

Embedded transmission-Line (ETL) MMIC for low-cost high-density wireless communication applications

Hua-Quen Tserng, P. Saunier, A. Ketterson, L.C. Witkowski and T. Jones. "Embedded transmission-Line (ETL) MMIC for low-cost high-density wireless communication applications." *1997 Transactions on Microwave Theory and Techniques* 45.12 (Dec. 1997, Part II [T-MTT] (1997 Symposium Issue)): 2540-2548.

A new embedded transmission-line (ETL) monolithic-microwave integrated-circuit (MMIC) approach which allows flexibility in mixing different transmission-line types (i.e., coplanar and striplines) for maximum MMIC design flexibility and permits the feasibility of eliminating backside processing for low production cost is described. This ETL MMIC approach is an enabling technology allowing for low-cost batch fabrication, and high-density integration of microwave and RF components (including silicon mixed-signal products) for emerging wireless communication applications. Designs and performance results of a number of ETL MMICs are described in this paper.

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