Apple iPhone 6s Plus - Teardown & Physical Analyses of Key Components

Description: The Apple iPhone 6s Plus holds many IC components which are listed and reviewed in the report. All these ICs (more than 60 references) have been opened in order to measure the real silicon area consumption. A special focus has been made to highlight the component structure and understand the manufacturing process on “noteworthy” components among 4 selected topics: Advanced packaging, MEMS/Sensor, RF and Imaging. True innovations have been observed in the sensors components like a new process for the MEMS microphone improving the SNR or a 3D packaging with TSV in the fingerprint sensor and many more.

Also a technological comparison with the Samsung Galaxy S6 has been made in order to understand choices made by both smartphone makers.

Key inspected components:

MEMS/Sensors components

Fingerprint sensor – new generation: new packaging, new processes (includes TSV)
ECompass – new supplier, custom product which has never been used in a smartphone
Microphone – new process improving the SNR
6-Axis IMU – new reference, custom design
Ambient light sensor – new reference, wafer-level package

Imaging components

Front and rear camera modules
Flash LED – flip-chip integration

Packaging components

Apple A9 Processor – advanced Package-on-Package (PoP) structure
Qualcomm Snapdragon – multi-chip, smallest pitch on the board
Dialog Power management – largest ball count WLP (380-ball)

RF component

Wi-Fi & Bluetooth combo module
Power Amplifier Module

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