

Title (en)

SPURIOUS MODES SUPPRESSION IN A BULK ACOUSTIC WAVE DEVICE

Title (de)

UNTERDRÜCKUNG VON STÖRMODI BEI EINEM VOLUMENWELLENGERÄT

Title (fr)

SUPPRESSION DE MODES PARASITES DANS UN DISPOSITIF À ONDES ACOUSTIQUES DE VOLUME

Publication

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Application

**EP 19780247 A 20191001**

Priority

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Abstract (en)

[origin: WO2021063492A1] The present invention relates to a Bulk Acoustic Wave (BAW) device. In particular, the invention is concerned with suppressing spurious modes in a BAW device. The BAW device comprises a piezoelectric layer (101), and a top electrode (102) and a bottom electrode (103) sandwiching the piezoelectric layer. The piezoelectric layer is configured to propagate a BAW. The top electrode and bottom electrode are configured to couple an electrical signal to a BAW propagating in the piezoelectric layer. The piezoelectric layer includes a core region (104) located between the top electrode and the bottom electrode and a frame region (105) located below and/or at a side edge of the top electrode. The frame region comprises one or more material elements (106) embedded in the piezoelectric layer, wherein the one or more embedded material elements have acoustic and/or material properties different from those of the surrounding material of the piezoelectric layer. The material elements may form a phononic crystal. Spurious modes can thus be effectively suppressed.

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