NVNA Users' Forum 2019 IMS week/93rd ARFTG in Boston

Free Event

Date: 3:30pm - 5:00pm Thursday 6th of June 2019.
Location: Harbor Ballroom 3, Westin Boston Waterfront Hotel

For those of you who are new to us, we are an informal discussion group devoted to sharing information and issues related to the measurements and instrumentation in the vector large-signal network analysis (NVNA/LSNA) of nonlinear microwave circuits and systems. The Forum is also a discussion venue for calibration issues, data representation methods (and models), and other techniques related to these nonlinear measurements.

Agenda:

- 15:30-15:35 **Welcome** *Prof. Karun Rawat*, IIT Roorkee

- 15:35-16:05 **Large-Signal Modeling and Characterization of SOI MOSFETs Using NVNA and Active Load-Pull**
  Dr. Manuel Pulido, Andres Zarate, pSemi Corp. A Murata Co.
  In this talk a brief review of the activities performed by pSemi's Modeling Group regarding large-signal modeling and characterization of SOI MOSFETs by combining mixer-based NVNA with new active load control (ALC) capability included in Keysight's PNA-X is presented. A summary of the latest advances on the development of measurement-based nonlinear models using large-signal measurements is shown, highlighting the most relevant results along with some of the modeling and instrumentation challenges encountered so far.

- 16:05-16:15 **Discussion: Use of NVNA in device modeling and verification**

- 16:15-16:40 **Large Signal Characterization of Dual-input PAs**
  Chenyu Liang[1] and Thaimi Niubo Aleman[2,1] (PhD students)
  [1]The Ohio State University,[2]CICESE Ensenada
  This presentation will discuss the testbeds used at OSU to characterize the large-signal response of new types of dual-input outphasing PAs for both CW and modulated excitations. Three different testbed solutions (LSNA, FPGA or NVNA based) will be presented. The procedures used for aligning the phase, calibrating the amplitudes and synchronizing the modulation of the two input signals will be reviewed for both CW or LTE/OFDM modulated measurements. Measured results on the PA efficiency and the PA linearization will be presented for dual-input Doherty, Chireix and Hybrid PAs.

- 16:40-16:55 **Discussion & Feeback: Dual-Input PA Characterization**

- 16:55-17:00 **Farewell**

We are looking forward to seeing you in Boston.

Karun, Patrick, Dominique, Jean-Pierre, Tibault and Apolinar

PS: Large-signal measurements will be further explored in:

Thursday – June 6th Joint IMS/ARFTG Technical Sessions (Convention Center, Room 252AB)
13:13 – 15:10 The Art of Large Signal Measurements
Friday – June 7th ARFTG Technical Sessions (Westin Hotel, Commonwealth)
8:10 – 9:50 Non-Linear measurement Techniques
10:40 – 12:00 Mixed-Signal and MIMO Systems Calibration & Measurements