

Abstract

In order to efficiently instruct aerobic training on cardio equipment, this paper proposes a secure biofeedback digital system (BFS) with a 33-step training table. As a case study, the system is simulated using Virtex5-110t field-programming gate array (FPGA) to run-time monitor body information and feedback guide the exercise intensity. Experimental results show that the BFS system can be effectively implemented with 11352 slices cost and 618 mW dynamic power consumption. Additionally, the throughput can reach 2.30 Gbps for cipher tests.