

Press Release

For Immediate Release

MEMtronics Receives Phase 2 Award for DARPA RF MEMS Switch Development

Company's technology increases environmental robustness of wireless systems

Plano, Texas, USA (03 May 2005)

MEMtronics Corporation (www.memtronics.com) announced that it has successfully passed into the second phase of a \$3.69M, three-year development contract from the Defense Advanced Research Projects Agency (DARPA) entitled "Robust, Reliable RF MEMS Capacitive Switches." Teamed with MEMtronics on this project are Innovative Micro Technology (IMT), Lehigh University, and Exponent Inc. The focus of this contract is to improve the environmental robustness and reliability of radio frequency microelectromechanical systems (RF MEMS) operating under extreme environmental conditions.

Part of the Harsh Environment Robust Micromechanical Technology (HERMIT) Program, the first phase of this contract recently culminated in the successful demonstration of a wafer-level packaging technology called "wafer-level microencapsulation." This packaging scheme protects MEMS switches from the adverse effects of moisture and particles. The microfabricated packages have extremely low loss to frequencies as high as 100 GHz and substantially reduce the packaging costs associated with RF MEMS switches. Details of this packaging technology will be presented this summer at the upcoming ASME InterPACK'05 conference in San Francisco.

The second phase of this contract will concentrate on improving the lifetime and reliability of packaged MEMS switches. MEMtronics is responsible for the overall design and development of the switches. IMT, MEMtronics' manufacturing partner, fabricates and packages the high-tech, ultra-low loss RF switches. Lehigh University provides cutting-edge research into the semiconductor physics of dielectric charging, the dominant mechanism limiting switch lifetime. Exponent, a world-leader in MEMS reliability, provides expertise in failure analysis and accelerated reliability testing for the team. Together, this team will push switch reliability well past the current state-of-the-art lifetime of 100 billion cycles.

The environmentally robust, packaged MEMS switch technology being developed on this program is broadly applicable to wide variety of RF and wireless systems in the microwave and millimeter-wave frequency ranges. This switch technology enables significant size, weight, and cost reductions for electronically scanned antenna arrays and tunable filter circuits for both military and commercial applications.

About MEMtronics Corporation

MEMtronics is developing low-cost, high-performance switching technology for RF and wireless systems. The technology is based on the company's expertise in microelectromechanical systems (MEMS) for RF applications. Formed in 2001, the Texas-based, privately-held company is focused on the commercialization and deployment RF MEMS technology. MEMtronics is developing solutions to reduce the size, weight, and cost of military and commercial communications, imaging, and radar systems in the microwave and millimeter-wave frequency ranges.

About Innovative Micro Technology

IMT was formed in 2000, specifically to produce MEMS (micro-electromechanical systems) devices. Its 130,000 sq ft facility contains a 30,000 sq ft clean room/fab, the largest and best-equipped independent MEMS fab in the world. The company was built for high-volume manufacturing, and provides full foundry services from design through production. IMT currently has >100 employees and >20 customers in diverse applications, including drug discovery, drug delivery, biomedical implants and cell purifiers, microfluidics, inertial navigation, printing, various sensors, night vision, IR emitters, telephone/DSL switching, RF devices, power management, and several others. IMT's overriding goal is to partner with companies to develop products based on MEMS technology. Contact Monte Heaton: phone (805) 681-2800; fax (805) 967-2677, email monte@imtmems.com, or visit www.imtmems.com.

About Lehigh University

Lehigh University is one of the top 50 research universities in the US. Under Professor James Hwang's direction, the Compound Semiconductor Technology Laboratory conducts education and research, especially in large-signal nonlinear modeling and characterization, of a wide range of microwave and optical devices and circuits. The Laboratory has one of the best equipped facilities in the academia for microwave tests.

About Exponent, Inc.

Exponent is an engineering and scientific consulting firm providing solutions to complex problems. Exponent's multidisciplinary organization of scientists, physicians, engineers, and business consultants brings together more than 70 technical disciplines to address complicated issues facing industry and government today. The firm's consultants analyze failures and accidents to determine their causes and provide answers to help prevent such problems. In addition, Exponent evaluates human health and environmental concerns to find cost-effective solutions.

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