Abstracts

Reconfigurable transmission-type beamformer

J. Mazotta, L.-Y. Chen and J.-C. Chiao. "Reconfigurable transmission-type beamformer." 2000 MTT-S International Microwave Symposium Digest 00.1 (2000 Vol. I [MWSYM]): 585-588.

Beam forming, including focusing, power splitting and steering, has been demonstrated using a two-dimensional reconfigurable aperture to alter the transmission of propagating waves. The array consists of 5/spl times/5 unit blocks and each unit block contains 6/spl times/6 unit cells. Multiple beams, power splitting, beam steering angles of /spl plusmn/30/spl deg/, focusing to 3-dB beamwidths of 10/spl deg/, and defocusing to divergence angles of /spl plusmn/20/spl deg/ are demonstrated. Optimization of beamwidth and focal length with varying array configuration for the focusing architecture shows a focal length of 12.7/spl lambda/ and a minimum beamwidth of 10/spl deg/ at 5 GHz.

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