Tool

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Note :

The based SX1272 LoRa tranceiver is a zero IF transceiver.
So, the unique unwanted frequency is the 32MHz crystal.
The microcontroler has a 32.768KHz clock