

## Abstract

This paper proposes a novel bus encoding method on MBUS in order to reduce the power consumption of system-on-chips (SoCs). The main contribution is to lower the bus activity by an average 64.55% and thus decrease the IO power consumption through reconfiguring the MBUS transmission. This method is effective because field-programmable gate array (FPGA) IOs are most likely to have very large capacitance associated with them and consequently dissipate a lot of dynamic power. Experimental result shows an average 70.96% total power reduction compared with the original MBUS implementation.