H5-BRIDGE INVERTER TOPOLOGY

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ABSTRACT

This project focuses on DC to AC power inverters, which aim to efficiently transform a DC power source to AC source, similar to power that would be available at an electrical wall outlet. Inverters are used for many applications, as in situations where low voltage DC sources such as batteries, solar panels or fuel cells must be converted to AC to drive AC load. Prior to circuit construction, the circuit was simulated using PSIM simulation software. Various circuit characteristic was investigated such as waveform generation and harmonics generation. The microcontroller was used to generate control signal for the Pulse Width Modulation (PWM) techniques for full bridge inverter application. The coding was developed using mikroBasic PRO for PIC. This eliminated the need for large analog components which often have a tendency to become unstable. The simulation results obtained was validated experimentally and show good agreement.

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