

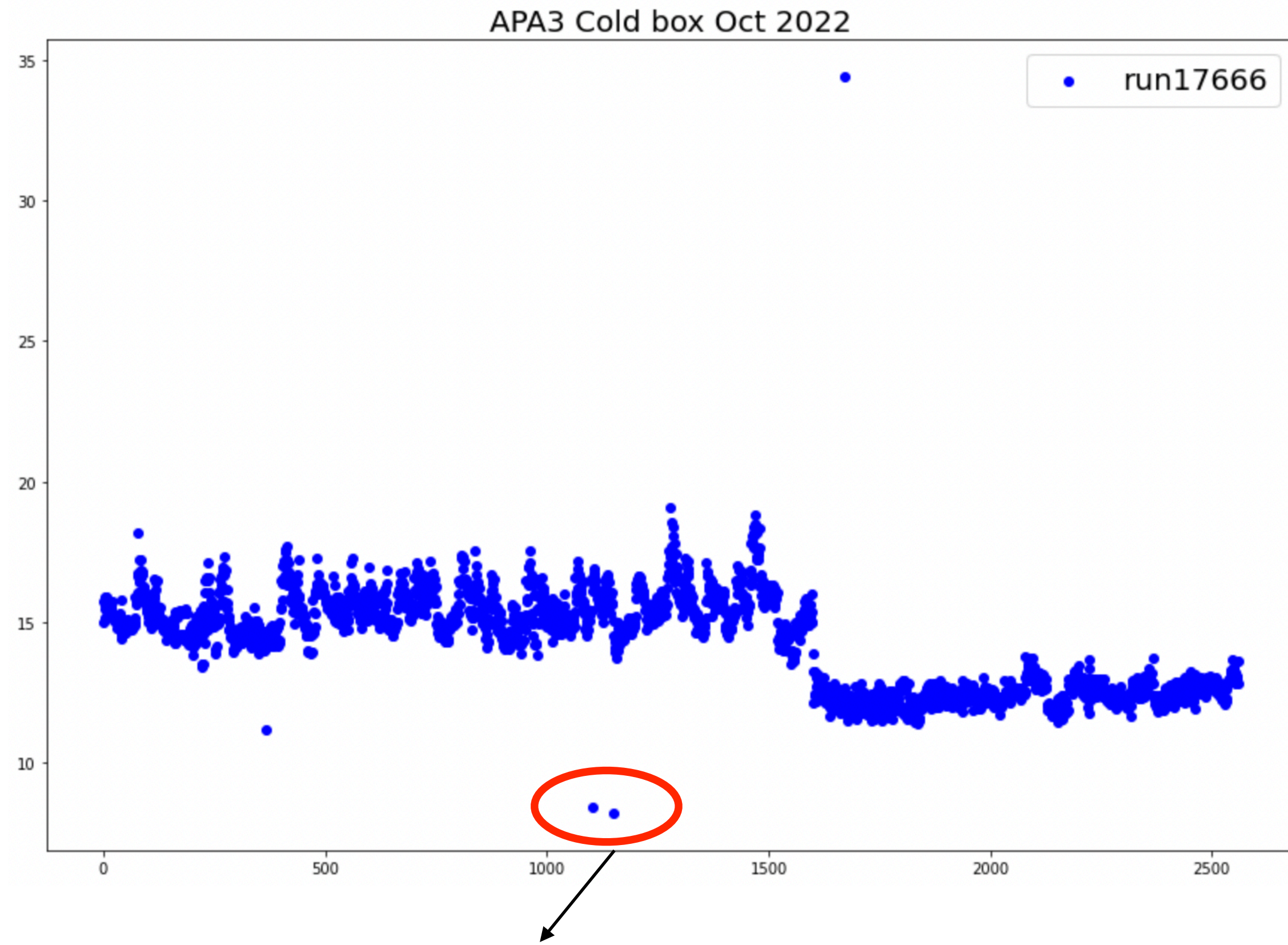
APA3 and CRP5b at CERN updates

Hanjie Liu, Cheng-Ju Lin, Manhong Zhao, Herilala Razafinime, Miriama Rajaoalisoa
12/20/2022

APA3 newly broken wire found on Dec 7th



One of the last APA3 cold box on Oct 2022

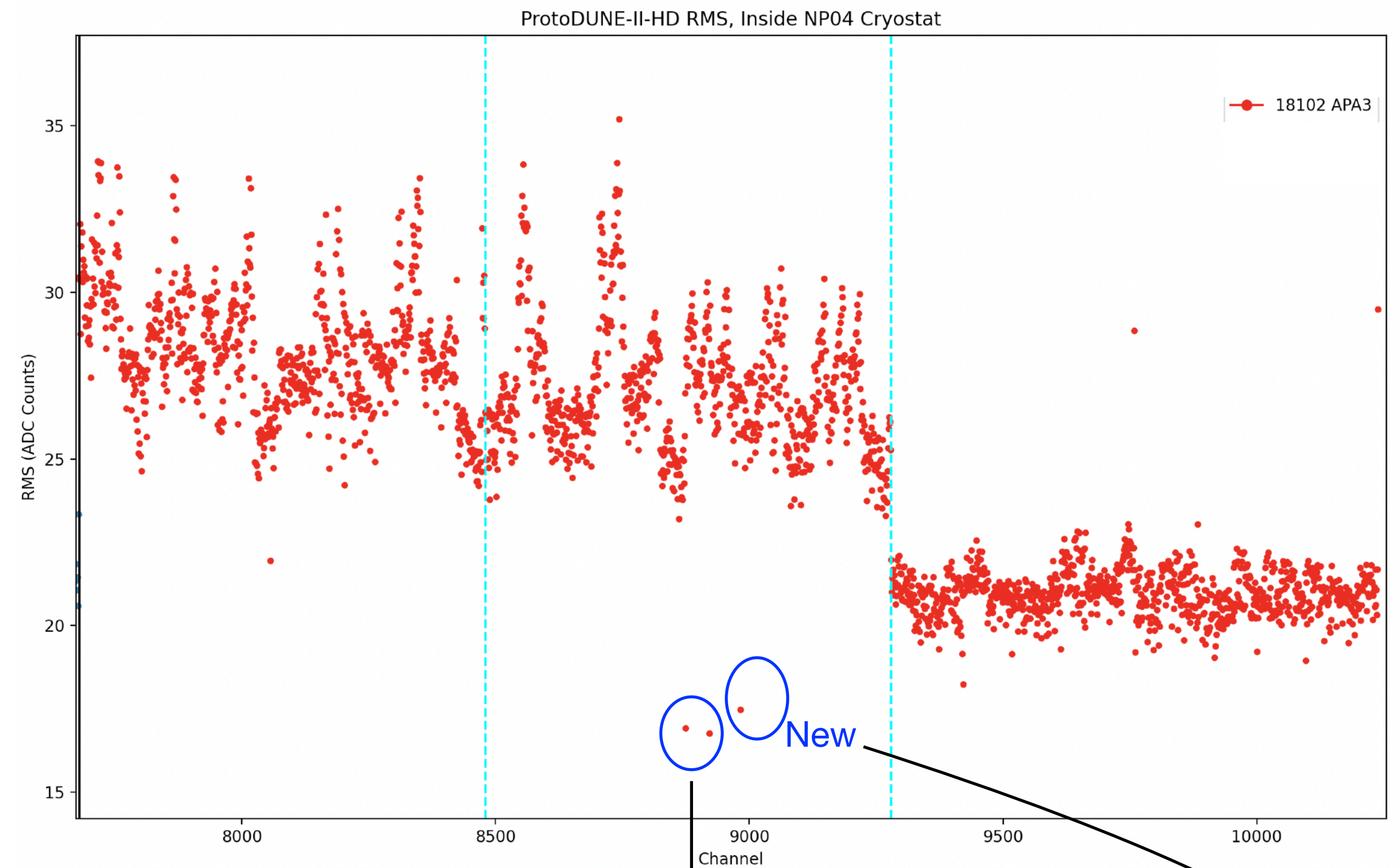


Offline Channels

FEMBs

1102	—>	FEMB 8, ch 72
1149	—>	FEMB 9, ch 106

First cryostat run, Nov. 23 2022



Offline Channels

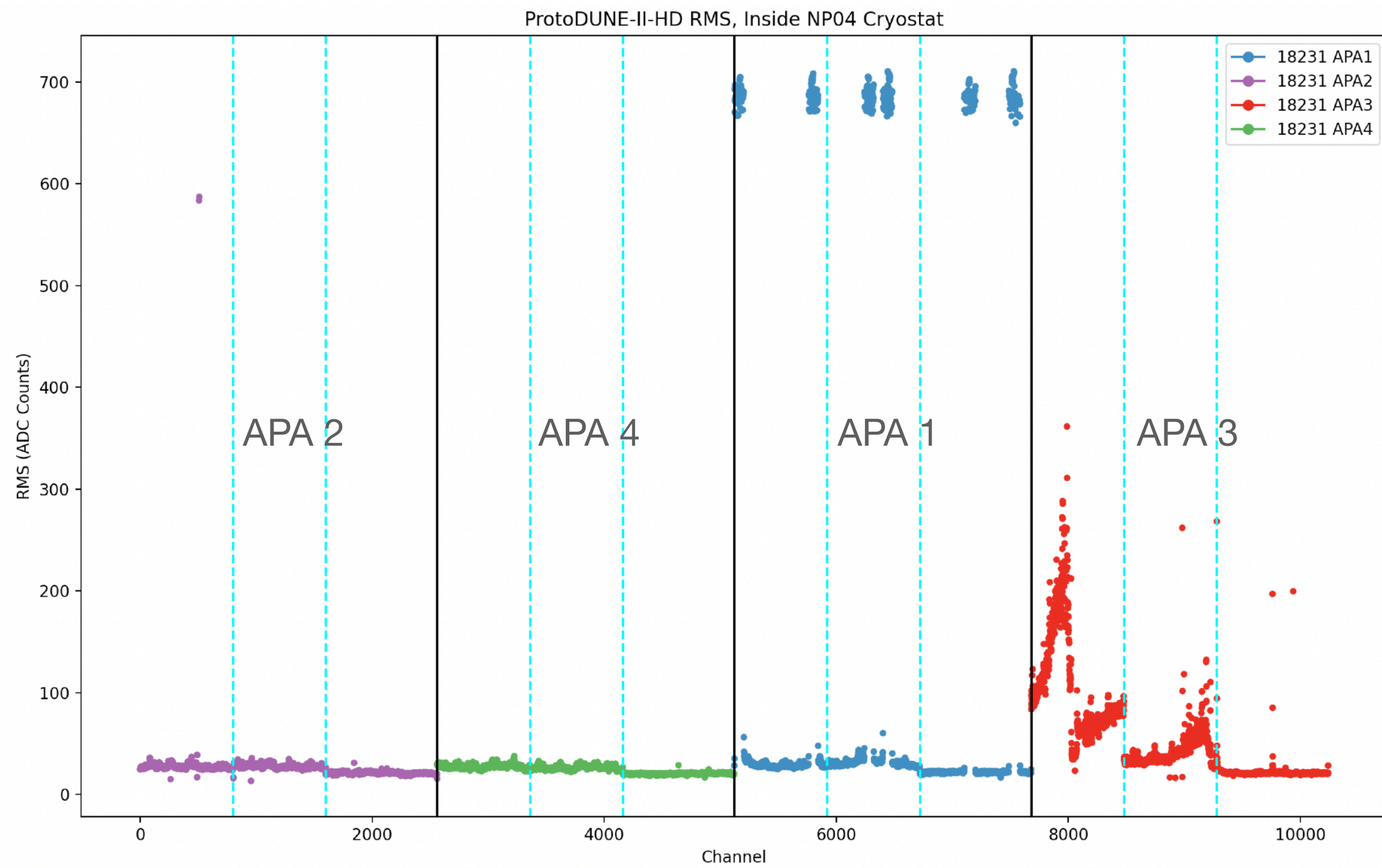
FEMBs

8922	—>	FEMB 8, ch 72
8875	—>	FEMB 9, ch 106
8983	—>	FEMB 7, ch 54

V2 wire on adapter board 7

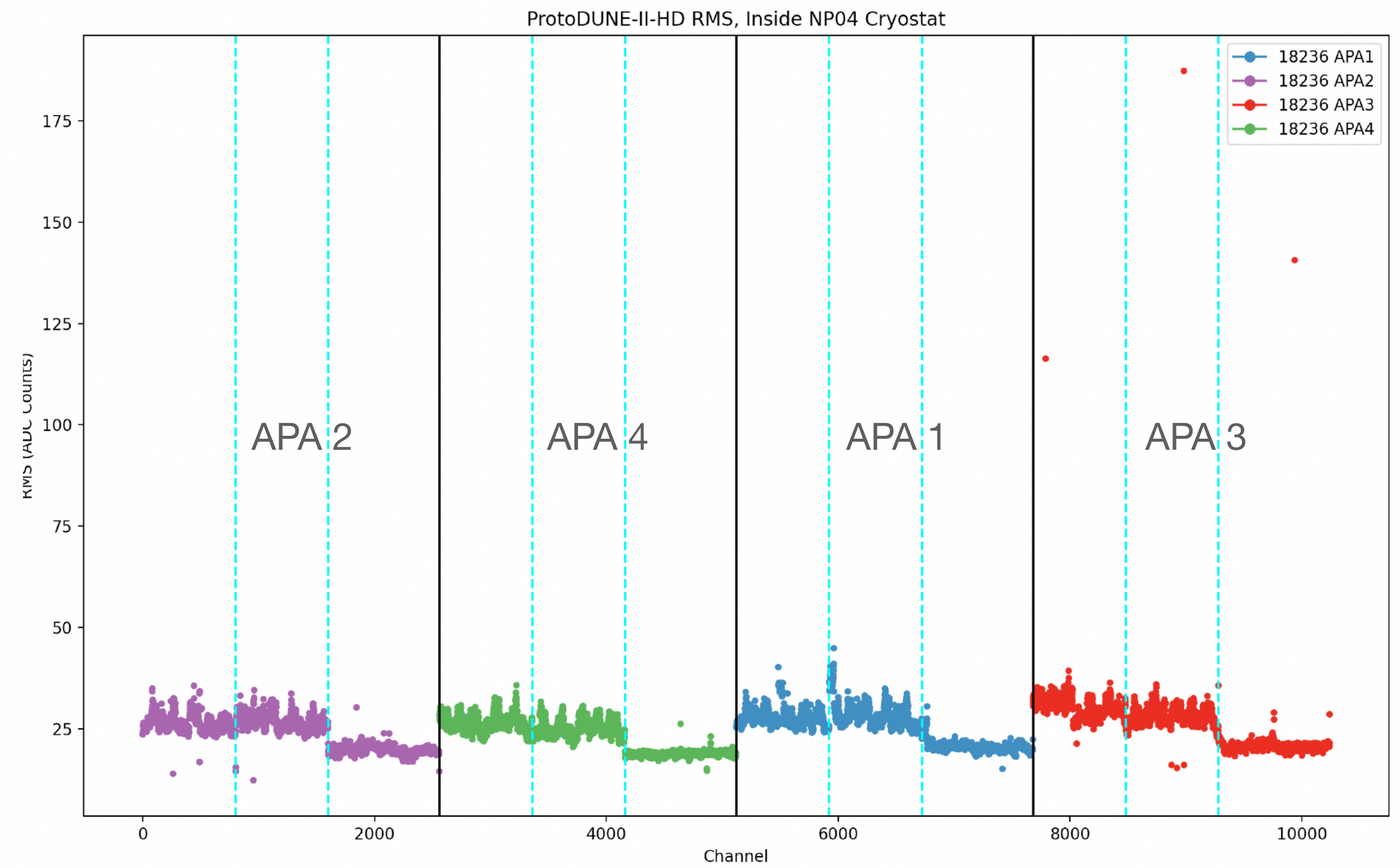
*FEMB channels are raw data channels not U, V, X channels

Noise runs in Cryostat



Noticed the newly broken wire

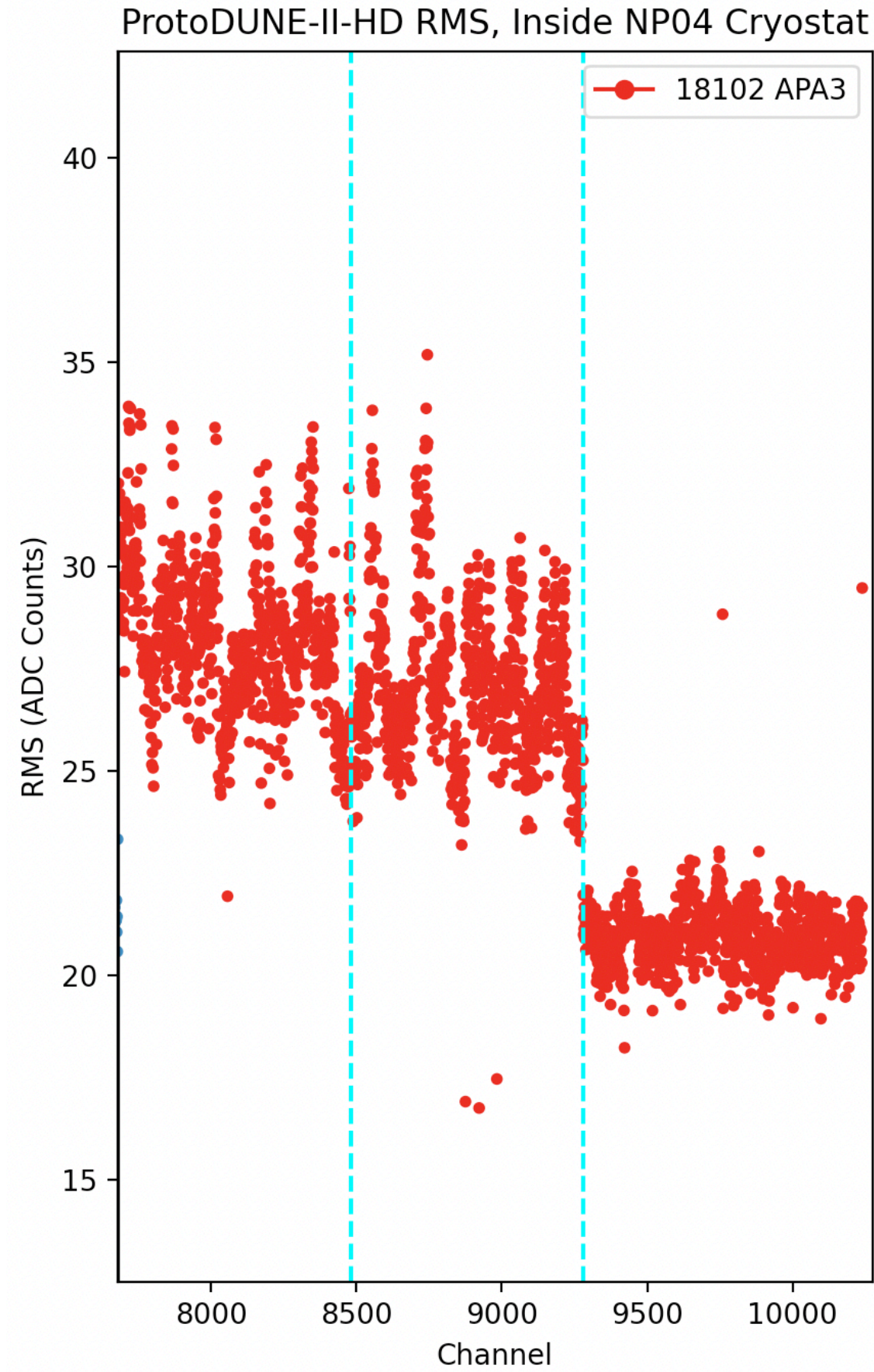
- Two high noise channels on APA 2
- WIB3 on APA 1 are all high noises
- Lots of high noises on APA 3



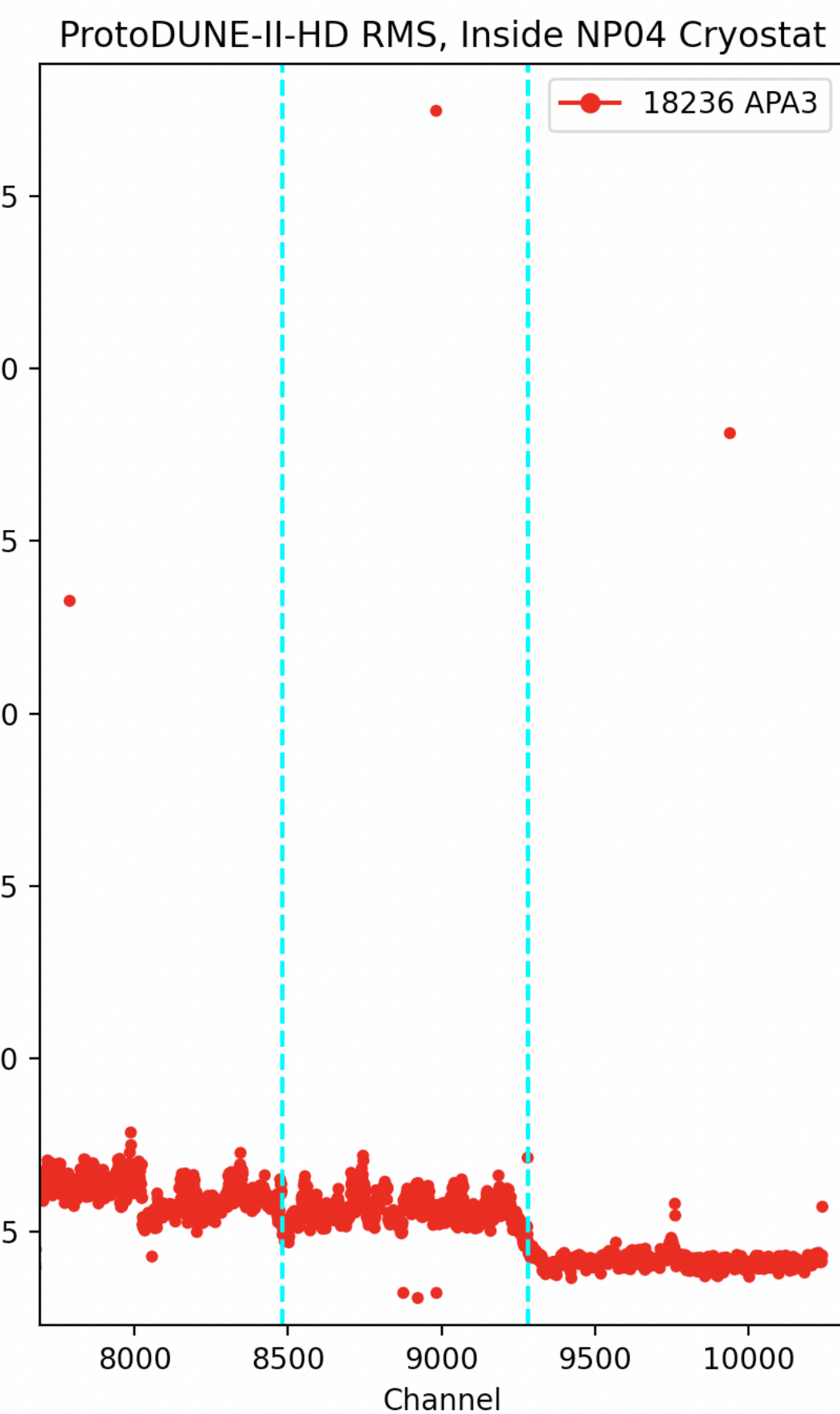
Reboot APA1, APA2, APA4

- APA 1 and APA 2 high noise channels disappeared
- APA 3 high noise channel:
 - 7789 —> FEMB 15, U4
 - 8982 —> FEMB 7, V3
 - 9938 —> FEMB 4, X35

High noise channels in APA3 in Cryostat



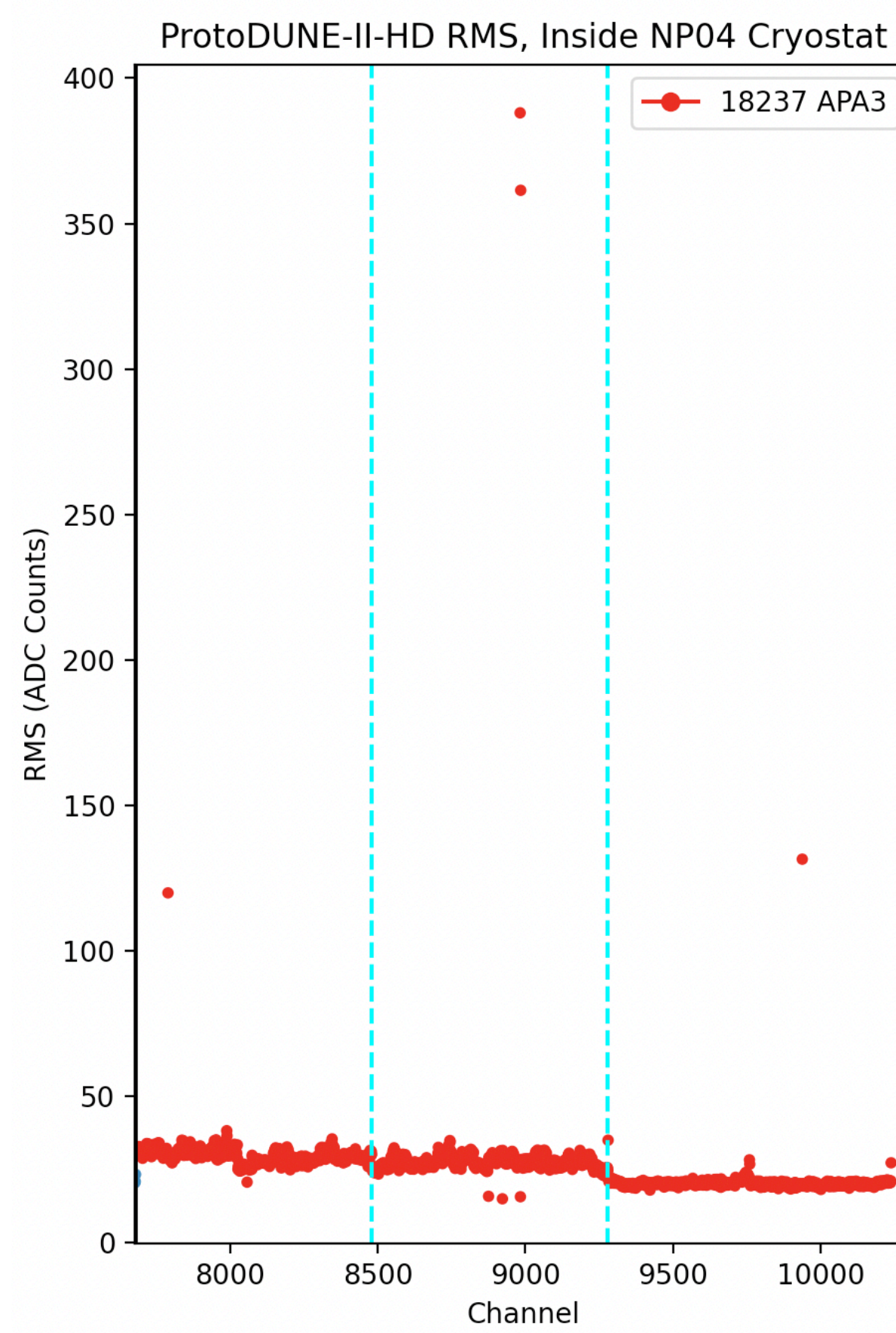
Nov. 23



Dec. 9

High noise channels:

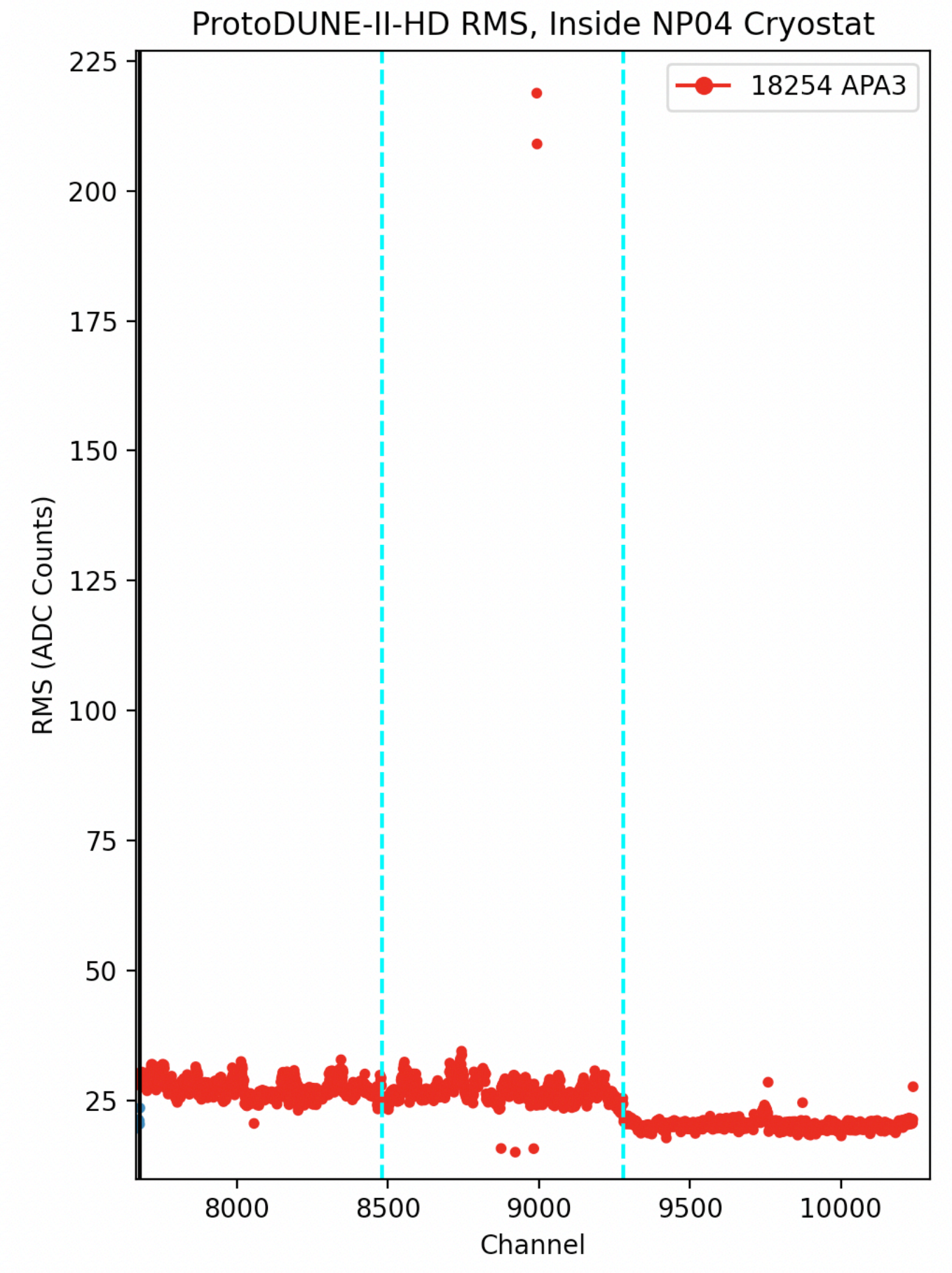
- 7789 —> FEMB 15, U4
- 8982 —> FEMB 7, V3
- 9938 —> FEMB 4, X35



Dec. 11

High noise channels:

- 7789 —> FEMB 15, U4
- 8982 —> FEMB 7, V3
- 9938 —> FEMB 4, X35
- 8984 —> FEMB 7, V1



Dec. 12

High noise channels:

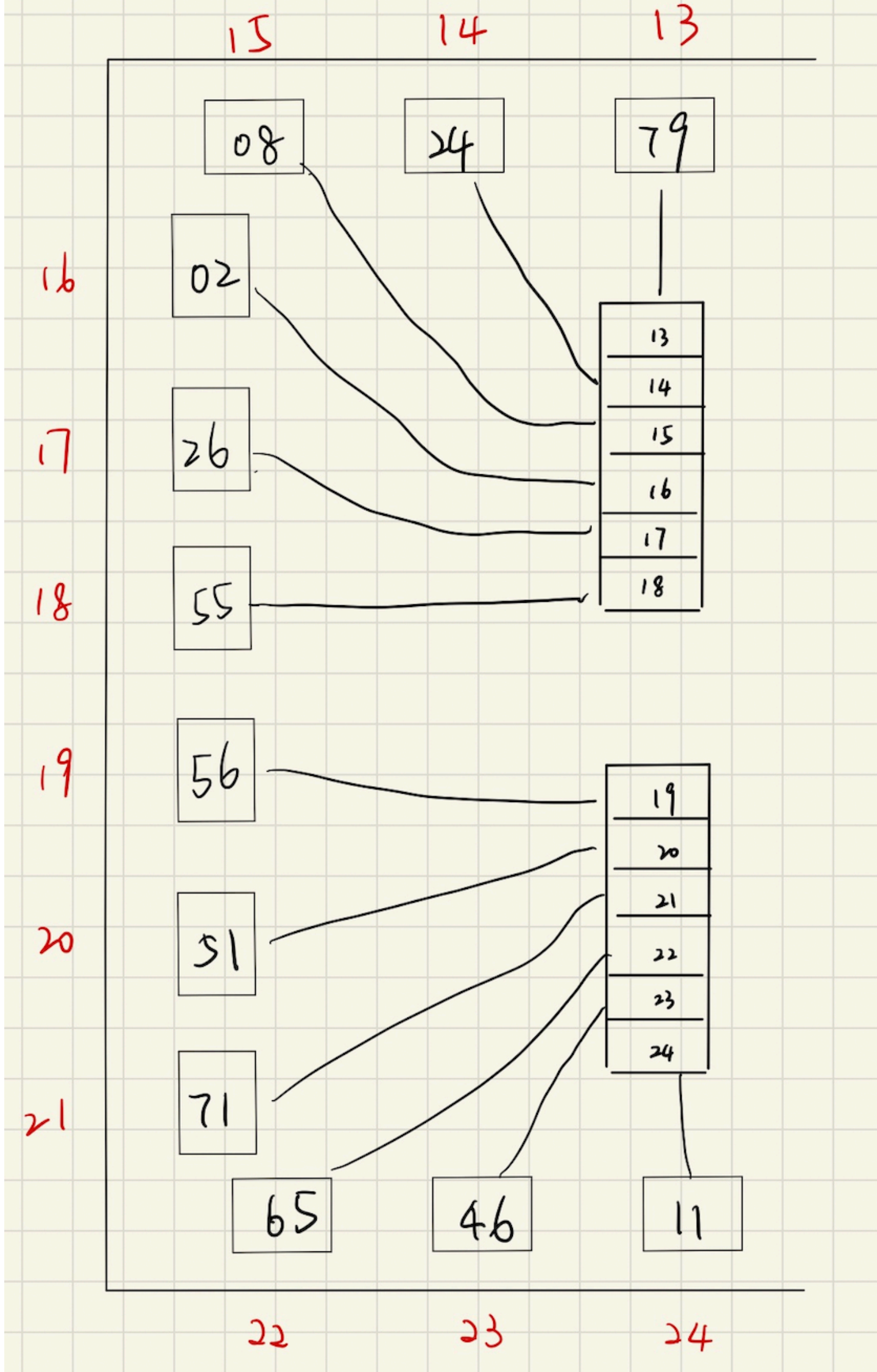
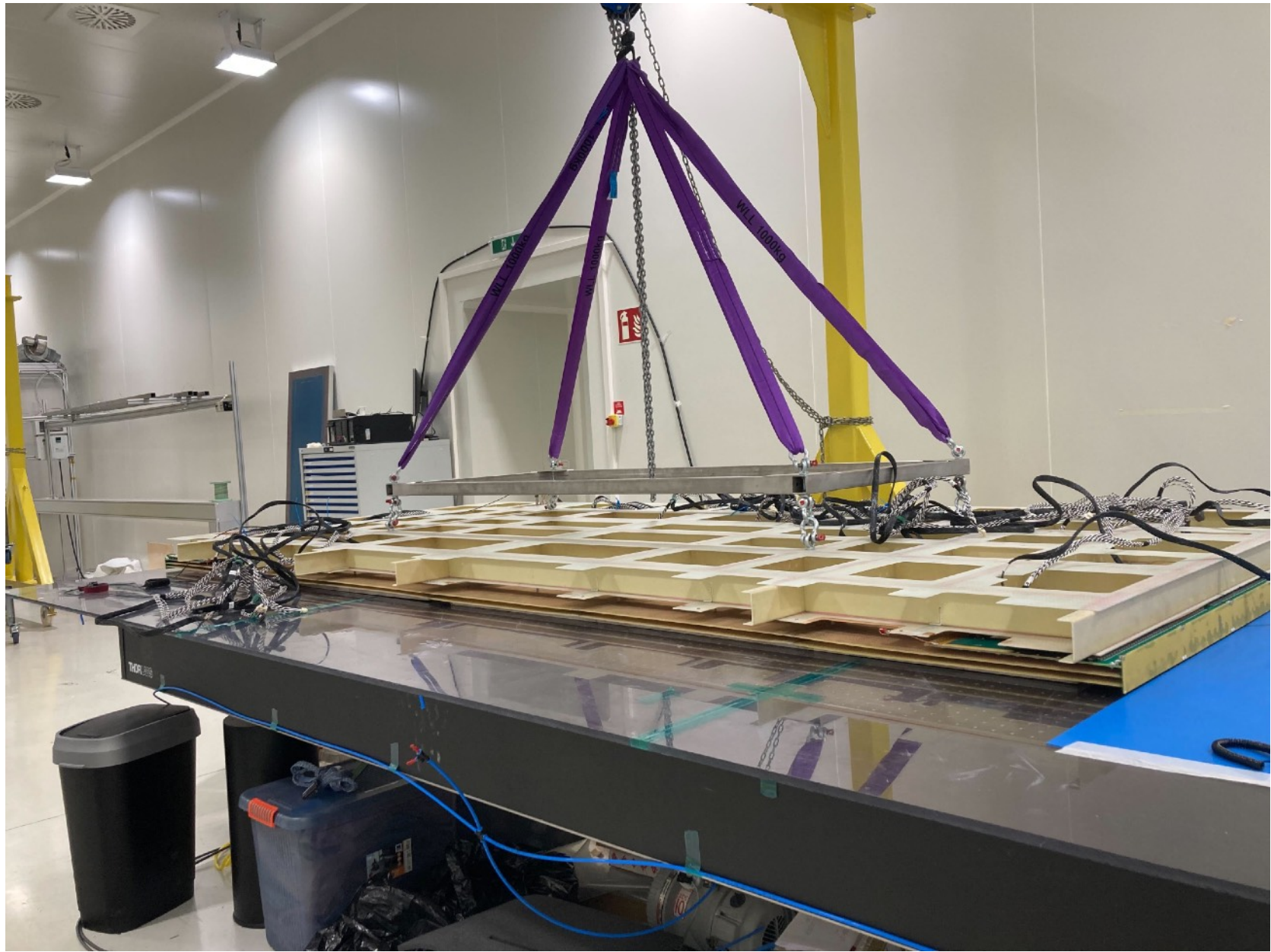
- 8993 —> FEMB 6, V32
- 8994 —> FEMB 6, V31

APA3 newly broken wire summary

- The open channel caused by the new broken wire shows up in the first Cryostat run
- The location of the broken wire is on the B side, adapter board 7, V2
- It seems that the broken wire causes random high noise channels in APA3
- Noise runs are taken regularly to keep track of the APAs performance

CRP5b CE installation

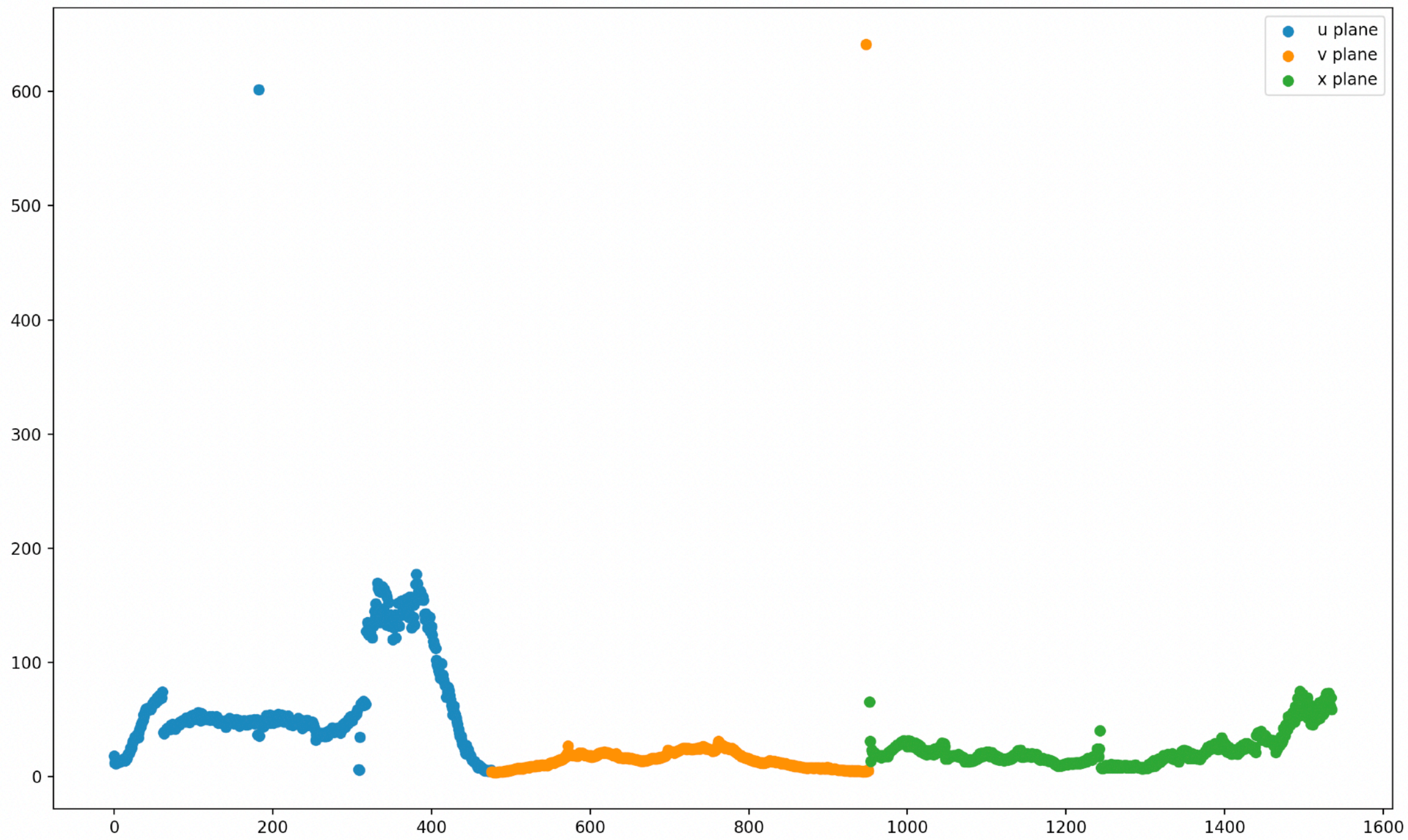
- Installed 12 FEMBs and two patch panels



FEMB checkout test setup

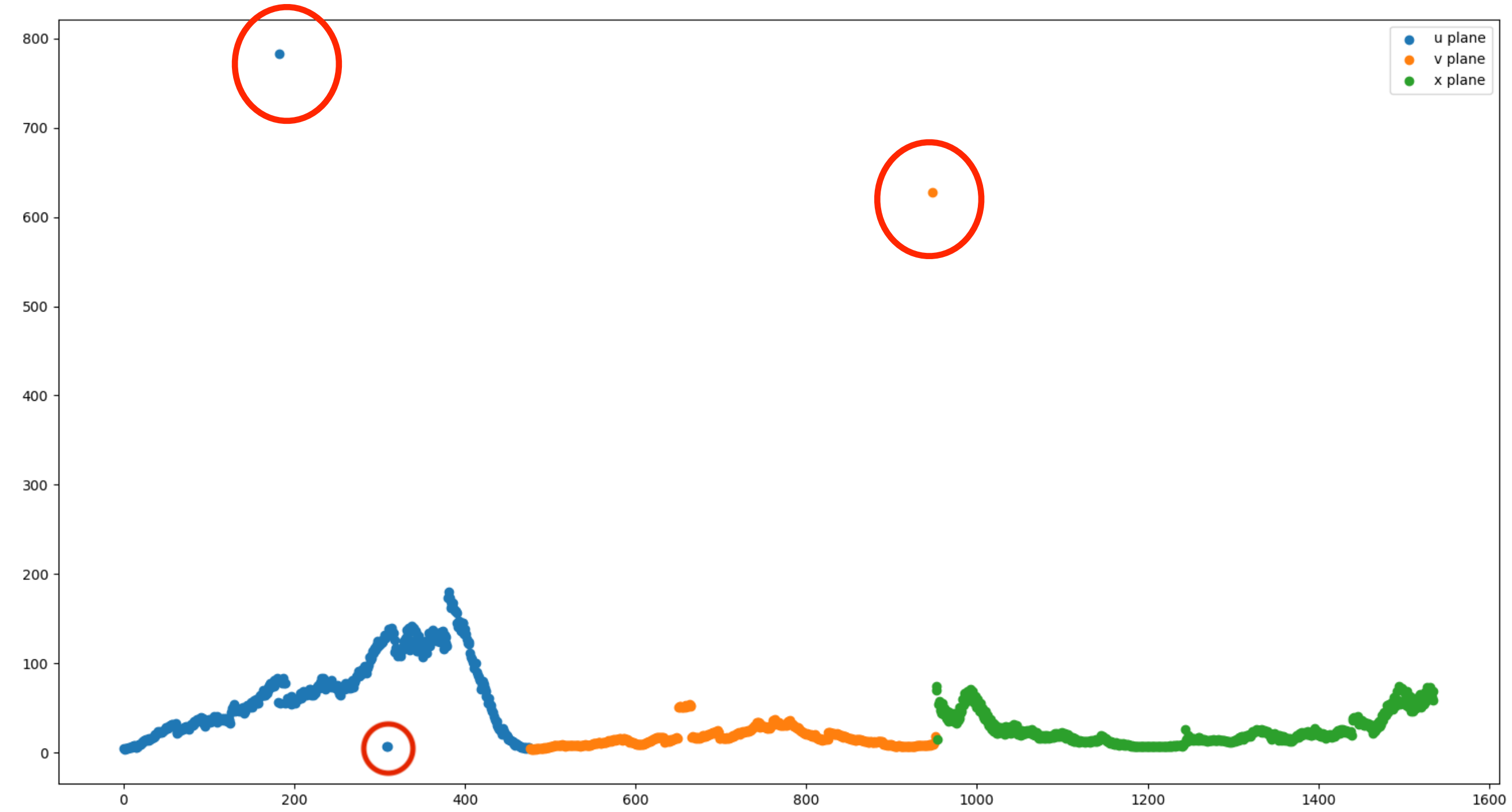
CRP5b CE noise

RMS vs. Strips



Before Patch Panel installation

RMS vs. Strips

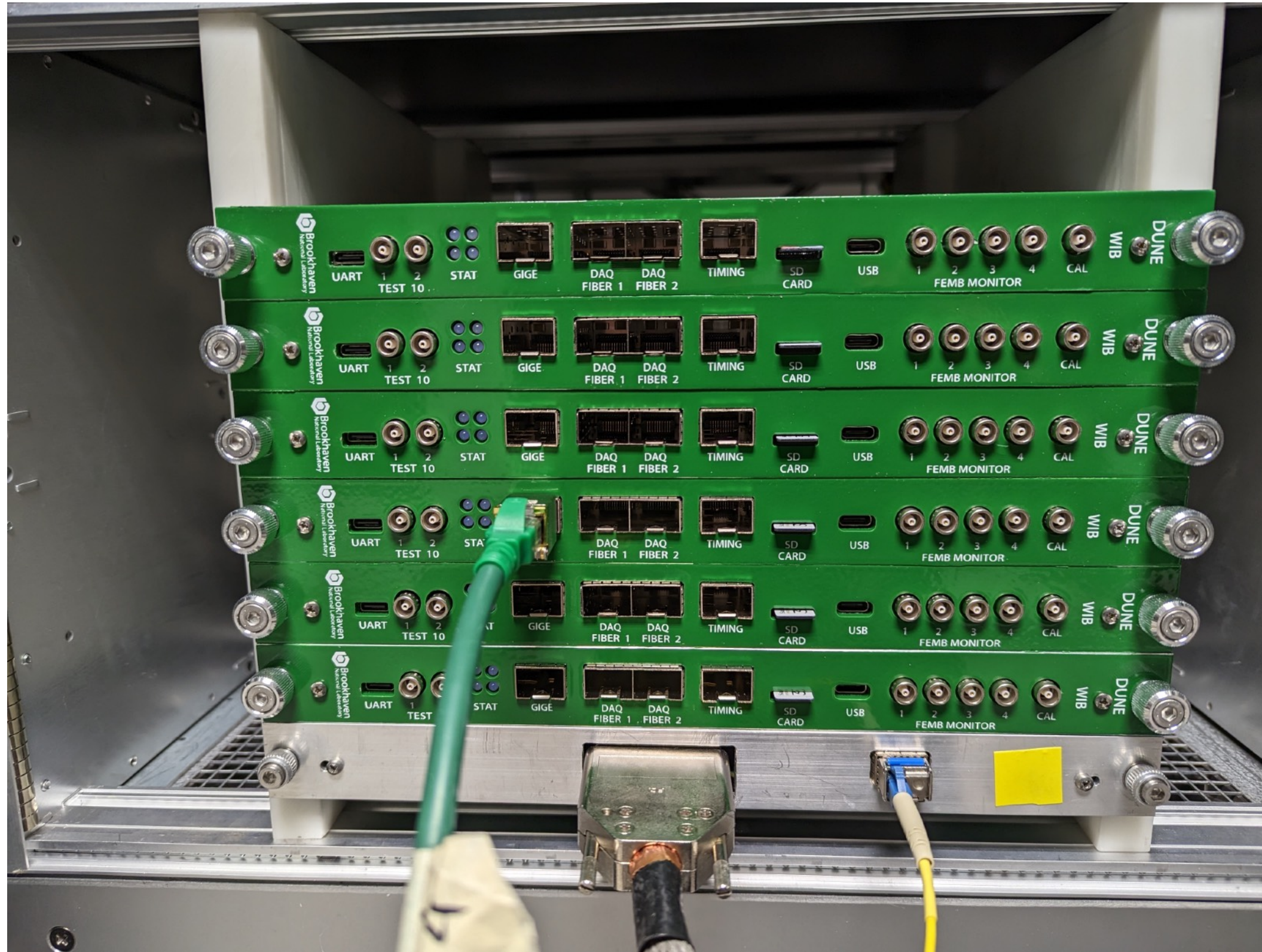


After Patch Panel installation

- Two high noise channels:
1st Induction plane, strip 182;
2nd Induction plane, strip 472

- Two open channels:
1st Induction plane, strip 308, 309

CRP5b WIBs



- 6 WIBs are installed at the VST test stand
- Loaded with the latest firmware and software