Abstracts

On the Improvement of the Signal-to-Noise Ratio in Systems Receiving Circular Waves (Short Papers)

A. Laute and K. Blau. "On the Improvement of the Signal-to-Noise Ratio in Systems Receiving Circular Waves (Short Papers)." 1994 Transactions on Microwave Theory and Techniques 42.2 (Feb. 1994 [T-MTT]): 354-356.

A module realizing the polarization discrimination in the intermediate frequency (i.f.)-section of a microwave system receiving circular waves is presented. The conditions the two-channel system has to provide in order to receive left-handed and right-handed polarized waves simultaneously and to realize the discrimination in the i.f.-section are discussed. The theoretical analysis leads to the result that an i.f.-discriminator shows a signal-to-noise ratio of about 3 dB higher than the established radio frequency (r.f.)-discriminator. The measured data using a test microstrip circuit are compared with theory, with good agreement.

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