# Abstracts

## An Optimal Low Loss HF Diplexer Using Helical Resonators

*R. Levy and K.J. Andersen. "An Optimal Low Loss HF Diplexer Using Helical Resonators." 1992 MTT-S International Microwave Symposium Digest 92.3 (1992 Vol. III [MWSYM]): 1187-1190.*

A diplexer comprising two narrow band closely spaced channels in the 164-175 MHz band having relatively low insertion loss, small size and light weight is described. The diplexer replaces a device with dimensions of 6 x 10 x 18 in. with one of dimensions 2.2 x 6 x 6 in. This order of magnitude reduction in size is achieved by the use of optimal asymmetric filters each having poles placed in the other passband giving high mutual isolation, combined with the use of helical resonators giving an unloaded Q of the order of 800, which is about twice as high as previous lumped element filters. Additional out-of band rejection is obtained by the unusual technique of introducing an additional attenuation pole in the output coupling.

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