Abstracts

A filter synthesis technique applied to the design of multistage broadband microwave amplifiers (2002 Vol. III [MWSYM])

J.-P. Rooney, R. Parry, I. Hunter and R.D. Pollard. "A filter synthesis technique applied to the design of multistage broadband microwave amplifiers (2002 Vol. III [MWSYM])." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1915-1918 vol.3.

A synthesis method for designing multistage broadband amplifiers based upon well known filter synthesis techniques is presented. Common low-pass approximations are used to synthesize the amplifier circuit. A proof of concept Butterworth low-pass two-stage amplifier was designed, simulated and measured, and achieved a flat gain performance of 1-4 GHz with a gain of 15 /spl plusmn/ 1 dB as predicted. A comparison is made with the distributed amplifier (DA) and the cascaded single stage distributed amplifier (CSSDA). Theoretically a larger gain bandwidth product is achieved using the synthesis technique.

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