Qorvo TQF6405 - SMR BAW High Band Filter - Complete Tear-Down Analysis

Description:
Qorvo started as a supplier for Apple's iPhone with the first iPhone 3G. Since then Apple has been integrating Qorvo's Module in its flagship. In iPhone 6s series, Apple integrates Qorvo's LTE High Band Front-End Module.

The merge of Triquint and RFMD in Qorvo formed a top competitor in wireless communication specially in SMR BAW filter.

Located on the main board of the Apple iPhone 6s Plus smartphone, the Qorvo TQF6405 is a complete Front-End Module for high band LTE application. The component is made with several filter dies, assembled on a coreless PCB substrate. It integrates many technology like copper pillar, SMR-BAW filter, proprietary of Qorvo.

All dies present in the component uses TriQuint's proven front-side Cu/Sn pillar technology (Cu-Flip™) for simplified assembly and low interconnect inductance, allowing the assembly of all components of the Front-End Module on the same chip with an area of less than 35 mm².

Specific air cavities are made around each resonator before copper pillar fabrication to preserve any losses.

Thanks to its design and manufacturing process, Qorvo device is not sensitive to temperature and is cost effective in respect to its competitors.

The report includes comparisons with the BAW filter from Avago, also found in the Apple iPhone 6s Plus.

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