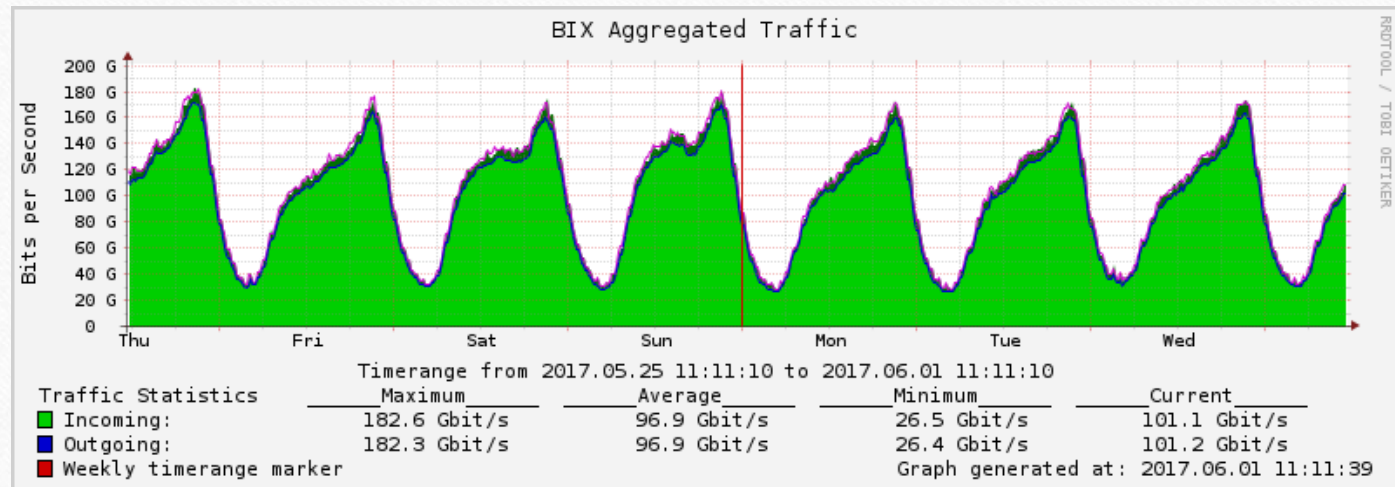


# GBT Link Skew Measurement on the ALICE CRU Card



# Introduction

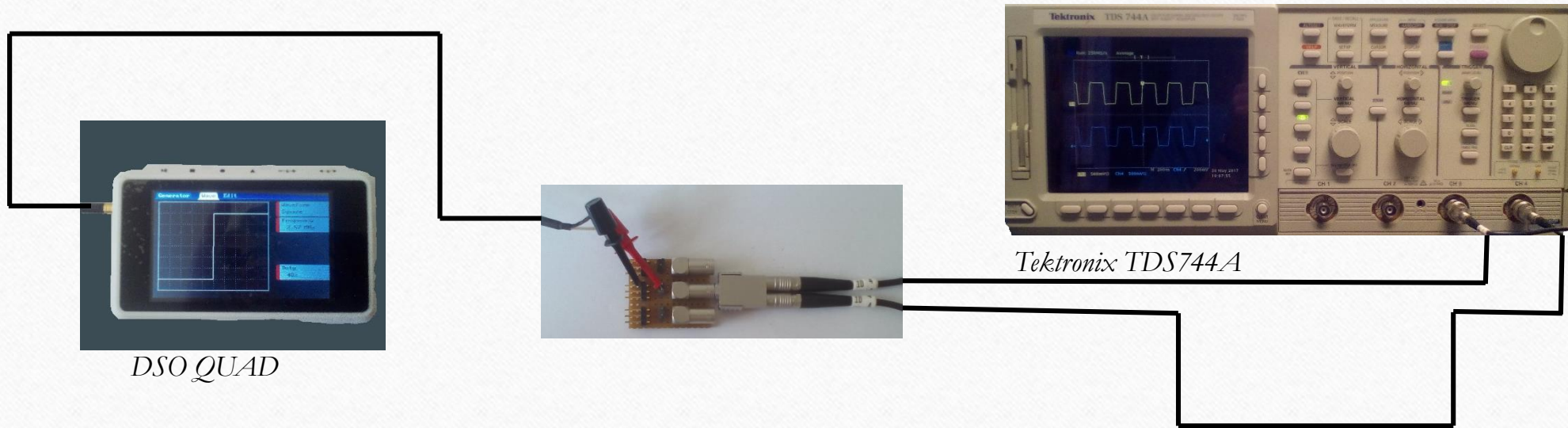
- Cern, ALICE Experiment Upgrade
- CRU cards - Bix
- Optic cables





# Measurement #1 - Setup

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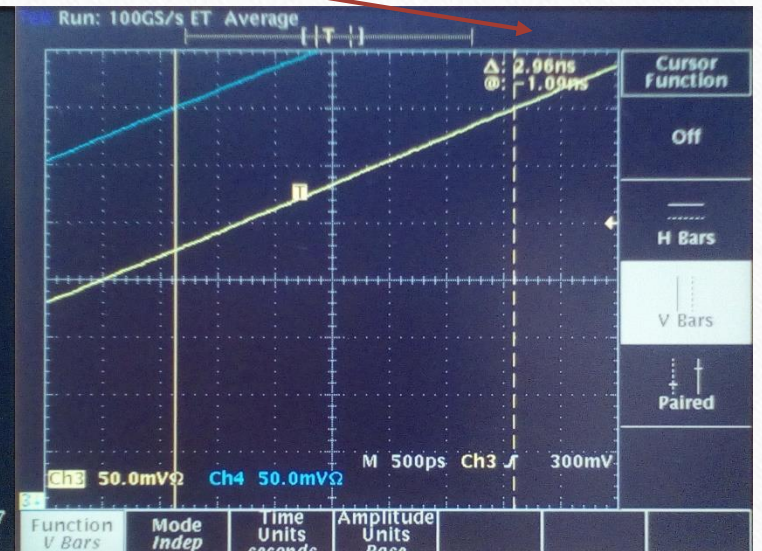
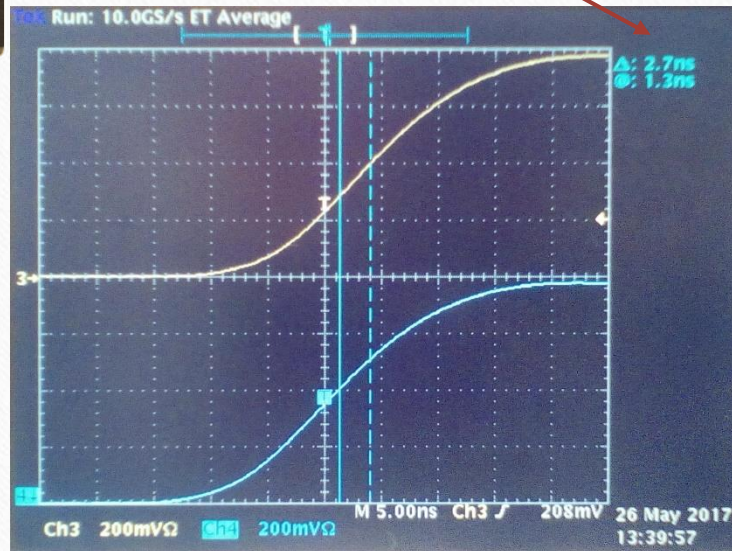


- We built the experiment
- We set the scope controls and moved the waveform to the right position
- We measured the time difference between the two waveforms



# Measurement #1 - Results

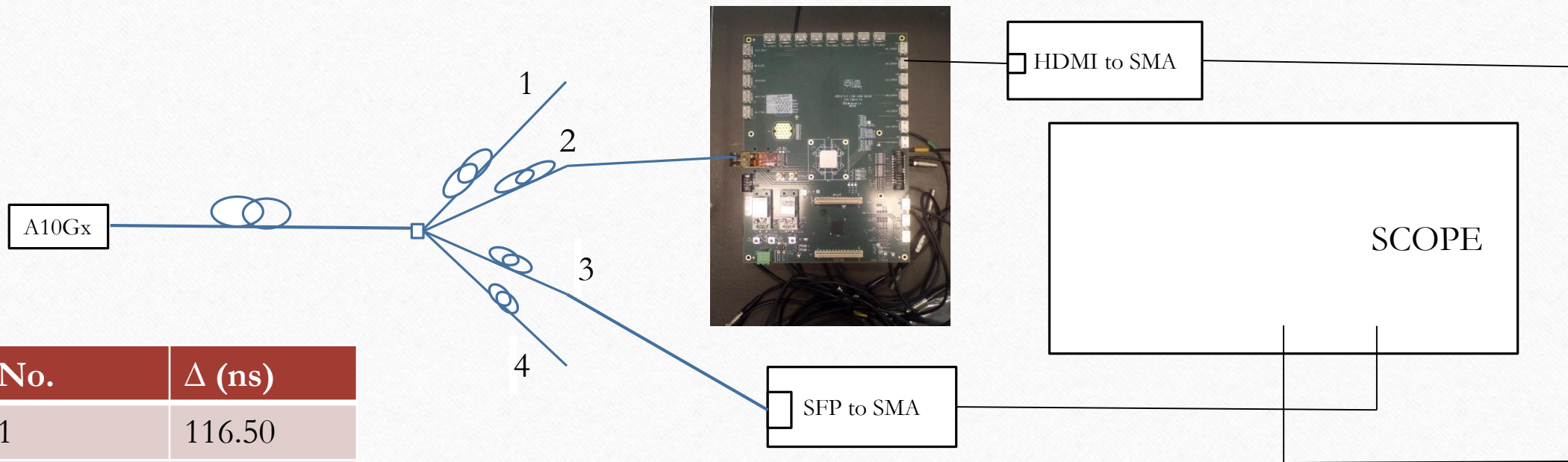
$\Delta_{\text{meas.}}$ (ns)	$T_{\text{meas.}}$ (ns)	$F_{\text{meas.}}$ (kHz)	$\Delta_{\text{nom.}}$ (ns)	$T_{\text{nom.}}$ (ns)	$F_{\text{nom.}}$ (kHz)
30.2	388	2577	30 (16+16-2)	400	2500
2.7; 2,78; 2,96	23200	43.1	3 (5-2)	-	-





# Measurement #2 – Setup and Results

VLDB

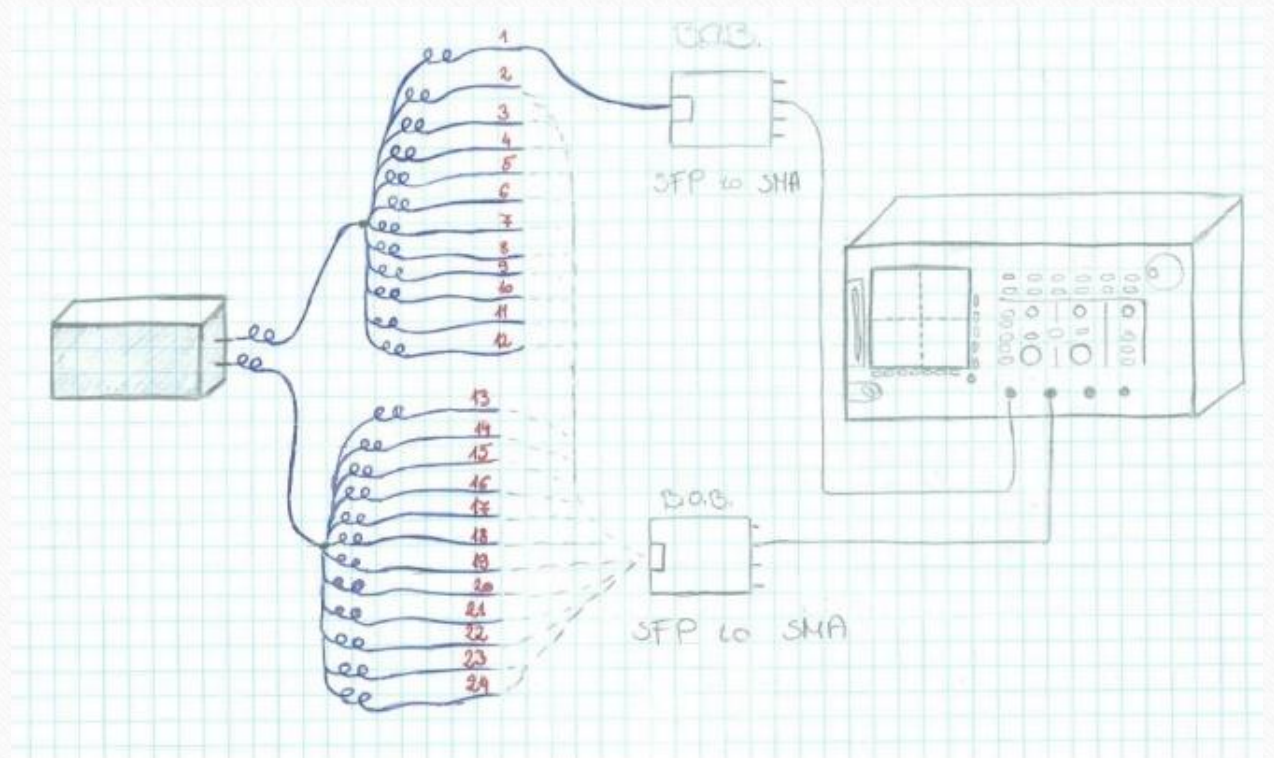


No.	$\Delta$ (ns)
1	116.50
2	116.51
4	116.57

Tektronix TDS744A

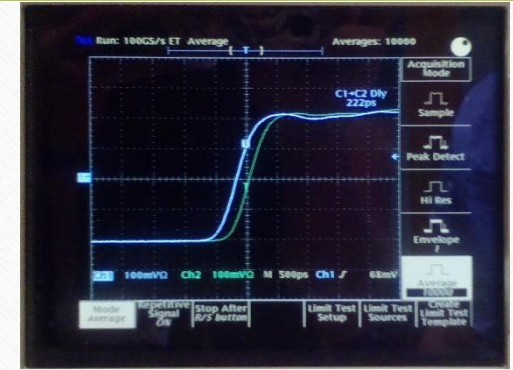
# CRU Measurement #3 – Setup

- CRU => optic cables (24) =>  
B.o.b => Oscilloscope



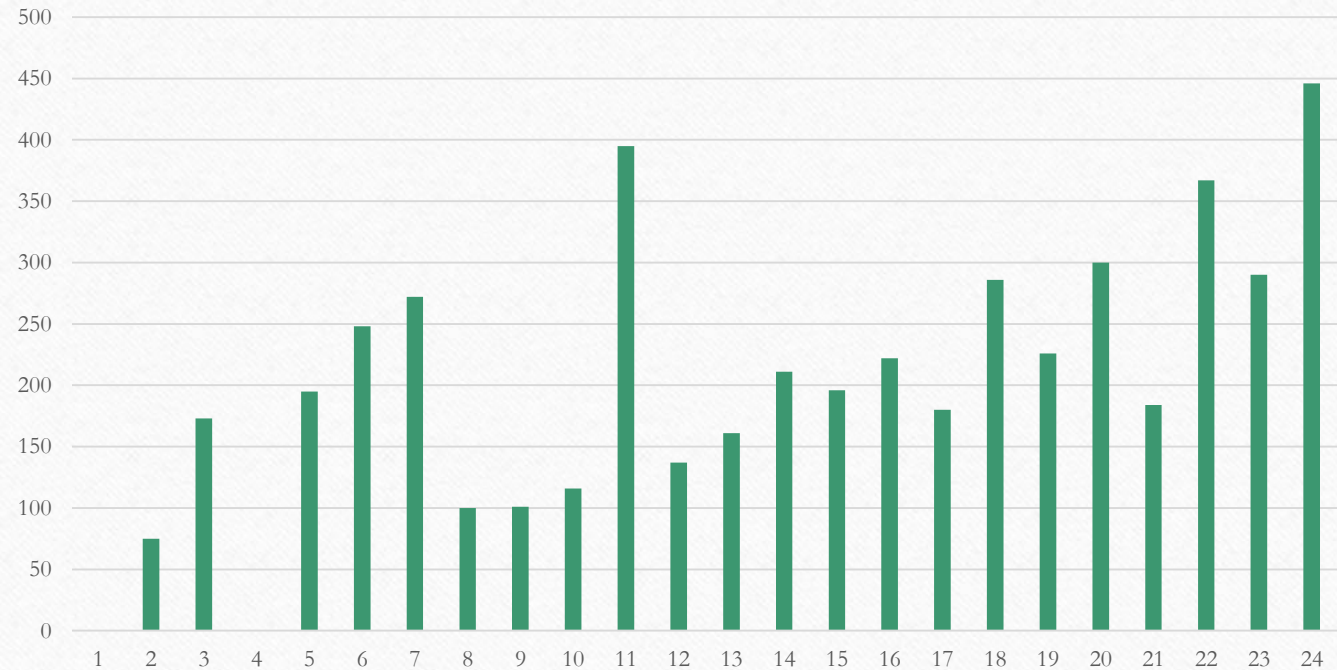


# CRU Measurement #3 - Results



1	
2	75 ps
3	173 ps
4	
5	195 ps
6	248 ps
7	272 ps
8	100 ps
9	101 ps
10	116 ps
11	395 ps
12	137 ps
13	161 ps
14	211 ps
15	196 ps
16	222 ps
17	180 ps
18	286 ps
19	226 ps
20	300 ps
21	184 ps
22	367 ps
23	290 ps
24	446 ps

Chart Title



# Thanks for the attention!

