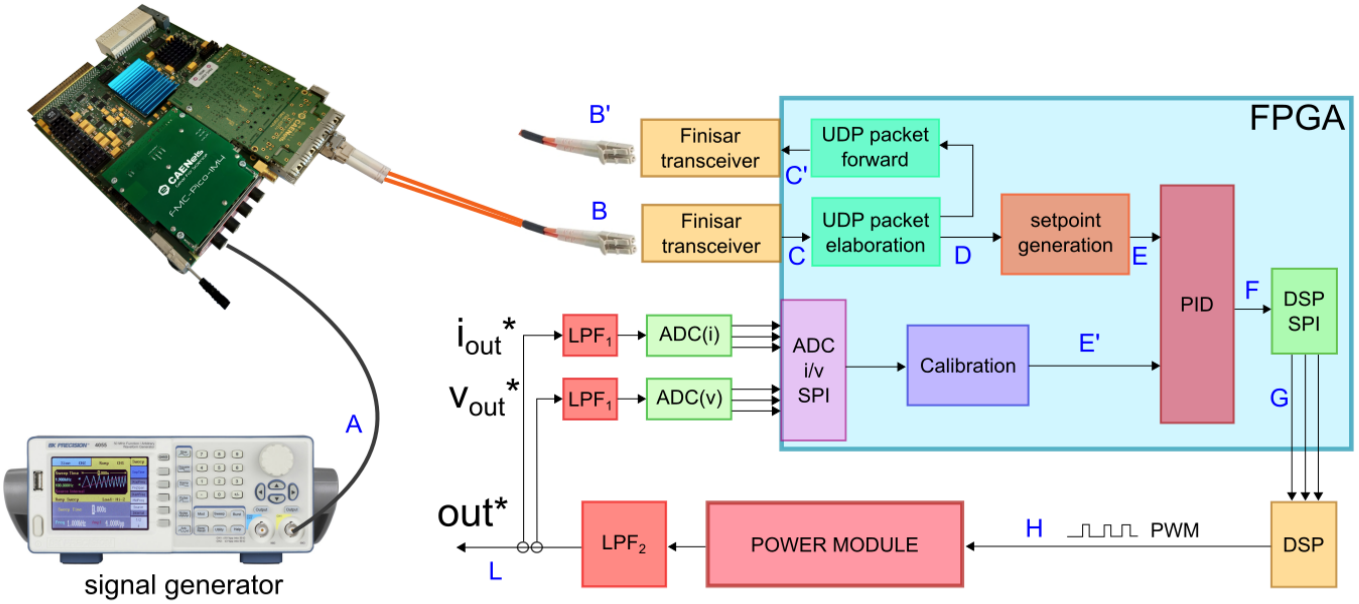
Soffox System:



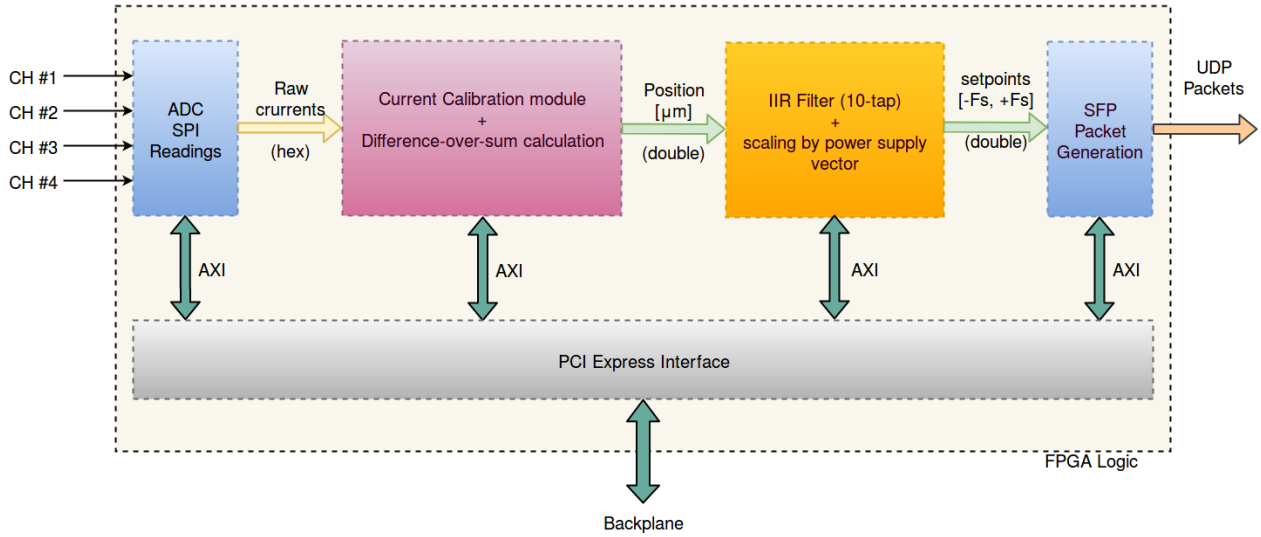
$t_{B-B'} \cong 1.7\mu s$ $t_{C-D} \cong 1.0\mu s$ $t_{D-E}^{max} = 10\mu s$ $t_{E-F} \cong 3\mu s$

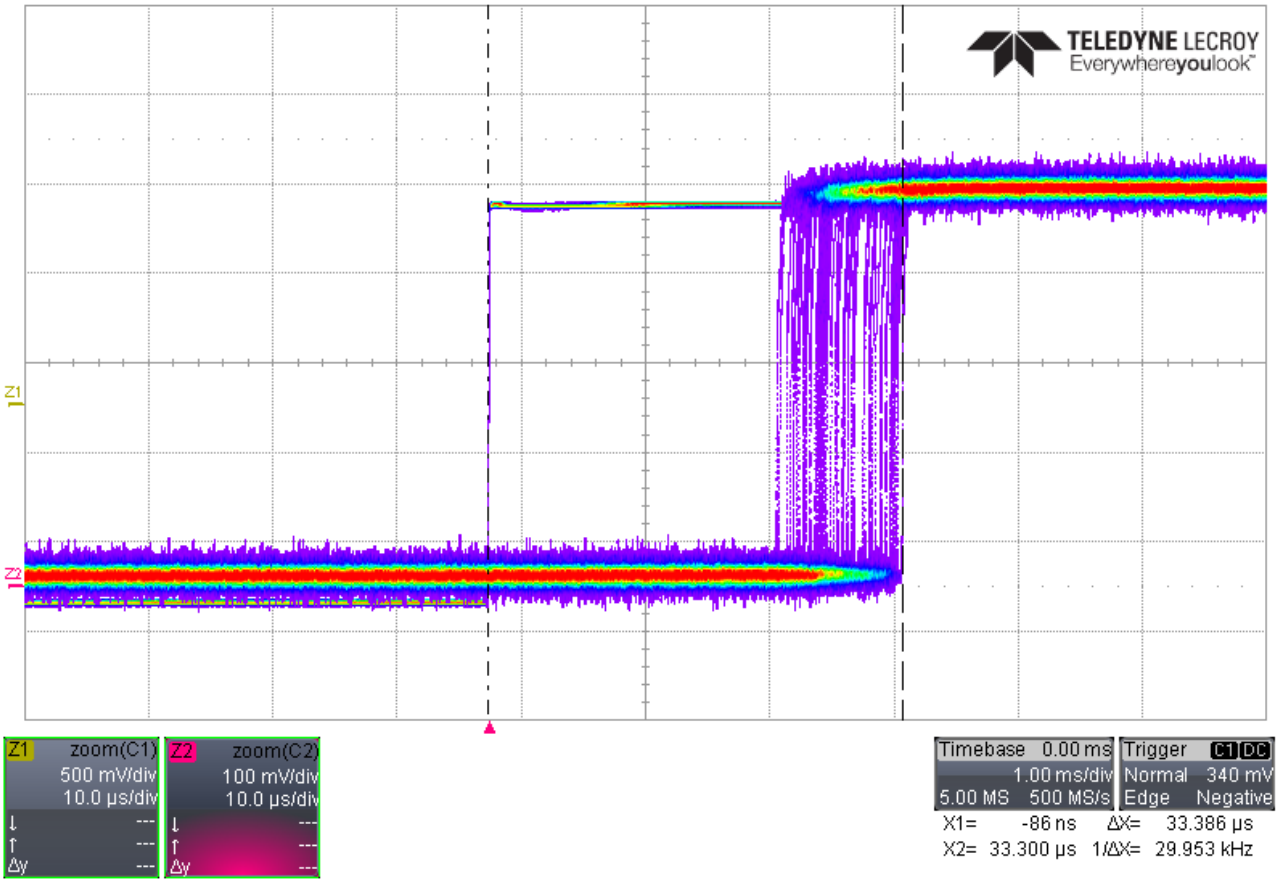
$t_{C-C'} \cong 1.3\mu s$ $t_{F-G} \cong 0.5\mu s$ $t_{F-E'} \approx 50\mu s$

$t_{A-L(10\%)} \cong 85\mu s$ $t_{A-L(90\%)} \cong 200\mu s$ resistive load

LPF_1 f_c(-3dB) = 5.8 kHz, LPF_2 f_c(-3dB) = 6.8 kHz

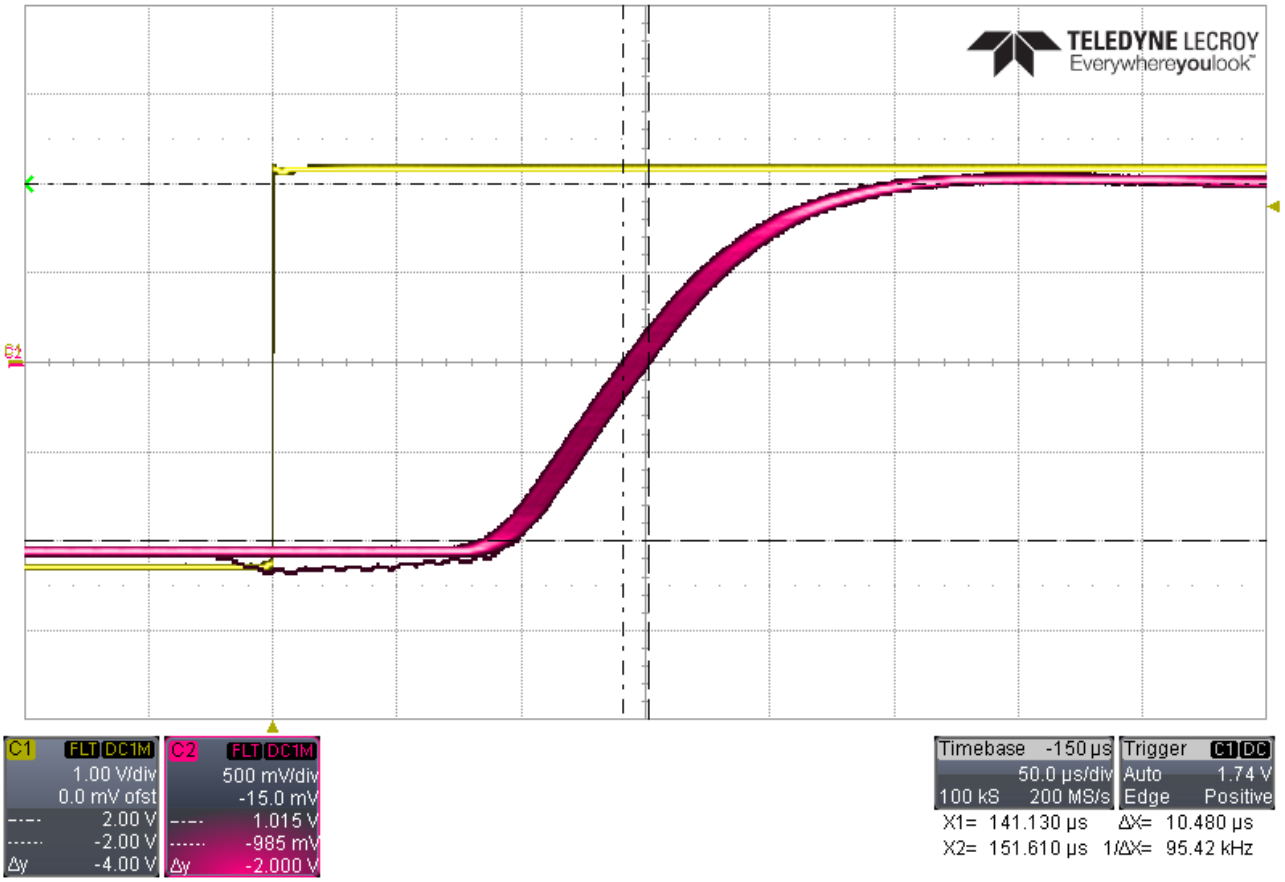
Delay Measurements of DAMC-FMC25 digital elaboration:





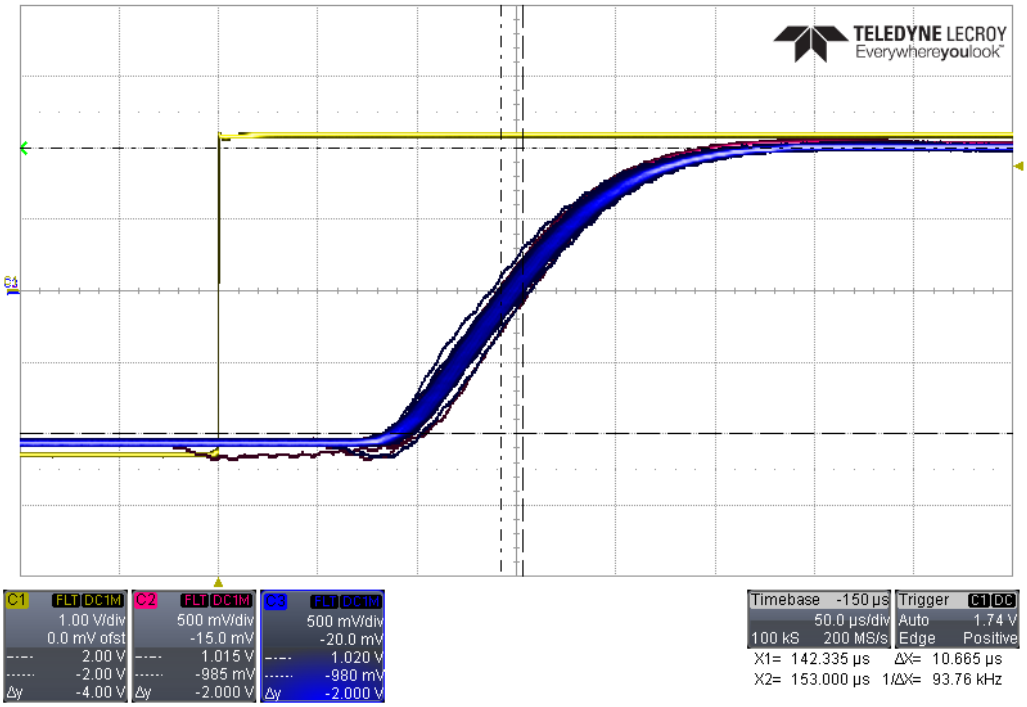
Digital elaboration maximum latency ≈ 34 us, minimum ≈ 24 us

Overall Latency Measurements:



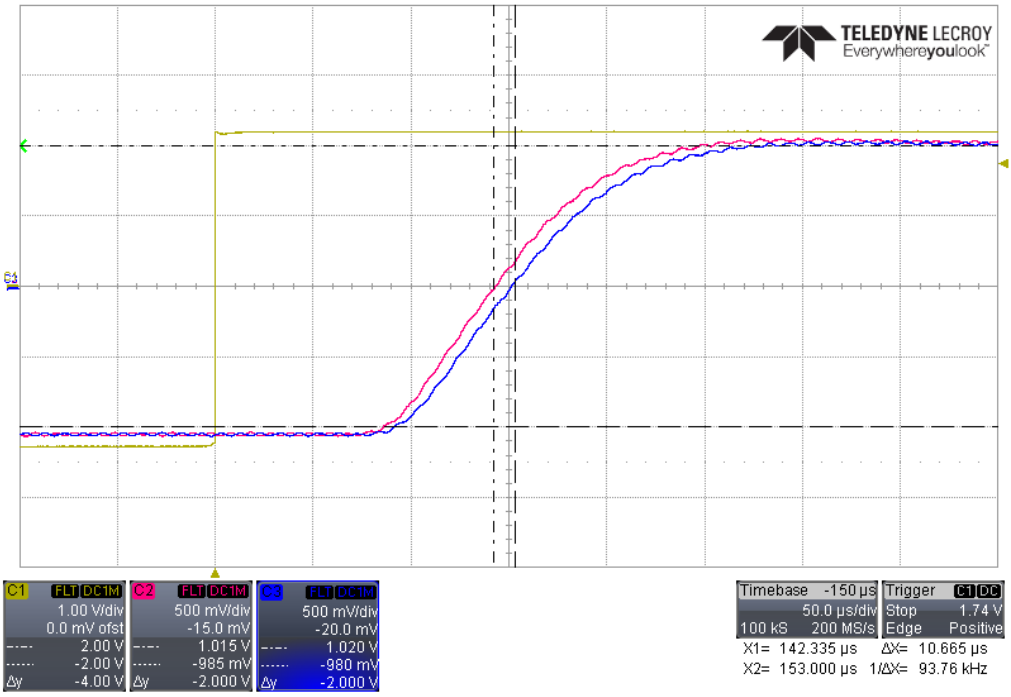
$t_{A\text{-}L}$≈85 us (10%), $t_{A\text{-}L}$≈200 us (90%), Δt=10 us
square wave (yellow), voltage on resistive load (red)
recorded with Lecroy MSO 44MXs-B with “persistance” enabled

Output of first (red) and second (blue) FAST-PS (daisy-chain



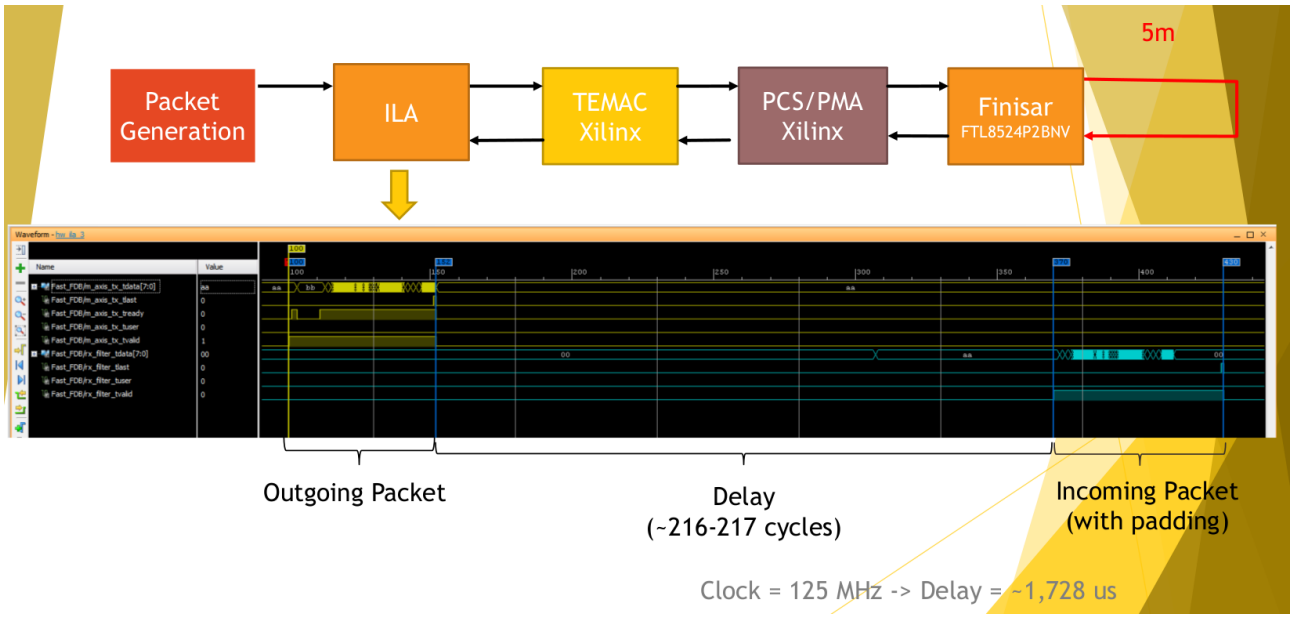
connection) recorded with Lecroy MSO 44MXs-B with “persistance” enabled

Output of first (red) and second (blue) FAST-PS (daisy-chain



connection) recorded with Lecroy MSO 44MXs-B with “persistance” disabled, maxium Δt=10 us

Additional Latency Measurements:



latency of TEMAC and PCS/PMA ip Xilinx Cores, responsible of UDP packet elaboration and transmission on FAST-PS