Abstracts

Miniature SAW antenna duplexer module for 1.9 GHz PCN systems using SAW-resonator-coupled filters

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Surface Acoustic Wave (SAW) filters has been widely applied to radio personal communication to reduce size and volume of the radio terminals. In this paper, we discuss the application of SAW filters used in a 1.8 GHz band antenna duplexer module for Personal Communications Network (PCN) systems. The module consisting of a receiver top filter, a transmitter final stage filter, lumped matching-circuit elements and lumped phase-shift circuits has been developed. The duplexer module has an insertion loss of less than 1.6 dB (1710-1785 MHz) in the Tx-to-antenna path and of less than 3.3 dB (1805-1880 MHz) in the antenna-to-Rx path, respectively. It also has the size of 14/spl times/8/spl times/1.8 mm/sup 3/ and the weight of 0.4 g, which achieved about one-fifth reduction compared with the conventional dielectric-resonator filter duplexers.

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