

Harmonic-balance analysis of digital frequency dividers

A. Anakabe, J.P. Pascual, J. Portilla, J. Jugo and J.M. Collantes. "Harmonic-balance analysis of digital frequency dividers." 2002 Microwave and Wireless Components Letters 12.8 (Aug. 2002 [MWCL]): 287-289.

In this letter, a novel technique that enables the simulation of digital frequency dividers at low computation cost using conventional harmonic-balance software is presented. It relies on a continuation method, implemented with standard library elements, which is externally coupled to the core of the harmonic-balance algorithm. The technique provides a straightforward method for tracing solution curves and input sensitivity curves of frequency dividers. A digital divide-by-two monolithic microwave integrated circuit (MMIC) has been analyzed using the proposed technique.

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