

# Abstracts

## A Very Small Dielectric Planar Filter for Portable Telephones

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*T. Ishizaki, M. Fujita, H. Kagata, T. Uwano and H. Miyake. "A Very Small Dielectric Planar Filter for Portable Telephones." 1993 MTT-S International Microwave Symposium Digest 93.1 (1993 Vol. 1 [MWSYM]): 177-180.*

A high performance dielectric filter with the size of 4.5mm x 3.2mm x 2.0mm has been developed. It has two planar resonators and is made of high permittivity multilayer ceramic in the Bi-Ca-Nb-O system. The performance is distinctive with its attenuation pole. An equivalent lumped circuit is derived to explain the behaviors of attenuation pole quantitatively.

 [Return to main document.](#)