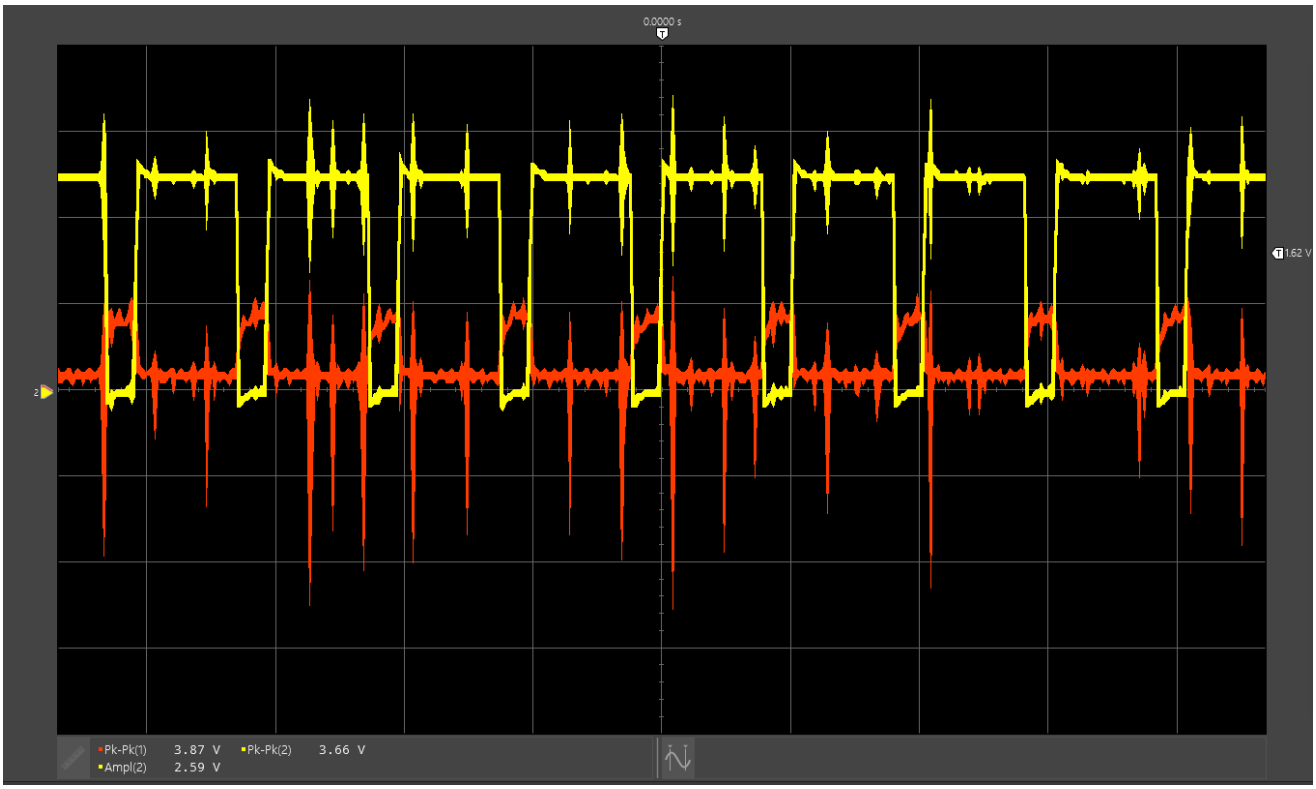
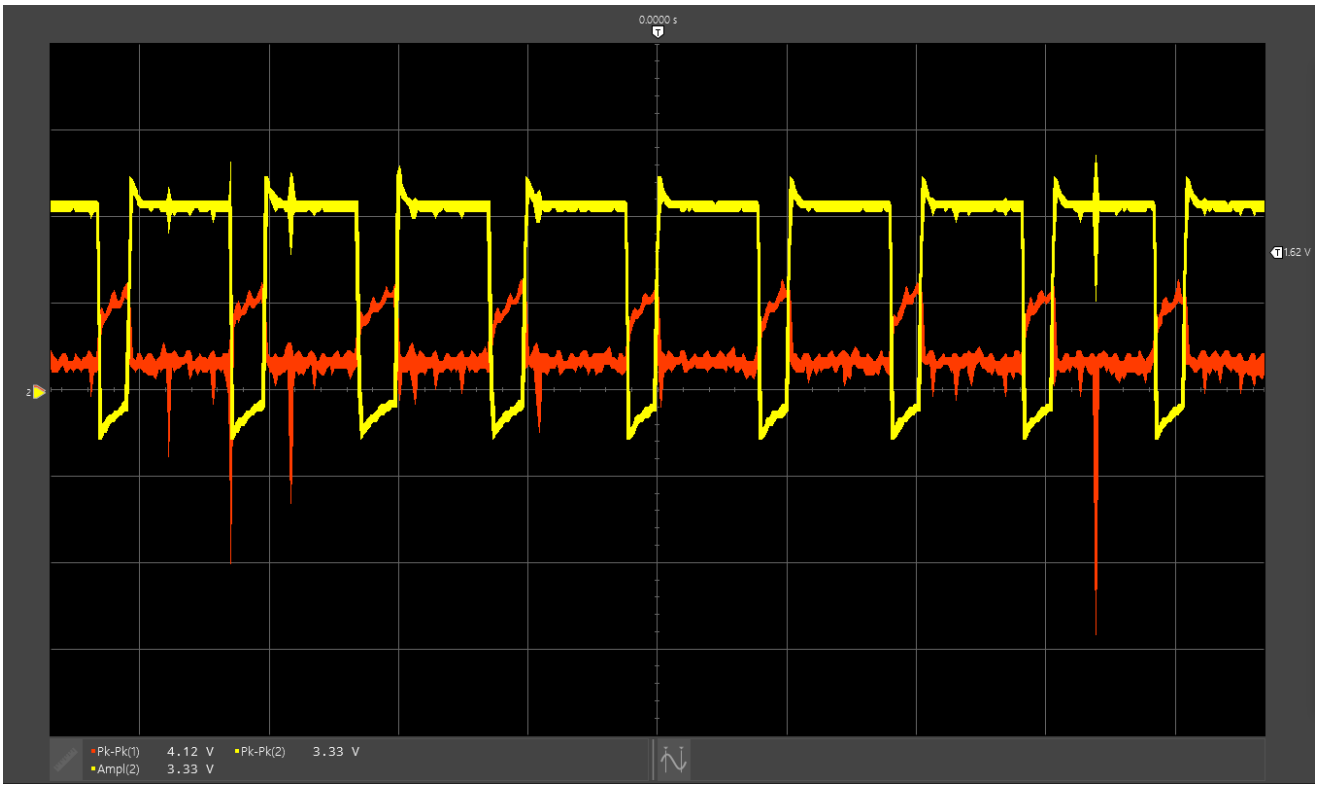
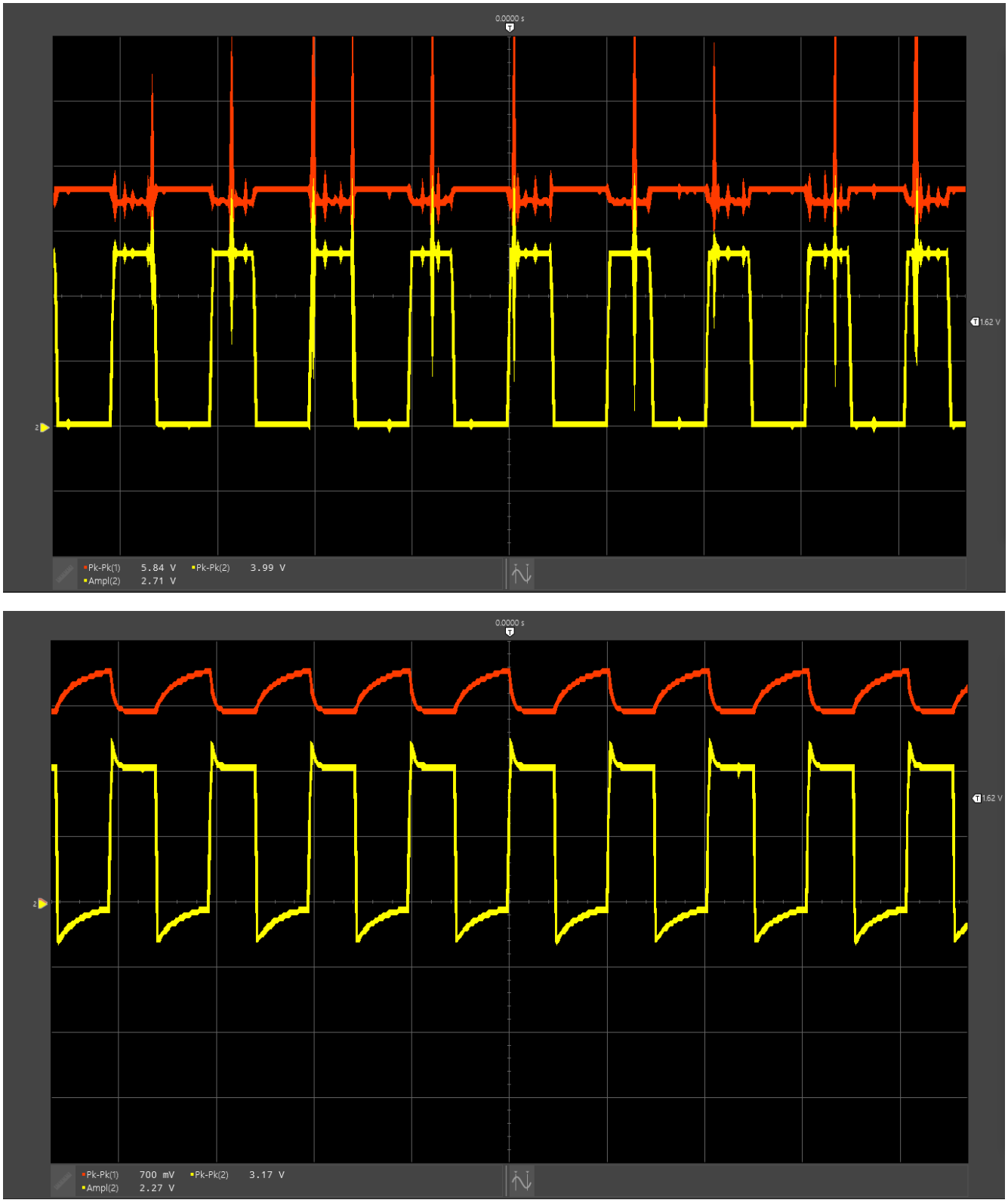
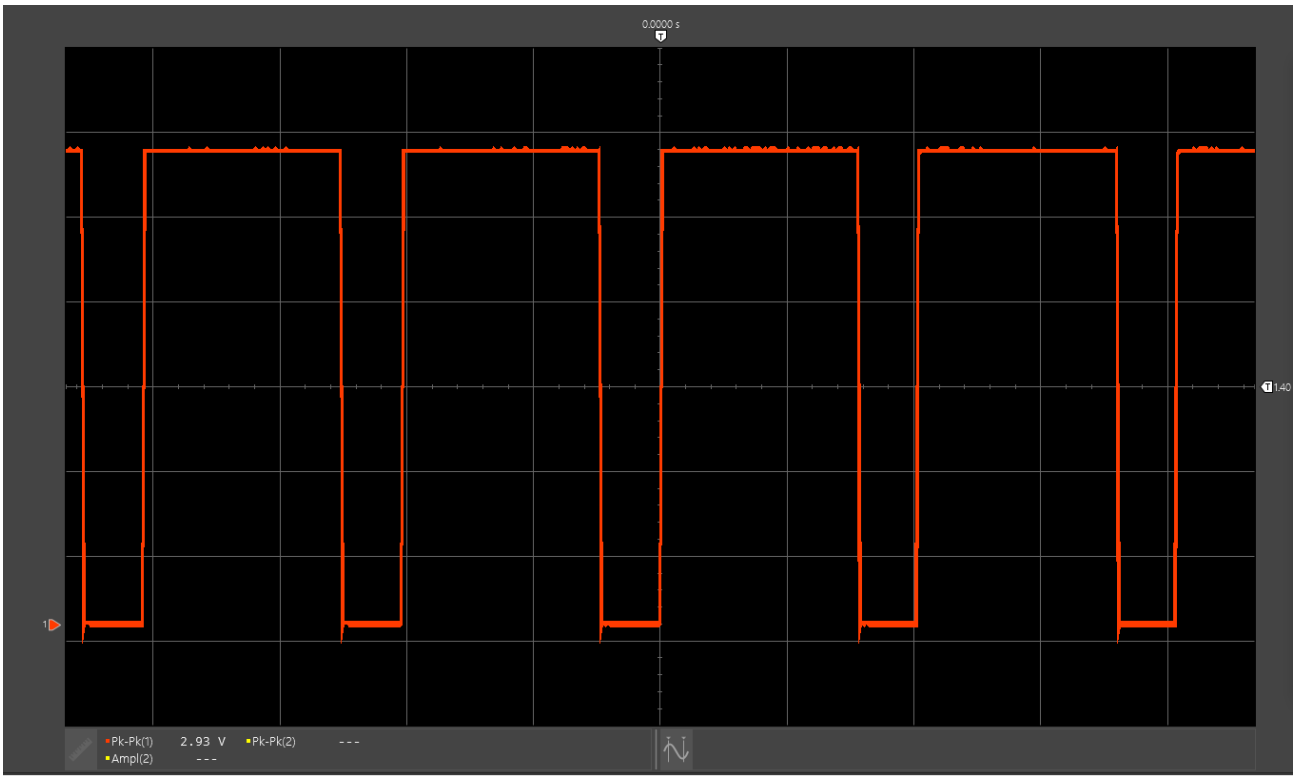


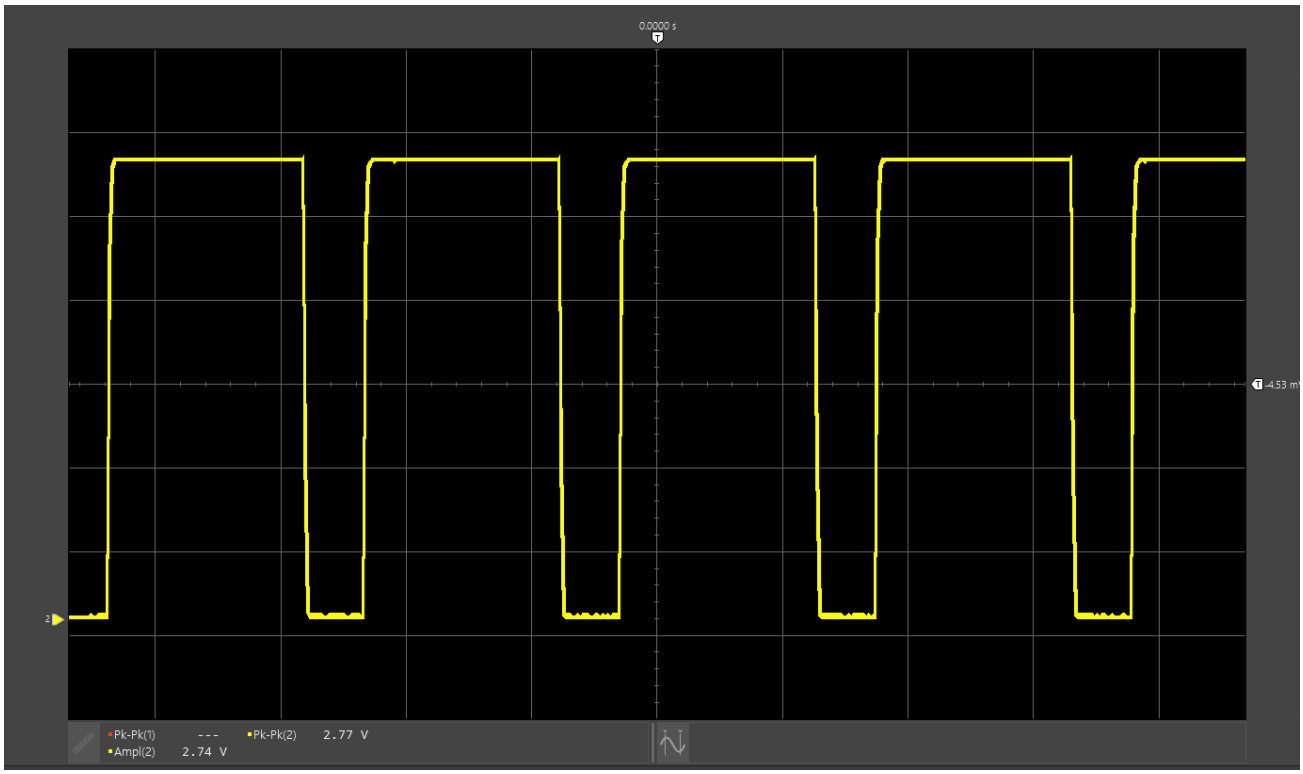


The top image shows the voltage at the FLYBACK node without the diode and the bottom shows the node with the diode. The yellow signal is the input signal, and the red signal would be the FLYBACK node that was being probed. The FLYBACK node reached approximately 2V without the diode, but remained at a max of ~1V with the diode.

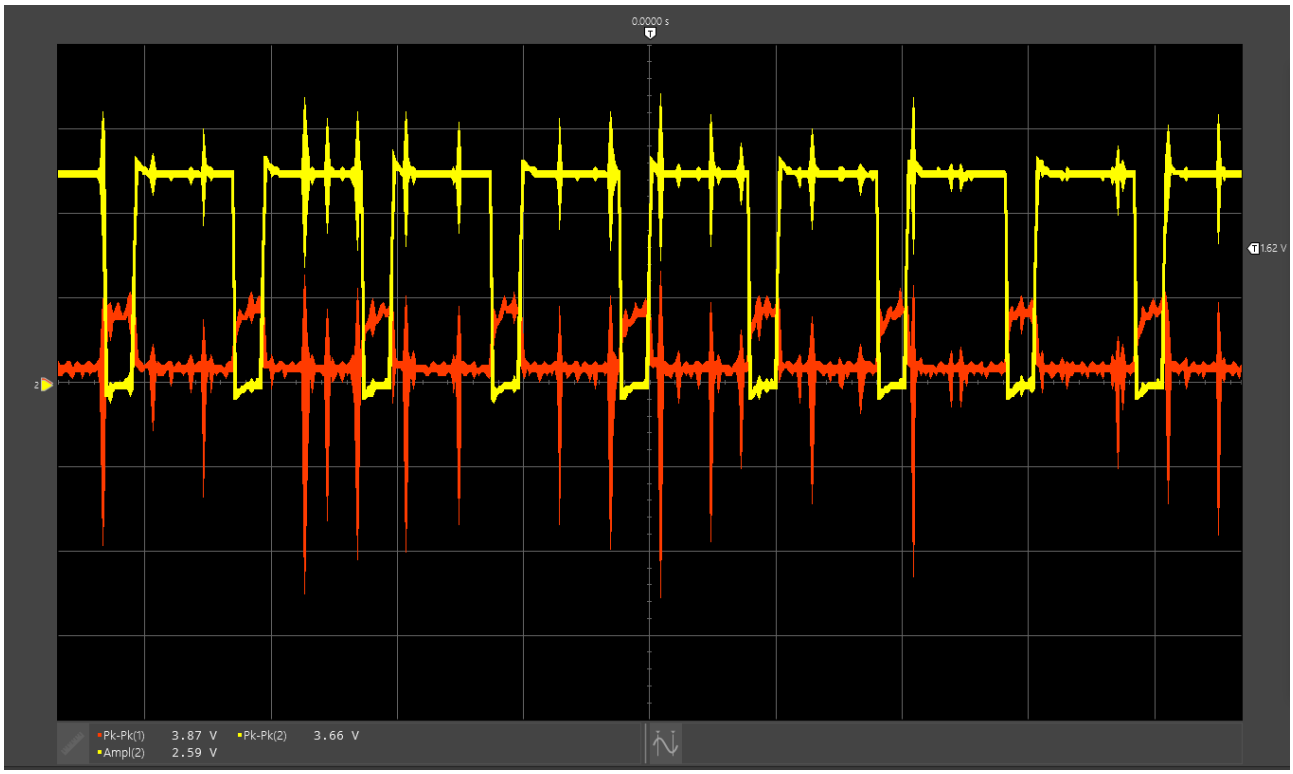


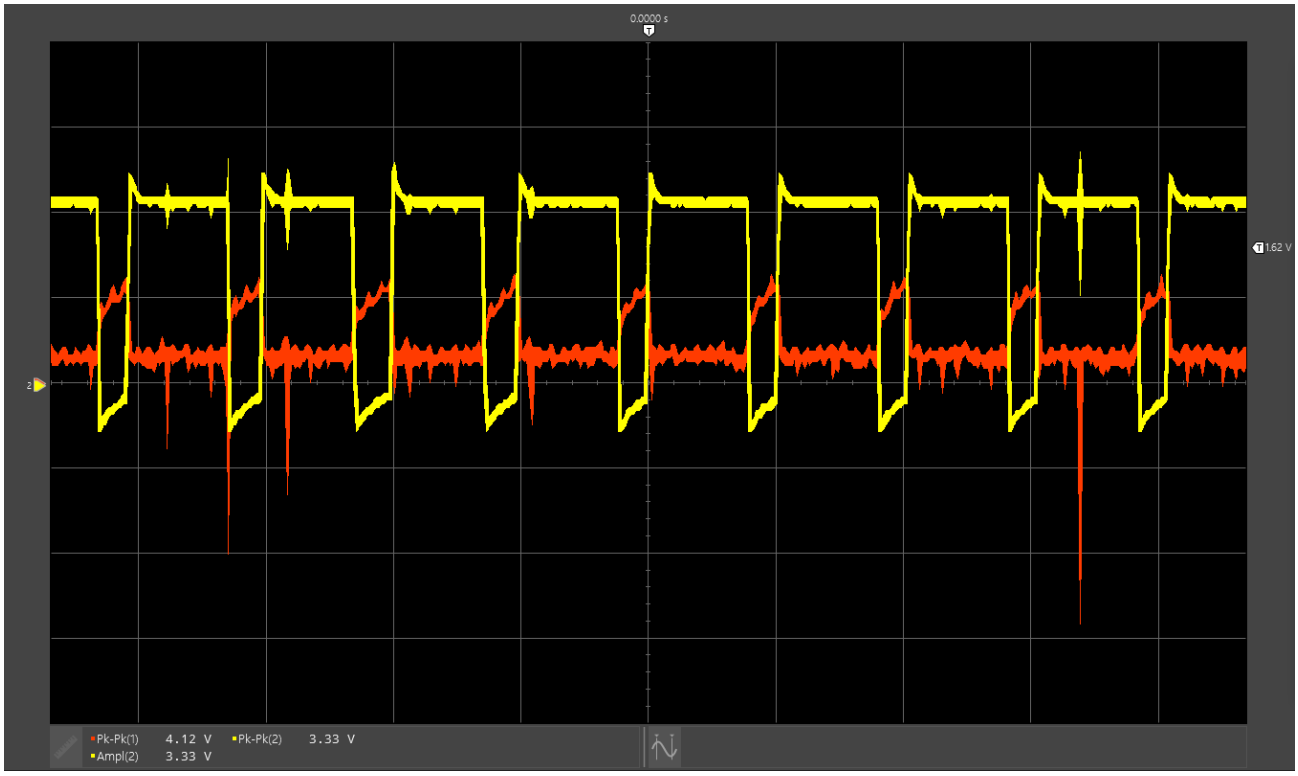
The top is the VCC (red) pin without the smoothing cap between power and ground. The bottom is the VCC (red) pin with the smoothing cap. The minimum voltage at VCC without the cap was 1.40 V, while the minimum with the cap was about 3V.





The top is the original input PWM as it is output through the red board, and the bottom is the signal after passing through the filter. The signal was subjected to a low pass filter at the input. It's quite easy to see that the LPF filtered out some of the higher resonant frequencies of the square wave, causing it to look a bit more like a saw-tooth signal.





The top is the FLYBACK node without the filter (red) plotted with the input (yellow), and the bottom is the FLYBACK node with the filter (red) plotted with the input (yellow). The most noticeable difference the filter has on this node is the reduction of the amount of high voltage noise created by the switching. Consequently, this means that the voltage range on FLYBACK with the filter is more stable with time. [There are still peaks that could be filtered out, however.]