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UESAKA(10) **Pub. No.: US 2024/0223157 A1**(43) **Pub. Date: Jul. 4, 2024**(54) **ACOUSTIC WAVE FILTER DEVICE AND
MULTIPLEXER****Publication Classification**(51) **Int. Cl.****H03H 9/145** (2006.01)**H03H 9/02** (2006.01)**H03H 9/64** (2006.01)(52) **U.S. Cl.****CPC H03H 9/14541** (2013.01); **H03H 9/02661**
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ABSTRACT

An acoustic wave filter device includes series arm resonators and parallel arm resonators. A parallel arm resonator that has the highest resonant frequency has a reflector wavelength that is the same or substantially the same as an IDT wavelength and has an IDT-reflector gap that is about 0.5 times the reflector wavelength. The remaining parallel arm resonators each have a reflector wavelength longer than the IDT wavelength and have an IDT-reflector gap shorter than about 0.5 times the reflector wavelength.

