Abstracts

MMICs Insertion in a K/sub u/-Band Active Phased Array for Communications Satellites

J.R. Potukuchi, R.C. Mott, A.I. Zaghloul, R.K. Gupta, F.T. Assal and R.M. Sorbello. "MMICs Insertion in a K/sub u/-Band Active Phased Array for Communications Satellites." 1990 MTT-S International Microwave Symposium Digest 90.2 (1990 Vol. II [MWSYM]): 881-884.

Active elements consisting of S-bit digital phase shifters, 5-bit digital attenuators, and amplifiers have been developed for insertion in a 64-element K/sub u/-band active-transmit phased array antenna for communications satellite applications. To minimize the unit-to-unit amplitude and phase variations, the phase shifters, attenuators, and amplifiers have been implemented using MMIC technology. In this paper, the performance characteristics of the 64 active elements integrated in the array, i.e., including the 64-way power distribution circuitry and the orthomode transducers are presented. Measured radiation patterns are also presented, and they show good agreement with the predictions.

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