Abstracts

A new SAW based OFDM receiver concept

M. Huemer, L. Reindl, C.C.W. Ruppel, A. Springer and R. Weigel. "A new SAW based OFDM receiver concept." 1999 MTT-S International Microwave Symposium Digest 99.4 (1999 Vol. IV [MWSYM]): 1847-1850 vol.4.

We report on a new SAW (Surface Acoustic Wave)-based receiver concept for OFDM (Orthogonal Frequency Division Multiplexing) that is suitable for wireless high data rate indoor applications. We give a brief system overview and present simulation results of the data throughput. The simulation parameters are adapted to the proposed physical layer specifications of the IEEE 802.11 Wireless Local Area Network (WLAN) and the European ETSI/HIPERLAN standardization groups. In both groups OFDM has been chosen for the physical layer in the high data rate WLAN systems in the 5 GHz ISM band. Since costly high speed digital signal processing is necessary for today's high data rate requirements we propose a receiver concept with a SAW chirp Fourier transform.

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