



## Challenge 1: I Hear Voices in my Factory

Additional Challenge Notes

Time: 12:00pm

# What Does the Sound Stage Look Like



**Continuous**  
**<100Hz, 80-100 dB**

Outotec



**Continuous**  
**<100Hz, <60dB**



**Sporadic**  
**~500-1000Hz,**  
**60-100 dB**



**Rare**  
**~500-1000Hz,**  
**90-100 dB**



**Continuous**  
**~1000-2000Hz,**  
**80-90 dB**



**Common**  
**~2000-3000Hz,**  
**100-120 dB**



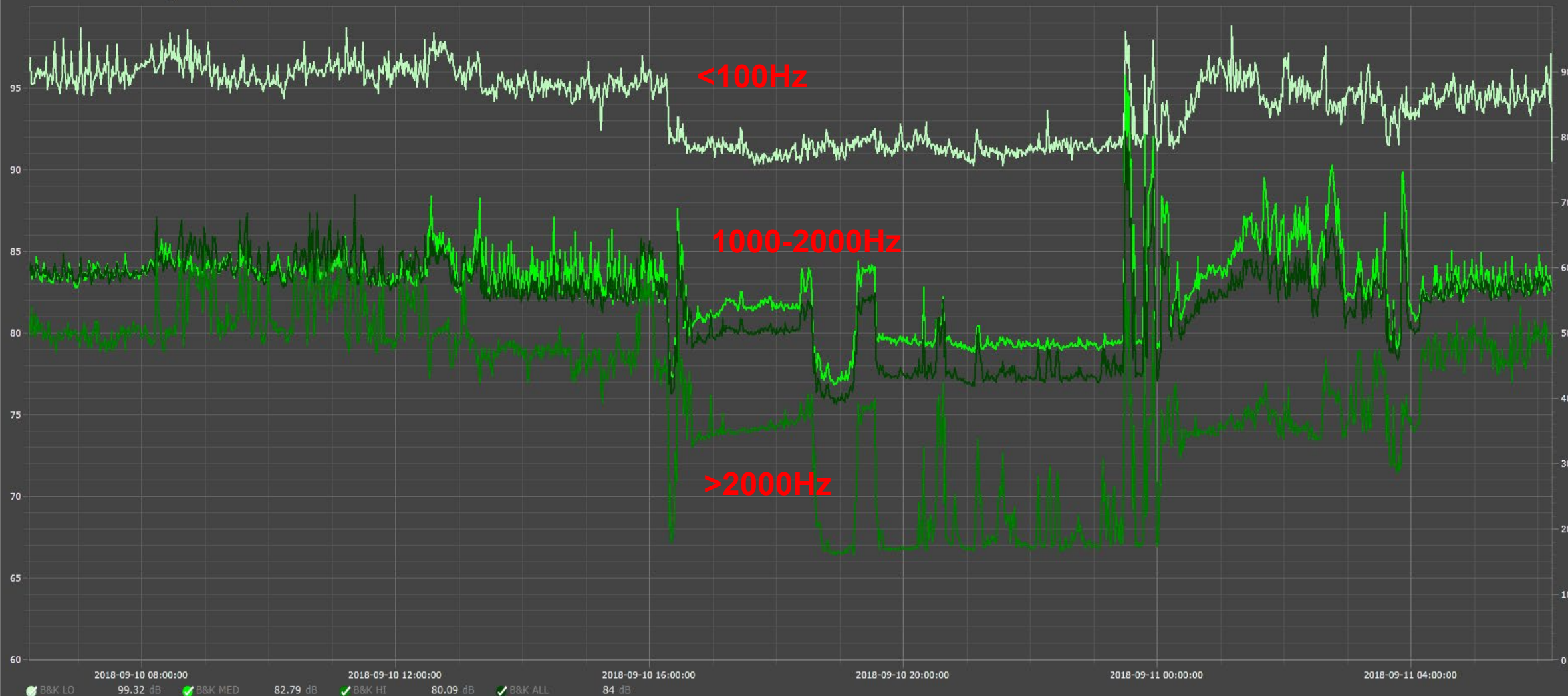
**Continuous**  
**~500-2000Hz,**  
**80-100 dB**

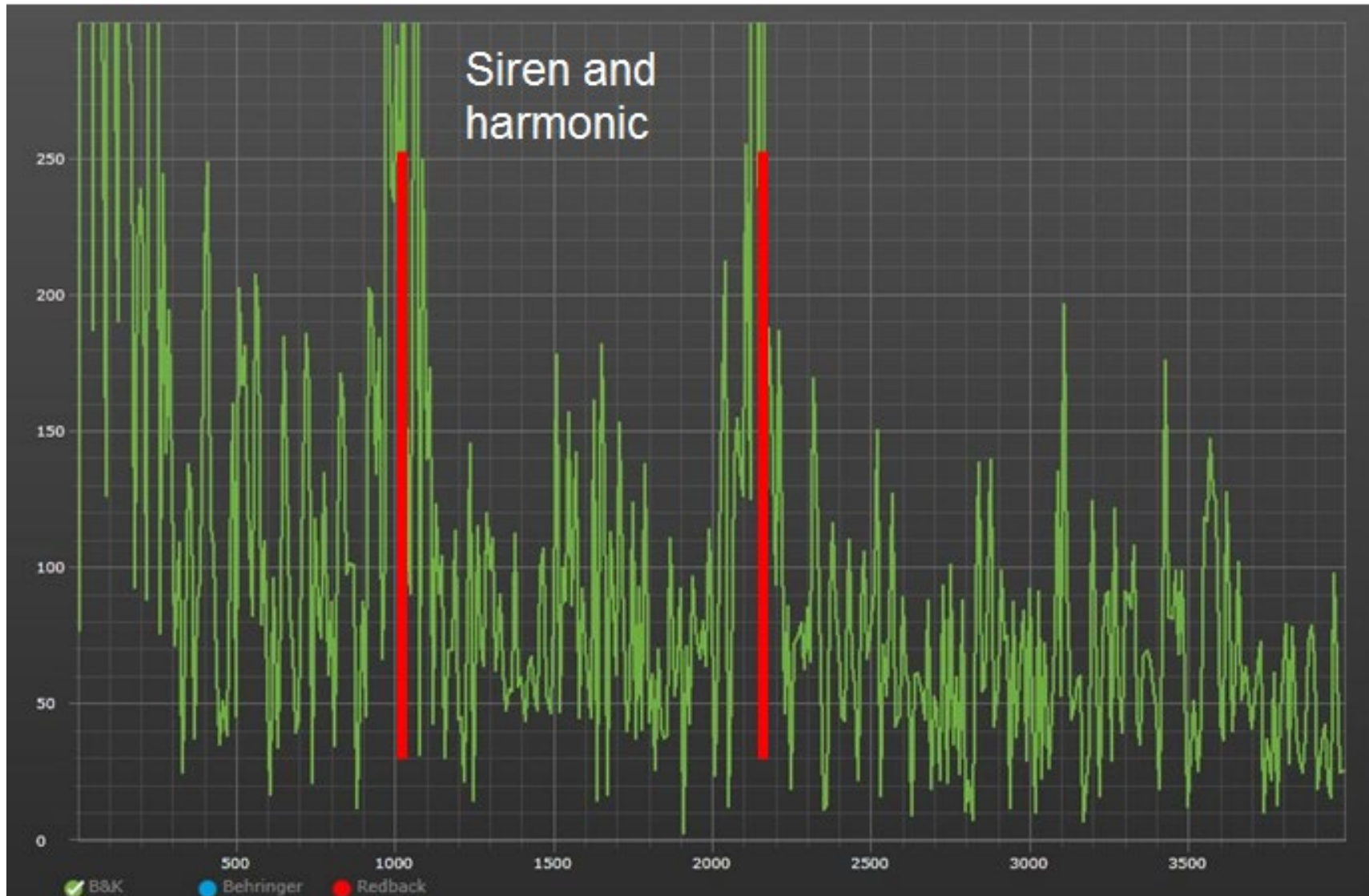
Outotec

PICTURE OF SURROUNDING FACTORY



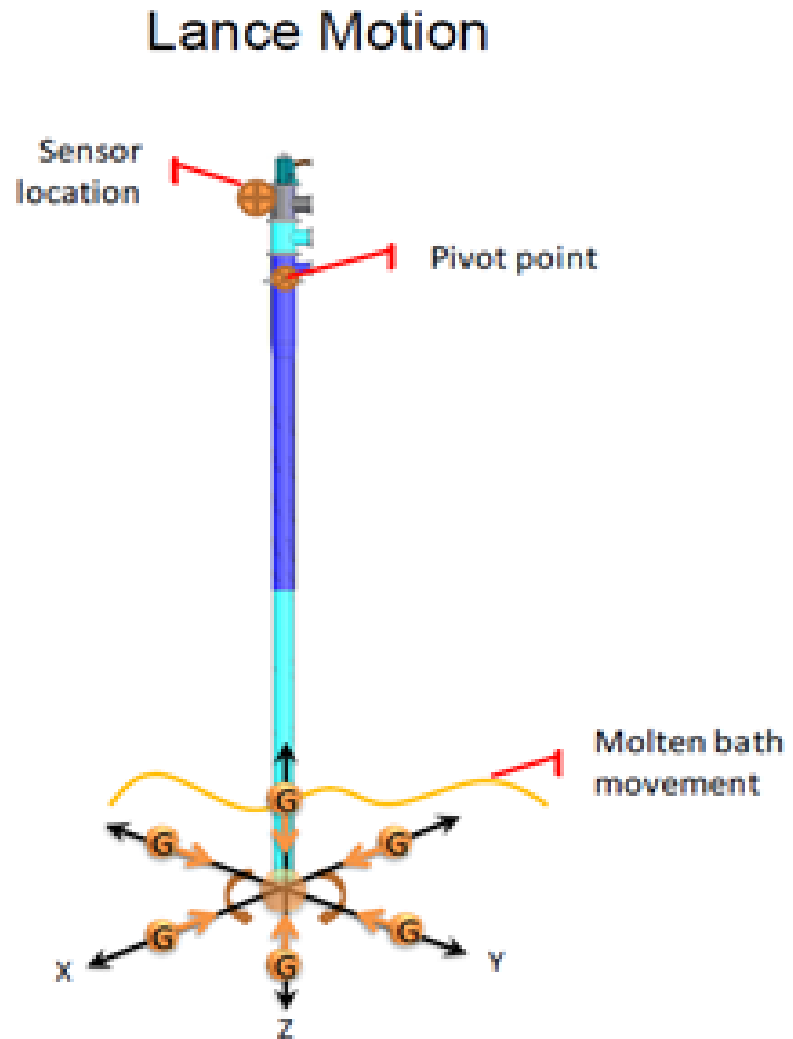
## B&K SPLs by freqs



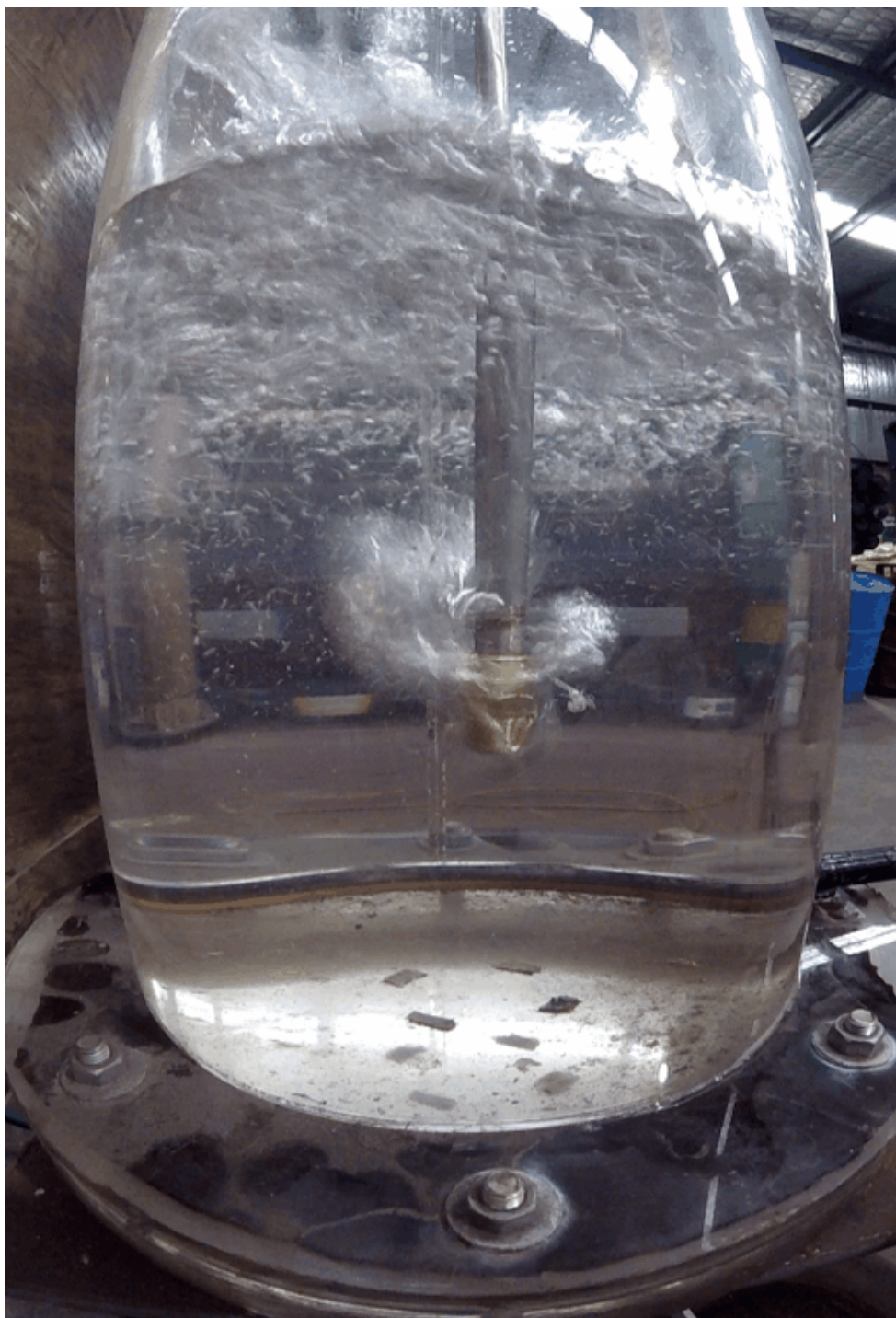




# What the Motion Stage Look Like?



VIDEO OF LANCE IN MOTION





Lance Motion OK

Trolley Motion OK

Lance battery

100 %

Trolley battery

100 %



Lance Motion too HIGH

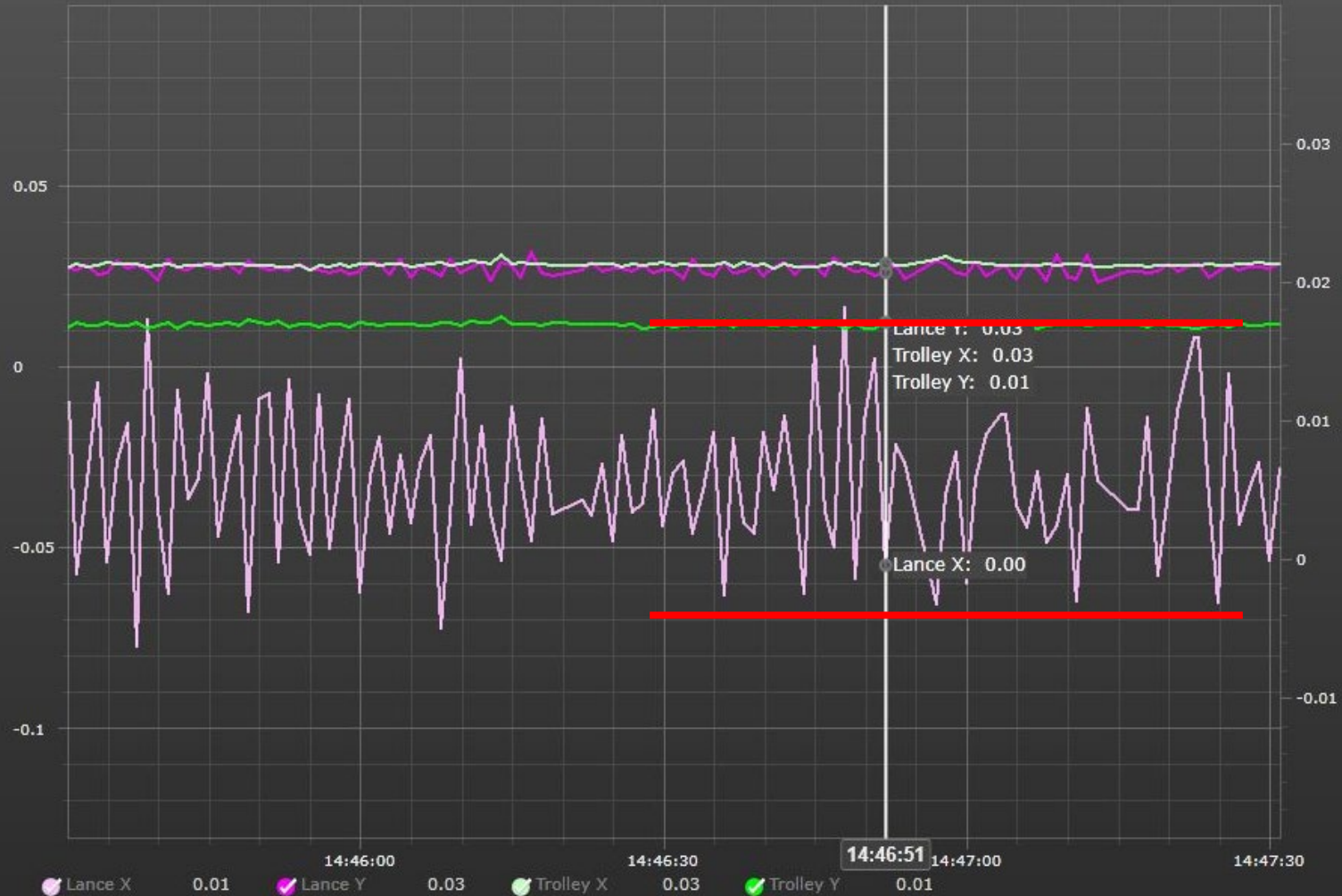
Trolley Motion OK

Lance battery

100 %

Trolley battery

100 %



Lance Motion OK

Trolley Motion HIGH

Lance battery

100 %

Trolley battery

100 %



