VII. CONCLUSION

The goal of this study is to design, implement and test a wireless charger for low power devices via inductive coupling. After analyzing the whole system step by step for optimization, a system was designed and implemented. Experimental results showed that significant improvements in terms of power-transfer efficiency have been achieved. Measured results are in good agreement with the theoretical models. It was described and demonstrated that inductive coupling can be used to deliver power wirelessly from a source coil to a load coil and charge a low power device (battery of cell phone, laptop computers and other portable electronics and being capable of charging themselves without ever being plugged in. This mechanism is a potentially robust means for the future low power devices it could developed to reduce our society's dependence on batteries, which are currently heavy and expensive. The main disadvantages of inductive charging are its lower efficiency for far distances and increased resistive heating in comparison to direct contact. Implementations using lower frequencies or older drive technologies charge more slowly and generate heat within most portable electronics and slower charging - due to the lower efficiency. In this application the efficiency exceeding 85% have been realized.

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