Abstracts

W-band CTS planar array

A. Lemons, R. Lewis, W. Milroy, R. Robertson, S. Coppedge and T. Kastle. "W-band CTS planar array." 1999 MTT-S International Microwave Symposium Digest 99.2 (1999 Vol. II [MWSYM]): 651-654 vol.2.

A low profile, Continuous Transverse Stub (CTS) planar array with electronic micro-scanning capabilities has been demonstrated at 94 GHz. The array is partitioned into four subarrays; each subarray consisting of a one piece, low cost, light weight plastic array with 33 radiating elements. Each subarray has an antenna beam squint of 30 degrees and an aperture efficiency of 60 percent. The full array has a gain of 34.6 dB, W-band phase shifters provide the electronic beam microscan steering capability. This new planar antenna is the first time CTS elements have been arrayed in this manner and represents a state-of-the-art advancement in millimeter-wave antenna technology both in performance and cost.

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