CONCLUSION

In this phase of the METU EE464 Hardware Project, at first among the suitable DC/DC Power Supplies according to given conditions and limitations, the advantages and disadvantages were compared. Considering the flexibility for magnetic and electrical design, the flyback converter was chosen to be implemented. After deciding on its operation mode, the necessary parameters to simulate the circuit were calculated by relying on given theoretical knowledge this year. By considering the input range, the circuit simulation results were obtained in Simulink software as applying the calculated parameters. During the implementation of this stage, the magnetic design for the transformer of the circuit was also considered and planned simultaneously due to restrictions in the market. Analyzing that the results were consistent with given conditions, the transformer design was performed in the laboratory. After that the inductance values belong to transformer were measured to verify that the values obtained under real conditions were also consistent and they did not violate the given operation conditions and boundaries. Besides these stages, LTSpice simulations were also performed by taking into the controller implementation. Due to stock issues in Turkish market, the suitable controller choices were listed. After selecting one of the suitable ones, RCD Snubber circuit was designed and added to the circuit to balance the oscillations. With all these, it was observed that the given conditions were also satisfied in this software as well.