

# 5G BAW Filter

## World's first 5 GHz LiNbO3 BAW Solidly Mounted Resonator

### What is 5G BAW Filter?

5G-enabled smartphones operate on up to 50 frequency bands. They rely on band pass filters, a passive component that selects the appropriate frequency band within the full RF spectrum.

CEA-Leti introduces the world's first BAW-SMR (Bulk Acoustic Waves-Solidly Mounted Resonator), a filter technology based on LiNbO3 piezoelectric materials that can address 5G's high frequency bands such as N79 (4500-5000 MHz).

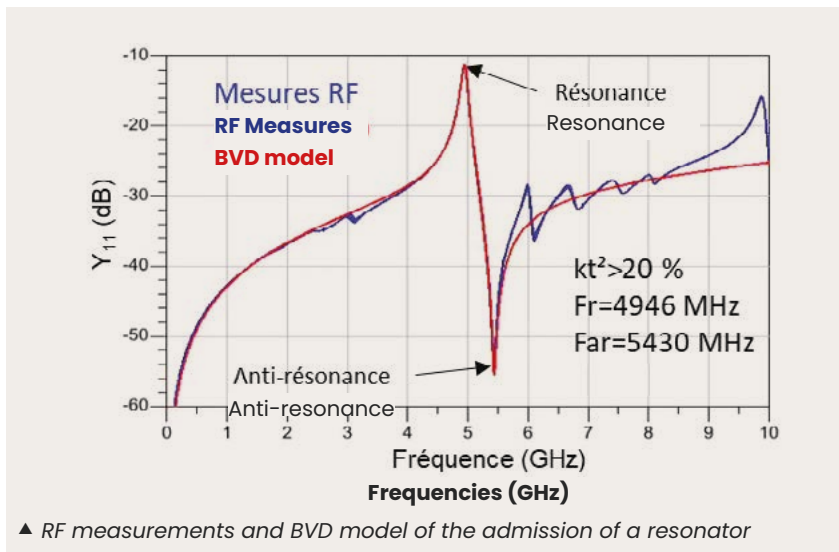
### Applications

This BAW-SMR filter technology contributes to developing and enabling:

- 5G smartphones
- Wifi 6 GHz

## What's new?

This new BAW-SMR filter technology is addressing for the first time filtering frequency bands between 4 to 6 GHz with much smaller components. This help achieve tighter integration as BAW-SMR are much more compact than traditional LTCC.

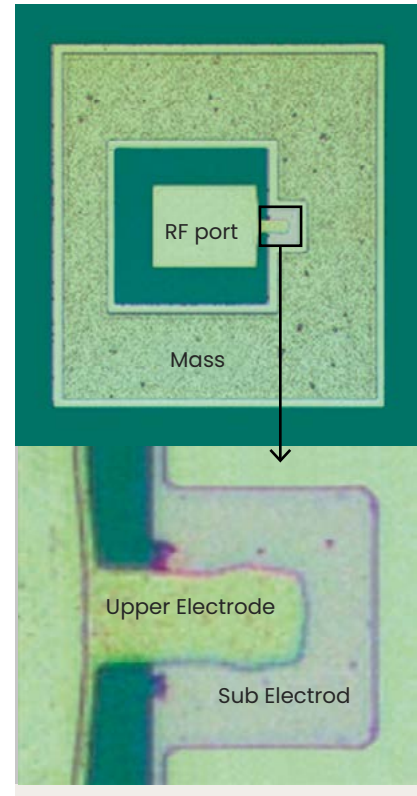


## What's next?

This technology has been demonstrated on 100 mm, 150 mm and 200 mm wafers using standard semiconductor equipment and processing.

CEA-Leti has also demonstrated that LiNbO<sub>3</sub> materials can be processed in a CMOS cleanroom facility without cross contaminating other wafers.

150 mm mass production has started and 200 mm is expected by 2024.



## Interested in this technology?

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