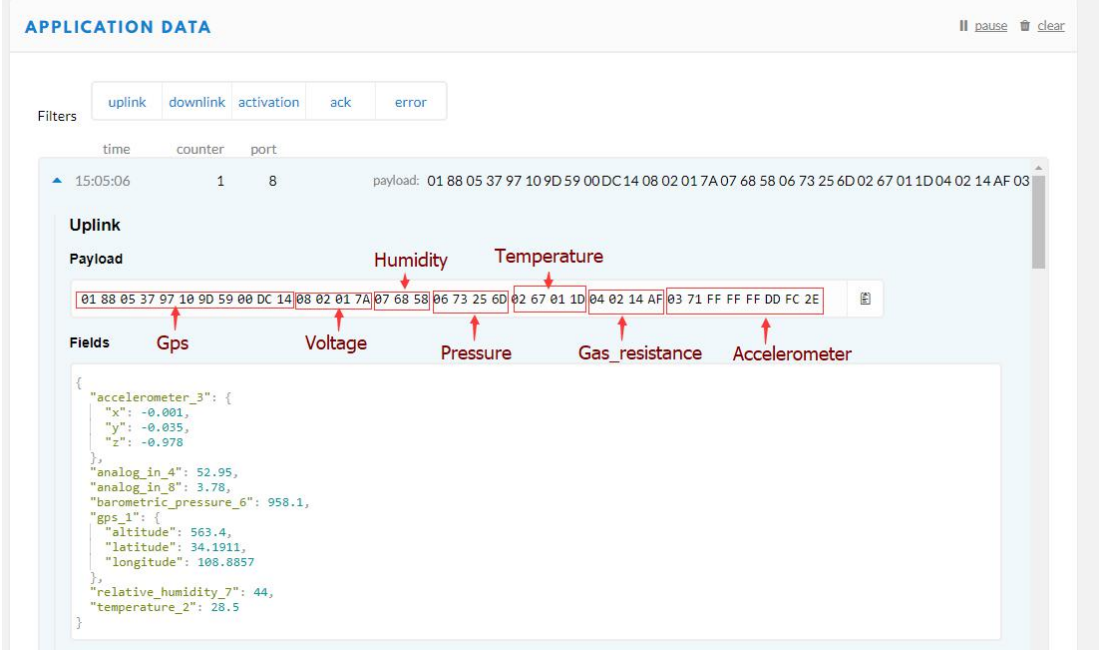


1. RAK5205 V3.x.0.8 Packet Decode

RAK5205's payload is in LPP format, for example:



The screenshot shows a packet decoder interface for an uplink packet. The packet is received at 15:05:06, counter 1, port 8. The payload is: 01 88 05 37 97 10 9D 59 00 DC 14 08 02 01 7A 07 68 58 06 73 25 6D 02 67 01 1D 04 02 14 AF 03. The decoder identifies several fields: Gps (01 88 05 37 97 10 9D 59 00 DC 14), Voltage (08 02 01 7A), Humidity (07 68 58), Temperature (06 73 25 6D), Pressure (02 67 01 1D), Gas_resistance (04 02 14 AF), and Accelerometer (03 71 FF FF FF DD FC 2E). Below the hex dump, a JSON object shows the decoded data: { "accelerometer_3": { "x": -0.001, "y": -0.035, "z": -0.978 }, "analog_in_4": 52.95, "analog_in_8": 3.78, "barometric_pressure_6": 958.1, "gps_1": { "altitude": 563.4, "latitude": 34.1911, "longitude": 108.8857 }, "relative_humidity_7": 44, "temperature_2": 28.5 }

More details about RAK5205's payload decode

The above picture shows a packet which is sent by RAK5205 and is received by TTN. The packet payload is:

**0188053797109D5900DC140802017A0768580673256D0267011D040214AF0371F
FFFFDDFC2E**

- This field is GPS data: **0188053797109D5900DC14**
GPS LPP flag: **0188**
altitude: **053797** (latitude: 34.1911° [0x053797*0.0001=34.1911°])
latitude: **109D59** (longitude: 108.8857° [0x109d59*0.0001=108.8857°])
longitude: **00DC14** (altitude: 563.4m [0x00dc14*0.01=563.4m])
- This field is Battery Voltage data: **0802017A**
Battery Voltage LPP flag: **0802**
Battery Voltage: **017A** (Voltage: 3.78V [0x017a*0.01V])
- This field is Humidity data: **076858**
Humidity LPP flag: **0768**

Humidity: **58** (Humidity:44.0%RH [0x58*0.5%RH=44.0%RH])

● This field is Pressure data: **0673256D**

Pressure LPP flag: **0673**

Pressure: **256D** (Pressure:958.1hPa [0x256D*0.1=958.1hPa])

● This field is Temperature data: **0267011D**

Temperature LPP flag: **0267**

Temperature: **011D** (Temperature:28.5°C [0x011d*0.1=28.5°C])

● This field is Gas_resistance data: **040214AF**

Gas_resistance LPP flag: **0402**

Gas_resistance: **14AF** (Temperature:52.95kohm's [0x14af*0.1=52.95kohm's])

● This field is Acceleration data: **0371FFFFFFDDFC2E**

Acceleration LPP flag: **0371**

Acceleration_X: **FFFF** (X:-0.001g)

Acceleration_Y: **FFDD** (Y:-0.035g)

Acceleration_Z: **FC2E** (Z:-0.978g)

2. Revision History

Revision	Description	Date
1.0	Initial version	2019-08-01
1.1	Modify the Decode for V3.x.0.8	2019-10-11

3. Document Summary

Prepared by	Checked by	Approved by
Fomi&Penn	Fomi	



About RAKwireless:

RAKwireless is the pioneer in providing innovative and diverse cellular and LoRa connectivity solutions for IoT edge devices. It's easy and modular design can be used in different IoT applications and accelerate time-to-market.

For more information, please visit RAKwireless website at www.rakwireless.com.