# Abstracts

## A new class of miniature radiationless CPW shunt stubs printed on the center conductor

*K. Hettak, N. Dib and A. Omar. "A new class of miniature radiationless CPW shunt stubs printed on the center conductor." 1999 MTT-S International Microwave Symposium Digest 99.3 (1999 Vol. III [MWSYM]): 1335-1338 vol.3.*

To date, only the CPW series stubs can be either implemented in the "inner" or "outer" conductor of the CPW. This paper proposes therefore a new concept for the generation of millimeter wave CPW shunt stubs within the center conductor instead of that printed in the ground plane. The study confirms the ability of CPW shunt stubs to be either implemented in the "inner" or "outer" conductor of the CPW as in case of CPW series stubs. A principal way of achieving high quality circuits is detailed and confirmed by the experimental results which show that this novel class of CPW shunt stubs have a major part to play in the miniaturization of MMICs in the future. Several new designs are presented for coplanar waveguide (CPW) open and short ended shunt stubs patterned on the center conductor. Furthermore, unlike the conventional stubs which are patterned on the ground plane, several advantages which may be derived from the use of the proposed framework are: additional degrees of freedom, lower radiation loss, high compactness and a reduction of the number of air bridges which are potentially expensive to build. The performance of the new stubs is verified by experiment over the large frequency band from 1-50 GHz. Note that different variations on the implementation of these stubs are presented in the paper.

❑ Return to main document.