Abstracts

A Side-Arm-Switched Directional Coupler as a Single-Step Attenuator of High Long-Term Stability

P.I. Somlo and I.G. Morgan. "A Side-Arm-Switched Directional Coupler as a Single-Step Attenuator of High Long-Term Stability." 1974 Transactions on Microwave Theory and Techniques 22.9 (Sep. 1974 [T-MTT]): 830-835.

This paper describes a single-step attenuator for values below 0.1 dB of very high long-term stability. This uses a directional coupler with a fixed short circuit at one coupled port and a switchable match-or-short at the other. The value of the attenuation step in the transmitting path is governed by the coupling and thus very small steps may be achieved readily. The attenuator is analyzed in full and relationships for a leaky directional coupler are given, together with a flowgraph model of a nonideal coupler.

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