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(54) FILTER INCLUDING ACOUSTIC WAVE RESONATOR IN PARALLEL WITH CIRCUIT ELEMENT

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(57)ABSTRACT

Aspects of this disclosure relate to an acoustic wave filter that includes acoustic wave resonators arranged to filter a radio frequency signal. The acoustic wave resonators include a first acoustic wave resonator. The acoustic wave filter includes a circuit element in parallel with the first acoustic wave resonator in a stage of the acoustic wave filter. The circuit element and the first acoustic wave resonator have different resonant frequencies. The circuit element can reduce an impact of bulk mode of the first acoustic wave resonator on insertion loss of the acoustic wave filter. The first acoustic wave resonator can be a surface acoustic wave resonator in certain embodiments. The circuit element can be a second acoustic wave resonator or a capacitor, for example.

