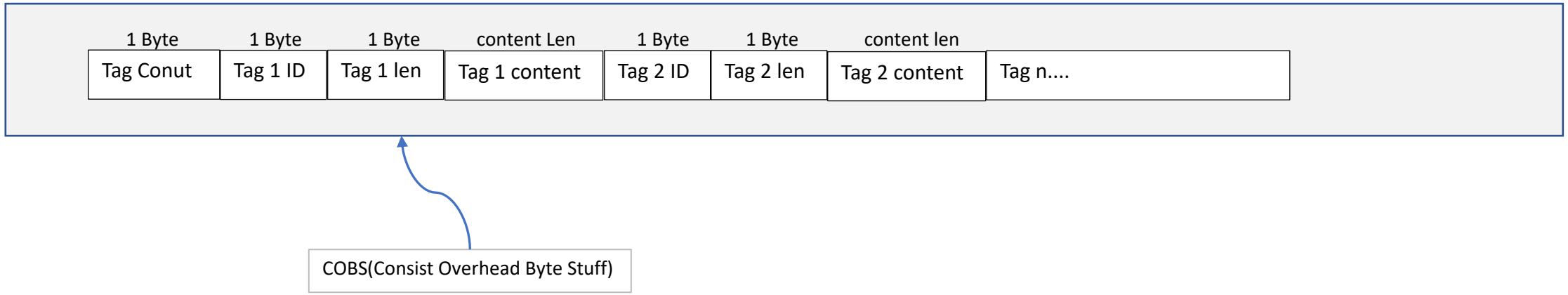
EEG Data Format

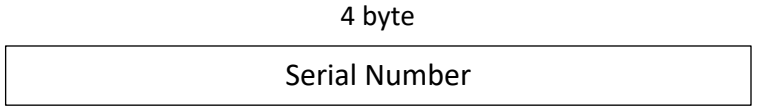


Package Serial Number :

Tag ID = 1

Tag Length = 4

Data Type = unsigned 32 bit

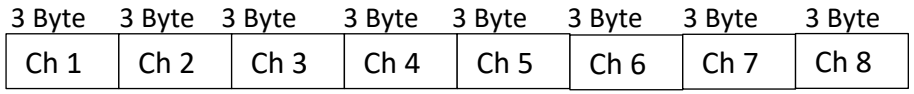


Auxiliary Data :

Tag ID = 2

Tag Length = 24

Data Type = signed 24 bit

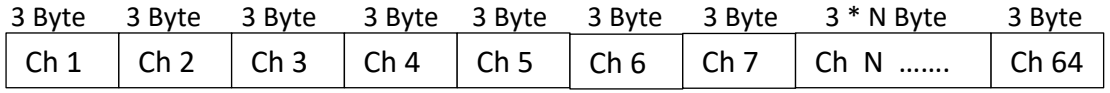


EEG Data :

Tag ID = 3

Tag Length = 192

Data Type = signed 24 bit

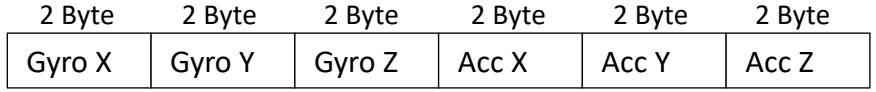


G-Sensor Data :

Tag ID = 4

Tag Length = 6

Data Type = signed 16 bit



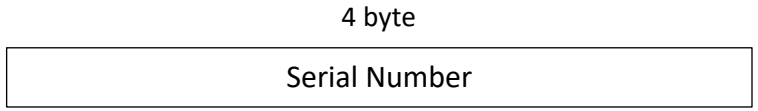
Gyroscope : °/S = raw value / 262.4 (Full Range = ±125 °/S)
Accelerometer : G = raw value / 16384 (Full Range = ±2 G)

SYNCTICK:

Tag ID = 10

Tag Length = 4

Data Type = unsigned 32 bit

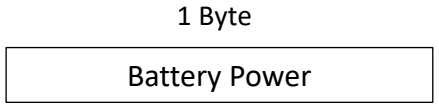


Battery Power :

Tag ID = 6

Tag Length = 1

Data Type = unsigned 8 bit



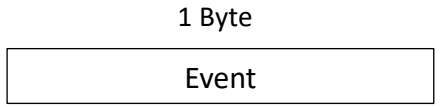
0-100 : Battery percentage
120 : Battery Charging

Event :

Tag ID = 7

Tag Length = 1

Data Type = unsigned 8 bit

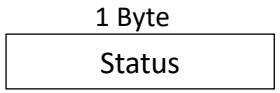


Connection Status:

Tag ID = 9

Tag Length = 1

Data Type = char



Status = 0 : BLE Disconnected
Status = 1 : BLE connected

Command :

Tag ID = 8

Tag Length = 1+N

1 Byte	N Byte
Type	Commend content

Command Type :

Type	*Length*	*Description*
0x01	*0*	*ADC scan ON*
0x02	*0*	*ADC scan OFF*
0x03	*0*	*Impedance measure ON and switch to AC mode*
0x04	*0*	*Impedance measure ON and switch to DC mode*
0x05	*0*	*Impedance measure OFF*
0x11	*0*	*Read Synctick*
0x12	*0*	*Get Connection status*

Example (with COBS):

- ADC scan ON: 0x05, 0x01, 0x08, 0x02, **0x01**, 0x01, 0x00
- ADC scan OFF: 0x05, 0x01, 0x08, 0x02, **0x02**, 0x01, 0x00

7.8Hz

ac_amp = fft_result[freq_idx]/(fft_points/2)

ac_imp = (5*(10^(-11))*(ac_amp^4) - (10^(-6))*(ac_amp^3)
+ 0.0129*(ac_amp^2) + 129.73*ac_amp + 5520.2)*0.001