Abstracts

MEMS and Si-micromachined components for low-power, high-frequency communications systems

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The next leap beyond the state of the art in multichip module (MCM) for communications systems is the development of a technology which can integrate high-frequency Si/Ge based active devices, advanced micromechanical (MEMS) devices and micromachined components into one wafer. Critical advancements based on new concepts at fundamental levels of circuit design are needed in order to replace the main components of a communication system front end such as the transfer switch, diplexer, RF amplifiers, mixers, IF filters, local oscillators and IF amplifiers by very small yet power efficient monolithic versions. This presentation will discuss the development of MEMS/Si micromachined components that can replace the passive components of an existing communication system. The emphasis of this presentation will be on the transfer switch and high-Q RF/IF filters and resonators.

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