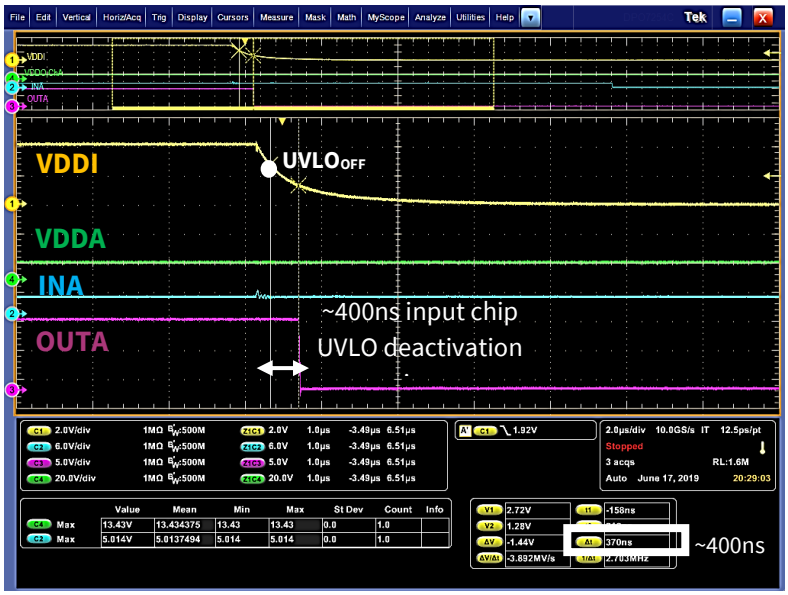
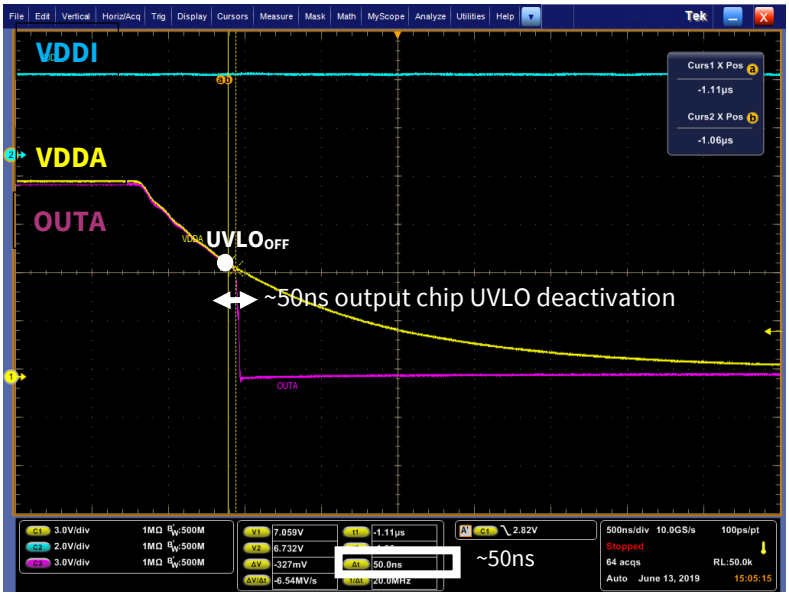
Scenario:

I have one question regarding the 2EDi immunity to noise. If there is a glitch/spike on the driver supply (input or output) and the supply is going down touching the UVLOOFF threshold, how is this going to affect the normal operation of the driver?

Solution:

When, due to glitch noise, the input or output supply goes below the $UVLO_{OFF}$ threshold, the UVLO block in the PMU(Power Management Unit) of the input or output chip shuts down respectively in ~ 400ns and 50ns disabling the output after this time.





In case of glitches on the supply the driver does not react in the following conditions:

- Glitch on input side supply ($UVLO_{OFF, time}$ - $UVLO_{ON, time}$) < 400ns
- Glitch on output side supply ($UVLO_{OFF, time}$ - $UVLO_{ON, time}$) < 50ns

The measurements below confirm that, for output supply glitches shorter than ~50ns (52ns in 1st picture), the driver does not react. For glitches longer than~ 50ns (63ns in 2nd picture), the output chip UVLO block deactivates and shuts down the driver output (OUTA). The driver reactivates again after a time interval in the range [2us; 4us]; for more information please refer to the start-up time.

