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**MIDDLE EAST TECHNICAL UNIVERSITY**

ELECTRICAL & ELECTRONICS ENGINEERING

*EE464 – STATIC POWER CONVERSION 2*

*TERM PROJECT – SIMULATION REPORT*

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Introduction

The main purpose of this project is converting 12-18VDC range input voltage to 48VDC output by using isolated converter. The power requirement for this design is 48W at output. This design must be regulated and line and load regulation should not decrease below 3%. With respect to these parameters, different isolated converted topologies are compared, and the selection of optimum converter design is explained in details. The transformer for this topology is design and explained design steps. Moreover, the simulation of the design is investigated and compared with analytical results. This simulation is made by the components that are chosen by looking rated current and voltage levels. Whole graphs for switch, primary and secondary side voltage and currents. The snubber design for this topology is explained in detail. Finally, the loss calculations are done for MOSFET, diode and transformer of the design.