

# Ma, Zhedong

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## **EDUCATION**

- 08/2019 - 05/2023(AGD) Department of Electrical and Computer Engineering, University of Florida  
**Ph.D. in Electrical Engineering**, GPA: 3.91/4.00
- 09/2015 - 06/2019 Department of Electrical Engineering, Zhejiang University  
**B.Eng. in Electrical Engineering and Automation**, GPA: 3.82/4.00

## **RESEARCH PROJECTS**

08/2019 - Present Research Assistant, ECE Department, University of Florida

### **Research on Radiated EMI Measurement, Analysis, Modeling, and Mitigation for High-density AC/DC Flyback Power Adapters, Supported by Google Inc. (08/2019 – 12/2020)**

- Proposed techniques of Radiated EMI modeling, prediction (error < 6dB), and mitigation (w/o size and cost penalty) for Flyback power converters.
- Identified critical PCB traces for radiated EMI mitigation (EMI reduced up to 12dB). Extended the techniques to other isolated power converter topologies (LLC resonant converters, push-pull converters, etc.).

### **Research on Planar Transformer Winding Design for Power Loss Reduction and Near-zero Common Mode (CM) EMI, Supported by Google Inc. (01/2021 – Present)**

- Proposed techniques of variant winding width for winding power loss reduction. Extended the technique to wireless charging coil design (winding power loss reduced >10%).
- Proposed techniques of cancellation winding design to achieve near-zero CM EMI and lower winding power loss.

### **Research on Wireless Charging for Higher Efficiency, Supported by Google Inc. (03/2021 – 09/2021)**

- Proposed techniques of matching network (impedance transformation) in TX side for higher efficiency (>95%) and higher output power based on Qi, good for misalignment condition.
- Optimized TX and RX winding structure for higher coupling coefficient and lower power loss.

## **HONORS & AWARDS**

- 2021 Dora G. Partheniades Fellowship Award, University of Florida
- 2019 Awards of Outstanding Graduates of Zhejiang University (top 10%)
- 2016 - 2018 Scholarship for Academic Excellence of Zhejiang University
- 2016 - 2017 Awards of Outstanding Student Leader of Zhejiang University

## **SOFTWARE & SKILLS**

- Circuit Design: Simulink, PSpice, SIMPLIS
- Magnetics Design: Ansys Maxwell / HFSS / Q3D
- Measurement Devices: Network Analyzer, Spectrum Analyzer, Impedance Analyzer

## **SELECTED PUBLICATIONS**

(From 2019 to 2021, 10 technical papers have been published/accepted in IEEE conferences)

- **Z. Ma**, S. Wang, H. Sheng and S. Lakshmikanthan, " Modeling and Reduction of Radiated EMI due to Ground Impedance in a High-density Active-clamp Flyback Power Adapter," 2022 IEEE Applied Power Electronics Conference and Exposition (APEC), 2022. (Accepted)
- **Z. Ma** et al., "Radiated EMI Reduction with Double Shielding Techniques in Active-clamp Flyback Converters," 2021 IEEE International Joint EMC/SI/PI and EMC Europe Symposium, 2021.