

Mixed-signal & RF in Future Consumer Devices: Expected Changes in Design, Characterization and Production Test

Abstract

Cost and digital functionality drive consumer SOC devices into shrinking CMOS processes, while time-to-market windows keep shortening and quality goals approach zero defects.

The author expects this to lead to more digital-centric MS & RF designs that exploit speed and density of digital logic. Examples for time-encoding of analog quantities, exploiting process variations, (online) correction of analog HW will be presented.

Expected implications on design (methodology), characterization and production test will be proposed. Examples are analog/digital/SW codesign, debug & characterization on ATE assisted by machine learning, outlier testing of specification tests for production test. Open questions will be mentioned throughout.

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Jochen Rivoir is a Fellow at Advantest Europe GmbH, where he works as test system architect in strategic R&D. He has 29 years of experience in R&D of test equipment. From 1999 to 2001 he was managing the test research group at HP-Laboratories in Palo Alto, US. His main interest is in innovative solutions to mixed-signal & RF design and test challenges. He received 4 company innovation awards and holds 38 granted patents.

IMSE-CNM, January 23, 2015