Overview of the Organization
Since its inception in 1994, the Wireless EMC Center has maintained a longstanding history of successful research in the combined wireless technology and medical device industries. As wireless technology increasingly proliferates in many forms—from article surveillance in retail stores to RFID tags in warehousing—the chance for potentially dangerous interaction with personal medical devices becomes a significant concern. The EMC center will be engaged in the development of standards pertaining to the testing and certification of medical devices in the presence of RF transmitters such as walk-through metal detectors, RFID systems, electrical engines, Bluetooth and UWB devices and under different environments. It is our intention each year to carry out many studies and present and publish the results of these studies in conferences and peer-reviewed Journals.

2009 Highlights
• Submitted an NSF Industry/University Cooperative Research Center proposal. A center grant was awarded in January 2010.
• Completed development of protocols for measuring the interaction between wireless and Implantable medical devices and Electronic Article Surveillance.
• Began study in interaction of RFID with various medical devices.
• Began study in interaction between implantable neural stimulator with cell phones.
• Continued testing research with medical equipment corporations.

Activities Planned for 2010
• Actively recruit members to join the center.
• Interaction studies with RFID and Cell phones and medical devices.

Linkages and Partnerships
• Interaction and collaboration with the Center for Devices and Radiological Health at the FDA concerning Protocols and Emitter technology interaction testing with Implantable and wearable medical devices.
• Multi-university Industry/University Cooperative Research Center including OU, University of Missouri-Rolla, University of Houston, Clemson University.
• Interaction and collaboration with implantable and wearable device companies including Medtronic, Bayer, Bioness, and others.

Recent Publications and Presentations
• “Protocol for The In Vitro Study of The Interaction of Electronic Article Surveillance with Medical Devices” was published in 2009 (EMC Center Publications).
• “Protocol for The In Vitro Study of The Interaction of RFID Devices with Medical Devices” was published in 2010 (EMC Center Publication).
• “Protocol for The In Vitro Study of The Interaction of Metal Detectors with Medical Devices” was published in 2010 (EMC Center Publication).

**Impacts and Outcomes of the Wireless EMC Center**

The direct impact of the proposed center is to research and develop reproducible EMC testing protocols for medical equipment manufacturers which will provide manufactures with FDA approved protocols. The center is multi-disciplinary, comprised of the Industrial Engineering and Electrical and Computer Engineering departments from both the OU-Norman and Tulsa campuses. The OU center has joined an NSF funded I/UCRC center and become part of a multi-university center that includes Missouri University of Science and Technology, University of Houston, and Clemons University.

In addition to the targeted research and EMC testing protocol developments, the center will provide a venue to develop in-house expertise and train undergraduate and graduate students in marketable skills that will advance their career prospects and further enhance the future of this important area of research.