Abstracts

Design of SAW expander and compressor on LiTaO/sub 3/ for a TCDMA spread spectrum system

L. Reindl, F. Kalabic, G. Ostermayer, A. Pohl, F. Seifert and R. Weigel. "Design of SAW expander and compressor on LiTaO/sub 3/ for a TCDMA spread spectrum system." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 821-824.

We report on the design and performance of SAW minimum-shift-keying (MSK) tapped delay lines (TDL's) using pseudonoise (PN) code sequences of length 128 chips. As a substrate, LiTaO/sub 3/-X112/spl deg/-rotY has been used due to the system requirements of a given CDMA/TDMA system (TCDMA). System IF frequency, bandwidth of the major lobe, and integration time were respectively 360 MHz, 63.5 MHz, and 3 /spl mu/s. We used SAW TDL's employing non-weighted as well as cosine-apodized input transducers incorporating split-fingers. We designed both expander as well as compressor filters attaining very similar results. We found insertion loss values down to 16 dB and amplitude ripples of less than 2 db. The close-in selectivity was 28 dB.

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