Abstracts

Computer-Aided Tuning of Microwave Circuits

J. Marquardt and G. Muller. "Computer-Aided Tuning of Microwave Circuits." 1977 MTT-S International Microwave Symposium Digest 77.1 (1977 [MWSYM]): 147-150.

A computer-aided tuning procedure for microwave circuits - especially multituned narrow-band branching filters - has been developed. The mistuning of all elements after pretuning in a straight forward manner is small enough, thus a specially chosen network function depends nearly linear on the deviations of the tuning screws from their proper positions. These linearized relations and the regular values of the network function can be calculated from the equivalent circuit of the filter with the help of a large computer. They can then be inserted into the small computer of the measurement set-up. The appropriate changes of the tuning elements for sufficient performance of the filter together with clear tuning criteria for the operator are computed from the test values of the pretuned filter. The procedure will be repeated several times, because of the only quasi-linear relations between the deviations of the tuning elements from their proper position and the special network function.

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