Abstract

This paper is concerned about microprocessor compatible PWM generator architecture by using Field Programmable Gate Array (FPGA). In PWM the variation of duty cycle change the width of the pulse. The PWM generator (PWMG) is interfaced to the bus of a microprocessor. The microprocessor initiates PWMG to specify duty cycle. The duty cycle remain unchanged until new data available to the PWMG from microprocessor unit. The output signal of PWMG is logic “1” and logic “0” for a specific time period. The architecture has been designed with VHDL code and verified using Xilinx ISE Design Suite 14.7. The design is successfully implemented on SPRATAN-6 FPGA board. The operating frequency of this proposed architecture is of 292.650MHz.

References


**Index Terms**

Computer Science

Circuits and Systems

**Keywords**

Duty cycle, Microprocessor, PWM, VHDL, FPGA