

Lab1

Channel Measurement

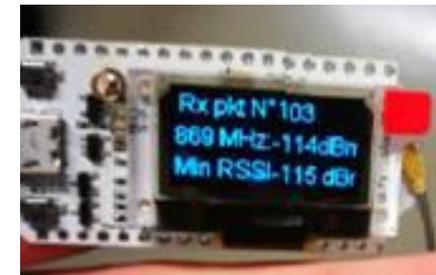
F. Ferrero

Measurement based on RSSI

- We are going to place a transmitter at a fix position
- You will measure the received power for different distances (until you loose the signal)
- In order to speed the measurement process, the receiver will average the received signal for 8 different frequency
- On the receiver screen, you have :
 - The number of received packet
 - Average RSSI
 - Standard deviation
- You can reset the receiver by pressing of the button

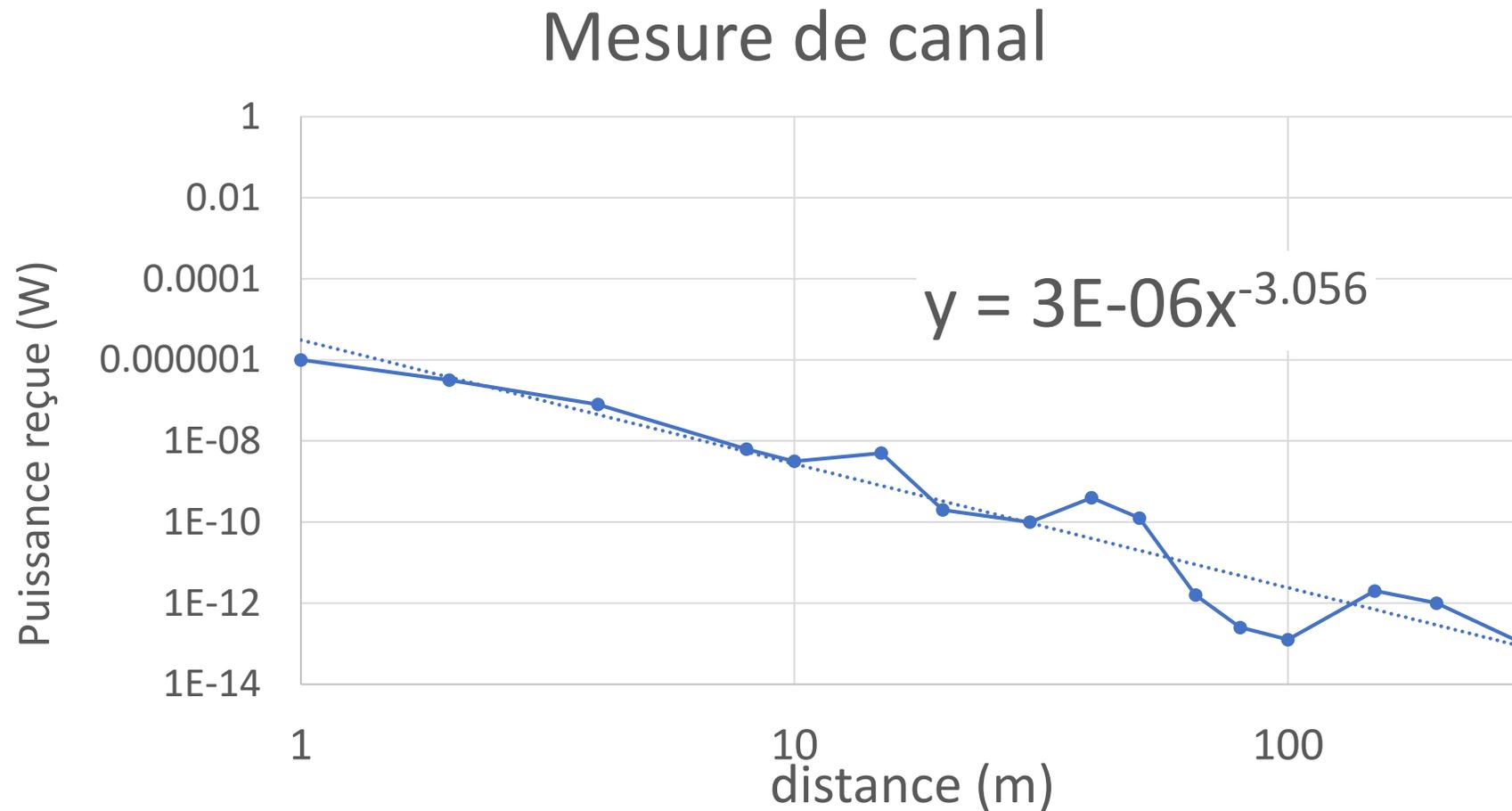


Send a packet with the next frequency it will use in the payload



Receive the packet, demodulate the payload and move to the next frequency

What we expect for outdoor measurement



What we expect

- You need to convert the received power from dBm to Watt
- You can calculate with Excel the slope of the curve using exponential fitting
- You can then extract the parameter n which is the path loss of your channel
- Calculate your path loss ?
- Does it agree with the theory ?

$$\frac{1}{L} = \frac{P_R}{P_E} = \frac{k}{d^n}$$