1. PROBABILISTIC MODEL OF OVERCLOCKING ERROR IN AN ONLINE MULTIPLIER

From Figure **??** we observe two types of delay chains. One is caused by generation and propagation of $P_{[j]}$ among different stages. The other is the generation of online inputs from the appending logic. Since the appending logic is basically wires and simple combinational logic [**?**], the overall latency will eventually be determined by the delay of the first type, especially with increasing operand word-lengths. As such, we initially model the delay of each stage within an online multiplier to be a constant value μ. We also assum