

## HDL Data Documentation:

### **Accel:**

diffSecs: time difference (in seconds) from last recording point

N.Samples: number of samples captured during that recording interval

x.mean: The mean acceleration of all the samples captured during that interval for the x axis recordings

x.absolute.deviation: The absolute deviation of the samples from the mean for samples captured during the interval for the x axis

x.standard.deviation: The standard deviation of the samples from the mean for samples captured during the interval for the x axis

x.max.deviation: The maximum deviation of the samples from the mean for samples captured during the interval for the x axis

x.PSD.1: Low frequency motion energy

x.PSD.3: Low-mid frequency motion energy

x.PSD.6: Mid-high frequency motion energy

x.PSD.10: High frequency motion energy

y.mean: The mean acceleration of all the samples captured during that interval for the y axis recordings

y.absolute.deviation: The absolute deviation of the samples from the mean for samples captured during the interval for the y axis

y.standard.deviation: The standard deviation of the samples from the mean for samples captured during the interval for the y axis

y.max.deviation: The maximum deviation of the samples from the mean for samples captured during the interval for the y axis

y.PSD.1: Low frequency motion energy

y.PSD.3: Low-mid frequency motion energy

y.PSD.6: Mid-high frequency motion energy

y.PSD.10: High frequency motion energy

z.mean: The mean acceleration of all the samples captured during that interval for the z axis recordings

z.absolute.deviation: The absolute deviation of the samples from the mean for samples captured during the interval for the z axis

z.standard.deviation: The standard deviation of the samples from the mean for samples captured during the interval for the z axis

z.max.deviation: The maximum deviation of the samples from the mean for samples captured during the interval for the z axis

z.PSD.1: Low frequency motion energy

z.PSD.3: Low-mid frequency motion energy

z.PSD.6: Mid-high frequency motion energy

z.PSD.10: High frequency motion energy

time: The time stamp of when the sample was collected in the format MM/DD/YYYY HH:MM:SS AM/PM

### **Audio:**

diffSecs: time difference (in seconds) from last recording point

L1.norm: Absolute energy of audio captured  
L2.norm: RMS energy of audio captured  
Linf.norm: Peak energy of audio captured  
PSD.250: Low frequency energy of audio captured  
PSD.500: Low-mid frequency energy of audio captured  
PSD.1000: Mid-high frequency energy of audio captured  
PSD.2000: High frequency energy of audio captured  
MFCC.1: Log-energy 0<sup>th</sup> mel-frequency cepstral coefficient of audio captured  
MFCC.2: 1<sup>st</sup> mel-frequency cepstral coefficient  
MFCC.3: 2<sup>nd</sup> mel-frequency cepstral coefficient  
MFCC.4:  
MFCC.5:  
MFCC.6:  
MFCC.7:  
MFCC.8:  
MFCC.9:  
MFCC.10:  
MFCC.11:  
MFCC.12: 11<sup>th</sup> mel-frequency cepstral coefficient  
time: The time stamp of when the sample was collected in the format MM/DD/YYYY  
HH:MM:SS AM/PM

**Batt:**

diffSecs: time difference (in seconds) from last recording point  
level: The level of battery power remaining shown in terms of a percentage of total power  
time: The time stamp of when the sample was collected in the format MM/DD/YYYY  
HH:MM:SS AM/PM

**Cmpss:**

diffSecs: time difference (in seconds) from last recording point  
N.Samples: number of samples captured during that recording interval  
azimuth.mean: The mean compass bearing **east** of magnetic north.  
azimuth.absolute.deviation: The absolute deviation compass bearing east of magnetic north.  
azimuth.standard.deviation: The standard deviation compass bearing east of magnetic north.  
azimuth.max.deviation: The maximum deviation compass bearing east of magnetic north.  
pitch.mean: The mean compass bearing for rotation around **x-axis** (is the phone leaning forward or back)  
pitch.absolute.deviation: The absolute deviation of compass bearing for rotation around x-axis (is the phone leaning forward or back)  
pitch.standard.deviation: The standard deviation of compass bearing for rotation around x-axis (is the phone leaning forward or back)

pitch.max.deviation: The maximum deviation of compass bearing for rotation around x-axis (is the phone leaning forward or back)  
roll.mean: The mean compass bearing for rotation around **y-axis** (is the phone leaning over on its left or right side)  
roll.absolute.deviation: The absolute deviation of compass bearing for rotation around y-axis (is the phone leaning over on its left or right side)  
roll.standard.deviation: The standard deviation compass bearing for rotation around y-axis (is the phone leaning over on its left or right side)  
roll.max.deviation: The maximum deviation of compass bearing for rotation around y-axis (is the phone leaning over on its left or right side)  
time: The time stamp of when the sample was collected in the format MM/DD/YYYY HH:MM:SS AM/PM

**GPS:**

diffSecs: time difference (in seconds) from last recording point  
Latitude: The latitude coordinate collected at the specified time interval  
Longitude: The longitude coordinate collected at the specified time interval  
Altitude: The altitude above sea level collected at the specified time interval  
Time: The time stamp of when the sample was collected in the format MM/DD/YYYY HH:MM:SS AM/PM