

Monday, January 22nd

ARFTG-102 On-Wafer User Forum (Free Event)

Republic ABC

Organizer: Gia Ngoc Phung (PTB)

10:30

Welcome

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10:35

Andrej Rumiantsev (MPI Corporation)

10:35

Optimized NVNA Setup for On-Wafer mm-Wave Load-Pull

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10:50

Leonard Hyden (Qorvo)

Load-Pull techniques sufficient for the 2-6 GHz fundamental frequency range don't necessarily work well at mm-wave where interconnect repeatability and on-wafer calibrations are more sensitive. This presentation details an NVNA setup optimized for robust, on-wafer harmonic vector load-pull in the 10-67 GHz frequency range. Methods for using high quality on-wafer calibration despite the necessity of performing power and phase (comb generator) calibrations in coax have been developed. Features were added to the NVNA software and specific WinCal sequences are used during on-wafer calibration, leveraging the respective strengths of both tools. A detailed walk through of the setup, modifications, and various steps required will be the framework for discussion. Questions and suggestions welcome.

10:50

Discussion

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11:15

Moderator: Gia Ngoc Phung (PTB)

11:15

Propagation of Uncertainties in Multiline TRL Calibration

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11:30

Ziad Hatab (Graz University of Technology)

Accurate uncertainty determination at the newly established reference plane after calibration is of utmost importance in vector network analyzer (VNA) calibration procedures. In this talk, we apply the ISO Guide to the Expression of Uncertainty in Measurement (GUM) to multiline thru-reflect-line (TRL) calibration, taking into consideration both noise and model uncertainties. To validate the ISO GUM approach, we perform Monte Carlo analysis to simulate

various uncertainties. The ISO GUM approach provides a simple and efficient way of evaluating the uncertainty budget of multiline TRL calibration.

11:30

Discussion

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12:00

Moderator: Gia Ngoc Phung (PTB)

12:00

Farewell

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12:04
