ROHDE&SCHWARZ
Make ideas real

EXHIBITOR WORKSHOPS AND SEMINARS

Rohde & Schwarz technical workshops

– Free attendance for all EuMW 2020 registered delegates and visitors –
– No advanced registration required – Unlimited participants available –

How to access the workshops online:

- Register as an EuMW 2020 Delegate or Visitor by clicking here: **https://www.eumweek.com/Register.html**
- Login to the virtual event "https://eumw2020.vfairs.com/"
- Click on "Auditorium" in the top navigation bar
- Select "Workshop and Short courses"
- Select Workshop Code: XW-01

For more information and details:
http://www.rohde-schwarz.com/eumw

Location: Online

Technical workshops

As part of the workshops, we are offering recorded lectures on various topics on Tuesday and Wednesday afternoon. The presentations last about 35 minutes, each followed by a live Q&A session with the speakers.

Tuesday, January 12, 2021 *Presentation and live Q&A*

13:30 to 14:30 – Vector corrected wideband measurements
Presenter: Dr. Florian Ramian, Rohde & Schwarz Development Engineer for Signal Processing & Application Signal Analysis ((vgl. Organizers)).

RF components and systems are supporting constantly increasing bandwidths. One example: the latest RF frontends with power amplifiers cover multiple bands within 5G FR1, another example is satellite payloads with multiple GHz bandwidth.
The higher a signal's bandwidth, the more influence you can have on a test setup. Full calibration down to the DUT ports and deembedding any component that is not part of the DUT make it possible to unveil the DUT's true performance, such as when looking at group delay or EVM figures.
The setup allows standard-compliant modulation tests (with or without vector error correction) as well as S-parameter measurements with a single connection to the DUT.

14:30 to 15:30 – Next generation for unrivalled speed in high-performance testing
Presenter: Markus Lörner, Market Segment Manager RF & Microwave Components, Rohde & Schwarz.
Sascha Laumann, Product Owner for Digital Products at Rohde & Schwarz.

As 5G matures and goes mainstream, designs need to be fully characterized and made ready for production. Test equipment is under enormous pressure to deliver both device performance and test speed. The presentation shows a novel approach to optimizing test speed. This approach not only decouples RF signal data acquisition from signal analysis, but goes far beyond it. The result dramatically

cuts the time needed to perform the millions of tests, while maintaining device RF performance. Utilization of cutting-edge cloud technology ensures additional aspects such as system elasticity, perpetual availability and test execution consistency.

15:30 to 16:30 – Exploring the end-to-end design process for 5G and mmWave filter applications from coupling matrix synthesis, to EM simulation, to test and measurement-
Presenter: Diamond Liu (XunLiu), founder of SynMatrix Technologies Inc., RF/microwave engineer with more than 13 years of design and hands-on experience.

This webinar explores the filter design process for mmWave and 5G band requirements. Starting with a set of specification requirements, we go step-by-step through the process from filter synthesis, to design simulation and finally to test and measurement. Ansys HFSS will be used to run EM simulations and the R&S ZNB series VNA for testing and measuring RF response. SynMatrix, a microwave filter design platform, helps optimize design and test and measurement workflows and provides additional tools to simplify the design experience.

The webinar will utilize multiple use cases to help illustrate various techniques and filter design engineering approaches.

Wednesday, January 13, 2021 *Presentation and live Q&A*

13:30 to 14:30 - Millimeterwave and THz technology for 5G and beyond
Presenter: Dr. Taro Eichler, Market Segment Manager Wireless Communications, Rohde & Schwarz

mmWave and THz technologies are vital for 5G and 6G systems. Utilizing the radio spectrum between 30 GHz and 300 GHz will help resolve the spectrum crunch and enable ultra-broadband mobile communications up to the Tbit range. Since highly integrated frontends including array antennas will be implemented, advanced over-the-air testing methods with an extreme extended frequency range up to 300 GHz will become mandatory. Plus, the use of extremely wideband channels up to several GHz will be a challenge for broadband signal generation and signal analyzers. An interdisciplinary approach is required with close interaction of semiconductor technology, signal processing and alternative approaches using optical technologies.
This talk gives an overview of recent developments in the area of broadband mmWave and THz communications systems including radio channel measurements at these frequencies.

14:30 to 15:30 – Terahertz communications using photonics based emitters for 300 GHz band
Presenter: Prof. Guillaume Ducournau, IEMN and University of Lille

Data traffic is increasing exponentially, with internet protocol traffic expected to reach over 100 exabytes per month in the near future. Since the fastest-growing data traffic is on wireless channels, such an increase in network capacity requires much higher wireless transmission data rate links. Beyond the soon to be saturated E-band (71 to 76 GHz and 81 to 86 GHz), the millimeter (D-band; 110 GHz to170 GHz) and sub-millimeter range between 275 GHz and 400 GHz have strong potential to enable these applications. Potential solutions include high data rate THz links using photonics based THz emitters (UTC-PD) to downconvert optical fluxes to mmWaves. Recent development uses III-V photonics as well as silicon photonics to achieve mmWave and THz links with up to 100 Gbit/s data rates utilizing the recently released frequencies of the IEC/IEEE 802.15.3d standard for 100G wireless links.

The schedule and details are subject to change.

Tutorial seminars – RF test and measurement basics
The announced Rohde & Schwarz tutorial seminars at this virtual EuMW 2020 had to be canceled.