Abstracts

Dual FET Active Patch Elements for Spatial Power Combiners

X.D. Wu and K. Chang. "Dual FET Active Patch Elements for Spatial Power Combiners." 1995 Transactions on Microwave Theory and Techniques 43.1 (Jan. 1995 [T-MTT]): 26-30.

A novel dual-FET active patch antenna element and arrays for quasi-optical power combining are described. The circuit uses two FET's that symmetrically load a split patch antenna. The configuration of the devices decreases H-plane cross-polarization dramatically. The power combining was achieved by injection locking through mutual coupling. An equivalent isotropic radiation power of 0.88 W for a 2-element dual-FET patch antenna array has been obtained. For a 2 x 2 array, an equivalent isotropic radiated power of 2.99 W was achieved. The circuit is planar and amenable to monolithic circuits.

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