Abstracts

Bandwidth improvement in a tile based spatial power amplifier

A. Al-Zayed, S. Ortiz and A. Mortazawi. "Bandwidth improvement in a tile based spatial power amplifier." 2002 MTT-S International Microwave Symposium Digest 02.2 (2002 Vol. II [MWSYM]): 1313-1316 vol.2.

In this paper, an enhanced bandwidth tile-based spatial power-combining array structure based on a perpendicularly-fed antenna is given. This structure has the advantage of a minimal interaction between the radiated fields and the active devices. Additionally, increased stability is provided, while delivering a robust and reliable design. Dielectrically filled miniature horn arrays were employed for both the receiving and transmitting radiating elements of this 5/spl times/5 amplifier array. A peak gain of 15.8 dB at 9.9 GHz and a 3 dB bandwidth of 13% were measured. Gain, bandwidth and power measurements are consistent with simulation predictions.

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