



JOINT TECHNICAL EVENT FEATURING EMC TALKS

by Dr. Benoit Derat and Dr. Adam Tankielun

Hosted by IEEE EMC Society German Chapter and Rohde & Schwarz



EMC
SOCIETY® German Chapter

Date: July 4th, 2024

Time: 13:00 – 18:00 CEST

Place (on-site, limited seats or online):

Rohde & Schwarz GmbH & Co. KG
Muehldorfstrasse 15
81671 Munich

How:

Register before June 14, 2024,
select on-site or online

www.rohde-schwarz.com/IEEE-EMC

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For questions, please contact:

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IEEE EMC Society - Member
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Join us for a technical event featuring EMC Talks by Dr. Benoit Derat and Dr. Adam Tankielun. On-site participants can network with industry colleagues and students during the social event and tour the EMC test facility at Rohde & Schwarz.

EMC-S Distinguished Lecture: How Close Can Far-Field Be? Getting the Best Out of Your Measurement Range

Trends in modern wireless communications, including the use of massive MIMO and millimeter wave frequencies, have supported an increased deployment of electrically large antennas. This created technical and economic challenges as many EMC, or regulatory tests require a far-field condition. This talk provides an overview of the recent findings in defining the shortest possible far-field test distance, depending on the size of the device under test, its operation frequency, the target metric, and the upper bound acceptable measurement deviation. Practical ways are also described to determine the maximum antenna aperture size that can be tested in the far-field at a given frequency and for a maximum error, in an existing chamber with a defined range length.

EMC Professional Talk: Broadband antenna designs for EMC testing in 18 to 40+ GHz range.

To accommodate technological progress, radiated emission and susceptibility testing must expand from 18 GHz to 40-44 GHz. Broadband antennas at these frequencies usually offer high gain at the expense of narrowing of radiation beam width. This presentation introduces a modular antenna with an adaptable radiation pattern tailored to each application and suitable for a wide frequency range. Essential system-level calculations, including minimum detectable electric field strength for EMI and sufficient RF amplifier power for EMS, will be discussed for this testing.

ABOUT OUR SPEAKERS



Dr. Benoit Derat

IEEE EMC Society Distinguished Lecturer, Term 2024-2025

Senior Director for Systems Developments and Project Implementations, Rohde & Schwarz

Benoit Derat received the Engineering degree from SUPELEC, in 2002, and the Ph.D. degree (Hons.) in physics from the University of Paris XI, in 2006. From 2002 to 2008, he worked at SAGEM Mobiles, as an Antenna Design and Electromagnetics Research Engineer. In 2009, he founded ART-Fi, which created the first vector-array specific absorption rate measurement system. He operated as the CEO and the President of ART-Fi, before joining Rohde & Schwarz, Munich, in 2017. He is currently the Senior Director of Engineering for Vector Network Analyzers, Electromagnetic Compatibility, Over-The-Air and Antenna Test applications. Dr. Derat is a Senior Member of the Antenna Measurement Techniques Association (AMTA) and a Distinguished Lecturer of the IEEE EMC Society (2024 – 2025). He is the author of more than 80 scientific journals and conference papers, and an inventor on more than 40 patents, with focus in antenna systems near and far-field characterization techniques.



Dr. Adam Tankielun

R&D Hardware and Solutions - Antenna Test, Rohde & Schwarz

Adam Tankielun earned his Master of Science in Engineering (mgr inż.) in electrical engineering from the Technical University of Gdańsk in 2002, followed by his Doctor of Engineering (Dr.-Ing.) degree from Leibniz University Hannover in 2007. Between 2003 and 2008, he enhanced his expertise at the Fraunhofer Institute for Reliability and Micro integration in Paderborn, focusing on the development of electromagnetic near-field scanning techniques. Since 2008, he has been with Rohde & Schwarz in Munich, where he specializes in the development of broadband measurement antennas and over-the-air test systems for antennas and wireless devices. Dr. Tankielun is an inventor, with a portfolio of over 40 patents to his name.