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(54) **BULK ACOUSTIC WAVE FILTER FOR SECOND HARMONIC RESIDUE REDUCTION**

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(57) **ABSTRACT**

Aspects of this disclosure relate to acoustic wave filters with second harmonic emission suppression. In an embodiment, an acoustic wave filter includes a first bulk acoustic wave resonator, a second bulk acoustic wave resonator in anti-parallel with the first bulk acoustic wave resonator, and a passive impedance element in series with the first bulk acoustic wave resonator. The passive impedance element can reduce an imbalance in resonant frequency between the first and second bulk acoustic wave resonators. Other embodiments of acoustic wave filters with second harmonic emission suppression are disclosed. Related multiplexers, radio frequency modules, wireless communication devices, and methods are disclosed.

