TECHNOLOGY

# On-Chip Input/Output Microwave Interference Sense and Protect Circuit

## OVERVIEW

Intentional or unintentional microwave or radio frequency (RF) interference can couple through input/output pins or antennae in sealed package chips, and adversely affect the operating point, gain, and input and output impedances of devices and other circuit elements. Negative consequences resulting from RF interference depend on RF signal strength and characteristics (pulse width/height) and range from temporary performance modification to permanent damage. Conventional chip technology is ineffective in protecting against high power pulses from RF interference.

A researcher at the University of Maryland has developed a novel, cost-effective and versatile on-chip "sense and protect" circuit for microwave interference. The invention senses, registers events and effectively protects against a wide spectrum of RF interference signals at the point-of-entry in packaged chips. The invention uses on-chip sensing elements based on CMOS technology.

The invention offers protection against RF intentional and unintentional interference for practically every available electronic system today, including computers, cell phones, communication systems, satellite systems and anything else using electronic chips. Future applications for the invention will become particularly evident with the scaling down of chip technology to less than 0.05µm.

A regular U.S. patent application is pending.

For additional information, please contact theOffice of Technology Commercialization, University of Maryland, College Park. TEL: (301) 405-3947. E-MAIL: otc@umd.edu

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# Additional Information

## INSTITUTION

University of Maryland, College Park

## PATENT STATUS

Patent(s) pending

## LICENSE STATUS

Available for exclusive license

## CATEGORIES

- Microelectronics

## EXTERNAL RESOURCES

- US Patent 6,968,157

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