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Innovation Advancement & Commercialization

Electronics Technologies
Immediate non-exclusive licensing

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Reference: Electronics Patents

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Overview
Auburn University is seeking licensees for patents related to electronics. These patents include technologies related to analog circuitry testing, high resolution time to digital convertors, semiconductor die manufacturing, semiconductor doping and micromachined vibration filters.

US Patents 7,428,683 and 7,577,695
Automatic Analog BIST with DDS with High Order ΔΣ Noise Shaping in DDS
This novel built-in self test (BIST) technique for radio frequency integrated circuits (RFIC) makes complete testing of RFIC economically feasible by using Auburns direct digital synthesis (DDS) technology. The DDS synthesizer allows for cheaper analog signal generation while still approaching the resolution of conventional analog synthesizers.
Additional Information (7,428,683; BIST) | Additional Information (7,577,695; DDS)

US Patent 8,138,958
Vernier Ring Time-To Digital Converter
This high resolution time to digital converter technology arranges two series of delay chains in a ring to allow for greater range between signals while keeping a smaller integrated circuit size and low power consumption. It has applications in time-of-flight measurement, jitter measurement, clock data recovery, measurement and instrumentation, and digital phase-locked loops.
Additional Information

US Patents 7,786,602 and 7,939,376
Patterned Die Attach and Packaging Method
This die attach method relieves problems caused by thermal expansion of semiconductor dies. Different rates of thermal expansion between the components of a semiconductor die cause mechanical stress that can affect quality of the component. This die attach method relieves this issue by putting voids in the die attach layer method to allow for such thermal expansions.
Additional Information

US Patent 7,999,268
Low Temperature Impurity Doping of Silicon Carbide
This silicon carbide doping method allows for low temperature impurity diffusion. This method allows for greater control over the doping process and prevents surface roughness caused by high annealing temperatures in conventional methods which negatively affects chip performance.
Additional Information

US Patent 7,355,318
A MEMS Device to Filter Mechanical Vibrations
This invention provides multi-dimensional vibration isolation and tunable damping of vibrations for micromachined devices at less cost and/or with better performance than current alternatives. The system uses comb drive actuators to generate a electrostatic force to counteract undesirable relative motion.
Additional Information

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