

FAST: Switchable Radio Frequency Filters Using BAW Technology for Mobile Telecommunications Systems

Background

The boom in mobile telephony and associated services has brought with it increasingly complex communication protocols (such as GSM, UMTS, 3G, GPS, Wi-Fi, Bluetooth, and 4G, for instance).

In the near future, the industry is expected to see multi-band and multi-mode convergence. By 2010, 30% of mobile telephones will include GPS or Galileo receivers and will serve as terminals for short-distance mobile/wireless access.

Given the growing numbers of communication channels and standards used and the need to keep terminals small, reducing the size of RF (radio frequency) filters—which also account for 30% of system costs—is crucial.

Partners

Corporate

ST Microelectronics

SME

Oerlikon

Research laboratories

CEA-Leti - Université de Savoie

Key figures

Budget: €16.5 million

Duration: 3 years

Human resources allocated: 65 people per year

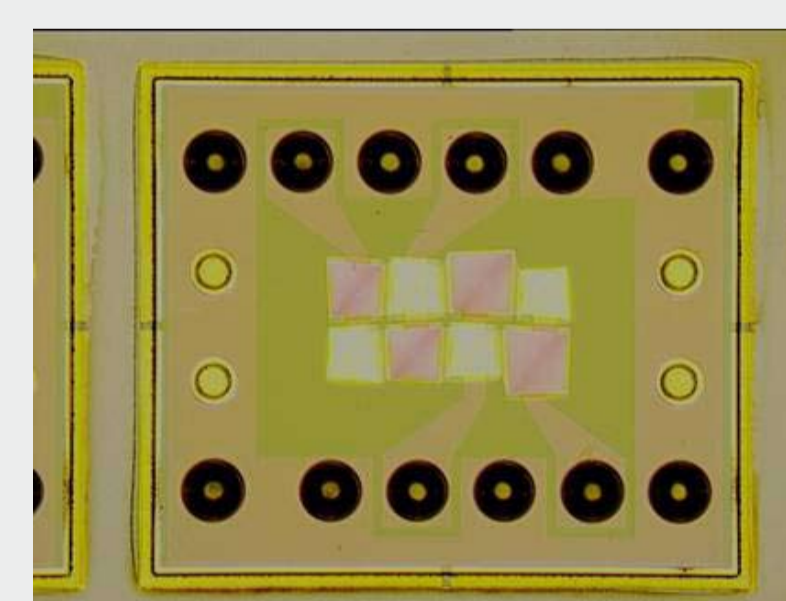
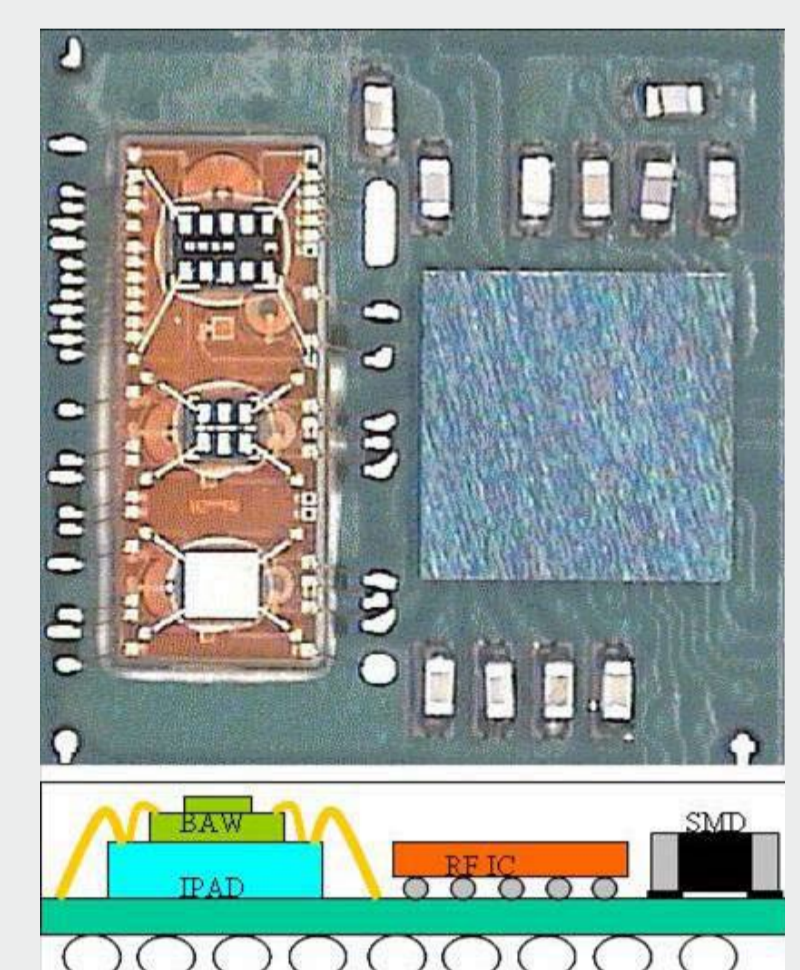
Innovation

- Use BAW technology to develop and produce future generations of RF filters that respond to the specifications required for multi-mode mobile telephony applications.

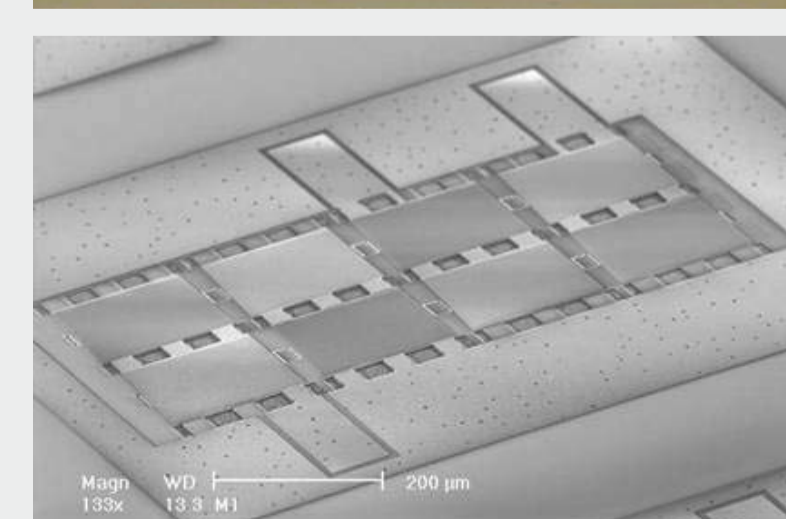
- Use innovative materials to develop more compact, energy-efficient RF components capable of performing both filtering and switching functions.



RF module with 3 BAW filters seen from above



BAW filters seen from above



Section of CRF filter layers

