Abstracts

Ka-band RF MEMS phase shifters

B. Pillans, S. Eshelman, A. Malczewski, J. Ehmke and C. Goldsmith. "Ka-band RF MEMS phase shifters." 1999 Microwave and Guided Wave Letters 9.12 (Dec. 1999 [MGWL]): 520-522.

As the need for low-loss phase shifters increases, so does the interest in radio frequency (RF) MEMS as a solution to provide them. 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. Both devices had a phase error of less than 13/spl deg/ in the fundamental states. To our knowledge, these devices represent the lowest loss Ka-band phase shifters reported to date.

❑ Return to main document.