Abstracts

SAW Vestigial Sideband Filter for TV Broadcasting Transmitter

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This paper reports the application of an SAW vestigial sideband (VSB) filter to a TV broadcasting transmitter. The filter requires steep cutoff characteristics and large fractional bandwidth. The X-112° Y · LiTaO/sub 3/ is one of the most suitable substrates for this filter, because it is possible to satisfy specifications without any compensation for typical temperature variations. The first application of LiTaO/sub 3/ substrates to a VSB filter is discussed in this paper. The filter is designed by a new optimization method using nonlinear programming. Because of the lack of a microstrip coupler and due to a large number of fingers, various second-order effects had to be compensated for. Experimental results are presented, when the filter is installed in a 10-kW TV transmitter.

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