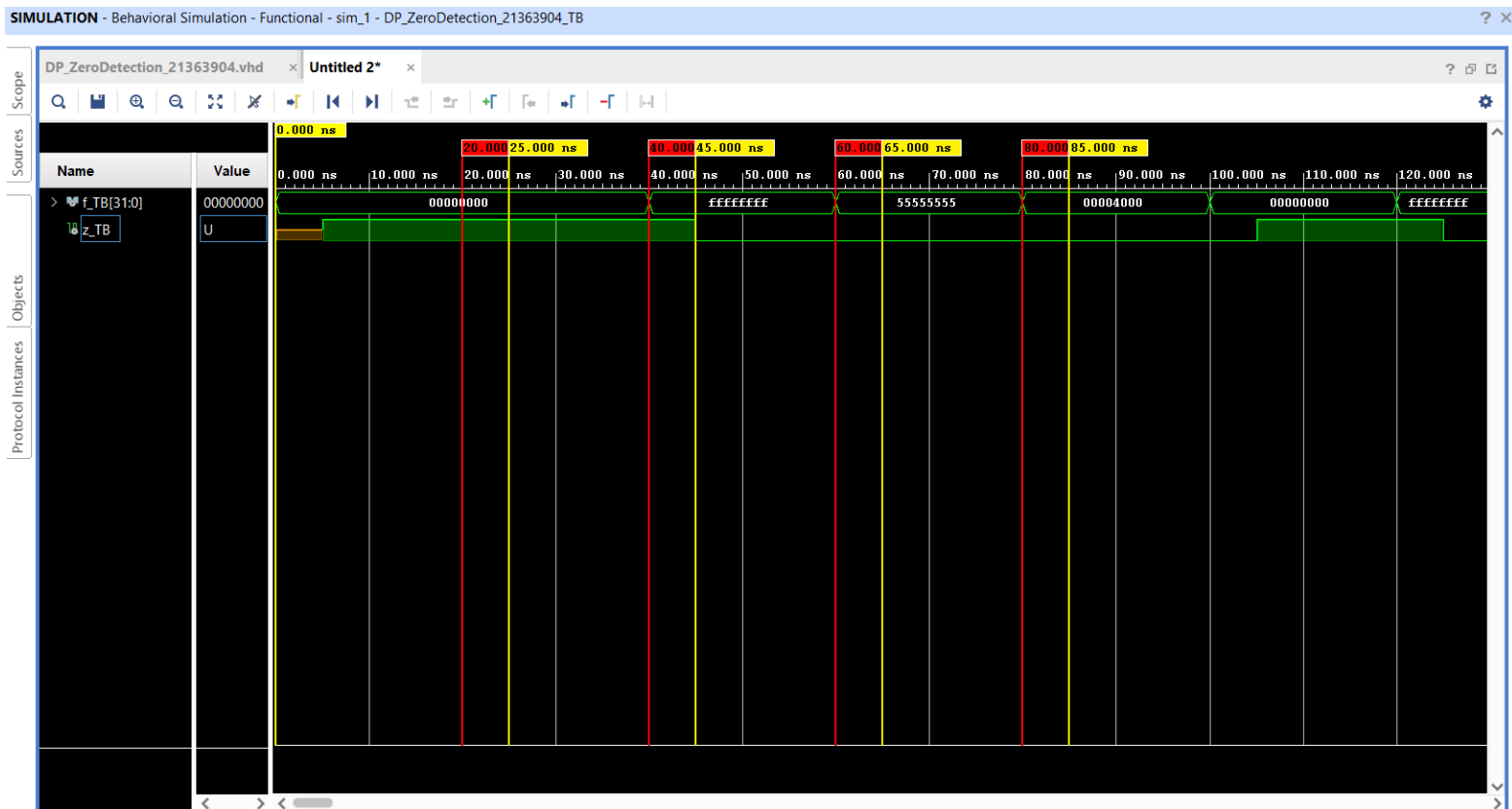


DP_ZeroDetection_21363904



The timing diagram for the Zero Detection is shown above. All numbers are in Hexadecimal notation. The red lines mark when the input changes and the yellow lines mark when the correct value appears at the output, after a propagation delay of 5ns. This entity outputs 1 when every bit in the input is 0, otherwise it outputs 0. This is demonstrated for four different inputs, the first being all 0s, the second all 1s, the third alternating 0s and 1s, and the last having a single 1. The entity displays the correct output for all the cases as demonstrated above (1 for the first input and 0 for the rest).