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(54) **ACOUSTIC WAVE FILTER WITH SECOND HARMONIC EMISSION SUPPRESSION**

(52) **U.S. Cl.**

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(57)

ABSTRACT

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Aspects of this disclosure relate to acoustic wave filters with second harmonic emission suppression. In an embodiment, an acoustic wave filter includes a first pair of bulk acoustic wave resonators in anti-series with each other, a second pair of bulk acoustic wave resonators in anti-series with each other and having reverse electrode polarization relative to the first pair of bulk acoustic wave resonators, and a capacitor connected to a common electrode of a first bulk acoustic wave resonator and a second bulk acoustic wave resonator of the first pair of bulk acoustic wave resonators. Such an acoustic wave filter can provide second harmonic emission suppression. 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.

