

This article investigates a quasitriangular of defected ground structure (DGS) for low-pass filters (LPFs) application. An equivalent RLC circuit model is presented and its corresponding designed and fabricated. The proposed LPF presents the advantages of small size, low insertion loss and ultrawide stopband with 20 dB attenuation from 4 GHz to > 20 GHz. The simulated results obtained by equivalent circuit model and full-wave electromagnet show good agreement with the measured ones. V C 2012 Wiley Periodicals, Inc. *Microwave Opt Technol Lett* 55:122–127, 2013; View this article online at wileyonlinelibrary.com. DOI 10.1002/mop.27260 parameters are as well extracted using the parametric relationships. The LPFs using the proposed DGS pattern combined with open stubs are