

North Carolina State University

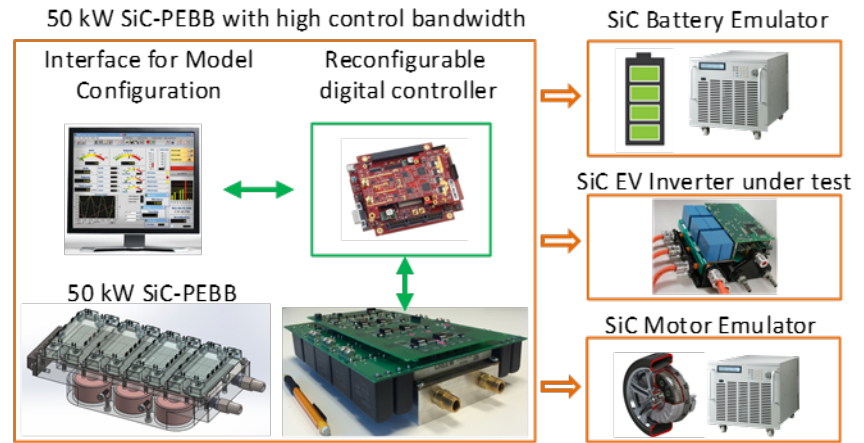
Project Title: Universal Platform of Education, Research and Industrial Rapid Prototyping for High-Power WBG Applications

Objectives: To design, fabricate and test the platform with modular 50kW WBG unit under test, WBG load emulators, and WBG source emulators

Major Milestones: topology evaluation, passive component sizing, system demonstration

Significant Equipment Acquisition: NA

Deliverable: 50 kW WBG evaluation kits



PI: Iqbal Husain
 Email: ihusain2@ncsu.edu
 Phone: (919)-513-5927

WBG Technology Impact

- SiC Modular platform with 5-10 times higher switching frequency and control bandwidth over Silicon approaches
- Market segments: High-power WBG application platform of education, research and industrial rapid prototyping
- Demonstrate a modular 50 kW platform with four quadrant operation, control bandwidth > 10 kHz, and switching frequency > 100 kHz

Additional Impacts

- 20% system cost reduction over Silicon solution to the modular 50kW platform of education, research and industrial rapid prototyping
- Establish the starting point of commercialization of a new product line for power electronics industry
- Skilled workforce development for power electronics industry / utility industry / electric vehicle industry