IEEE Vehicular Technology Society, SAE, and EMC Society Chapter Meeting Announcement
Hosted by the IEEE VTS Chicago Chapter

Advances in Automotive Performance Verification Testing for 5G and EMC Applications

The Latest Information on New Automotive Capabilities Impacting the Future of the Automotive Industry

Date: **Wednesday, June 10, 2020**

Time:	6:00 pm CDT	Welcome and Announcements, Alvin Chin, VTS Chicago Chapter Chair
	6:05 pm	**EMC and Wireless Test and Measurement: Challenges and Solutions for Connected Vehicles**, *by Garth D'Abreu, ETS-Lindgren*
	6:35 pm	**The 5G New Radio: Implications for EMC and Antenna Testing** *by Jari Vikstedt, ETS-Lindgren*
	7:05 pm	Q&A with the speakers, moderated by Alvin Chin
		(See presentation abstracts and speaker bios below.)
	7:30 pm	Wrap Up/Final Comments

Register: Click here to register now on line.

Questions: Janet O'Neil, ETS-Lindgren, cell (425) 443-8106, email j.n.oneil@ieee.org

TECHNICAL PROGRAM

EMC and Wireless Test and Measurement: Challenges and Solutions for Connected Vehicles
By Garth D'Abreu, Director, Automotive Solutions at ETS-Lindgren, Cedar Park, Texas

Abstract: In the rapidly evolving industry of autonomous, electric and hybrid vehicles, the ability to successfully provide vehicle level antenna pattern measurements as well as EMC measurements to verify the performance of Advanced Driver Assistance Systems (ADAS) will be key to the future of this market and address public safety concerns. The automotive trends in wireless capabilities for high data streaming, incident detection warning, anti-collision/adaptive cruise control radar, wireless entry and vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and vehicle-to-cloud (V2C) communication are just a few of the features impacting the functionality of today's modern vehicles. This presentation details the challenges presented by these market demands and how innovative testing solutions help drive the technologies forward to real-life applications.

The 5G New Radio: Implications for EMC and Antenna Testing
By Jari Vikstedt, Director, Wireless Solutions at ETS-Lindgren, Cedar Park, Texas

Abstract: With the continuous development of wireless technologies and their tight integration with various electronic/computer/communication/devices and increased use in connected and autonomous vehicles, performance verification testing in a real world environment, at both the system and the intra-system levels, presents difficult challenges. Test methodologies need to adapt to support 5G New Radio Single Input and Single

Output (SISO) non-stand-alone (NSA), total radiated power (TRP), radiated spurious emissions (RSE) and Total Isotropic Sensitivity (TIS) measurements. Increasing frequency ranges such as 600 MHz to 6 GHz present their own test challenges. This presentation will present possible solutions to address the challenges generated by the 5G New Radio and mmWave applications through system planning and innovative wireless performance verification testing methodologies.

SPEAKER BIOGRAPHIES

Garth D'Abreu is the Director, Automotive Solutions at ETS-Lindgren based at the corporate headquarters office in Cedar Park, Texas. He has primary responsibility for the design and development functions worldwide within the Systems Engineering group, specializing in turnkey solutions for Automotive EMC and Wireless test integration. Some of these more complex full vehicle and electronic sub-assembly (ESA) test chambers involve his coordination with the RF engineering team on custom components, and the certified, internal Building Information Modeling (BIM) team at ETS-Lindgren. Due to his considerable industry experience, he is the ETS-Lindgren global subject matter expert responsible for the ongoing research and development of Automotive EMC/Wireless test chambers for Regular, Autonomous, Electric and Hybrid Electric Vehicles, focusing on combination anechoic chambers, reverberation chambers, GTEM cells, EMP protection applications and wireless device (antenna measurement) test systems. Mr. D'Abreu is a member of the IEEE EMC Society and active participant in standards development, including the SAE, ISO and CISPR D automotive EMC standards, with over 25 years of experience in the RF industry. He holds a BSc degree in Electronics & Communications Engineering, from North London University, UK.

Jari Vikstedt is the Director, Wireless Solutions at ETS-Lindgren in Cedar Park, Texas. He has over 20 years of experience with ETS-Lindgren in developing and testing RF test solutions for EMC and Wireless applications. Mr. Vikstedt and the other engineers at ETS-Lindgren are active technical contributors to the leading wireless industry organizations, including the CTIA, 3GPP, IEEE and the Wi-Fi Alliance®. Recently, Mr. Vikstedt has devoted his expertise to the development of CTIA and 3GPP Over-The-Air (OTA) testing solutions as well as developing innovative 5G OTA test solutions. He holds a BSEE degree in RF Engineering from the Turku University of Technology, Finland.

HOST AND MODERATOR

Dr. Alvin Chin is Chair of the IEEE VTS Chicago Chapter. He is also a Senior Machine Learning Researcher at BMW Technology Corporation, Chicago where he works on big data and machine learning for improving driving behavior and providing intelligent user and car experiences. His research interests include connected car, machine learning, big data, mobile social networking, and ubiquitous computing. Dr. Chin has authored more than 30 publications and 10 patents, including pending. Dr. Chin also teaches data science and regression analysis as an Adjunct Professor at DePaul University. He received a Ph.D. in Computer Science from the University of Toronto and previously worked for Nokia Research Center, Nokia and Microsoft in Beijing, China. Dr. Chin is active in the professional community as Publicity Co-Chair of IEEE Vehicular Technology Conference 2020-Fall, Co-editor of the IEEE Open Journal in Vehicular Technology, and Secretary of the Autonomous Vehicles Standards Committee of IEEE VTS.