Hardware

This project uses an Adafruit HUZZAH32 feather board.

Battery level

The HUZZAH can provide the battery voltage with the ESP32's ADC.
The ADC is read from channel 7.

The battery level is provided via the GATT profile:

battery level 0x2a19, uit8, 0-100,
`org.bluetooth.characteristic.battery_level`
0x27AD percentage `org.bluetooth.unit.percentage`
0x2728 electric potential difference (volt)
`org.bluetooth.unit.electric_potential_difference.volt`

Measurements

raw, 11db
uncharged lipo 1719, 0x06b7, 47%
and then it ramps up
partial charge (90 sec) 1911, 0x0777, 119%
full charge 2363, 0x093b, 59%
2365, 61%
2365, 61%, 4.236 V
2339, 35%, 4.201 V
2268, 220%, 4.075 V
2143, 95%, 3.868 V
after correction
1761, 78%, 3.281 V
1840, 81%, 3.385 V

Raw	Actual	GATT %
1761	3.281 V	78%
1840	3.385 V	81%
2143	3.868 V	
2268	4.075 V	
2339	4.201 V	
2365	4.236 V	