Abstract
The proposed system is to utilize the renewable resources by digital PWM control of synchronous converter. Usually PWM pulse is being generated through a digital system such as microcontroller or Digital signal controller. In stand-alone application these controllers increases the cost but XILINX FPGA based PWM generation reduces the cost. XILINX FPGA is invented by XILINX which is being considered as an efficient device for rapid prototyping and also to perform concurrent operations. In this paper two PWM signals was generated to control the switch duty cycles in Bi-directional DC-DC Converter or synchronous converter. In addition to that under various operating modes the proposed circuit is verified by MATLAB/SIMULINK.

Referenes

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**Index Terms**

Computer Science               Power Electronics

**Keywords**

Bi-directional Dc-dc Converter  Pulse Width Modulation; Field Programmable Gate Array

Xilinx

Duty Cycle.