Abstracts

Spatial Power Combining Using Push-Pull FET Oscillators with Microstrip Patch Resonators

J. Birkeland and T. Itoh. "Spatial Power Combining Using Push-Pull FET Oscillators with Microstrip Patch Resonators." 1990 MTT-S International Microwave Symposium Digest 90.3 (1990 Vol. III [MWSYM]): 1217-1220.

We describe the design and performance of spatial power combining arrays of FET oscillators. The individual oscillators consist of single rnicrostrip patches driven by two FETs oscillating in the push-pull mode. Arrays formed from these elements show nearly perfect power combination in prototype modules operating at 6 GHz. Maximum ERP for a 4 patch array combining the power of 8 FETs is 32.8 dBm. Results for an oscillator using four FETs combining in a single patch are also discussed.

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