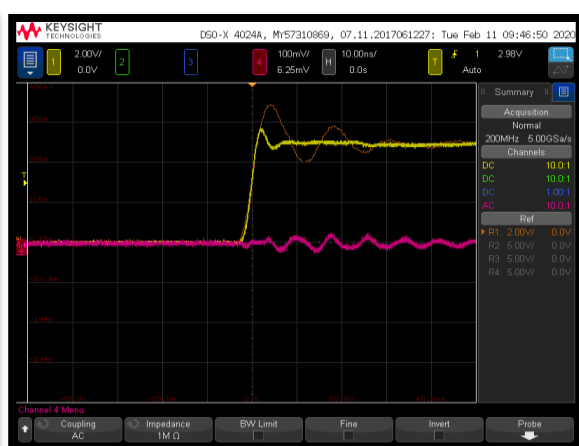
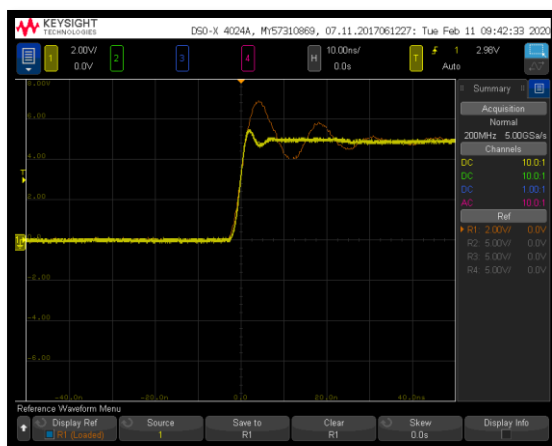


**GOAL-** Exploring three different geometries to measure the cross talk between one or more aggressor signals simultaneously switching and the noise induced in an adjacent victim signal return path.



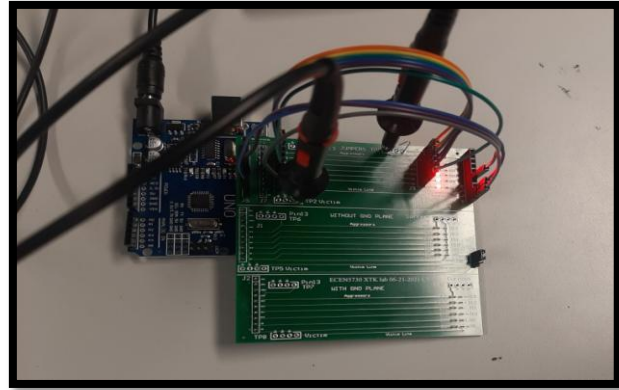
This is the cross talk that happens where the current is changing at the largest slope. The loops are larger and are of high loop inductance hence producing change in current and cross talk is happening.



There was a ringing noise at the high signal in case of larger loops as a reference in the left picture but after connecting with a shorter loop tip the ringing noise at the signal end also reduced as the inductance got reduced by the shorter loop path, That same happened for the low signal victim path which also reduced when the loop inductance reduced with shorter loops.



On the left part, the cross talk happens when the connection is done while connecting the victim and aggressor loops through the wide continuous path, While on the right side the connection is made on the common GND signal of the aggressor and victim loop which is producing an adjacent signal-return path mutual induction between the loops and hence causing a lot of switching noise.



The worst case switching noise occurs with the jumper wires just like in case of a solderless board, As there is a change of current in the aggressor signal with respect to the victim loop as well the ground signal is also shared the switching noise is lot more as shown in the reference but when changing the common gnd to the separate gnd for the victim the ringing noise of the victim plane also reduced significantly.

With respect to the understanding of the lab, there are several ways to reduce the switching noise as in to not share the common return paths in order to eliminate ground bouncing, keeping the signal return path in close proximity and finally keeping the signal paths shorts as well.