

###

LoRaWAN OTAA demo based on RN2483

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[2020-02-02 16:47:28,408][RN2483_OTAA:main:977][INFO] Starting RN2483 initialisation ...
[2020-02-02 16:47:28,409][RN2483_OTAA:__init__:185][INFO] Initializing 'RN2483' module ...
[2020-02-02 16:47:28,411][RN2483_OTAA:start_serial:347][INFO] Initialise serial '/dev/ttyUSB0' at speed '57600' ...
[2020-02-02 16:47:28,427][RN2483_OTAA:radioModuleHWreset:444][DEBUG] [radioModule] HW reset through DTR line ...
[2020-02-02 16:47:30,436][RN2483_OTAA:start_serial:362][DEBUG] [init] received str: RN2483 1.0.5 Oct 31 2018 15:06:52

[2020-02-02 16:47:30,437][RN2483_OTAA:start_serial:375][DEBUG] link '/dev/ttyUSB0' @ '57600'bauds is validated as a serial port :)
[2020-02-02 16:47:32,441][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'sys factoryRESET' executed
[2020-02-02 16:47:34,456][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'sys get ver' executed
[2020-02-02 16:47:34,484][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac reset 868' returned 'ok'
[2020-02-02 16:47:34,495][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set retx 2' returned 'ok'
[2020-02-02 16:47:34,504][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set dr 0' returned 'ok'
[2020-02-02 16:47:34,516][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set linkchk 600' returned 'ok'
[2020-02-02 16:47:34,517][RN2483_OTAA:__init__:239][INFO] Enabling Adaptative Data Rate (ADR) ...
[2020-02-02 16:47:34,525][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac set adr on' executed
[2020-02-02 16:47:34,526][RN2483_OTAA:__init__:244][INFO] Set DataRate ...
[2020-02-02 16:47:34,534][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac set dr 0' executed
[2020-02-02 16:47:35,044][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set bat 0' returned 'ok'
[2020-02-02 16:47:35,046][RN2483_OTAA:main:1000][INFO] RN2483 successfully instantiated :)
[2020-02-02 16:47:35,047][RN2483_OTAA:main:1003][INFO] Starting LoRaWAN initialisation ...
[2020-02-02 16:47:35,056][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'radio set pwr 14' returned 'ok'
[2020-02-02 16:47:35,070][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set deveui _____' returned 'ok'
[2020-02-02 16:47:35,082][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set appeui DEAD42DEAD42DEAD' returned 'ok'
[2020-02-02 16:47:35,101][RN2483_OTAA:_command:416][DEBUG] [LoRaCMD] 'mac set appkey 0123456789ABCDEF0123456789ABCDEF' returned 'ok'
[2020-02-02 16:47:35,103][RN2483_OTAA:main:1024][INFO] LoRaWAN setup successful :)
[2020-02-02 16:47:35,118][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'sys get ver' executed
[2020-02-02 16:47:35,135][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get adr' executed
[2020-02-02 16:47:35,145][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get mod' executed
[2020-02-02 16:47:35,163][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get freq' executed
[2020-02-02 16:47:35,172][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get pwr' executed
[2020-02-02 16:47:35,181][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get sf' executed
[2020-02-02 16:47:35,188][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get crc' executed
[2020-02-02 16:47:35,196][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get iq' executed
[2020-02-02 16:47:35,204][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get cr' executed
[2020-02-02 16:47:35,211][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get bw' executed
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[2020-02-02 16:47:35,224][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'radio get wdt' executed
[2020-02-02 16:47:35,235][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get class' executed
[2020-02-02 16:47:35,249][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get deveui' executed
[2020-02-02 16:47:35,263][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get appeui' executed
[2020-02-02 16:47:35,280][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'sys get hweui' executed
[2020-02-02 16:47:35,290][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get status' executed
```

```
[MAC] status = 0x00000440
```

```
[LoRa] RN2483 1.0.5 Oct 31 2018 15:06:52
```

```
adr : on
```

```
[RADIO] settings
```

```
mod : lora
```

```
freq : 868100000
```

```
pwr : 14
```

```
sf : sf12
```

```
crc : on
```

```
iqi : off
```

```
cr : 4/5
```

```
bw : 125
```

```
wdt : 15000
```

```
[MAC] settings
```

```
class : A
```

```
devEUI : 0x_____
```

```
appEUI : 0xDEAD42DEAD42DEAD
```

```
appKEY : 0x0123456789ABCDEF0123456789ABCDEF
```

```
hwEUI : 0x0004A30B001C492F
```

```
[2020-02-02 16:47:37,306][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get status' executed
```

```
[MAC] status = 0x00000440
```

```
[2020-02-02 16:47:37,308][RN2483_OTAA:_loraOTAAjoin:576][INFO] Start OTAA join procedure ...
```

```
[2020-02-02 16:47:37,346][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac join otaa' executed
```

```
(1) join res = ok
```

```
(2) join ...
```

```
serial read timeout = 10.00
```

```
(3) join _res = accepted
```

```
[2020-02-02 16:47:45,730][RN2483_OTAA:_loraOTAAjoin:602][DEBUG] received join answer: 'accepted'
```

```
[2020-02-02 16:47:45,730][RN2483_OTAA:_loraOTAAjoin:604][INFO] JOIN successful :)
```

```
[2020-02-02 16:47:45,737][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get adr' executed
```

```
[2020-02-02 16:47:45,856][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac get status' executed
[MAC] status = 0x00000C50

[2020-02-02 16:47:46,467][RN2483_OTAA:main:1041][DEBUG] sleeping a bit before continuing ...
[2020-02-02 16:47:51,473][RN2483_OTAA:main:1048][INFO] Sending some data ...
[2020-02-02 16:47:51,474][RN2483_OTAA:transmitData:648][INFO] [TX_DATA] payload = '{'msg': 'hello from RN2483!}'
[2020-02-02 16:47:51,562][RN2483_OTAA:_command:418][DEBUG] [LoRaCMD] 'mac tx cnf 1
7b276d7367273a202768656c6c6f2066726f6d20524e3234383321277d' executed
[2020-02-02 16:47:51,563][RN2483_OTAA:transmitData:665][DEBUG] TX msg has been accepted ... transmission will occur soon ...
[2020-02-02 16:47:51,564][RN2483_OTAA:main:1061][INFO] Waiting for some data ...
_*_*_*_[2020-02-02 16:47:55,910][RN2483_OTAA:main:1077][INFO] TX answer received: 'mac_tx_ok'
_*_*_*_*_*_*_*^C<CTRL + C> action detected ...
[2020-02-02 16:48:09,930][RN2483_OTAA:main:1114][INFO] ending LoRaWAN ops ...
[2020-02-02 16:48:09,931][RN2483_OTAA:__del__:261][INFO] ... call for destructor of 'RN2483' instance ...
[2020-02-02 16:48:09,933][RN2483_OTAA:stop_serial:383][INFO] stop of serial link is on way ...
[2020-02-02 16:48:09,992][RN2483_OTAA:__del__:269][INFO] 'RN2483' instance deleted
./RN2483_OTAA.py:1118: RuntimeWarning: No channels have been set up yet - nothing to clean up! Try cleaning up at the end of your program
instead!
GPIO.cleanup()
root@rpi3-irit2-366-cam2[tests]
```