

Predicting, Validating, and Improving Yield of Multi-Chip RF Modules During Product Development

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Abstract: Providing product yield estimates during the NPD (New Product Development) life cycle is frequently required. Predicting these yields is very difficult and often based on a limited data set or no specific data whatsoever. These estimates are used for a wide range of critical business purposes including cost modeling, capacity planning, component supply, customer bids, personnel staffing, and factory utilization. Yield estimates for RFIC Multi-Chip modules is particularly difficult as these modules contain many sub components and a variety of technologies. A wide body of knowledge already exists regarding yield prediction and management for non-RF ICs. In this paper methods are discussed for modeling and validating RF module yield throughout product development. From the early concept phase to pilot production, various techniques are proposed in an effort to provide accurate yield estimation and ensure RFIC modules launch with predictable and acceptable yields.