Abstracts

Active-amplifier-array diagnostics using high-resolution electrooptic field mapping

K. Yang, T. Marshall, M. Forman, J. Hubert, L. Mirth, Z. Popovic, L.P.B. Katehi and J.F. Whitaker. "Active-amplifier-array diagnostics using high-resolution electrooptic field mapping." 2001 Transactions on Microwave Theory and Techniques 49.5 (May 2001 [T-MTT]): 849-857.

Several Ka-band spatial-amplifier power combiners and their free-space feeds were characterized using a high-resolution extreme-near-field electrooptic measurement technique. The two-dimensional electric-field amplitude and phase maps obtained from several arrays are presented. The usefulness of the technique for diagnostic purposes during the design and prototyping stages of the active arrays is discussed. In particular, the electrooptic maps were shown to be valuable for making improvements in the bias line design in one case, and for isolating faulty unit cells in another case.

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