# Abstracts

## Digital generation of RF signals for wireless communications with band-pass delta-sigma modulation

*J. Keyzer, J. Hinrichs, A. Metzger, M. Iwamoto, I. Galton and P. Asbeck. "Digital generation of RF signals for wireless communications with band-pass delta-sigma modulation." 2001 MTT-S International Microwave Symposium Digest 01.3 (2001 Vol. III [MWSYM]): 2127-2130 vol.3.*

This paper demonstrates a high speed digital technique to produce binary (digital) signals that encode representative RF signals (with time varying envelope) as needed for wireless communications. Specifically, it shows that IS-95 format CDMA signals can be generated with a single bit digital data stream at 3.6 Gb/S. The technique uses band-pass delta-sigma modulation so that the quantization noise is shaped out of the frequency band of interest. This approach points the way to single-chip, DSP-based transmitters, used in conjunction with switching mode power amplifiers and simple analog filters, to implement all the functions of a wireless transmitter.

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