



The estimated critical path is highlighted in blue, and the actual critical path is highlighted in red. The critical path of each datapath component is also annotated in the schematic.

Using the technique listed in the README, we estimated that the critical path would be $6.384 \text{ ns} + 6.820 \text{ ns} + 5.361 \text{ ns} = 18.565 \text{ ns}$. The actual critical path was 7.646 ns .

The estimated critical path differed from the actual critical path because Vivado added IBUFs/OBUFs to each of our datapath components when they were individually synthesized. This increased the critical path measurement for each component and affected the overall estimate.