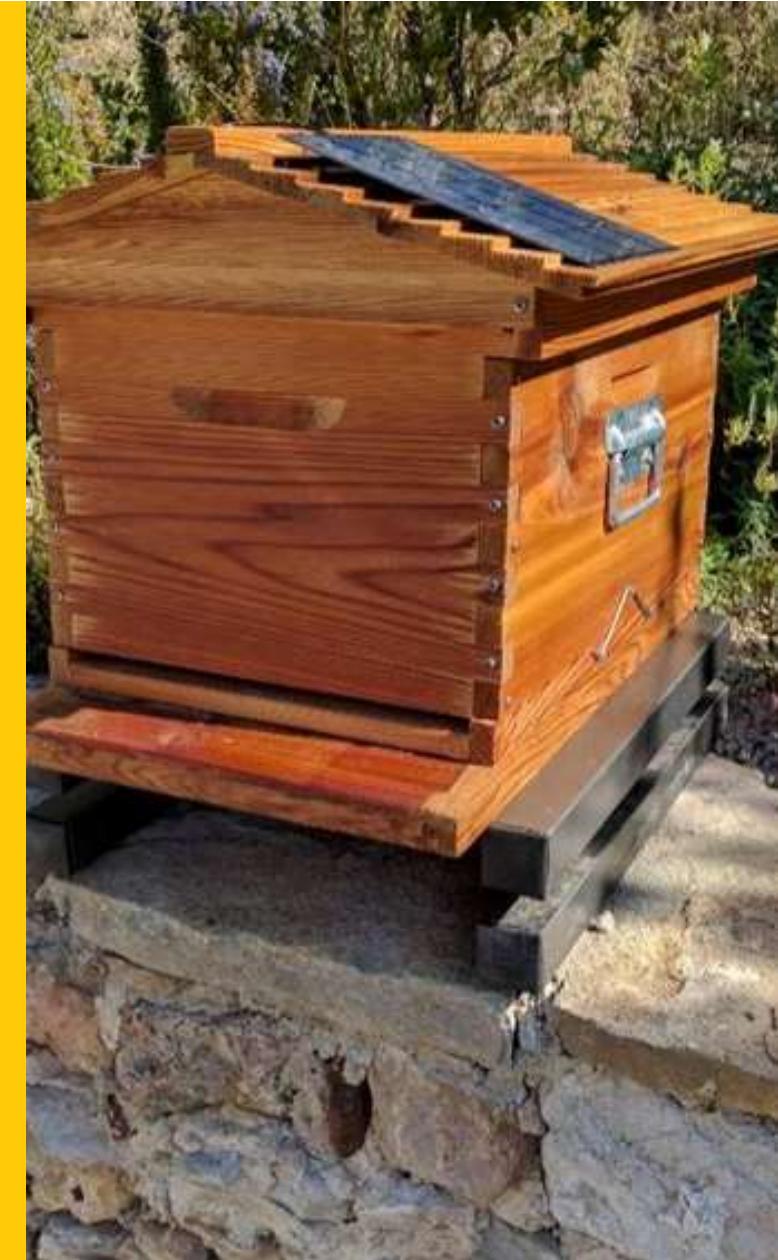
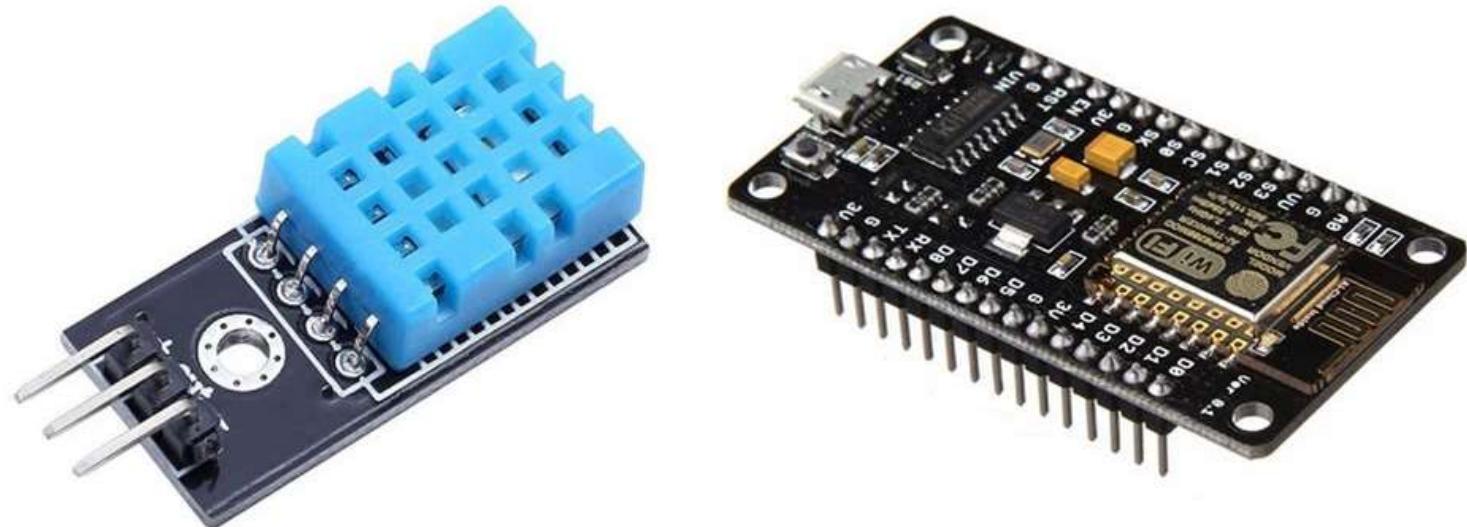


Ruche Connectée

HABERT HOYO

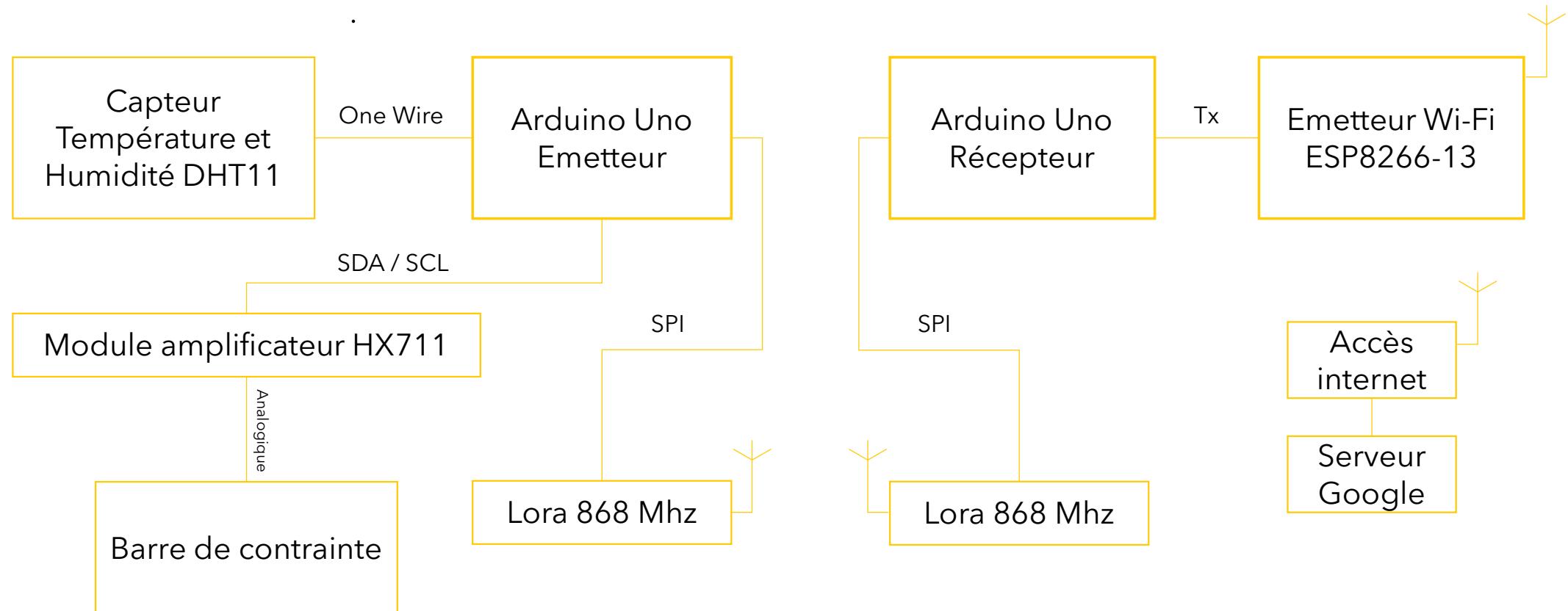


Sommaire

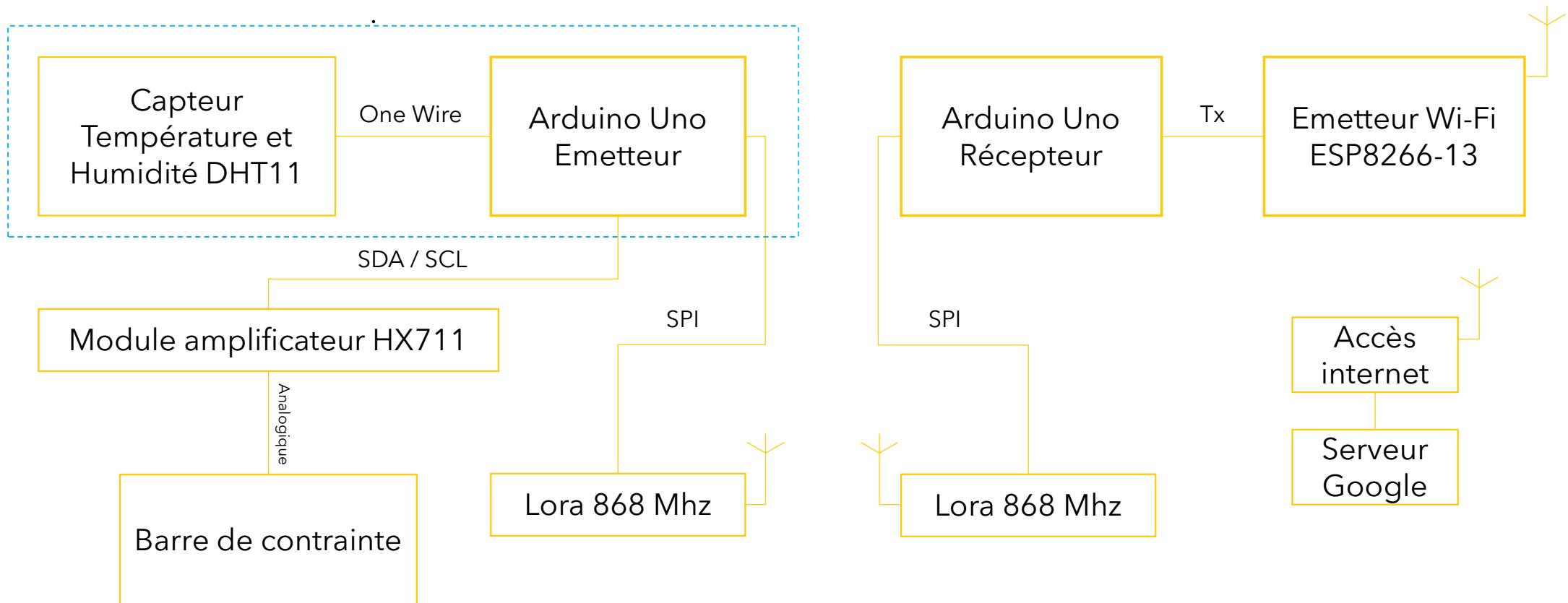


- Capteur de température et d'humidité
- Capteur de masse
- Module Lora
- Wi-Fi et serveur

Analyse fonctionnelle



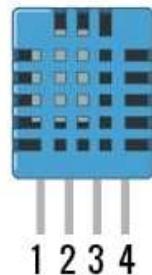
Analyse fonctionnelle



Capteur de température et d'humidité

DHT 11

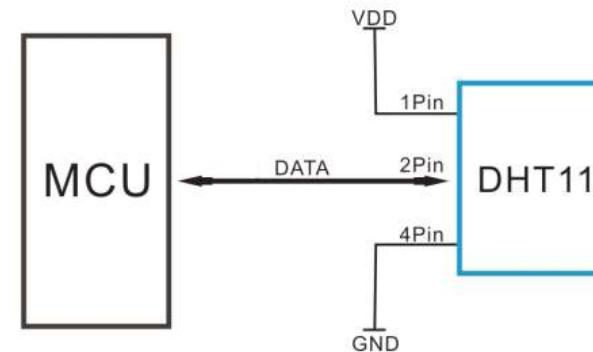
- Mesure température et humidité
- Précision suffisante



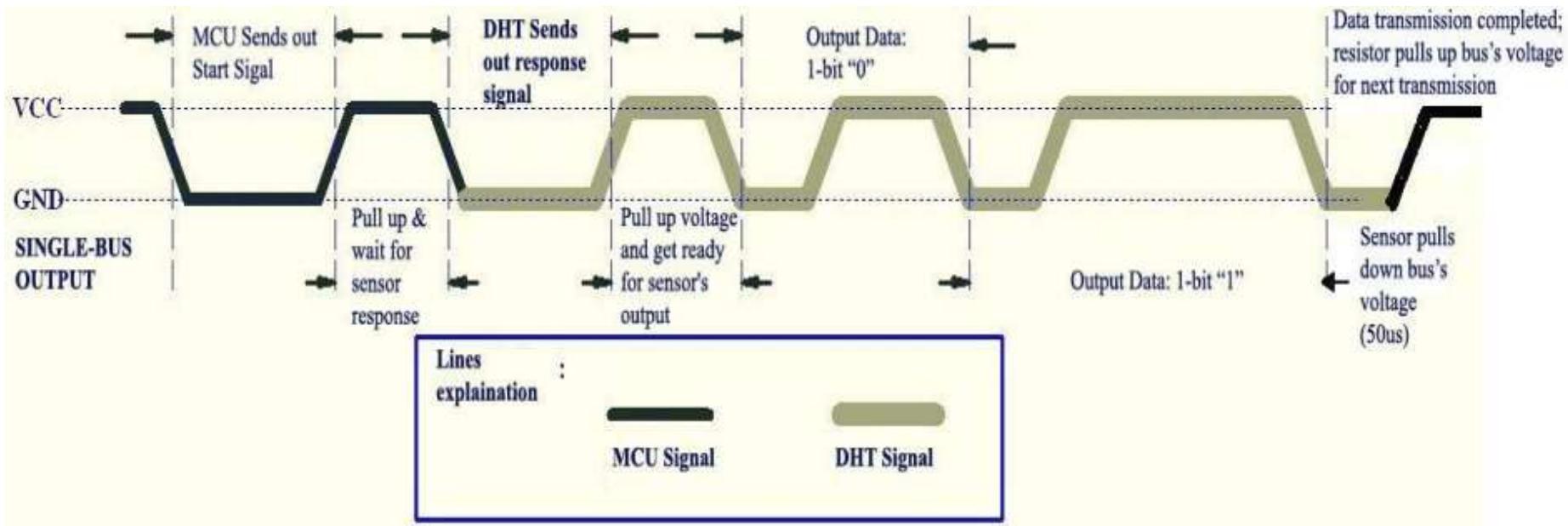
1 = VCC
2 = DATA
3 = NC
4 = GND

Protocole One Wire

- Interface série
 - Monofilaire bidirectionnelle
- 40 bits (partie décimale/ entière)

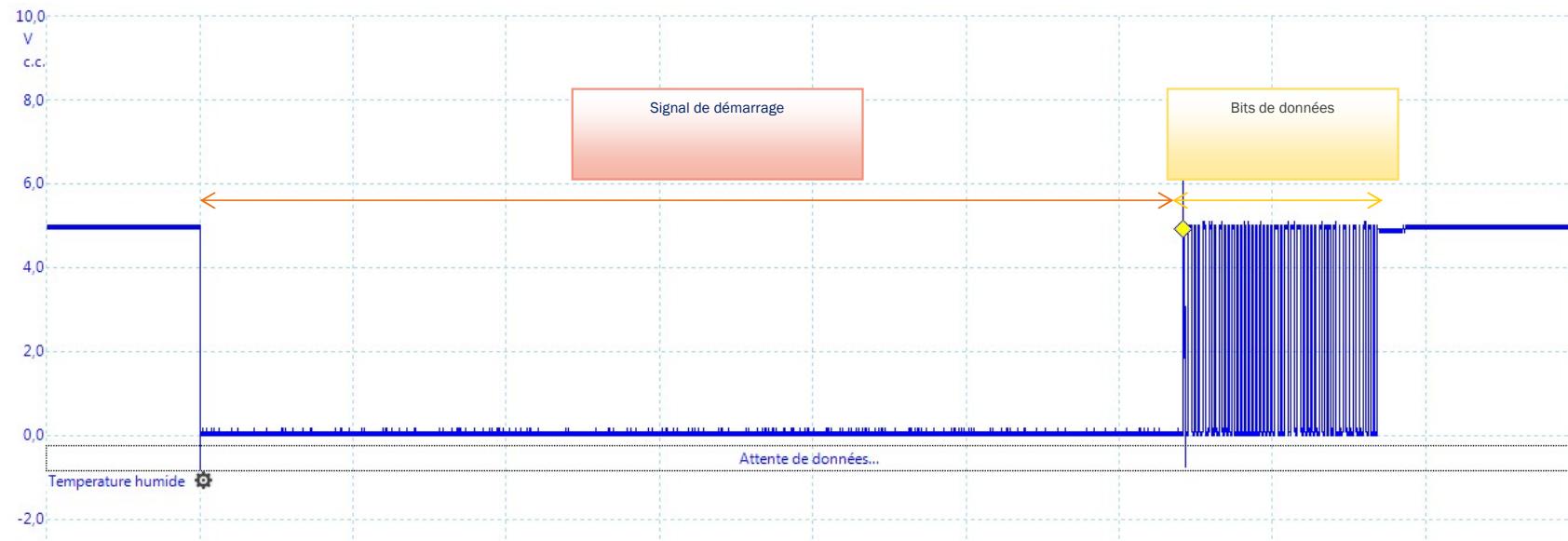


Capteur de température et d'humidité



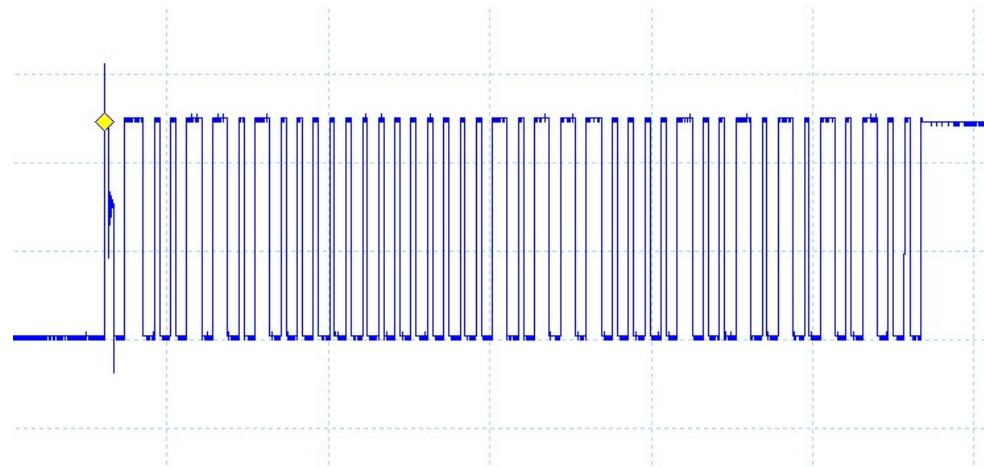
Capteur DHT11

Signal mesuré :



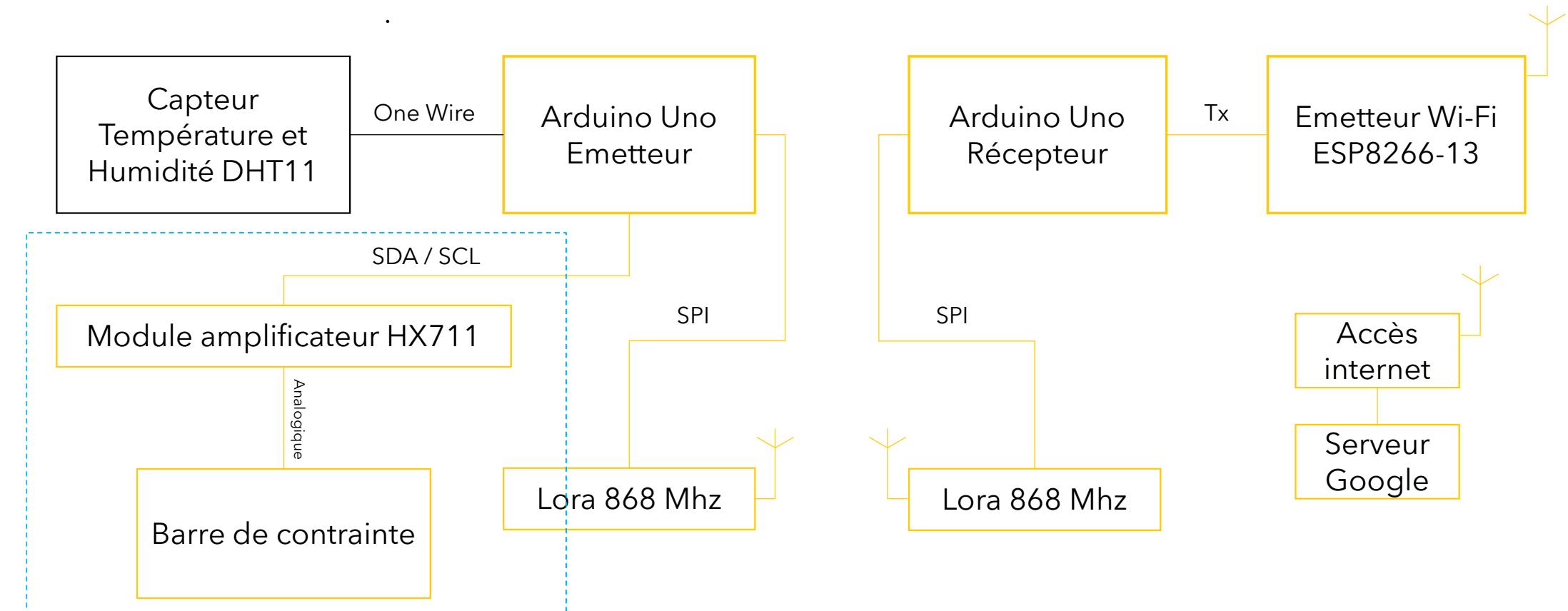
Capteur DHT11

Bits de donnée :



Bits Humidité		Bits Température		Bits de contrôle
Entier	Décimal	Entier	Décimal	
00110100	00000000	00010111	00001001	01010100
52	0	23	9	84

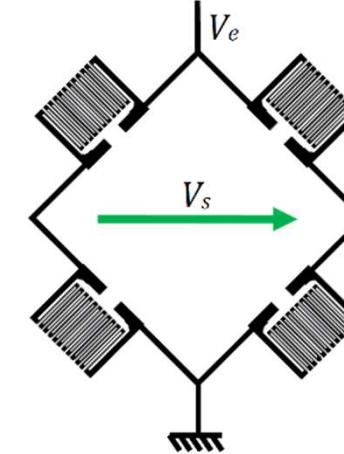
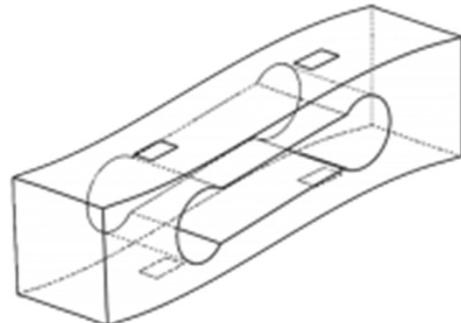
Analyse fonctionnelle



Capteur de masse

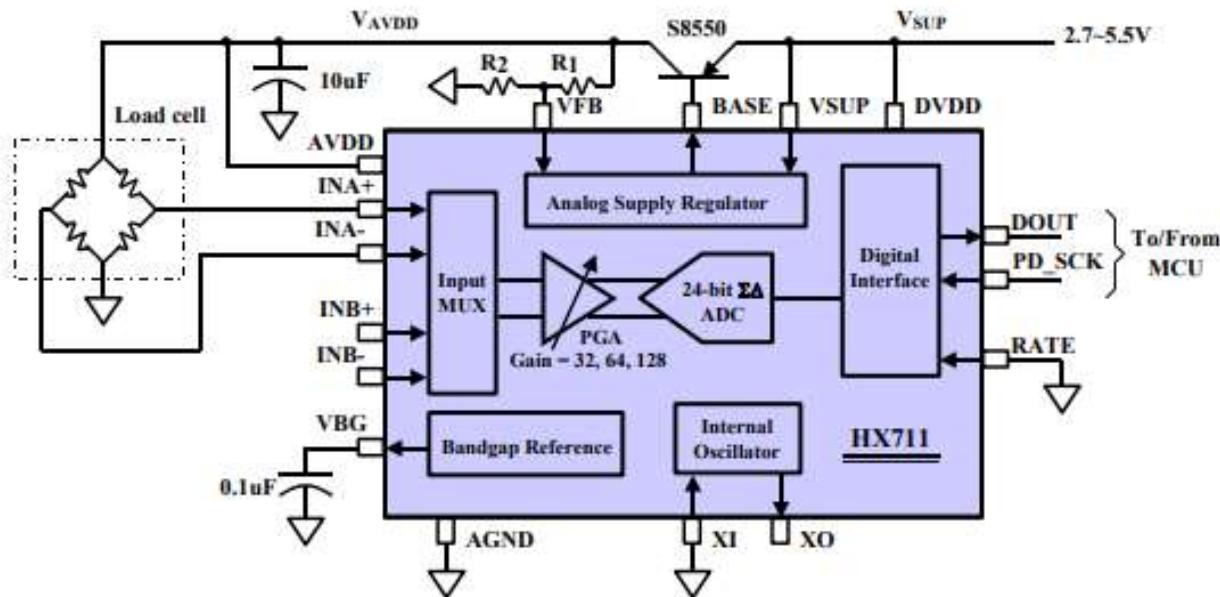
Barre de contrainte

- Jauge de déformation
- Grande précision/ sensible à la casse
- Pont de Wheatstone
- Délivre un signal analogique

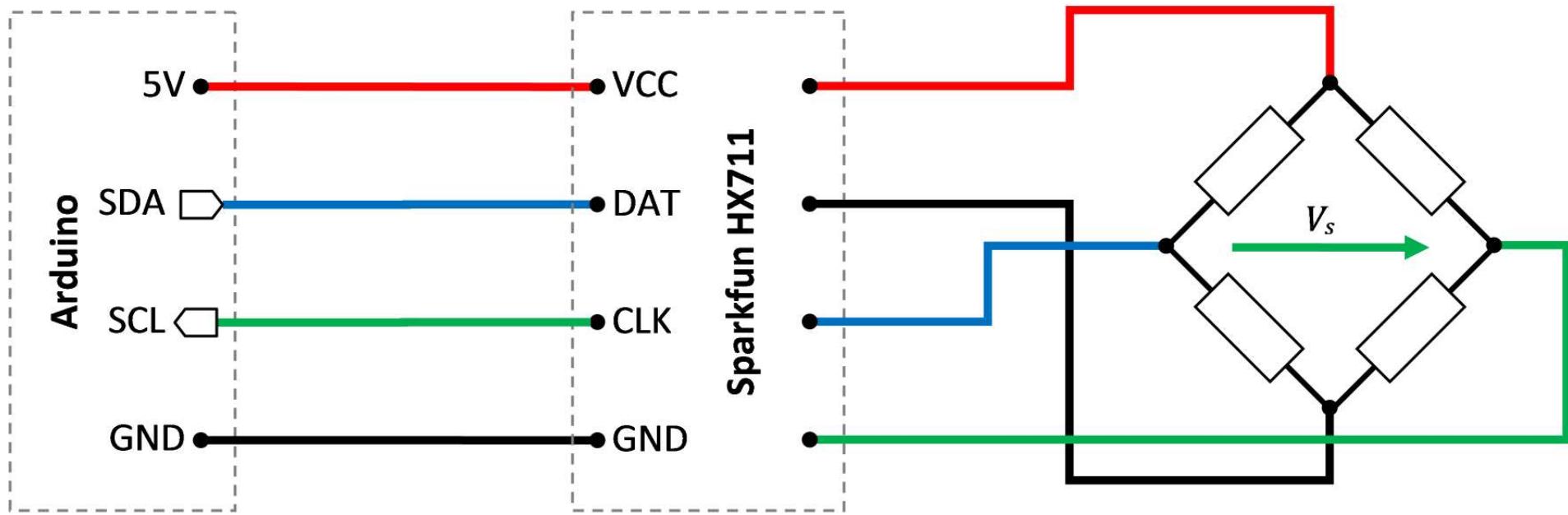


Capteur de masse

HX711

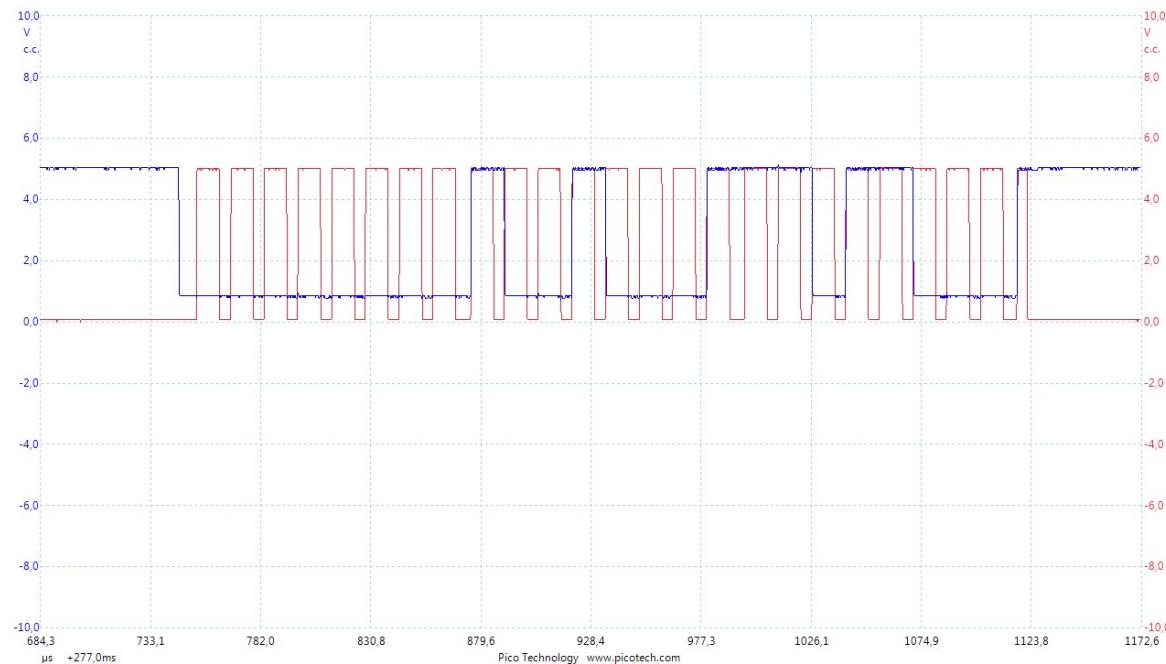


Vue d'ensemble

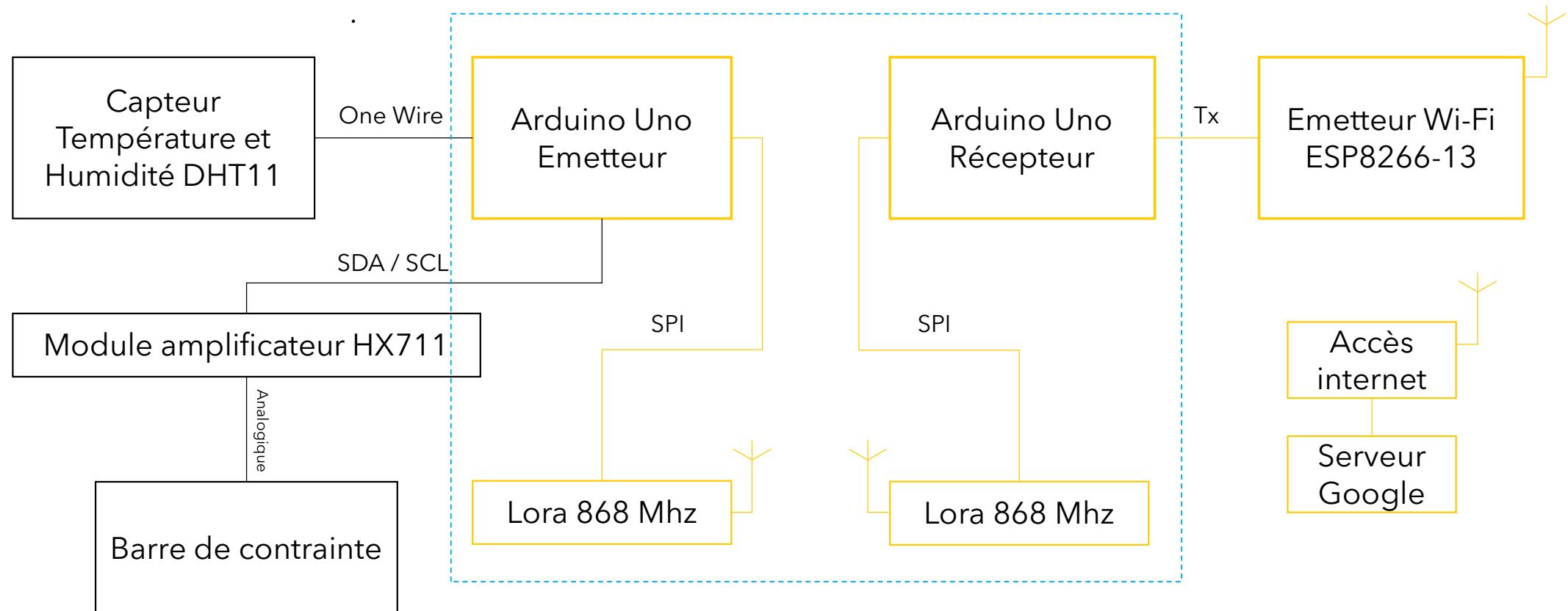


Capteur de masse

Signal mesuré :



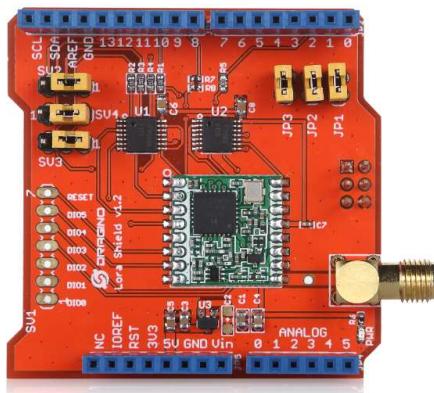
Analyse fonctionnelle



Module LoRa

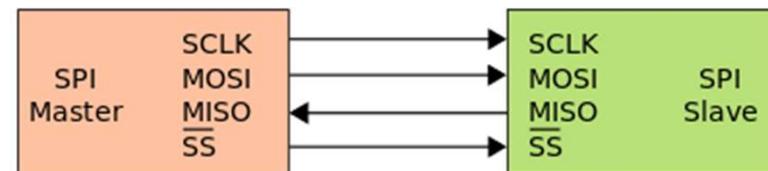
Utilisation

- Hors zone connectée
- Emetteur / récepteur (868 Mhz)



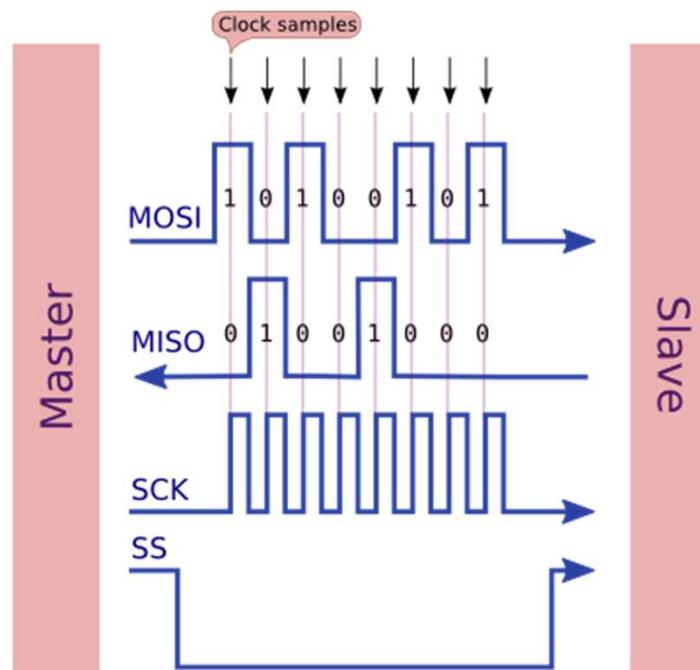
Protocole ISP

- Interface série périphérique
- Synchrone

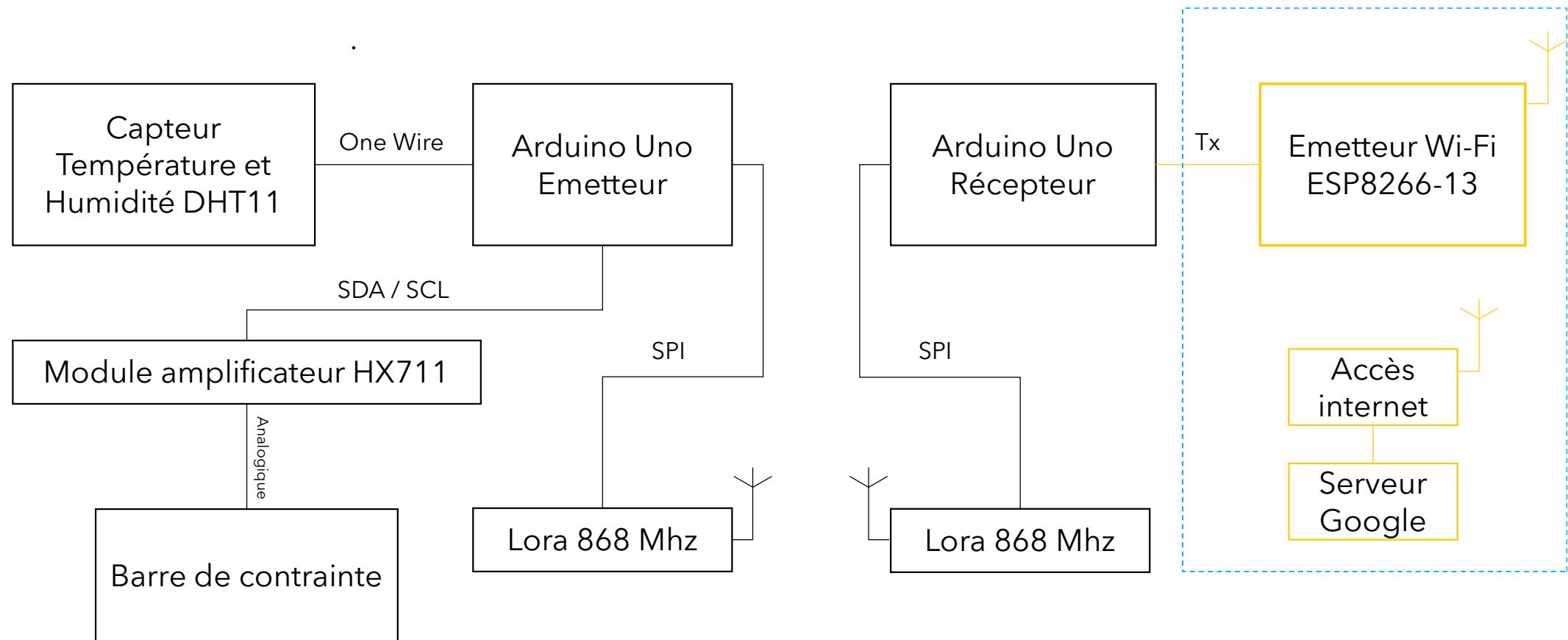


Module LoRa

Signaux de données:



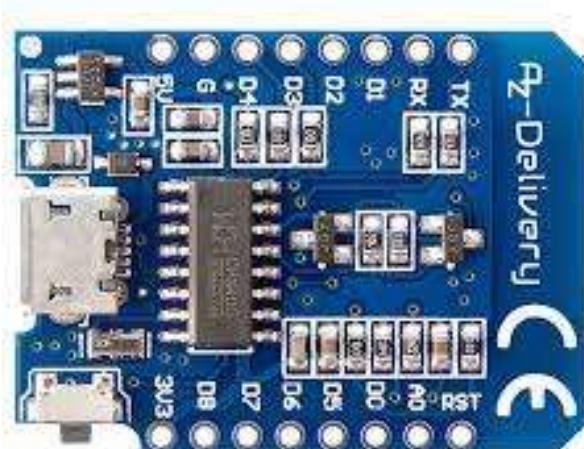
Analyse fonctionnelle



Wi-Fi et serveur

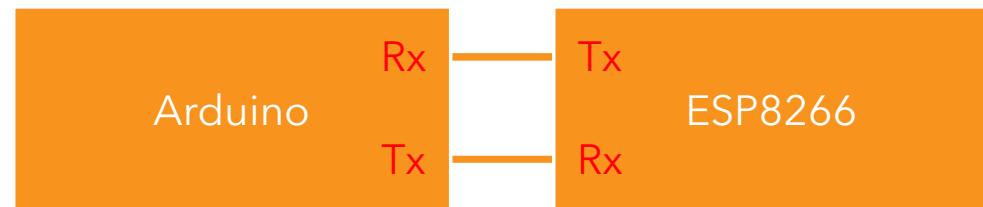
Module Wi-Fi ESP8366

- Module indépendant



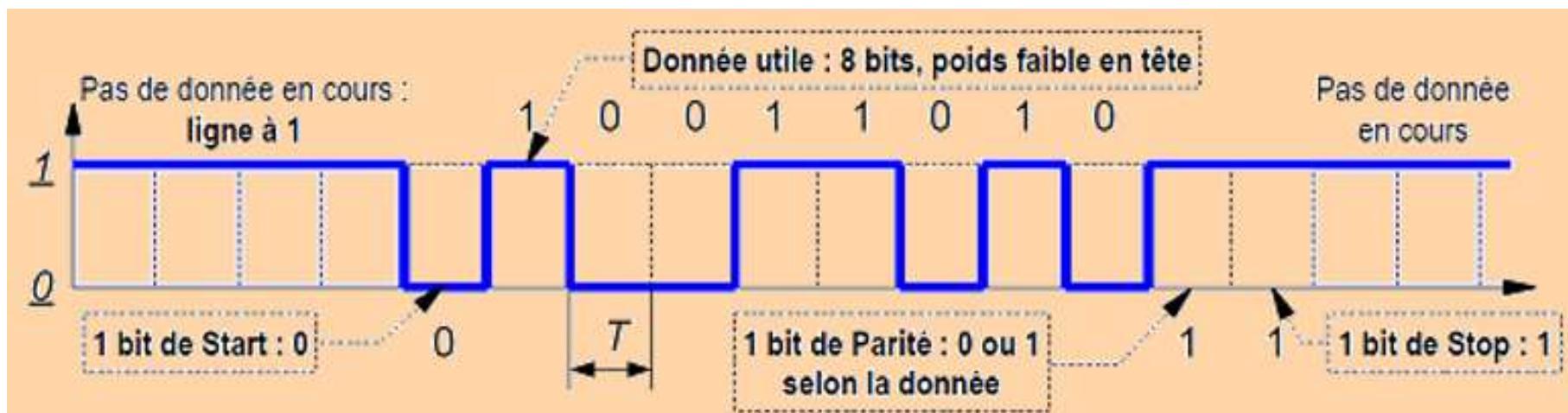
Communication

- Liaison série



Wi-Fi et serveur

Signaux de données:



Wi-Fi et serveur

Procédure

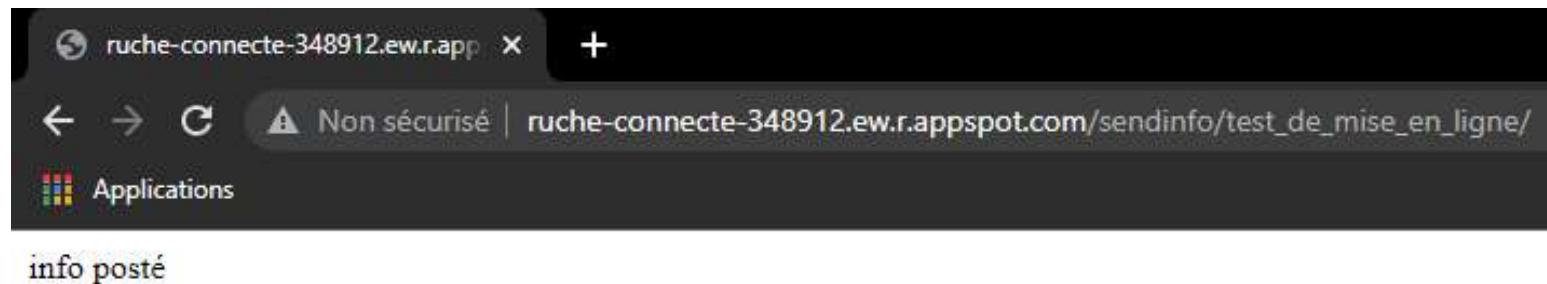
- Connexion à internet:
`WiFi.begin(ssid, password)`
- Requête:
`http.begin(XX)`



Wi-Fi et serveur

Procédure

- Chemin 1:

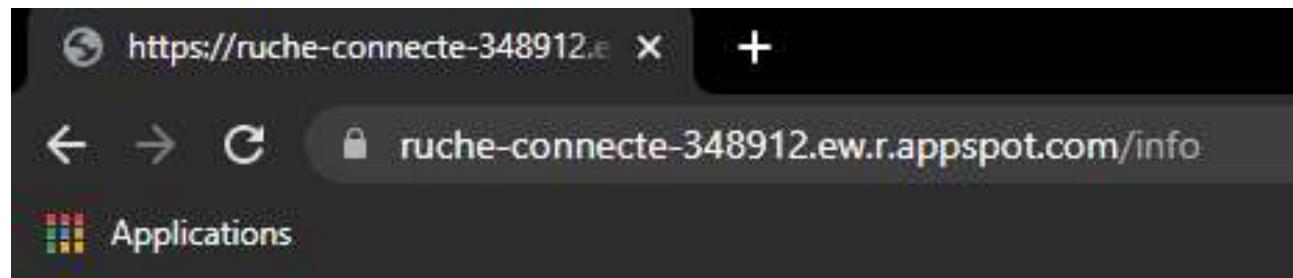


info posté

Wi-Fi et serveur

Procédure

- Chemin 2:

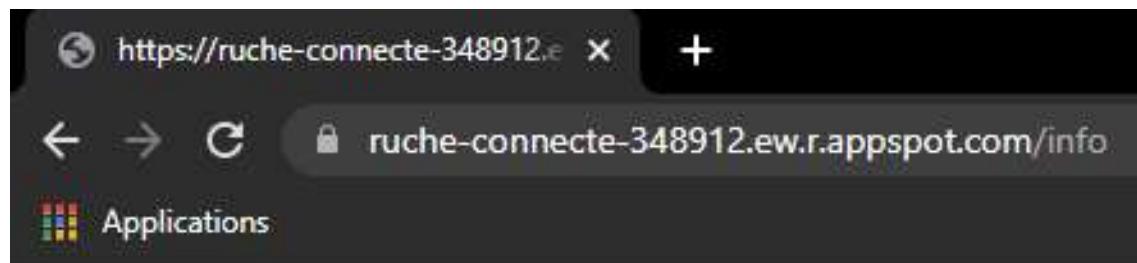


test_de_mise_en_ligne

Wi-Fi et serveur

Procédure

- Mise en ligne:



humidite_X_pourcent_temperature_X_degre_masse_X_kg



HABERT
HOYO

Merci

Ruche connectée



20XX

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