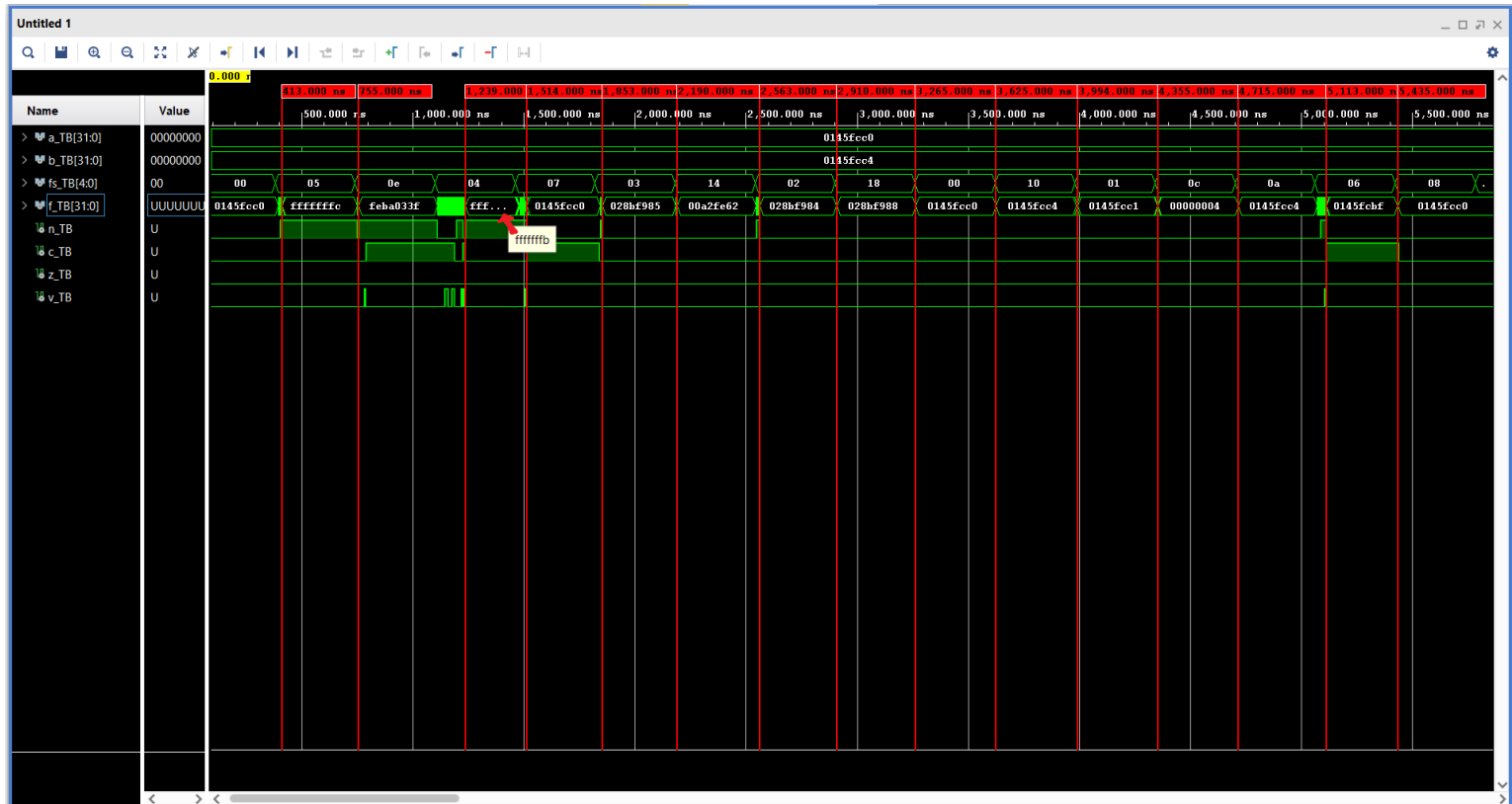# DP_FunctionalUnit_21363904

The timing diagram for the Functional Unit is shown above. All numbers are in Hexadecimal notatation. In a departure from previous diagrams, the red lines now mark when the correct value of each operation appears at the output. My Student ID $(0145FCC0)$ is provided to the input A, and my Student ID plus its last digit (4) is provided to the input B $(0145FCC4)$. Each of the 15 operations are performed in the order specified in the Simulation Instructions for a Student Number with the last digit 4, the correct results of which are displayed in the waveform. The order of instructions is as follows:

$$A + NOT(B) + 1, \quad NOT(A), \quad A + NOT(B), \quad A\,(00111),$$
$$A + B + 1, \quad B \gg, \quad A + B, \quad B \ll, \quad A\,(00000), \quad B, \quad A + 1,$$
$$A\,XOR\,B, \quad A\,OR\,B, \quad A - 1, \quad A\,AND\,B$$