Abstracts

High Q TE01 mode DR cavity filters for wireless base stations

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This paper summarizes the state-of-the-art of high Q TE01 mode DR cavity filters for PCS wireless base station applications. The mode chart and cavity Q are computed for typical commercially-available DR materials. A new approach to suppress the spurious response of the DR cavity filter is proposed and the advantage is analyzed. Experimental 8-pole and 6-pole quasi-elliptic function filters show the typical performances. Special techniques on cross-coupling techniques are used to realize a three-pole elliptic function and a 5-pole canonical asymmetric filter. The 5-pole canonical asymmetric filter, we believe, has never been realized before.

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