Innovative Practices Session 5C

Automotive Test Solutions

Organizer: Pete Sarson, ams AG
Moderator: Stefano Di Carlo, Politecnico di Torino

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I. AUTOMOTIVE IC TESTING WITH BOST APPROACH

Ryoji Shiota / Haruo Kobayashi
Socionext / Gunma University

This talk will introduce testing technologies of automotive application ICs for information and entertainment produced by Socionext Inc. Especially testing technologies using BOST developed with Gunma University will be explained.

II. AUTOMOTIVE ALTERNATIVE TEST

Peter Sarson / Constantinos Xanthopoulos
ams AG / UTDallas

In recent years, due to the extensive interconnectability of many modern electronic devices the use of RF modules has been significantly increased. In an effort to reduce the cost of fabricating these devices, manufacturers primarily focus on decreasing the long testing times that are usually required for achieving high yields. For this to be accomplished a common practice is to replace the expensive RF test measurements with faster DC based measurements. In this work, we present a machine learning approach for identifying the RF measurements that can be replaced as well as their DC counterparts that will be used for determining the test outcome. Effectiveness of the proposed method is demonstrated on a large number of RF devices for the automotive industry.

III. TEST METHODOLOGIES TO MINIMIZE TEST COST FOR AUTOMOTIVE / SAFETY DEVICES

Santosh Kavalur
Texas Instruments

Customers in Automotive / Safety application space demand very high quality of devices. Testing for these high quality of devices usually means large test cost (high test time, yield loss etc.). By implementing innovative methodologies highlighted in this presentation, we can keep test cost under control while delivering quality devices. This presentation will explain various tools that we can use to control test cost during pre-silicon, validation and characterization, release to production, production ramp and post silicon test phases. We will present details of the best practices and lessons learnt during our experience in delivering high quality Automotive / Safety devices.

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