Abstracts

Ka-band RF MEMS phase shifters for phased array applications

B. Pillaus, S. Eshelman, A. Malczewski, J. Ehmke and C. Goldsmith. "Ka-band RF MEMS phase shifters for phased array applications." 2000 Radio Frequency Integrated Circuits (RFIC) Symposium 00. (2000 [RFIC]): 195-199.

RF MEMS switches provide a cheap and effective way to substantially reduce loss in RF and microwave MMICs. In this paper, progress in building low loss Ka-band phase shifters using RF MEMS capacitive switches is demonstrated. Using a switched transmission line 4-bit resonant phase shifter, an average insertion loss of 2.25 dB was obtained with better than 15 dB return loss. A similar 3-bit phase shifter produced an average insertion loss of 1.7 dB with better than 13 dB return loss. A simple, low loss way to package these devices is also presented.

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