Abstracts

A Hybrid-Circuit Tile-Approach Architecture for High-Power Spatial Power-Combined Transmitters

M.A. Gouker, R.G. Beaudette and J.T. Delisle. "A Hybrid-Circuit Tile-Approach Architecture for High-Power Spatial Power-Combined Transmitters." 1994 MTT-S International Microwave Symposium Digest 94.3 (1994 Vol. III [MWSYM]): 1545-1548.

A new architecture for spatial power combining is presented. This design addresses the issues of high reliability/ thermal management, maximizing combining efficiency, and maximizing graceful degradation. The design has been tested with the construction of a brassboard 4-by-4 subarray at 10 GHz. The measured results show an EIRP of 25.0 dBW (315 W), output power greater than 4 W, and a dc-to-RF conversion efficiency greater than 18%.

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