

EE216 Re-configurable Computing Lab1 Report

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1 Minimal FIFO Depth

A minimum depth FIFO should satisfy the condition that it is filled up for a time greater than or equal to the transmission time of the packet. Thus it can be calculated as: $\frac{Depth}{\Delta Speed} \geq \frac{PackageSize}{WriteSpeed}$

$$Depth \geq \frac{4Kbit/8bit}{100MHz} \cdot (100MHz - 95MHz) = 0.5K * 0.05 = 0.025K$$

If K refers to 1000, the minimal depth is 25. If it refers to 1024, the depth should be rounded to 26.

2 Simulation Result

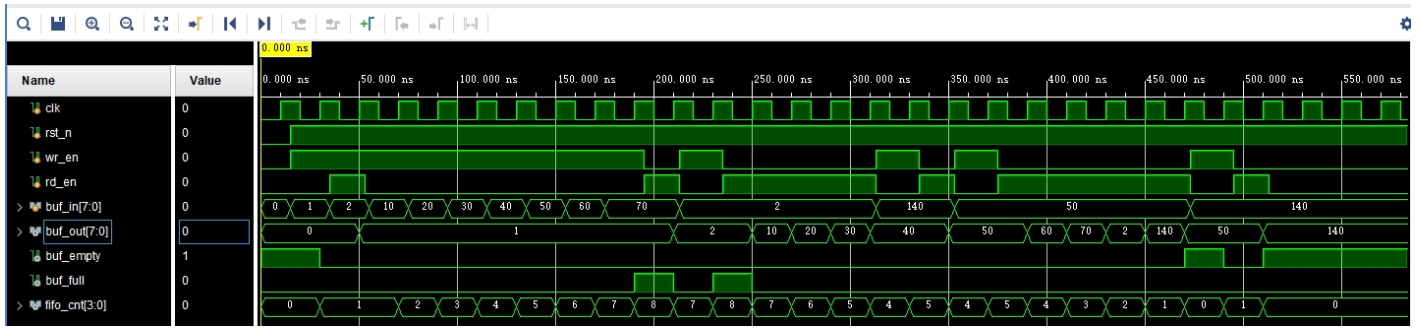


Figure 1: Simulation Result