

# Please join Anritsu for a complimentary seminar in one of six cities.



The **Techtime Tour**, presented by Anritsu Company, is a complimentary full-day educational seminar focused on the applications of Vector Network Analyzers (VNAs).

Presentations will include both lecture and live demonstrations presented by industry experts. Bring your VNA questions or real-world challenges and come away with solutions.

*P.S. - Breakfast and lunch are on us!*

[www.anritsu-offer.com/techtimetour](http://www.anritsu-offer.com/techtimetour)

## Who Should Attend:

- Microwave engineers
- RF engineers
- Digital engineers
- Signal integrity engineers
- Engineers interested in frequency and time domain S-parameters of components, sub-systems, communication and radar systems

## Locations / Dates

- Santa Clara, CA - Tues., April 12 - Hilton Santa Clara
- Irvine, CA - Thurs., April 14 - Irvine Marriott
- Dallas, TX - Tues., May 3 - Embassy Suites Dallas Park Central
- Austin, TX - Thurs., May 5 - Hilton Austin
- Parsippany, NJ - Tues., May 17 - Embassy Suites Parsippany
- Chelmsford-Lowell, MA - Thurs., May 19 - Radisson Chelmsford-Lowell

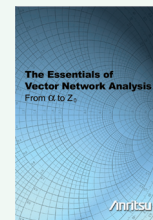
## Schedule / Agenda

8:00 am - 9:00 am	Check-In and Continental Breakfast
9:00 am - 10:15 am	VNA Fundamentals Part I - System Architecture & Measurements
10:15 am - 10:45 am	Break
10:45 am - 12 noon	VNA Fundamentals Part II - Calibration & Accuracy
12 noon - 1:15 pm	Lunch Provided
1:15 pm - 3:00 pm	Advanced Amplifier Design and Test
3:00 pm - 3:30 pm	Break
3:30 pm - 4:00 pm	Advanced Time Domain Techniques
4:00 pm - 4:30pm	Co-Simulation with Real-Time Channel Measurements



### A Kindle™ given away at each location!

Attendees are entered into a drawing for a new Graphite Kindle.



All attendees will receive a copy of Anritsu's book "**The Essentials of Vector Network Analysis**" valued at \$50.

### Meet the Presenters



**Steve Reyes**  
Product Manager  
Anritsu



**Arno Pettai**  
Product Manager  
Anritsu



**Khaled Nikro**  
Field Application Engineer  
AWR



**Mark Saffian**  
Solution Architect  
AWR

*Seating is limited so register today!*

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## What Topics Are Covered?

### **Vector Network Analyzer (VNA) Fundamentals**

This session will cover the fundamentals of the VNA, one of the most versatile and flexible pieces of microwave instrumentation on the test bench. You will learn where and why VNAs are used; understand common terminology, explore system architectures, trade-off key component technologies, and review basic measurements. In addition, you will gain an appreciation for the importance of user calibration, the different calibration methods available, and how they, together with the instrument specifications, ultimately determine the measurement accuracies of the VNA. The session will close with a discussion of advanced measurements that go beyond the traditional S-Parameters.

### **Advanced Amplifier Design and Test**

The session will cover both linear and non-linear design and test with examples ranging from measurement of packaged amplifiers in a 50 ohm environment to characterization of both discrete transistors and on-wafer devices in a non-50 ohm environment. In addition to the more usual measurements such as gain, gain compression and harmonic testing, the session will include a discussion of non-linear amplifier design using load-pull techniques. The session will conclude with a live demonstration.

### **Advanced Time Domain Techniques**

This session will describe the various time domain methodologies including windowing, bandpass and low pass techniques. Application to a variety of situations will be described including identification of the location of mismatches, through cable defect location to determining the impedance levels in a cascaded series of transmission lines.

### **Co-Simulation with Real-Time Channel Measurements**

Channel measurements are normally passive but can involve changes over time as operating conditions may vary due to coupling. While these measurements may be linear, they are often combined with nonlinear performance metrics, such as eye-diagrams. Complicating this is the need to switch between single-ended and balanced configurations. This session will demonstrate the combination of nonlinear simulation of a GHz device like an RF/microwave module, SerDes link or even RF interconnect with their real-time linear measurement of the end device/platform.

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