Abstracts

Optimization of Active Microwave Frequency Multiplier Performance Utilizing Harmonic Terminating Impedances (1996 Vol. II [MWSYM])

D. Thomas, Jr. and G.R. Branner. "Optimization of Active Microwave Frequency Multiplier Performance Utilizing Harmonic Terminating Impedances (1996 Vol. II [MWSYM])." 1996 MTT-S International Microwave Symposium Digest 96.2 (1996 Vol. II [MWSYM]): 659-662.

A primary factor affecting optimum performance of microwave multipliers employing nonlinear devices is the proper termination of the fundamental and other harmonic frequency components. The objective of this paper is to present a quantitative analysis leading to the assessment of optimum terminating impedances in the design of active frequency multipliers. The analysis includes computer modeled HEMT data and supporting measured data for corresponding circuit realizations. An experimental design reveals an improvement in multiplier gain of 77% over the conventional approach.

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