Abstracts

Wideband transmit modules designed for production

T.L. Barkdoll, S.A. Wartenberg, R.W. Mumper and H.C. Heffner. "Wideband transmit modules designed for production." 1998 MTT-S International Microwave Symposium Digest 98.3 (1998 Vol. III [MWSYM]): 1707-1710.

This paper presents novel, multi-channel transmit modules designed for high-volume manufacturing, which operate over the multioctave EW bandwidth, and are intended for use in an active array. Use of multi-layer high temperature cofired ceramic (HTCC) as the base of the modules allows high-density routing of RF, bias and digital control lines, reducing the overall size. In a tightly-packed module, custom MMIC's are often called upon. Lower cost can be achieved by selection of MMIC's used in popular wireless products. For each transmit channel, the phase and gain are independently controlled by digital commands sent to on-board application-specific integrated circuits (ASIC's). The design goals were achieved without unnecessary MMIC development by selecting commercial off-the-shelf (COTS) MMIC's designed for the wireless market.

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