Abstracts

Power-combining grids for frequency tuning and beam control applications

Liang Quan Sun and R.M. Weikle, II. "Power-combining grids for frequency tuning and beam control applications." 1998 MTT-S International Microwave Symposium Digest 98.2 (1998 Vol. II [MWSYM]): 1043-1046.

Two new quasi-optical power combining architectures are presented. A coplanar waveguide (CPW)-fed bowtie antenna array is used to combine the outputs of 16 FET's at 4.7 GHz with a DC-to-RF conversion efficiency of 17%. The arms of the bowtie antennas provide space to accommodate planar tuning and matching networks. A second power-combining array, consisting of 16 FET chips, uses integrated varactors for frequency tuning at 20 GHz. Experimental results for both types of power-combining grid are presented.

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