Abstracts

Wideband X-Band Microstrip Image Rejection Balanced Mixer

G.P. Kurpis and J.J. Taub. "Wideband X-Band Microstrip Image Rejection Balanced Mixer." 1970 G-MTT International Microwave Symposium Digest of Technical Papers 70.1 (1970 [MWSYM]): 200-205.

This paper describes a wideband X-band image rejection mixer constructed in microstrip using a thin-glazed alumina substrate. This mixer has a 10 to 11.3 dB noise figure and over 20-dB image rejection over an 8 to 12 GHz frequency band. Image rejection is achieved by using a pair of balanced mixers with signal and LO voltages fed in quadrature and in phase, respectively. Such circuits have been previously constructed in waveguide and conventional strip transmission line; the microstrip mixer described herein achieves comparable electrical performance in a much smaller volume and weight than X-band designs developed in these other transmission media.

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