US 20230231539A1

(19) United States

(12) Patent Application Publication

(10) Pub. No.: US 2023/0231539 A1

(43) Pub. Date: Jul. 20, 2023

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(54) **STRUCTURES, ACOUSTIC WAVE RESONATORS, LAYERS, DEVICES AND SYSTEMS**

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(21) Appl. No.: **18/094,386**

(22) Filed: **Jan. 8, 2023**

Related U.S. Application Data

(63) Continuation-in-part of application No. 17/564,824, filed on Dec. 29, 2021, which is a continuation of application No. PCT/US20/43762, filed on Jul. 27, 2020, said application No. 17/564,824 is a continuation-in-part of application No. 17/380,011, filed on Jul. 20, 2021, which is a continuation of application No. 16/940,172, filed on Jul. 27, 2020, now Pat. No. 11,101,783, Continuation-in-part of application No. 17/380,011, filed on Jul. 20, 2021, which is a continuation of application No. 16/940,172, filed on Jul. 27, 2020, now Pat. No. 11,101,783.

(60) Provisional application No. 63/302,067, filed on Jan. 22, 2022, provisional application No. 63/302,068, filed on Jan. 22, 2022, provisional application No. 62/881,061, filed on Jul. 31, 2019, provisional application No. 62/881,074, filed on Jul. 31, 2019, provisional application No. 62/881,077, filed on Jul. 31, 2019, provisional application No. 60/881,085, filed on Jan. 18, 2007, provisional application No. 62/881,087, filed on Jul. 31, 2019, provisional application No. 63/302,070, filed on Jan. 22, 2022, provisional application No. 62/881,091, filed on Jul. 31, 2019, provisional application No. 62/881,094, filed on Jul. 31, 2019, provisional application No. 62/881,061, filed on Jul. 31, 2019, provisional application No. 62/881,074, filed on Jul. 31, 2019, provisional application No. 62/881,077, filed on Jul. 31, 2019, provisional application No. 62/881,085, filed on Jul. 31, 2019, provisional application No. 62/881,087, filed on Jul. 31, 2019, provisional application No. 62/881,091, filed on Jul. 31, 2019, provisional application No. 63/306,299, filed on Feb. 3, 2022, provisional application No. 62/881,094, filed on Jul. 31, 2019, provisional application No. 62/881,061, filed on Jul. 31, 2019, provisional application No. 62/881,074, filed on Jul. 31, 2019, provisional application No. 62/881,077, filed on Jul. 31, 2019, provisional application No. 62/881,085, filed on Jul. 31, 2019, provisional application No. 62/881,067, filed on Jul. 31, 2019.

Publication Classification

(51) **Int. Cl.**

H03H 9/56	(2006.01)
H03H 9/54	(2006.01)
H03H 9/13	(2006.01)
H03H 9/17	(2006.01)

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

CPC ***H03H 9/568*** (2013.01); ***H03H 9/547*** (2013.01); ***H03H 9/542*** (2013.01); ***H03H 9/131*** (2013.01); ***H03H 9/173*** (2013.01)

(57) **ABSTRACT**

Techniques for improving structures, acoustic wave resonators, layers, and devices are disclosed, including filters, oscillators and systems that may include such devices. An acoustic wave device of this disclosure may comprise a substrate and a piezoelectric resonant volume. The piezoelectric resonant volume of the acoustic wave device may have a main resonant frequency. The acoustic wave device may comprise a first distributed Bragg acoustic reflector. The first distributed Bragg acoustic reflector may comprise a first active piezoelectric layer. The main resonant frequency of the Bulk Acoustic Wave (BAW) resonator may be in a super high frequency (SHF) band. The main resonant frequency of the Bulk Acoustic Wave (BAW) resonator may be in an extremely high frequency (EHF) band.