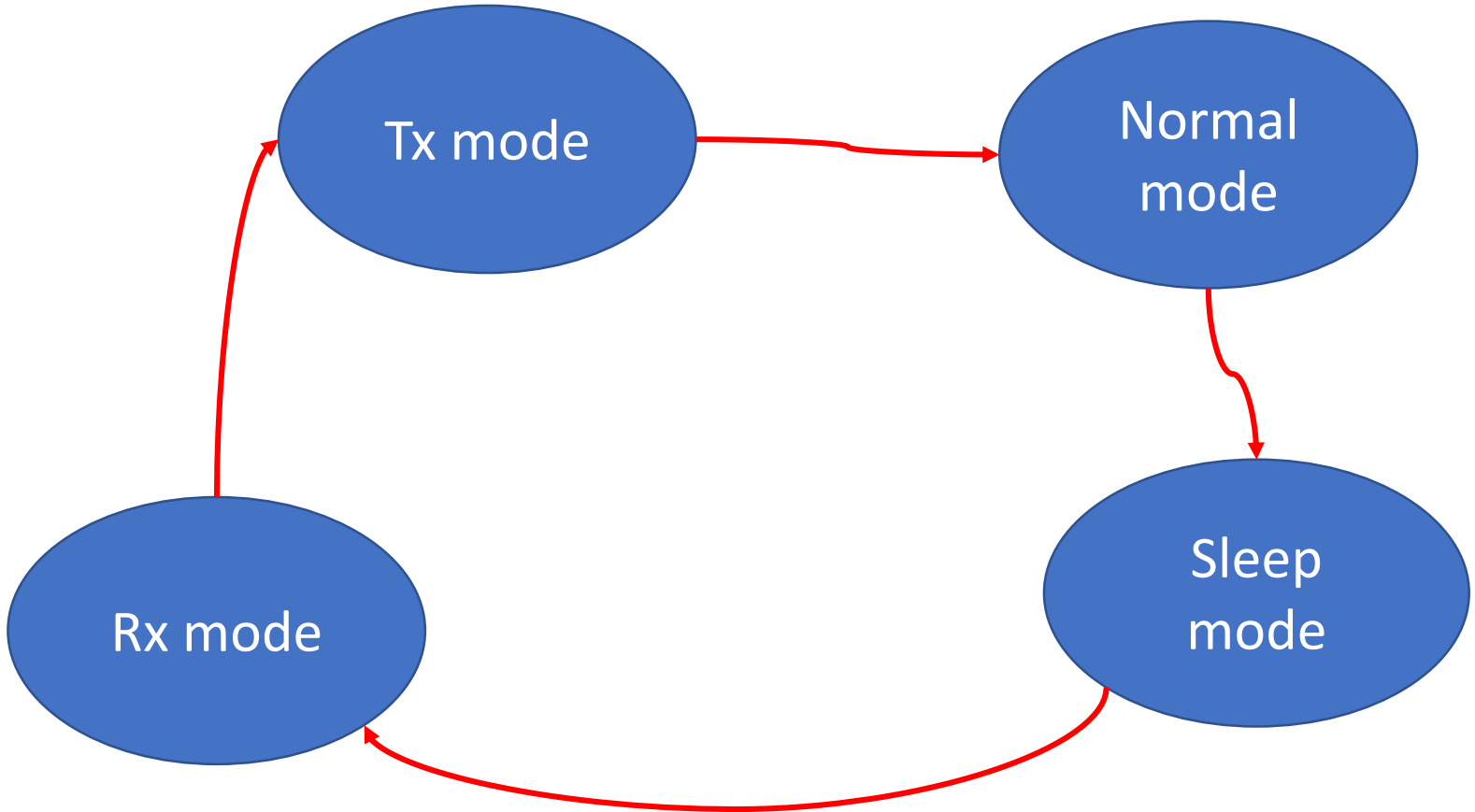
Power consumption Lab

F. Ferrero

Power consumption Lab

- Download the code Lora_test_States.ino in UCA_Board/Arduino_Code/LoRa_PHY/
- Upload the code in the board



Power consumption Lab

- The code set 3 differents states :
  - Transmission mode (the Tx power can be tuned from 2 to 20dBm)
  - Sleep mode
  - Reception mode

COM18

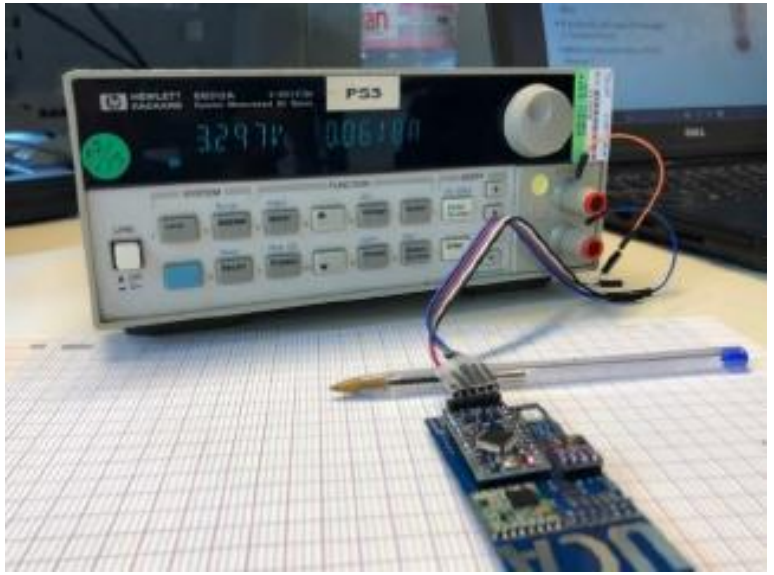
Envoyer

```
LoRa States power Consumption
LoRa init succeeded.
Sending State : HeLoRa World!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Sleeping for 5 seconds
Receiving State
Sending State : HeLoRa World!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Sleeping for 5 seconds
```

☑ Défilement automatique | Pas de fin de ligne | 9600 baud | Effacer la sortie

Power consumption Lab

- You can use a 66312A DC source to measure the power consumption in the 3 different modes with 3.3V
- Try to power the Arduino on Vcc Pin and Raw Pin.
- The Vcc Pin can be powered up to 5V



Power consumption Lab

- Compare the autonomy of your device for a primary and secondary battery
- Scenario :
  - For transmit, a SF9 and 14 dBm
  - A transmit will take 200ms and 1 Tx each 10mn
  - To wake-up and process the data, you need 300 ms with a normal mode
  - Rest of the time, the device is in sleep mode
- What is the autonomy of the device ?
  - For a AA metal lithium battery with 2.6 A.h
  - For a AA lithium-ion battery with 0.9 A.h