Abstracts

Design of an electronically tunable microwave impedance transformer

J.H. Sinsky and C.R. Westgate. "Design of an electronically tunable microwave impedance transformer." 1997 MTT-S International Microwave Symposium Digest 2. (1997 Vol. II [MWSYM]): 647-650.

A new technique is introduced for designing continuously variable electronically tunable microwave impedance transformers that can be implemented using MIC or MMIC technology. An S-band tunable transformer has been built and measurements demonstrate a circuit which can transform impedances from 50 /spl Omega/ to a range of 4-392 /spl Omega/. A typical transformation from 50 /spl Omega/ to 162 /spl Omega/ yields a measured 0.5 dB instantaneous bandwidth of 14-16%, tunable bandwidth of 18%, and insertion loss of 0.6-0.9 dB. Applications for this novel technique include the design of electronically tunable wireless components, solid state power amplifiers, microstrip antennas, and microwave modulated laser transmit/receive systems.

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