# Abstracts

## Using silicon-germanium mainstream BiCMOS technology for X-band and LMDS (25-30 GHz) microwave applications

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The 0.18 /spl mu/m SiGe HBT BiCMOS technology we have developed has found a variety of uses in high-speed digital applications, up to 50 Gb/s (Freeman et al, 2001). This paper focuses on the use and applicability of this mainstream HBT BiCMOS technology for microwave applications, particularly X-band, satellite, and LMDS (20-30 GHz). We discuss the pros and cons relative to the well-known III-V MMIC technology, as well as Si microwave circuits on high-resistivity substrates (SIMMWICs) (Russer, 1998). It is shown that the SiGe BiCMOS technology is widely applicable to microwave technology, with examples such as filters, switches, and VCOs. We also review new technology developments that can be applied to the SiGe BiCMOS technology.

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