BUCK- BOOST CONVERTER DESIGN PROJECT REPORT

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Problem Statement : Buck Boost Converter

Specifications:

Input 15 V, Output 10-20 V, Switching frequency 10 kHz, Output current 1 A. Waveforms of Switch current and diode voltage in CCM. b) Reduce switching frequency to demonstrate DCM.
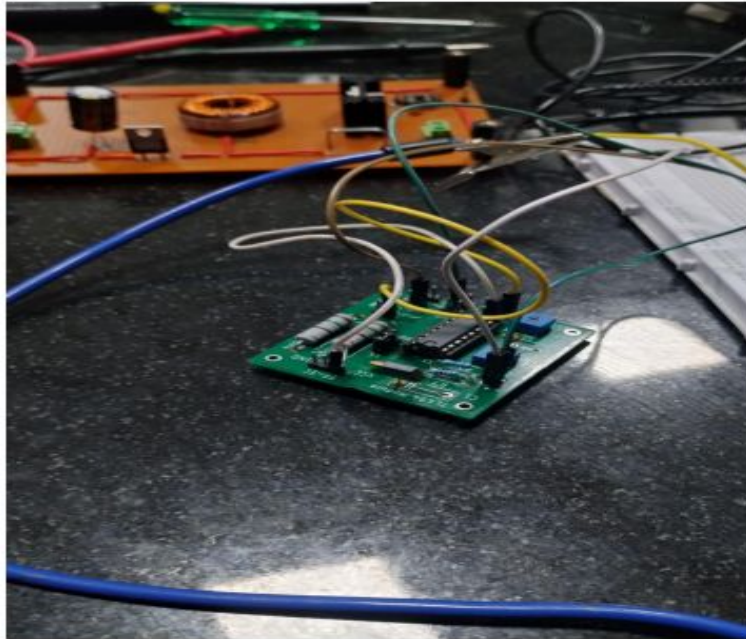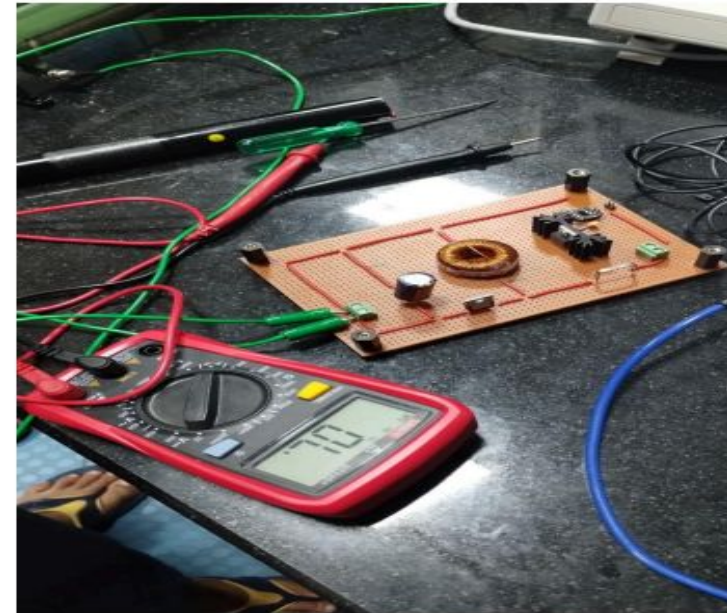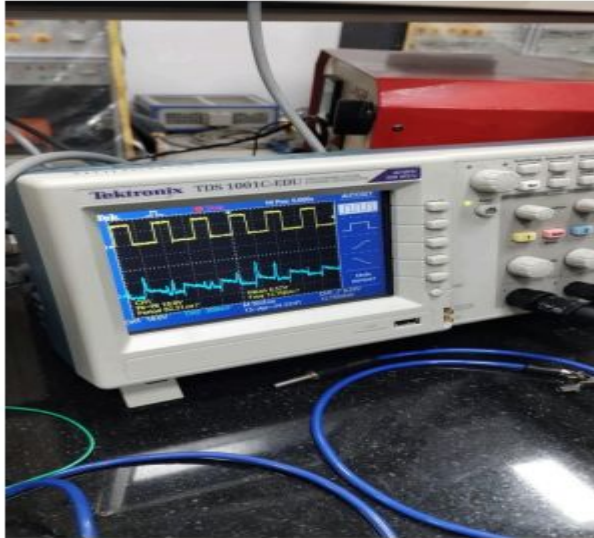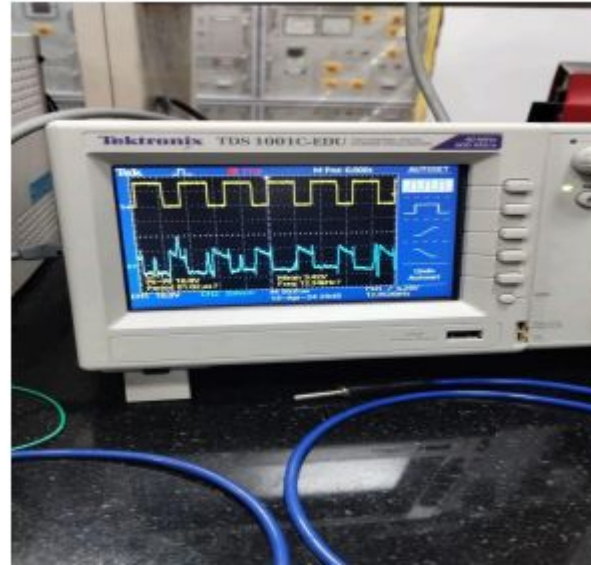
Image of PWM TL 494

Image of PCB Board:

Waveforms:

Yellow is the PWM voltage.

Blue one is the waveform of switch current in CCM.

Blue one is the waveform of diode voltage in CCM.

Blue one is the waveform of diode
voltage in BCM

Results:
Implemented buck boost converter with required specifications and demonstrated switch current
waveforms in CCM and diode voltage waveforms in BCM.