

# XLAB update

- ❑ **X-band test stand facility is operating at 100% of its previous assembly level at CERN.**
  - ❑ Line conditioning (full system without structures) is currently underway.
- ❑ The next step
  - ❑ **Calibration: DONE TODAY**
    - ❑ With stable temperature (rooms and LLRF rack) we repeat the attenuation calibration
    - ❑ PXI power calibration (power meter)
  - ❑ **Bead pull (setup the lab.)**
- ❑ Spectrometer update, news ?
- ❑ **Purchase through CERN:** NEXTorr, SMC chillers , RF components (variable power splitter/phase shifter- **quotes?**)...
- ❑ CANON Klystron E37113 out of stock. New E37123 is in stock at CETD for JPY 16.6M ~100k CHF
- ❑ Summer student
- ❑ The **radiation license** is on standby, but we have received the **green light** to proceed with the project.

# MEL-BOX 10/04/2024 Line3

NO STRUCTURE  
PC+LOAD CONDITIONING  
100Hz line repetition rate  
1.5us pulse width => 50ns flat top  
Line conditioning dominated by PC BDs as expected

Folder Path Read  
\\cern.ch\dfs\Users\m\mkotest\Documents\XLAB\DATA\LINE\_CONDITIONING\LINE3

stop  
STOP

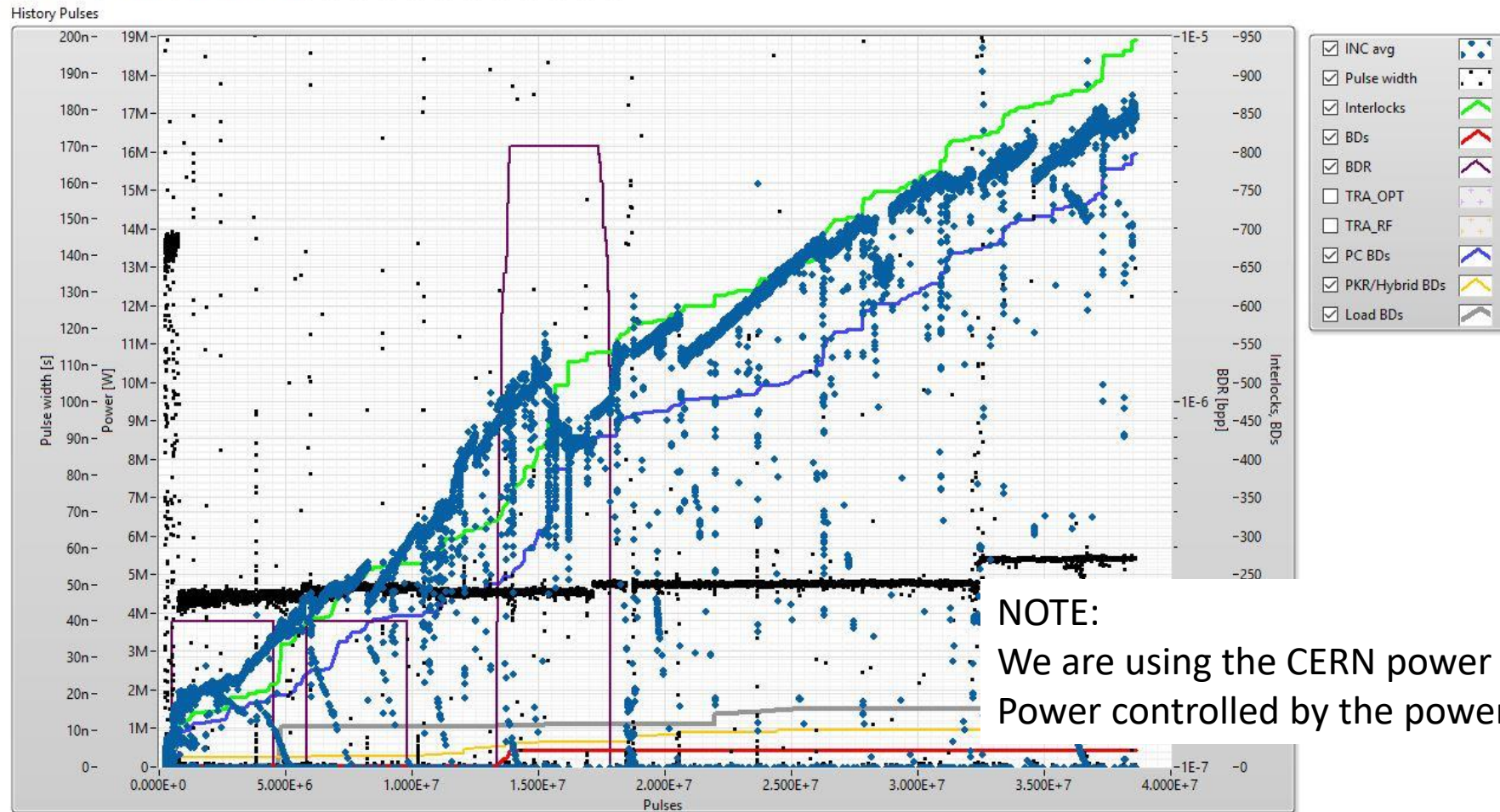
Power at 100MV/m  
42M

From 19:08 01/03/2024 to 17:38 04/04/2024

Line? A

Create BDR Timestamp list?  
BDR window [pulses] 4.000M Cluster window [s] 20

Time Pulses Gradient (disabled)BD cell



NOTE:  
We are using the CERN power calibration  
Power controlled by the power meter

# MEL-BOX 10/04/2024 Line4

Folder Path Read  
\\cern.ch\dfs\Users\m\m\m\test\Documents\XLAB\DATA\LINE\_CONDITIONING\LINE4

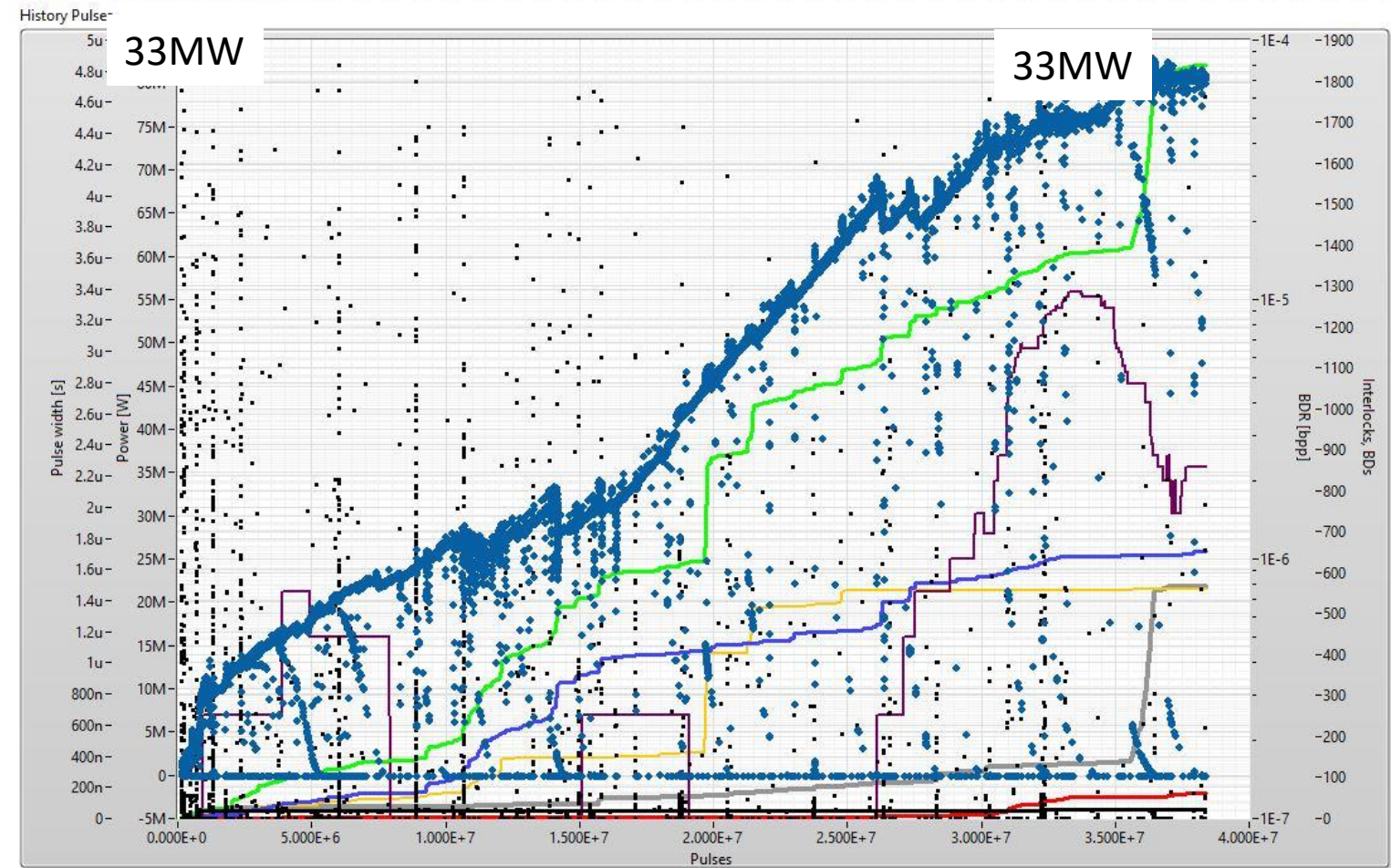
stop  
Power at 100MV/m  
42M  
From 19:08 01/03/2024  
to 17:38 04/04/2024  
Line? B  
Create BDR Timestamp list?  
BDR window [pulses] 4.000M  
Cluster window [s] 20  
Pulse count @Start 0.00000000E+0

# Pulses	Equiv hours @50Hz	Run hours	Mean PKR/Hybrid BDR	Mean Load BDR
38357453	213	798.176	1.46E-5	1.48E-5

# Inte 1835  
Uptin 26.7

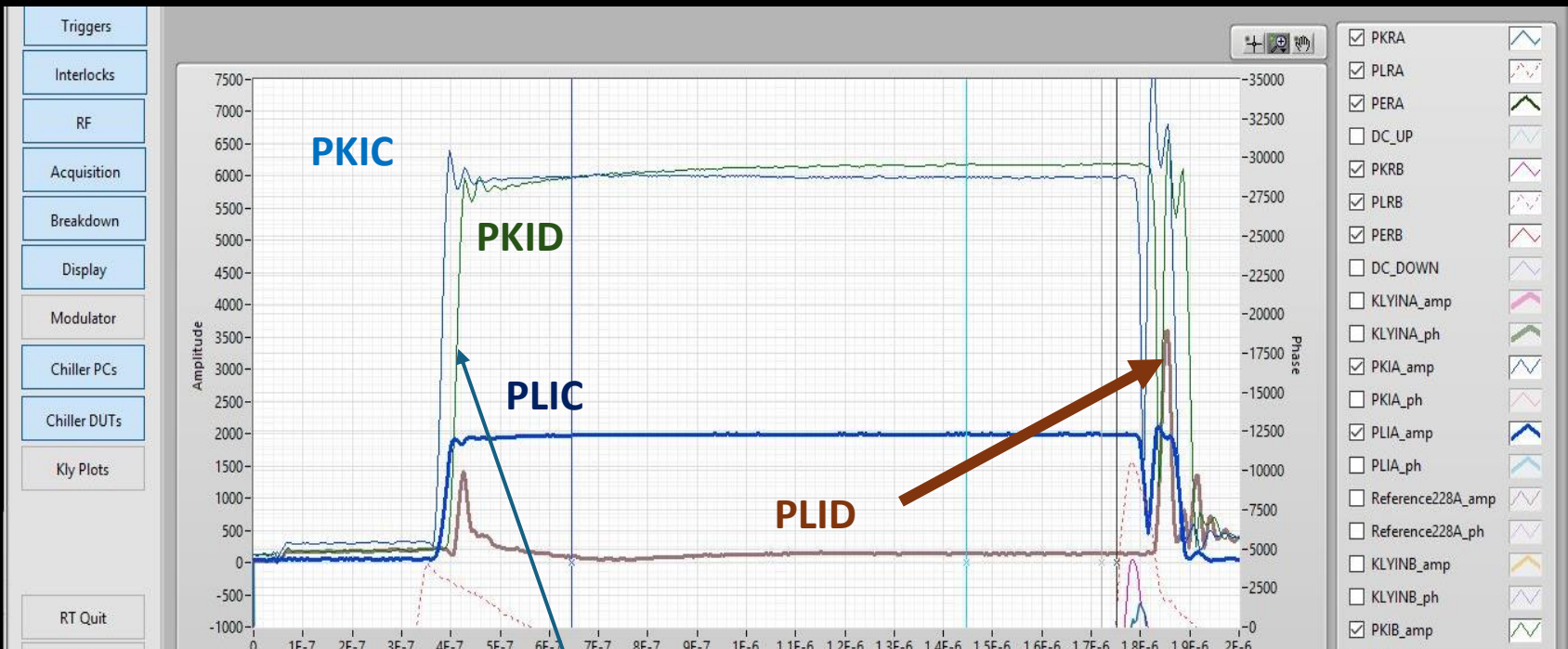
RF windows and LOADs are conditioning well

Time Pulses Gradient (disabled)BD cell

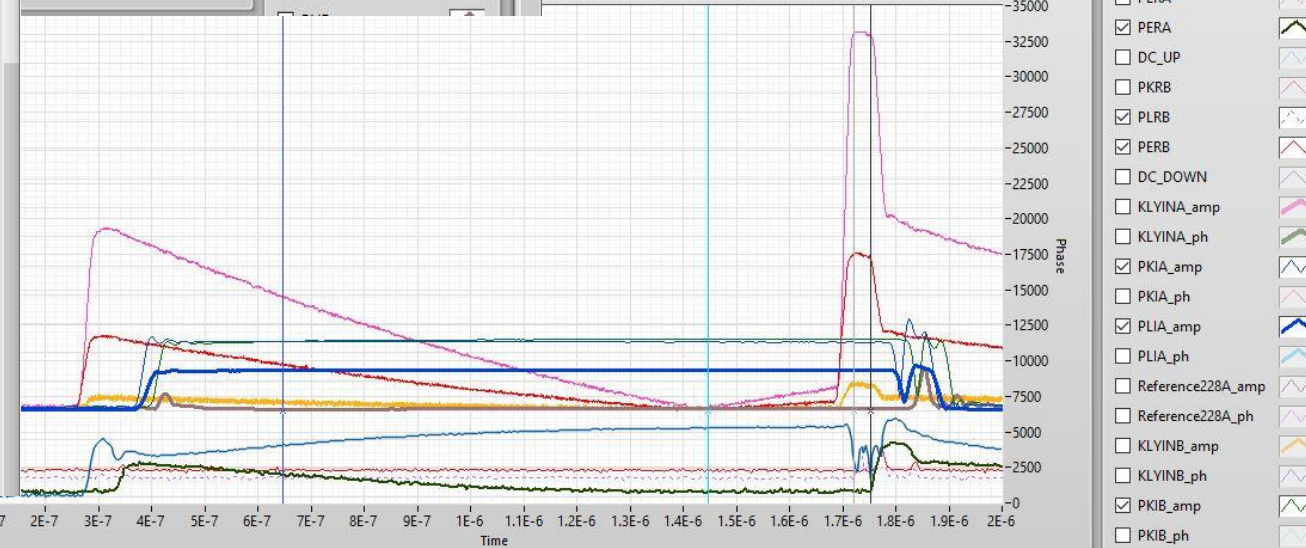
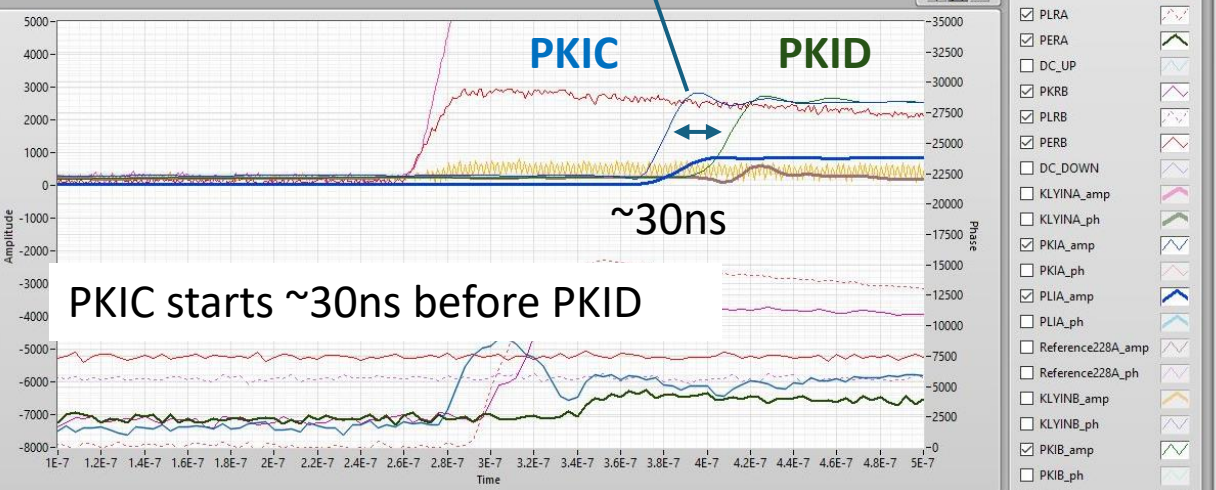


- INC avg
- Pulse width
- Interlocks
- BDs
- BDR
- TRA\_OPT
- TRA\_RF
- PC BDs
- PKR/Hybrid BDRs
- Load BDs

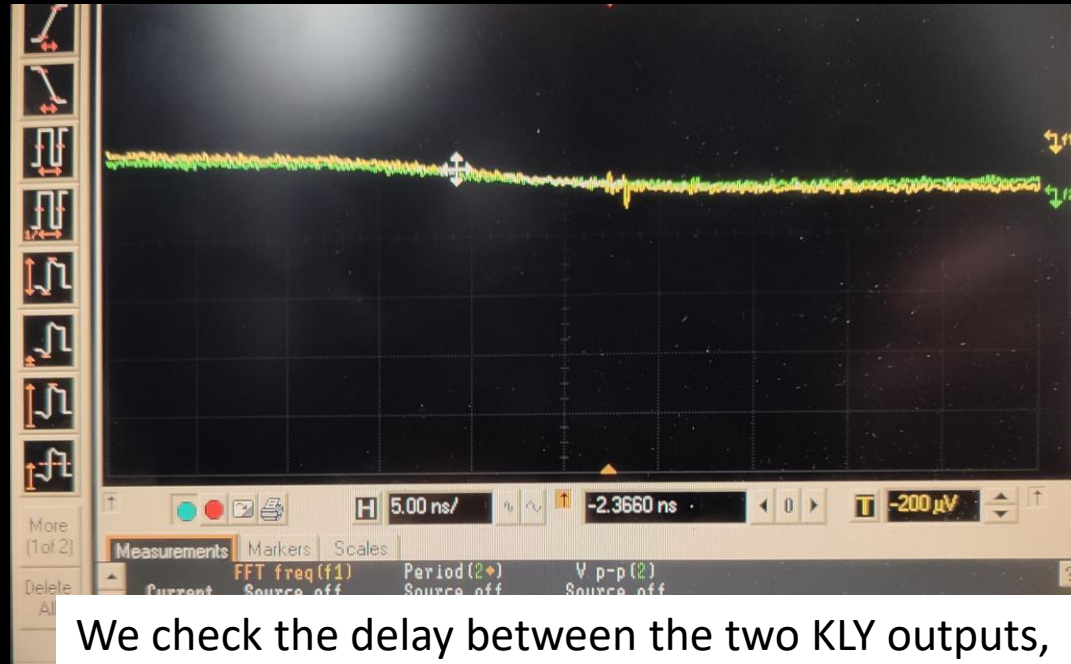
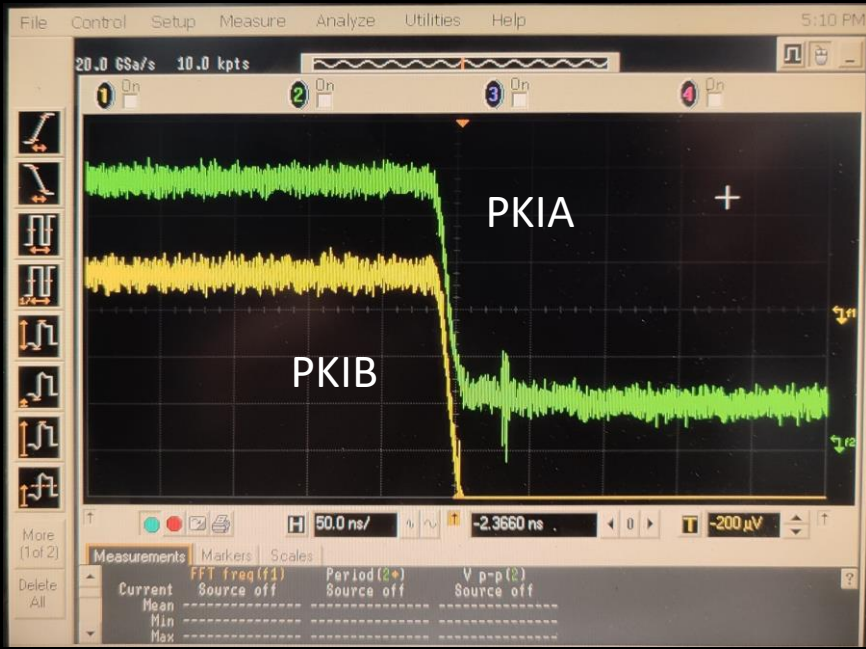
# Pulses shifts issues



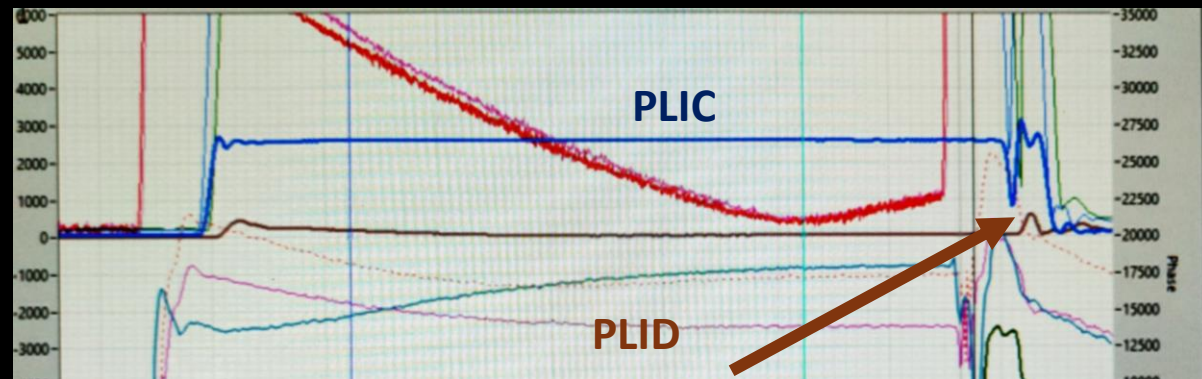
PKIC=1.85MW  
PKID=2MW  
PLIC=4.28  
PLID= Peak ~2MW



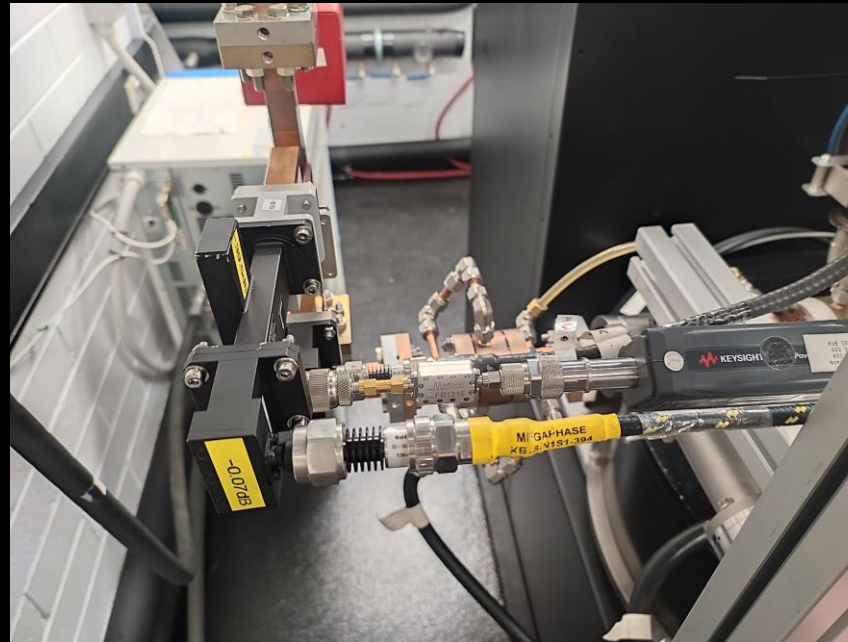
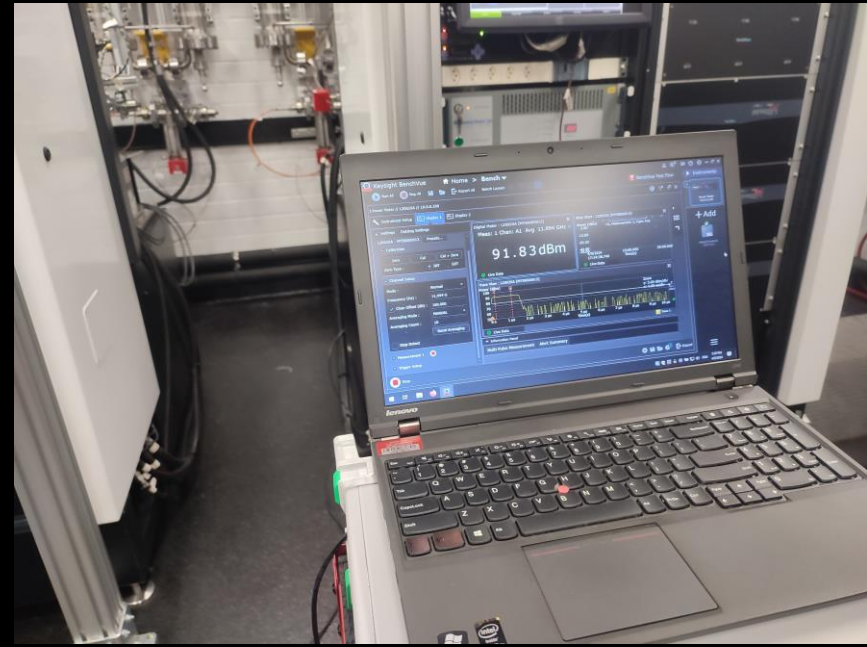
# Time shifted by adding 2m of cables



We check the delay between the two KLY outputs,  
We saw a delay of about 6ns => then we add 2m cables  
The PLID spikes have been drastically reduced  
Next step : time finetuning with software.



# Calibration



# Bead pull setup

