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Autor(en) des Beitrags: Fauter, A.; Reindl, Leonhard; Weigel, Robert; Russer, Peter; Seifert, F.

Titel des Beitrags: Miniaturized SAW Convolver for Indoor Mobile Communication

Abstract: Design and performance of a miniaturized prototype SAW convolver on YZ-LiNbO3 are reported. The small and compact device fits into an SMD package of size 18×8.2×2.4 mm3. Output summing is realized with two bond wires, and external matching circuitry incorporates only simple lumped elements such as SMD components and copper coils. At a center frequency of 350 MHz, an integration time of 3 μs and a bandwidth of 50 MHz, i.e., a time-bandwidth product of 150, have been obtained. The achieved efficiency of -70 dBm±0.5 dB may be improved considerably. The deviation from linear phase was less than ±50. Uniformity and corresponding phase were within ±0.5 dB and ±50, respectively.

Stichworte: 3 mus, 350 MHz, 50 MHz, acoustic signal processing, bandwidth, center frequency, design, efficiency, indoor mobile communication, integration time, LiNbO3, lithium compounds, miniaturized SAW convolver, mobile radio systems, output summing, phase, piezoelectric transducers, SAW convolver, surface acoustic wave devices, surface acoustic waves, surface mount technology, ultrasonic transducers, uniformity, YZ-LiNbO3

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