APEMC 2 0 2 5 1

2025 Asia-Pacific International Symposium and Exhibition on Electromagnetic Compatibility (APEMC)

May 19 - 23 @ Taipei, Taiwan



Catalogue

Table of contents

Conference at a Glance	1
Welcome Message for 2025 APEMC	6
APEMC Steering and Organizing Committee	8
Sponsors	14
Social Events	17
Tutorials / Workshops	19
Advanced Technical Program	
Exhibition	56
Conference Venue	57
Conference Venue Floorplan	58
Taipei Metro System Map	60

Conference at a Glance

Monday, May 19th, 2025

May 19	Room 201A	Room 201B	Room 201C	Room 201D	Room 201E	Room	Room 203
(Mon)						201F	
PM12:30				Registration	-	• •	
PM 1:20	TS-A1: Next-Gen	TS-B1: HEMP/IEMI	TS-C1: Impact of	TS-D1: Operation State of	WS-E1: Diversity	TS-F1:	WS-31: International
	Aerospace: Radiation	Overview: Publications,	Common-Mode Choke	CISPR 32 Ed.2.0 in Japan	Verification and	Application of	Standards, Regulations,
	Testing and	Detection, Protection	Construction on EMI	and Explanation of the	Debugging Methodology	Reverb	and Testing Technologies
	Simulation for		Filter Suppression	Guidance Toward the Next	for Wireless Products	Chambers I	for IoT and Emerging
	Satellites, UAVs &			Revision of CISPR 32			Energy Products I
	Radar Systems						
PM 3:20				Break			
PM 4:00		TS-B2 Today's	WS-C2: Innovative	TS-D2: Electromagnetic	WS-E2: Electromagnetic	TS-F2:	WS-32: Int0ernational
		Automotive	Simulation and Testing for	Compatibility of Switched-	Compatibility of EMC &	Application of	Standards, Regulations,
		EMC/RF/Wireless	Electronics,	Mode Power Supplies	Wireless Regulations &	Reverb	and Testing Technologies
		Testing: What's New and	Communication, and		Test Methods: An Indian	Chambers II	for IoT and Emerging
		is it Enough?	Automotive Systems		Scenario		Energy Products II
PM 4:30					WS-E3: Innovative Testing		
					Approaches for 6G		
					Development Using AI and		
					Digital Twins		
PM 6:00							
PM 6:30							

Tuesday, May 20th, 2025

May 20 (Tue)	Room 201B	Room 201C	Room 201D	Room 201E	Room 201A	Room 202	Room 203	Room 102
AM8:00					Registration	•		
AM8:30	Opening Ceremony							
AM8:50	K1 Keyn	ote Speaker: Dr	: Chen-Hua Do	uglas Yu				
AM9:30	K2 Keynot	e Speaker: Prof	Madhavan Sw	raminathan				
AM10:10					Break			
AM10:40	К3	Keynote Speak	er: CP Hung Ph	.D.				
AM11:20	K4 Key	note Speaker: P	Prof. Christian S	chuster				
PM12:00					Lunch		_	-
PM1:30					TU-A1: Electromagnetic Environment & Computational Electromagnetics	TU-21: ESD Measurements & Countermeasures	TU-31: Antenna and Wave Propagation I	M1: Memorial Session in Honor of Prof. Chun Hsiung Chen
PM3:10					Break			
PM3:30 PM5:10 PM5:40	P1 & P2: Chun Session & S	Hsiung Chen E ong-Tsuen Peng Competitio	Best Paper Awar g Best Student F on Session	rd Competition Paper Award		TU-22: Signal Integrity and Power Integrity & Others	TU-32: Antenna and Wave Propagation II	M2: Memorial Session in Honor of Prof. Song-Tsuen Peng Prospects and Reflections on the Next Wave of Electromagnetic Education - SAVE- the STP Way (Speeches in Mandarin)
PM6:30	Welcome Reception (3F Banquet Hall) (PM6:30-PM8:00)							

Wednesday, May 21st, 2025

May 21 (Wed)	Room 201B	Room 201C	Room 201D	Room 201E	
AM8:30	Registration				
AM8.50	WE-B1: Antennas for Beyond 5G (B5G) and 6G	WE-C1: EMC Measurement	WE-D1: Special Topics on	WE-E1: Antenna and Wave	
	Wireless Communications Technologies I	and Instrumentation I	EMC I	Propagation III	
AM10:10		Break			
A M10.40	WE-B2: Antennas for Beyond 5G (B5G) and 6G	WE-C2: EMC Measurement	WE-D2: Special Topics on	WE-E2: Integrated Circuit	
AM10.40	Wireless Communications Technologies II	and Instrumentation II	EMC II	EMC	
DM12.00		Celebration for the 50th anniv	ersary of UTD		
FM12.00	Buffet & K5 Ke	ynote Speaker: Prof. Prabhaka	ar H. Pathak (3F Banquet Hall)		
PM2:00	WS-B1: Standards, Simulation, and Test Methodologies for 5G New Radio and mmWave Applications I	WE-C3: Transportation EMC	WE-D3: Special Topics on EMC III	WE-E3: Signal Integrity and Power Integrity I	
PM3:20		Break			
PM4:00 PM5:00 PM5:40	WS-B2: Standards, Simulation, and Test Methodologies for 5G New Radio and mmWave Applications II	WE-C4: Electromagnetic Safety, Security, and Reliability in Power and Energy Applications	WE-D4: Special Session in Honor of Professor Prabhakar H. Pathak on UTD-based Electromagnetic Analysis	WE-E4: Power System EMC and Smart Grid	
PM6:00				L	

Thursday, May 22nd, 2025

May 22 (Thu)	Room 201B	Room 201C	Room 201D	Room 201E	Room 201A+F	Tour A1	Tour A2
AM8:30				Registration			
AM8:50	TH-B1: EMC Issues Related to Common- Mode Noise I	TH-C1: Aerospace EMC	TH-D1: EMC Standard and Management	TH-E1: Transient EMC & Others			
AM10:10		Γ	1	Break		T	Γ
AM10:40 AM11:30	TH-B2: EMC Issues Related to Common- Mode Noise II	TH-C2: System Level EMC and Protection & EMC in Wireless Communication, Artificial Intelligence of Things (AIoT), and 5G/6G Smart Poles	TH-D2: Biomedical Electromagnetics & Electronic Packaging EMC	TH-E2: EMC in Nanotechnology and Advanced Materials		Google	
AM12:00			Lunch			11:30~2:30	
PM1:40 PM2:30	TH-B3: Antenna and Wave Propagation IV	TH-C3: EMC Measurement and Instrumentation IV	TH-D3: Signal Integrity and Power Integrity II		P3: Regular Poster Session		TSMC Museum of
PM3:20			Break				Innovation
PM4:00							
PM6:30		APEMO	2025 Banquet (Rena	aissance Taipei Shihlin	Hotel) (PM 6:30-9:30)	·	

Friday, May 23rd, 2025

May 23 (Fri)	Tour B1	Tour B2
AM8:30	R	egistration
AM9:00		
PM12:00	Morning: Sporton International Inc.	Morning: TERTEC EMC Laboratory
	Afternoon: TSMC Museum of Innovation	Afternoon: National Palace Museum
PM4:30		
PM5:00		

Welcome Message for 2025 APEMC



On behalf of the Organizing Committee of the 2025 Asia-Pacific International Symposium and Exhibition on Electromagnetic Compatibility (APEMC), it is my great pleasure to warmly welcome you and to express our heartfelt appreciation for your participation and contributions to this year's conference.

The inaugural APEMC, initiated by Professor S. T. Peng, was held in Taiwan in 2005. Since 2008, in collaboration with Zurich EMC, the symposium has been hosted annually across the Asia-Pacific region, including in Singapore, Korea, China, and Australia. In 2015, Taiwan proudly hosted the symposium for the second time, welcoming over 400 delegates worldwide. This established a tradition of Taiwan hosting APEMC every decade. Today, APEMC has grown into a premier international platform in the field of Electromagnetic Compatibility, fostering academic exchange, industry collaboration, and global partnerships.

The 2025 APEMC marks the third time Taiwan hosts the symposium and symbolizes the beginning of a new decade of EMC technology advancement and international collaboration. Organized principally by National Taiwan University and the Taipei Chapter of the IEEE EMC Society, this year's event is the result of the tireless efforts of volunteers and the enthusiastic support from academia, industry, and government sectors.

The technical program features more than 200 paper presentations and 55 workshops and tutorials, covering a wide range of topics, including EMC/RFI design and measurement, SI/PI, ESD in ICs and packaging, wireless communications, smart grids, biomedical electronics, transportation systems, and more. We are honored to welcome over 400 participants from more than 15 countries to this international gathering.

We are especially privileged to present keynote speeches by five eminent leaders from both academia and industry. Dr. Chen-Hua Douglas Yu, Vice President of R&D at TSMC, will speak on "New Breakthroughs and Outlook on Heterogeneous Integration Technology," and Dr. C. P. Hung, Vice President of Corporate R&D at ASE Group, Taiwan, will deliver insights on "New Era Packaging Technologies." From the academic community, Professor Madhavan Swaminathan of Penn State University and Professor Christian Schuster of Hamburg University of Technology will present keynotes on "The Future of Heterogeneous Integration" and "Modeling for EMC: From Physics to AI," respectively. In addition, Professor Prabhakar H. Pathak from The Ohio State University will offer a retrospective talk titled "A Brief History of Ray Methods from Ancient to Modern Times and Their Impact on Electromagnetic Engineering Applications," celebrating the 50th anniversary of UTD technologies.

A special highlight will be two memorial sessions dedicated to honoring the lifetime contributions of Professor Chun-Hsiung Chen and Professor Song-Tsuen Peng, pioneers in electromagnetic technology. In their honor, three Best Paper Awards and three Best Student Paper Awards will be presented.

Taiwan is renowned not only for its leadership in high-tech industries but also for its stunning natural landscapes, rich cultural heritage blending Chinese and Western influences, and the vibrant coexistence of tradition and modernity. For those visiting from abroad, we sincerely hope you will take the opportunity to explore the beauty and hospitality of our island during your stay.

To all attendees, whether joining us from near or far, we wish you a rewarding, inspiring, and memorable experience at APEMC 2025.

Jui- Jong Chou

Hsi-Tseng Chou APEMC 2025 General Chair

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Social Events

May 20, Tuesday

Welcome Reception

Time: 18:30-20:00 Venue: 3F Banquet Hall

May 21, Wednesday

Buffet

Time: 12:00-13:30 Venue: 3F Banquet Hall *Prof. Prabhakar H. Pathak's Keynote Speech is also held in the same venue in parallel with the buffet

May 22, Thursday

Tour A1

Itinerary:	
11:00~11:15	Standby at TICC registration desk
11:15~11:30	Depart for Google Office at Taipei 101
11:30 ~14:30	Tour: Google Office at Taipei 101 (including lunch)
14:30 Onwards	Return to TICC

Tour A2

Itinerary:	
12:00~12:30	Standby at TICC registration desk
12:30~14:20	Transportation
14:30~16:00	Tour: TSMC Museum of Innovation
16:00~18:30	Depart for the banquet at Renaissance Taipei Shihlin Hotel

Banquet

Time: 18:30-21:30 Venue: Renaissance Taipei Shihlin Hotel

May 23, Friday

Tour B1

Itinerary:	
8:30~09:00	Standby at TICC registration desk
09:00~10:00	Transportation
10:00~12:00	Tour: Sporton International Inc.
12:00~12:40	Transportation
12:40~14:00	Lunch
14:00~14:30	Transportation
14:30~16:30	Tour: TSMC Museum of Innovation
16:30 Onwards	Depart for TICC

Tour B2

Itinerary:	
08:30~09:00	Standby at TICC registration desk
09:00~10:00	Transportation
10:00~12:00	Tour: Taiwan Electric Research & Testing Center (TERTEC)
	EMC Laboratory
12:00~13:00	Transportation
13:00~14:30	Lunch (Silks Palace)
14:30~17:00	Tour: National Palace Museum
17:00 Onwards	Return to TICC

Tutorials/Workshops, May 19 (Mon.), 2025

May 19	, Monday 13:20-15:20
	TS-A1: Next-Gen Aerospace: Radiation Testing and Simulation for Satellites,
13:20	UAVs & Radar Systems
	Session Chair: Sampson Duan (Auden Techno Corp., Taiwan)
15:20	An Inter-Satellite Link Experiment on PEARL-1A and PEARL-1B CubeSats
(201A)	Chi-Kuang Chao (National Central University, Taiwan)
	Evolved SATCOM Field Testing
	Tsung-Hua Tsai (Auden Techno Corp., Taiwan)
	Trends in Synthetic Aperture Radar Development and Its Expanding Applications
	Cheng-Yen Chiang (National Taipei University of Technology, Taiwan)
	TS-B1 HEMP/IEMI Overview: Publications, Detection, Protection
	Session Chairs: Janet O'Neil (ETS-Lindgren, USA) and William Radasky (Metatech
	Corporation, USA)
40.00	Update of the IEC SC 77C Publications
13:20	Edl Schamiloglu (University of New Mexico, USA)
	High Power Electromagnetics: Effects, Detection and Classification
15:20	Ali Yaqoob (Technology Innovation Institute, United Arab Emirates)
(2018)	Advancements in HEMP/IEMI Shielding Strategies and Techniques
	Joel Kellogg (ETS-Lindgren, Cedar Park, USA)
	Importance of HEMP/IEMI Filter Design for Protection of the Critical Infrastructures
12.20	TS C1: Import of Common Mode Cheke Construction on EN4 Filter Suppression
13:20	IS-CI: Impact of Common-Wode Choke Construction on EWI Filter Suppression
 15·20	Jession Chan. Szymon Pasko (Schanner now part of Te Connectivity, Switzenand)
(2010)	Szymon Pasko (Schaffner now part of TE Connectivity, Switzerland)
(2010)	To D1: Operation State of CISDD 22 Ed 2 0 in Janan and Evaluation of the
	IS-DI: Operation State of CISPR 32 Ed.2.0 in Japan and Explanation of the
	Session Chair: Voshiharu Akiyama (NTT Advanced Technology Corporation Janan)
	Operation State of CISPR 32 Ed.2.0 in the VCCI Council
	Akira Oda (VCCI Council. Japan)
13:20	Points to Note from Content Analysis of Market Samplina Test Results and Document Review
	of Test Reports
15:20	Minoru Hirata (VCCI Council, Japan)
(201D)	Analysis of the Results of Deliberations on Measurement Facilities
	Seijun Fukaya (VCCI Council, Japan)

	Explanation of The Guidance "Guidance for Calculation of Measurement Instrumentation
	Uncertainty on Radiated Emission Measurement with a Hybrid Antenna"
	Shinichi Okuyama (VCCI Council, Japan)
	Explanation of The Guidance "Guidance for Performing Radiated Emission Measurement in
	the Condition of EUT Mains Cable Terminated with Balanced VHF-LISN"
	Kunihiro Osabe (VCCI Council, Japan)
	WS-E1: Diversity Verification and Debugging Methodology for Wireless Products
	Session Chair: I-Fong Chen (Jinwen University of Science and Technology)
	High-speed radiated spurious emission (RSE) automated test system
13:20	Jimmy Fong (International Certification Corp., Taiwan)
	The Evolution of Mobile Phone Performance Poses Challenges to OTA Measurement
15:20	Chao-Hsiang (Peter) Liao (SGS Taiwan Ltd., Taiwan)
(201E)	Advancing Satellite Interoperability: Overcoming Challenges in Satellite Communication for
	Future Networks
	Jheng-Sian Li (Chunghwa Telecom Laboratories Testing Center, Taiwan)
	Key points of security design for IoT products
	Daniel Liu (DEKRA Testing and Certification Co., Ltd., Taiwan)
	TS-F1: Application of Reverb Chambers I
13:20	Session Chair: Vignesh Rajamani (Rohde & Schwarz USA, Inc., USA)
	Introduction and Overview of Reverberation Chamber Theory
15:20	Vignesh Rajamani (Rohde & Schwarz USA, Inc., USA)
(201F)	Reverb Chamber Challenges
	Garth D'Abreu (ETS Lindgren, USA)
	WS-31: International Standards, Regulations, and Testing Technologies for IoT
	and Emerging Energy Products I
	Session Chair: Chiu-Kuo Chen (Bureau of Standards, Metrology and Inspection, Ministry of
	Economic Affairs, Taiwan)
	The analysis of product cybersecurity regulation in EU
	Daniel Liu (DEKRA Testing and Certification Co., Ltd.)
13:20	Latest Trends in BSMI's Regulations
	Lee, Yuan-Chun (Bureau of Standards, Metrology and Inspection, Taiwan)
15:20	The Past, Present, and Future of IoT Cybersecurity Regulations in the World
(203)	Kevin Yen (SGS Taiwan Ltd., Taiwan)
	Introduction to EN 18031 Cybersecurity Testing Standards
	Mr. Victor Lin (Auray Technology Corp.)
	Introduction to the U.S. Cyber Trust Mark
	Joe Wang (Keysight Technology Taiwan Ltd.)
	Cybersecurity Regulations in Asia
	Javier Bernabeu (TUV Rheinland Taiwan Ltd.)
May 19	, Monday 16:00-18:30

	TS-B2 Today's Automotive EMC/RF/Wireless Testing: What's New and is it
	Enough?
	Session Chairs: Janet O'Neil (ETS-Lindgren, USA) and Sergio Pignari (Politecnico di Milano,
	Italy)
	Taking Advantage of Equipment Capabilities to Optimize Testing: An Overview and
16:00	Discussion on the Pros and Cons of the Old Versus New ISO Reverb Methods
	Andy Chung (ETS-Lindgren Taiwan, LLC, Taiwan)
18:30	Developments in CISPR Automotive EMI Standards for Electric Vehicles and the Applicability
(201B)	of FFT-Based Measuring Receivers for Compliance Measurements
	Jens Medler (Rohde & Schwarz GmbH & Co. KG, Germany)
	EMC Prediction Models for the Automotive Industry
	Sergio Amedeo Pignari (Politecnico di Milano, Italy)
	Novel Chamber Designs for Full Vehicle EMC and Antenna Testing
	Zhong Chen (ETS-Lindgren, USA)
	Automotive EMC Testing: Instrumentation Systems, Setups and Methodologies
	Patrick Hansmann (AVL List GmbH, Austria)
May 19	, Monday 16:00-18:00
	WS-C2: Innovative Simulation and Testing for Electronics, Communication, and
	Automotive Systems
	Session Chair: Ming-Qi Zhang (Cybernet Systems Taiwan, Taiwan)
	TField-Based Parasitic Modeling for Early EMC Risk Prediction in Power Circuits
16:00	Kuan-Chung Chen (Cybernet Systems Taiwan, Taiwan)
	Signal and Power Integrity Analysis for Solving Complex System From Chip Package System
18:00	to PCB Design
(201C)	En-Zo Yu (Cybernet Systems Taiwan, Taiwan)
	Using Simulation Methods to Evaluate EMC Risks and Optimize Processes in PCB Design
	Miao-Fang Jian (Cybernet Systems Taiwan, Taiwan)
	An Optimization Platform Tailored for Electromagnetic Applications
	Min-Chi Chang (Cybernet Systems Taiwan, Taiwan)
16:00	TS-D2: Electromagnetic Compatibility of Switched-Mode Power Supplies
	Session Chair: Guenter Keller (Deggendorf Institute of Technology, Germany)
18:00	Electromagnetic Compatibility of Switched-Mode Power Supplies
(201D)	Guenter Keller (Deggendorf Institute of Technology, Germany)
	WS-E2: Electromagnetic Compatibility of EMC & Wireless Regulations & Test
	Methods: An Indian Scenario
	Session Chair: Ankur Kumar (AA Electro Magnetic Test Laboratory Private Limited, India)

16:00	Electromagnetic Compatibility of EMC & Wireless Regulations & Test Methods: An Indian
	Scenario
16:30	Ankur Kumar (AA Electro Magnetic Test Laboratory Private Limited, India)
(201E)	
	WS-E3: Characterizing sub-THz and FR3 Materials and Components
	Session Chair: Thomas Kuo (Keysight Technologies, Taiwan)
	Iterate on 5G Network Architectures to Define the Future 6G Network with Digital Twin Tools
16:30	Philip Chang (Keysight Technologies, Taiwan)
	Revolutionizing 6G Research with AI-Driven EDA
18:00	Sam Lin (Keysight Technologies, Taiwan)
(201E)	Benchmark sub-THz Use Cases in Pioneering Testbeds
	Brian Su (Keysight Technologies, Taiwan)
	Characterizing sub-THz Materials and Components
	Kenny Liao (Keysight Technologies, Taiwan)
	TS-F2: Application of Reverb Chambers II
16:00	Session Chair: Vignesh Rajamani (Rohde & Schwarz USA, Inc., USA)
	Flexible Testing - Shaken, not Stirred
18:00	Frank Leferink (The University of Twente and the Thales, Netherlands)
(201F)	Comparison of Different Independent Stirrer Configuration Evaluation Methods
	Fushi Zhang (Rohde & Schwarz Asia Pte Ltd, Sinapore)
	WS-32: International Standards, Regulations, and Testing Technologies for IoT
	and Emerging Energy Products II
	Session Chair: Chiu-Kuo Chen (Bureau of Standards, Metrology and Inspection, Ministry of
16:00	Economic Affairs, Taiwan)
	Introduction to Cybersecurity Testing under Voluntary Product Certification (VPC) System in
18:00	Taiwan
(203)	Hsi-Hsun Yeh (Taiwan Testing and Certification Center, Taiwan)
	Introduction to digital communication Conformance tests of charging control for Combined
	Charging System
	Kao-Hone Chu (Industrial Technology Research Institute, Taiwan)
	Introduction to Cybersecurity Testing Standards for EV Charging Equipment
	Tai-Ci Chiang (Taiwan Electric Research and Testing Center, Taiwan)
	A Proposal for Interoperability Testing of Smart Pole IoT Systems: Its approach, benefits and
	challenges
	Chih-Hsiang Ho (Institute for Information Industry, Taiwan)
	Introduction to Chip Security Standards and Testing Technologies
	Chuan-Kai Kao (Institute for Information Industry, Taiwan)
	Cybersecurity Risks and Standards of Video Surveillance Systems
	Jack Wu (Telecom Technology Center, Taiwan)

Tutorials/Workshops, May 21 (Wed.), 2025

May 21	, Wednesday 14:00-15:30
	WS-B1: Standards, Simulation, and Test Methodologies for 5G New Radio and
	mmWave Applications
	Session Chair: Janet O'Neil (ETS-Lindgren, USA)
14:00	Wi-Fi 6E & 7, Updates, Opportunities and Regulatory Challenges
	William Koerner (Keysight Technologies, Inc., USA)
15:30	Simulation of Scale: Virtual Prototyping from Component to System for Wireless Coexistence
(201B)	and Desense Mitigation
	Jason Bommer (Ansys, Inc., USA)
	Distillation of Representative 5G Signals for Immunity Testing
	(John Ladbury, National Institute of Standards and Technology, USA)
May 21	, Wednesday 16:00-17:00
	WS-B1: Standards, Simulation, and Test Methodologies for 5G New Radio and
	mmWave Applications
16:00	Session Chair: Janet O'Neil (ETS-Lindgren, USA)
	Simulation of ESD Air Discharge with Pre-Discharge Consideration for Wireless Consumer
17:00	Products
(201B)	Benjamin Lee (Google, Taiwan)
	Modern Chamber Environments for Testing of Wireless Devices
	Peter Huang (ETS-Lindgren Taiwan LLC, Taiwan)

K1 Keynote Speaker: Dr. Chen-Hua Douglas Yu

Tuesday, May 20, 2025

8:50-9:30

Venue: Room 201

Session Chair: Tzong-Lin Wu



New Breakthroughs and Outlook on Heterogeneous Integration Technology

Dr. Chen-Hua Douglas Yu, Taiwan Semiconductor Manufacturing Company Ltd., Taiwan

TSMC 3DFabricTM Technology platform including CoWoS[®], InFO and SoIC[®] has been established to enable advanced applications including smart mobile, 5G, HPC, AI/ML and most recent generative AI, which make tremendous impact on out human life. In this paper, I will report recent breakthroughs and new outlook on heterogeneous integration that continue the relentless pursue for better system PPA/V and explore new frontier in post Moore's Law era.

About Dr. Chen-Hua Douglas Yu

Douglas Yu is a TSMC Vice President and Distinguished Fellow, currently responsible for system integration technology pathfinding. He has led TSMC Cu/Low-K technology development. Doug innovated and established industry first system integration technology platform- TSMC 3DFabricTM, including CoWoS[®], InFO and SoICTM. 3DFabricTM plays critical enabling role in advanced smart devices, and high-performance-compute (HPC) including AI/ML/GAI. It has become an integral part of SoC- and System-scaling. TSMC COUPETM, his more recent innovation on Silicon-Photonics integration further enhances system energy-efficiency and performance.

Before joining TSMC, Doug worked with AT&T Bell Labs on advanced SoC technology. He earned Ph.D. from Geargia Tech. He received IEEE Rao Tummala Award, IEEE EPS Microelectronics Manufacturing Award, and President Science Prize, Taiwan. He is an IEEE Fellow, TSMC Distinguished Fellow, a member of National Academy of Engineering, and an Academician of Academia Sinica. He has given numerous invited/keynote/plenary speeches in international conferences, with 150+ papers and (co)-authored 1500+ US patents to elevate system integration technology profile.

K2 Keynote Speaker: Prof. Madhavan Swaminathan

Tuesday, May 20, 2025

9:30-10:10

Venue: Room 201

Session Chair: Tzong-Lin Wu



The Future of Heterogeneous Integration

Prof. Madhavan Swaminathan, Penn State University, USA

As we enter the era of Artificial Intelligence (AI), there is a need to combine hardware advances with software efficiencies. The AI hardware platforms are expected to

become very complex with the integration of computing, communications, sensing, and other capabilities, fueling the need for Heterogeneous Integration (HI). But what are the challenges and what is the future for HI? Why is this important to the EMC community? This presentation will discuss details with a focus on signaling, power delivery, and advanced communication – aspects of HI where the EMC community can have a major impact.

About Prof. Madhavan Swaminathan

Madhavan Swaminathan is the Department Head of Electrical Engineering and is the William E. Leonhard Endowed Chair at Penn State University. He also serves as the Director for the Center for Heterogeneous Integration of Micro Electronic Systems (CHIMES), an SRC JUMP 2.0 Center www.chimes.psu.edu. Prior to joining Penn State, he was the John Pippin Chair in Microsystems Packaging & Electromagnetics in the School of Electrical and Computer Engineering (ECE), Professor in ECE with a joint appointment in the School of Materials Science and Engineering (MSE), and Director of the 3D Systems Packaging Research Center (PRC) a graduated NSF-Engineering Research Center (ERC), Georgia Tech (GT). Prior to GT, he was with IBM working on packaging for supercomputers. Prof. Swaminathan's interdisciplinary research on semiconductor packaging and systems integration over the years have resulted in 650+ technical publications, 200+ invited presentations (seminars, keynotes, panels), 3 books, 5 book chapters, 31 patents, 33 best paper and student paper awards, 5 GT awards, 2 start-ups, and several international recognitions with the recent one being the 2024 IEEE Rao R. Tummala Electronics Packaging Award (technical field award) for "contributions to semiconductor packaging and system integration technologies that improve the performance, efficiency, and capabilities of electronic systems". He is also the founder of the IEEE Conference on Electrical Design of Advanced Packaging and Systems (EDAPS), a premier conference sponsored by the IEEE Electronics Packaging Society (EPS). He is a Fellow of IEEE, Fellow of the National Academy of Inventors (NAI), Fellow of Asia-Pacific Artificial Intelligence Association (AAIA), and has served as the Distinguished Lecturer for the IEEE Electromagnetic Compatibility (EMC) society. He received his MS and PhD degrees in Electrical Engineering from Syracuse University, USA.

K3 Keynote Speaker: CP Hung Ph.D.

Tuesday, May 20, 2025

10:40-11:20

Venue: Room 201

Session Chair: Tzong-Lin Wu



New Era Packaging Technologies

CP Hung Ph.D., ASE Group, Taiwan

Advanced IC Packages are typically Ball Grid Array (BGA) and Flip-Chip (FC) based with various structures to meet demanding high performance chiplet computing needs. This presentation will discuss innovative BGA, Fan-Out with FC technologies – FOCoS, plus 2.5D / 3D packages, describing how the integration needs are optimized with higher precision, effective layout with enhanced electrical signal and power performance, very essential for new generation AI server, data center, 5G and latest edge computing applications.

About CP Hung Ph.D

Dr. C.P. Hung currently holds the position of Vice President, Corporate R&D, at ASE Group. Based in Taiwan, he leads teams responsible for next-generation product development featuring integrated technologies, as well as a broad range of advanced chip, package, and system integration solutions with multiple ASE and USI Sites.

During his tenure, Dr. Hung has performed a variety of management roles at ASE, including VP of Corporate Design, VP of Central Engineering & Business Development and VP of Logistic Services Integration. He holds 282 patents encompassing IC packaging structure, process, substrate and characterization technology. He has also published over 129 conference and journal papers.

Dr. Hung has being the SEMICON Taiwan PKG & TEST Committee Chair since 2013, and currently Co-Chair since 2021. He is also a board of governor of IEEE EPS since 2019.

K4 Keynote Speaker: Prof. Christian Schuster

Tuesday, May 20, 2025

11:20-12:00

Venue: Room 201

Session Chair: Tzong-Lin Wu



Modeling for EMC: From Physics to AI

Prof. Christian Schuster, Institute of Electromagnetic Theory, Hamburg University of Technology, Germany

In January IEEE Spectrum published its 2025 Tech Impact Study with the headline: "For the second year in a row, top tech leaders selected artificial intelligence as the most important current technology" – truly outstanding ... but really surprising!? Since ChatGPT-3.5 was released in November of 2022 hardly a month passes by without news of a novel online tool based on AI or an announcement of a multi-billion dollar investment in an AI related company or data center.

What does all that mean for EMC engineering, i.e. what are the implications for how we design, test, debug, and optimize to achieve Electromagnetic Compatibility, Signal Integrity, and Power Integrity for electronic components and systems? Listening to industry you will hear that AI is already a key element of product design ... but how exactly?

In this keynote contribution to the APEMC Conference I will summarize what answers we at Hamburg University of Technology (TUHH) – together with partners – have found to these questions over the past few years. The contribution will focus on the "modeling" part of EMC engineering, i.e. the generation and usage of models to understand, predict, and mitigate EMC-related phenomena. For this I will contrast the usual "physics-based" approach with the new "data-based" or "AI-based" approach and draw conclusions from that. The keynote will close with an outlook to the new European Doctoral Network PATTERN (Enabling Artificial Intelligence for Electromagnetic Compatibility).

[This text was not generated with the help of AI!]

About Prof. Christian Schuster

Christian Schuster received the Diploma degree in physics from the University of Konstanz, Germany, in 1996, and the Ph. D. degree in electrical engineering from the Swiss Federal Institute of Technology (ETH), Zurich, Switzerland, in 2000. Since 2006 he is full professor and head of the Institut für Theoretische Elektrotechnik at the Hamburg University of Technology (TUHH), Germany. Prior to that he was with the IBM T. J. Watson Research Center, Yorktown Heights, NY, where he was involved in high-speed optoelectronic package and backplane interconnect modeling and signal integrity design for new server generations. His interests include signal and power integrity of digital systems, multiport measurement and calibration techniques, and development of physics-based as well as data-based simulation methods for electromagnetic compatibility and interference problems.

Dr. Schuster received several IEEE Transactions and DesignCon Paper Awards for his contributions to modeling for signal and power integrity. While at IBM, he received several IBM Research Division Awards for his contributions to packaging of high-end server systems. He is a member of the German Physical Society (DPG) and a Fellow of the Institute of Electrical and Electronics Engineers (IEEE). In the past, he was serving as Distinguished Lecturer for the IEEE EMC Society, as Chair of the German IEEE EMC Chapter, as a member of the Board of the EMC Society, as Associate Editor for the IEEE Transactions on EMC as well as an Adjunct Associate Professor at the School of Electrical and Computer Engineering of the Georgia Institute of Technology. Currently, he is serving as President of the NIT Northern Institute of Technology Management (NIT) at TUHH.

Celebration for the 50th anniversary of UTD

K5 Keynote Speaker: Prof. Prabhakar H. Pathak

Wednesday, May 21, 2025

12:40-13:20

Venue: 3F Banquet Hall

Session Chair: Ruey-Beei Wu



A Brief History of Ray Methods from Ancient to Modern Times and Their Impact on Electromagnetic Engineering Applications

Prof. Prabhakar H. Pathak, The Ohio State University, USA

Some of the major steps in the evolution of ray concepts and methods from about 700 B.C. to the present are briefly reviewed. Starting with the early lens making and theories of light, science of optics began to evolve and came up with the invention of the pin hole camera, the laws of reflection and refraction of light, an explanation for the formation of the rainbow, and conjectures on the finite speed of light. Later the corpuscular theory of light was introduced, but failed to explain the bending of light. it was then replaced by an early ray theory of diffraction but that failed to accurately reproduce the results of the famous double slit diffraction experiment. The latter was thus replaced by an early wave theory of light which was somewhat more accurate. In the 1800s, electromagnetic (EM) waves and light was established to be the same phenomenon. Also the speed of light was later measured and found to be the same as that predicted theoretically by equations governing EM wave propagation. Several other studies subsequently led to a significant ray theory of diffraction where diffracted ray fields existed in addition to reflected and refracted rays. The modern versions of the latter constitute the geometrical theory of diffraction (GTD) introduced in the 1950s and its uniform versions; one such being the uniform theory of diffraction (UTD) developed in the late 1970s, which still continues to be generalized for treating a wide variety of practical EM antenna and scattering problems at moderate to high frequencies.

About Prof. Prabhakar H. Pathak

Prabhakar H. Pathak received his Ph.D. (1973) from The Ohio State Univ.(OSU), in the Dept. of ECE where he later joined the faculty and became a Professor. Currently, he is Prof. Emeritus at OSU. He also served as an Adjunct Prof. at the Univ. of South Florida. He is regarded as a co-developer of the Uniform Geometrical Theory of Diffraction (UTD). His interests are in the development of Ray, Wave, and Beam optical methods in frequency and time domains, for solving electrically large Electromagnetic(EM) antenna and scattering problems of engineering interest. He has also developed some Hybrid methods, which combine the best features of any of the above methods with numerical methods, to solve EM problems which cannot otherwise be solved in a tractable fashion by any of the methods when used alone. His work is applicable, e.g., to the prediction of EM radiation and coupling associated with small antennas, or large phased array antennas, placed on or near large structures (such as airborne, spaceborne or naval 29

platforms, etc.) as well as to the EM scattering by such structures. He has presented many invited lectures/short courses in the USA and abroad; also he has published 7 book chapters and several journal and conference papers. He also published a book on EM waves entitled: Electromagnetic Radiation, Scattering, and Diffraction (authors: P.H. Pathak & R.J. Burkholder). He was an Assoc. Ed. for IEEE Trans. AP; an IEEE AP distinguished lecturer (DL) during 1991-1993; chair of the IEEE AP DL program (1995-2005); member of IEEE AP-S AdCom (2010). He received the 1995 IEEE AP Schelkunoff best paper award, the 1996 George Sinclair Award from the OSU ElectroScience Lab, the 2009 ISAP best paper award, the IEEE 3rd Millenium Medal from AP-S, and the 2013 IEEE AP-S Distinguished Achievement Award. He is a Life Fellow of IEEE and member of URSI Commision B.

Advanced Technical Program

Memorial Sessions, May 20 (Tue.), 2025

May 20	, Tuesday Room 102
	M1: Memorial Session in Honor of Prof. Chun-Hsiung Chen
	Session Chairs: Ruey-Beei Wu and Shyh-Kang Jeng (National Taiwan University, Taiwan)
	1571102620: Investigating the Subtle and Simplifying the Complex - A Tribute to Professor
	Chun Hsiung Chen as a Mentor, Teacher and Researcher
	Shau-Gang Mao (National Taiwan University, Taiwan)
	1571102678: Via Impedance Varition and Impact to Signal Quality
13:30	Chun-Lin Liao, Ozone Wang, Robert Xu and Bing Jia Zhong (Dell EMC Infrastructure Solutions
	Group, Taiwan)
15:10	1571106769: My Key Contributions Under Professor Chun Hsiung Chen's Guidance to EMC
(102)	Techniques and Certifications in Taiwan: A Ray-Trace-Based GTD Model for Evaluating NSA
	and Advanced Macro Models for Analyzing
	Han-Chang Hsieh (Bureau of Standards, Metrology & Inspection, Taiwan)
	1571107440: Optimizing Coil Turn Ratios for Wide Load Range and High Efficiency in Wireless
	Power Transfer Systems
	Heng-Ming Hsu and Tzu-Chun Li (National Chung Hsing University, Taiwan)
	1571109640: Hybrid Metallo-Dielectric Waveguide Architectures and Technologies for THz
	Circuits and Systems
	Chun-Mei Liu, Louis-Philippe Carignan and Ke Wu (Ecole Polytechnique de Montreal, Canada)
	M2: Technical Session in Honor of Prof. Song-Tsuen Peng
	Session Chairs: Heng-Tung Hsu and Yi-Fan Tsao (National Yang Ming Chiao Tung University,
	Taiwan)
	1571106253: Techniques for Synthesizing Leaky-Wave Antennas with Radiation Nulls: A Brief
	Review
	Dongze Zheng (Southeast University, China)
	Ke Wu (Polytechnique Montréal, Canada)
15:40	1571097127: In Memory of Professor Song-Tsuen Peng: Application of Periodic Structures in
	High-Speed Circuit Design to Reducing the Crosstalk
17:10	Wu-Chia Ho (Lunghwa University of Science and Technology, Taiwan)
(102)	Zhenyu Qian (Zhejiang University of Technology, China)
	1571098856: Radar-Absorbing Materials for Stealth Technologies
	Ruey-Bing Hwang (National Yang Ming Chiao Tung University, Taiwan)
	15/1099400: The Mentor of My PhD Pursuit At NCTU
	Chi-Ming Hsiao (Broadcom, Taiwan)
	Song-Isuen Peng (National Yang Ming Chiao Tung University, Taiwan)

	1571101621: A New Approach to Study Electromagnetics: Prof. Song-Tsuen Peng's Dedication
	in EM Education
	Heng-Tung Hsu (National Yang Ming Chiao Tung University, Taiwan)
	Song-Tsuen Peng (National Yang Ming Chiao Tung University, Taiwan)
17:20 18:45 (102)	Prospects and Reflections on the Next Wave of Electromagnetic Education - SAVE- the STP Way (Speeches in Mandarin)

Oral Sessions, May 20 (Tue.), 2025

May 20	, Tuesday 13:30-15:10
	TU-A1: Electromagnetic Environment & Computational Electromagnetics
	Session Chair: Yuan-Chang Hou (National Ilan University, Taiwan)
	1571108048: RF De-sense Analysis Considering Finite-Size Substrate Using Automated Dipole
	Moments Setup
	Hong-Wen Qian and Ruey-Beei Wu (National Taiwan University, Taiwan)
13:30	Cheng-Ta Li and Chun-Huang Lee (Universal Scientific Industrial Company, Taiwan)
	1571105537: Evaluation of Multi-Frequency Electromagnetic Exposure Using the Human
15:10	Head Model with Three Numerical Smartphone Models
(201A)	Homei Fujita, Kazuyuki Saito and Masaharu Takahashi (Chiba University, Japan)
	Tomoaki Nagaoka (National Institute of Information and Communications Technology, Japan)
	1571095018: Fast Calculation Method of Radiation Pattern for Large Rectangular Array
	Melbin Elsa Cheriyan and Yuan-Chang Hou (National Ilan University, Taiwan)
	1571107695: Quantum Selection Optimization of a Multilayer Absorber with Frequency
	Dependent Materials
	Gabriel Felipe Martinez, Alessandro Niccolai and Riccardo Enrico Zich (Politecnico di Milano,
	Italy)
	Eleonora L. Zich (Politecnico di Torino, Italy)
	1571107838: Simplified Modeling Method of EMC Macro-Model for Estimation of EMI from
	DC-DC Converter
	Ryotaro Mimura and Naoto Ishibashi (Panasonic Holdings Corporation, Japan)
	Kohei Yano, Tohlu Matsushima and Yuki Fukumoto (Kyushu Institute of Technology, Japan)
	TU-21: ESD Measurements & Countermeasures
	Session Chair: Takahiro Yoshida (Tokyo University of Science, Japan)
13:30	1571098863: ESD Failure Analysis of Devices Using Ultrasensitive UV Camera and Optical
	Voltage Probe
15:10	Takayoshi Ohtsu and Reo Ohhata (National Institute of Technology, Numazu College, Japan)
(202)	Toshiyuki Oshio (BlueVision Co., Ltd, Japan)

	Ryuji Osawa (Seikoh Giken Co., Ltd., Japan)
13:30	1571101010: Characterization of a GTEM Cell as an Impulse Generator using Broadband
	Antenna
	Shinobu Ishigami and Ken Kawamata (Tohoku Gakuin University, Japan)
	Shingo Inori (Elena Electronics Co. Ltd., Japan)
15.10	1571101555: Relationship Between Variation in Electric Field Peak Value and Electrode
(202)	Surface Roughness Due to Micro-Gap ESD
(202)	Ken Kawamata and Shinobu Ishigami (Tohoku Gakuin University, Japan)
	Osamu Fujiwara (Nagoya Institute of Technology, Japan)
	1571106879: Consideration of Waveform Analysis and Semiconductor Destruction for
	Charged Board Event
	Masanori Sawada, Hideaki Miura, Yudai Sakashita and Hiroshi Takenaka (Hanwa Electronic Ind.
	Co., Ltd., Japan)
	1571106939: Influences of Grounding Conditions and Circuit Impedance on TVS Diode's
	Response against ESD Stress
	Taoyu Ma and Takahiro Yoshida (Tokyo University of Science, Japan)
	TU-31: Antenna and Wave Propagation I
	Session Chairs: Chia-Mei Peng (Feng Chia University)
	1571102841: HMSIW Antenna Design with Metasurface Structure for Reducing Antenna
	Length by Controlling EMF Leakage
	Chia-Mei Peng (Feng Chia University)
	Mei-Yu Chen, Yi-Cun Lai and Ching-Hung Chuang (Feng Chia University, Taiwan)
	I-Fong Chen (Jinwen University of Science and Technology, Taiwan);
	1571107779: Ultra-Broadband Dual Mode Horn Antenna with Low Sidelobe Level and
	Axisymmetric Pattern at K-Band
12.20	Nannan Wang, Peng Gao, Zhonglin Meng, Guowei Xu and Tenigeer (Harbin Institute of
15.50	Technology, China)
15·10	1571105717: A 24GHz ISM-Band CPWG-Based Gap-Coupling Patch Antenna Design
(203)	Chao-Shun Yang, Shun-Ping Chang and Cheng-Ting Liu (Ming Chi University of Technology,
	Taiwan)
	1571102438: Design of Miniaturized Millimeter Wave 1 × 2 Chip Array Antenna Based on
	0.18 μm CMOS Technology
	Ming-An Chung, Zhi-xuan Zhang, Chia Chun Hsu, Yi-Ju Yao and Chia-Wei Lin (National Taipei
	University of Technology, Taiwan)
	1571095945: Gaussian Function for Predictive Modeling of Resonance Characteristics in
	Miniaturized HMSIW Antennas
	Chia-Mei Peng (Feng Chia University)
	I-Fong Chen (Jinwen University of Science and Technology, Taiwan)
	Yi-Cun Lai, Mei-Yu Chen and Ching-Hung Chuang (Feng Chia University, Taiwan)

May 20,	, Tuesday 15:30-17:40
	TU-22: Signal Integrity and Power Integrity & Others
	Session Chairs: Daisuke Fujimoto (Nara Institute of Science and Technology, Japan)
	and Chiu-Chih Chou (National Central University, Taiwan)
	1571102626: Surface Roughness Influence on Electrical Characteristics of Microstrip Lines
	Hsueh-Hsun Lee and Cheng-Nan Chiu (Yuan Ze University, Taiwan)
	1571071771: Accelerate Multi-Fabric System PDN Design and Analysis
	Dingru Xiao (Cadence Design Systems, China)
	Suomin Cui and Bill Hung (Cadence, USA)
	Hanfeng Wang (Google, USA)
	1571107674: AI-based Hybrid Approach (RL/GA) used for Calculating the Characteristic
	Parameters of a Single Surface Microstrip Transmission Line
15:30	Werner John (PYRAMIDE2525 & TU Dortmund, Germany)
	Emre Ecik, P. V. Modayil, Julian Withoeft and Jurgen Gotze (TU Dortmund, Germany)
17:40	Nima Ghafarian Shoaee (TU Dortmund & AG Datentechnik, Germany)
(202)	Ralf Brüning (Zuken GmbH/EMC Technology Center Paderborn, Germany)
	1571107642: Signal Integrity Analysis and Design of Branch Structure Wire-bonding for Low
	Power Double Data Rate (LPDDR)
	Dongkyun Kim, Seonghi Lee and Dongryul Park, Seunghun Ryu, Sanguk Lee, Hyunwoo Kim,
	Jinwook Lee and Seungyoung Ahn (Korea Advanced Institute of Science and Technology, Korea)
	1571107596: Evaluation of Changes in Intensity of Information Leakage from Cryptographic
	Circuit under Various SNR
	Daisuke Fujimoto and Yuichi Hayashi (Nara Institute of Science and Technology, Japan)
	1571107609: Mixed Mode S Parameter Characteristics of T1+1 Cables Installed at Different
	Height
	Hajime Kimura, Yusuke Yano, Osami Wada and Jianqing Wang (Nagoya Institute of Technology,
	Japan)
	TU-32: Antenna and Wave Propagation II
	Session Chairs: Junichi Honda (Electronic Navigation Research Institute, Japan)
	and Yu-Hsiang Cheng (National Taiwan University, Taiwan)
	1571107571: A Microwave Frequency Extractor Based on Substrate Integrated Waveguide
15.20	and Electromagnetic Band Gap Technologies
13.30	Chuang-Yu Chang and Yu-Hsiang Cheng (National Taiwan University, Taiwan)
 17·40	1571102789: Radar Antenna Characterization Using Lens-based Compact Range System
(202)	Nai-Yuan Hsu, Hsi-Tseng Chou and Kuan-Hsun Wu (National Taiwan University, Taiwan)
(203)	1571104731: Design and Implementation of Five-Element Butler Matrix for Beam-Switching
	Antennas
	Wei-Heng Peng and Yen-Sheng Chen (National Taipei University of Technology, Taiwan)
	1571107568: Preliminary Numerical Analysis of Localizer Signal in Non-Line-of Sight

Award Poster Competition Sessions, May 20 (Tue.), 2025

May 20	, Tuesday 15:30-17:40
	P1: Chun Hsiung Chen Best Paper Award Competition Session
	Session Chair: Kuo-Sheng Chin (Chang Gung University, Taiwan)
	1571095466: Study on the PKG Design of LPDDR5 for Low EMI Characteristic
	Taeho Kim, Yoo-Chang Sung, Jun-Bae Kim, Jung Hoon Cho, Chang Soo Yoon, Janghoo Kim,
	Kihan Kim, Won-Joo Yun and Seung-Jun Bae (Samsung Electronics Co., Ltd., South Korea);
	1571100656: Verification of the Voltage/Current Conversion Factor due to conversion from
	Differential Mode to Common Mode of Transformer-Type AANs for Conducted Emissions on
	8-wire Unscreened Balanced Pairs
	Nozomi Miyake (NEC Coroporation, Japan); Naoya Haraguchi (Fujifilm Business Innovation
	Corp., Japan); Fujio Amemiya (VCCI Council & The University of Electro-Communications,
	Japan); Nobuo Kuwabara (Kyushu Institute of Technology, Japan); Hidenori Muramatsu (VCCI
	Council, Japan)
	1571100703: Transformer Cores with Low Common Mode Currents for LLC Converters
	Yeu Torng Yau (National Chin-Yi University of Technology, Taiwan)
	Tsung-Liang Hung (Asian Power Devices Inc., Taiwan)
15.20	1571102579: Theoretical Circuit Analysis of Bidirectional Dual-band Absorptive Common-
12:30	Mode Filter
 17·/0	Fang-Ying Hsieh, Ding-Bing Lin and Cheng-Yi Zhuang (National Taiwan University of Science and
(201)	Technology, Taiwan)
(201)	1571102656: UTD-Based Analysis of Antenna Radiation Patterns on PEC Surfaces with Thin
	Material Coating
	Kittisak Phaebua, Titipong Lertwiriyaprapa and Chuwong Phongcharoenpanich (King
	Mongkut's Institute of Technology Ladkrabang, Thailand)
	Prabhakar H. Pathak (The Ohio State University, USA)
	15/1102884: Electrical Characterization of High-Speed Rdw Cables in Peripheral Component
	Interconnect Express (PCIe) 5.0 and Beyond
	limmy Hou (Intel, Taiwan)
	Joong Jin and Huanzhong Van (Luxsharo, China)
	1571102996: Asymmetric change of VI characterictic of Motal Ovide varietors at low surrent
	13/1102000. Asymmetric change of v-i characteristic of wieldi Oxide varistors at IOW current
	Naovuki Tsukamoto and Kensuke Kondo (Otowa Electric Co. Japan)
	Masaru Ishii (The University of Tokyo Japan)
	יאימסמרע וסרוון נדורב טרוועברסוגע טר וטראטט, סמאמוון

	1571103504: Cellulose-Based Aqueous Polyurethane Aerogels for Bifunctional
	Electromagnetic Wave Application
	Sreekanth Ginnaram, Kokila Khanal and Yang Yong (National University of Singapore,
	Singapore)
	1571103570: An Error-Analysis for UAV-Based In-Situ Near-field Compliance Measurements
	of Antenna Arrays
	Robert Geise (University of Applied Science Leipzig & Technische Universitat Braunschweig, Germany)
	Bjorn Neubauer and Altan Akar (Technische Universitat Braunschweig, Germany)
	Rudiger Strauss and Torsten Fritzel (Aeroxess GmbH, Germany)
	1571106888: Measurement of Channel Gain Characteristics of Human Body Communication
	Systems by Using Pseudo-Noise Signals
	Ai-ichiro Sasaki and Keita Kajihara (Kindai University, Japan)
	1571107186: A Wideband H-Shape Aperture Coupled Microstrip Antenna Array for mmW
	Mobile Applications
	Tai-Ci Tang, Jui-Han Tai, Pei-Hsuan Yang and Chien-Chang Huang (Yuan Ze University, Taiwan)
	1571107188: Standardization Activities of IEC/CISPR 37 on in Situ Measurement Method for
	System EMC
	Kimihiro Tajima, Masashi Takabe, Eichi Kobayashi And Toshiaki Ono (NTT Advanced Technology
15:30	Corporation, Japan)
	Nobuyuki Mitsuzuka (Matsudo laboratory, Telecom Engineering Center, Japan)
17:40	1571107336: Automatic Electrical Characterization of End-to-End Channel
(201)	Jimmy Hsu, Ryan Chang, Brian Ho and Lemon Lin (Intel Technology Asia Pte. Ltd., Taiwan)
	Alax Wei and Johnny Hsieh (MPI Corporation, Taiwan)
	1571107451: High-Order Dynamic Mode Decomposition for Multidimensional Harmonic
	Retrieval
	Yanming Zhang and Steven Shichang Gao (Chinese University of Hong Kong, Hong Kong)
	Lijun Jiang (Missouri University of Science and Technology, USA & EMC Lab, USA)
	1571107585: Triple-Frequency Intermodulation Automatic Characterization of Nonlinear
	Power Amplifier
	Taochen Gu and Zhenyu Zhao (National University of Singapore, Singapore)
	Xin Cheng, Hongyu Du and Fayu Wan (Nanjing University of Information Science & Technology,
	China)
	1571107796: Improved Tolerance Evaluation of Cryptographic Device against CPA by
	Processing in Frequency Domain to Reduce Effect of Noise
	Hideaki Sone (Tohoku University, Japan)
	Yuichi Hayashi (Nara Institute of Science and Technology, Japan)
	1571107822: RF Interferometer-Based Unitary Matrix Synthesis for Analog Array
	Beamforming
	Minning Zhu (Rutgers University, USA)

	Chung-Tse Michael Wu (Rutgers University, USA & National Taiwan University, Taiwan)
	1571107838: Simplified Modeling Method of EMC Macro-Model for Estimation of EMI from
	DC-DC Converter
	Ryotaro Mimura and Naoto Ishibashi (Panasonic Holdings Corporation, Japan)
15:30	Kohei Yano, Tohlu Matsushima and Yuki Fukumoto (Kyushu Institute of Technology, Japan)
	1571108048: RF De-sense Analysis Considering Finite-Size Substrate Using Automated Dipole
1/:40	Moments Setup
(201)	Hong-Wen Qian and Ruey-Beei Wu (National Taiwan University, Taiwan)
	Cheng-Ta Li and Chun-Huang Lee (Universal Scientific Industrial Company, Taiwan)
	P2: Song-Tsuen Peng Best Student Paper Award Competition Session
	Session Chair: Kuo-Sheng Chin (Chang Gung University, Taiwan)
	1571095018: Fast Calculation Method of Radiation Pattern for Large Rectangular Array
	Melbin Elsa Cheriyan and Yuan-Chang Hou (National Ilan University, Taiwan)
	1571098444: Compact RF Absorber for Shielding Component Radiation in Laptops
	Yu-Kai Huang, Fei-Peng Lai and Yen-Sheng Chen (National Taipei University of Technology,
	Taiwan)
	Kuan-Hsueh Tseng, Cheng-Hsiung Chiang and Chao-Yu Chen (Micro-Star INTL CO., LTD, Taiwan)
	1571100705: Asymmetric Coplanar Strip Structure Antenna for Triple-Band Applications
	Yu-Chen Chiu, Chia Hao Ku and Chia-Hsi Shen (Ming Chi University of Technology, Taiwan)
15:30	Ming-Shan Lin (Bureau of Standards, Metrology & Inspection, Taiwan)
	Yuan-Fu Ku (Taiwan Testing and Certification Center, Taiwan)
17:40	1571100848: A Consistency Analysis of Electromagnetic Interference from Memory
(201)	Components on High-Speed Digital Circuit Board
	Chao-Shun Yang, Shun-Ping Chang, Bai-Yan Chen and Jyh-Liang Wang (Ming Chi University of
	Technology, Taiwan)
	1571101604: Revealing the Intentional Electromagnetic Interference Impact on State-of-
	Charge Estimation in Electric Vehicles
	Zhen Tao, Huamin Jie, Mingke Yang and Kye Yak See (Nanyang Technological University,
	Singapore)
	Shiqi Jiang (Harbin Institute of Technology, China)
	Zhenyu Zhao (National University of Singapore, Singapore)
	1571102302: High-Frequency Accurate Dual-Side Equivalent Circuit Model for Transformers
	Reza Vahdani, Manish Kizhakkeveettil Mathew, Zhekun Peng and DongHyun Kim (Missouri
	University of Science and Technology, USA)
	Junyong Park (Dankook University, Yongin, Korea)
	Chiuk Song, Hycksu Kweon and Younghwan Kwack (Hyundai Mobis Co., Ltd., Korea)
	15/1102638: State-of-charge Estimation of Electric Vehicle Battery Based on Electromagnetic
37	inductive coupling ineory

	Zhen Tao, Huamin Jie, Mingke Yang and Kye Yak See (Nanyang Technological University,
	Singapore)
	Zhenyu Zhao (National University of Singapore, Singapore)
	Yongqi Chang (Harbin Institute of Technology, China)
	1571102753: Design Methodology of Meshed Ground Plane for Signal Integrity Enhancement
	in High-Performance Computing Systems
	Hyunwoo Kim, Changmin Lee, Seonghi Lee, Sanguk Lee, Dongryul Park, Jinwook Lee and
	Dongkyun Kim and Seungyoung Ahn (Korea Advanced Institute of Science and Technology,
	Korea)
	Jongwook Kim (SK Hynix Inc., Korea)
	1571102792: Multi-Mode Ku-band Active Phased Array Antennas for CubeSat and Mobile
	Communications
	Hong-Kai Wang and Hsi-Tseng Chou (National Taiwan University, Taiwan)
	1571102843: Design of a 5G NR Broadband Base Station Antenna with Surface Wave
	Suppression and Radiation Null Control
	Chia-Mei Peng (Feng Chia University)
15:30	Ching-Hung Chuang (Feng Chia University, Taiwan)
	I-Fong Chen (Jinwen University of Science and Technology, Taiwan)
17:40	1571103188: Enhanced Modeling Method of Package Power Distribution Network (PDN) for
(201)	Multiple Power Domain 3D-ICs
	Seonghi Lee, Seunghun Ryu, Dongryul Park, Seongho Woo, Sanguk Lee, Hyunwoo Kim, Jinwook
	Lee, Dongkyun Kim and Seungyoung Ahn (Korea Advanced Institute of Science and Technology,
	Korea)
	Sangsub Song and Seokbeom Yong (SAMSUNG Electronics, Korea)
	1571103220: Fast detection of EMC level drifts induced by aging using biased thermal step
	stress: Application to an AC input EMC filter
	Matthieu Laidet (LAAS CNRS & EDF Power Network Lab, France)
	Alexandre Boyer and Sonia Ben Dhia (LAAS-CNRS, France)
	Julien Gazave (EDF Power Network Lab, France)
	1571106151: Protocol-Based HDMI Display Reconstruction with Conductive Signal Analysis
	Mingke Yang, Zhen Tao, Huamin Jie and Kye Yak See (Nanyang Technological University,
	Singapore)
	Yongqi Chang (Harbin Institute of Technology, China)
	Zhenyu Zhao (National University of Singapore, Singapore);
	1571107343: Multiple Regression Modeling of EMI from Cryptographic Hardware for
	Estimating Resistance to Deep Learning Side-Channel Attack
	Tatsuya Sakagami, Masaki Himuro, Kengo lokibe and Yoshitaka Toyota (Okayama University,
	Japan)
	1571107344: Low-Profile Composite Inverted Current Path MIMO Antenna Design with
	Radiation Nulls for 5G Smartphone Applications

	Chia-Mei Peng (Feng Chia University)
	Yi-Hsien Li and Yu-Cheng Lin (Feng Chia University, Taiwan)
	I-Fong Chen (Jinwen University of Science and Technology, Taiwan)
	1571107421: Investigation of LF and MF Electrical Noise Causing Playback Sound Quality
	Degradation Conducting between Audio Equipment
	Sho Narahara, Shun Muramatsu and Takahiro Yoshida (Tokyo University of Science, Japan)
	1571107503: A Machine Learning Modeling and Optimization Framework for Signal Integrity
	Design Support
15:30	Julian Withoeft, Emre Ecik, Jan Wastian and Jurgen Gotze (TU Dortmund, Germany)
	Werner John (PYRAMIDE2525 & TU Dortmund, Germany)
17:40	Ralf Bruning (Zuken GmbH/EMC Technology Center Paderborn, Germany)
(201)	1571107510: Modified Inverted-F Antenna for Future 6G Upper Mid-Band (7-15 GHz) Laptop
	Applications
	Ruei-Cheng Huang, Jie-Ru Chan, Yen-Wei Huang, Shu-Quan Liu and Chow-Yen-Desmond Sim
	(Feng Chia University, Taiwan)
	1571107695: Quantum Selection Optimization of a Multilayer Absorber with Frequency
	Dependent Materials
	Gabriel Felipe Martinez, Alessandro Niccolai and Riccardo Enrico Zich (Politecnico di Milano,
	Italy)
	Eleonora L. Zich (Politecnico di Torino, Italy)
	1571108405: Impacts on Coupling Voltage in PIFA by Differential and Common Modes in USB
	Signaling
	Yuan-Yuan Tsai and Ruey-Beei Wu (National Taiwan University, Taiwan)
	Chun-Huang Lee (Universal Scientific Industrial Company, Taiwan)

Oral Sessions, May 21 (Wed.), 2025

May 21, Wednesday 8:50-10:1	
	WE-B1: Antennas for Beyond 5G (B5G) and 6G Wireless Communications
	Technologies
	Session Chairs: Malcolm Ng Mou Kehn (National Yang Ming Chiao Tung University, Taiwan)
	and Chow-Yen-Desmond Sim (Feng Chia University, Taiwan)
	1571107003: Alternative Sub-THz AiP Configuration for Broadside Radiation Using Stacked
8:50	End-fire Design to Overcome Space Limitation
	Hsi-Tseng Chou, Yang-Ming Chen, Chih-Yen Lee and Hong-Kai Wang (National Taiwan
10:10	University, Taiwan)
(201B)	1571107379: RIS Implementation by Tensor Holographic Metasurfaces
	Wei Chuan Chen, Ting Wei Lin and Malcolm Ng Mou Kehn (National Yang Ming Chiao Tung
	University, Taiwan)
20	

	1571107391: Analysis of Rotated Strip Gratings Leaky Wave Holographic Antenna
	Ping-Han Wang, Chen-Yu Ku and Malcolm Ng Mou Kehn (National Yang Ming Chiao Tung
	University, Taiwan)
	1571108321: Design and Measurement of PCB Patch Antenna Array at 300 GHz
	Zhao-Fa Chen and Yu-Hsiang Cheng (National Taiwan University, Taiwan)
May 21	, Wednesday 10:40-12:00
	WE-B2: Antennas for Beyond 5G (B5G) and 6G Wireless Communications
	Technologies
	Session Chairs: Malcolm Ng Mou Kehn (National Yang Ming Chiao Tung University, Taiwan)
10:40	and Chow-Yen-Desmond Sim (Feng Chia University, Taiwan)
1	1571107439: Designing Multifunctional Metasurface Antennas Using the Ray Insertion
12:00	Method
(201B)	Bo-Yu Chuang, Malcolm Ng Mou Kehn and Jin Wei Chen (National Yang Ming Chiao Tung
	University, Taiwan)
	1571107510: Modified Inverted-F Antenna for Future 6G Upper Mid-Band (7-15 GHz) Laptop
	Applications
	Ruei-Cheng Huang, Jie-Ru Chan, Yen-Wei Huang, Shu-Quan Liu and Chow-Yen-Desmond Sim
	(Feng Chia University, Taiwan)
	1571107532: An 8-Element Coupled Loop MIMO Array for 6G Upper Mid-Band (7-15 GHz)
	Smartphone Applications
	Wei-Xiang Weng, Jie-Rong Chan, Jian-Zhong Lin, Zong-Jie Yang, Ting-Fu Huang, Zih-Min Huang
	and Chow-Yen-Desmond Sim (Feng Chia University, Taiwan)
May 21	, Wednesday 8:50-10:10
	WE-C1: EMC Measurement and Instrumentation I
	Session Chair: Takanori Uno (Denso EMC Engineering Service Corporation, Japan) and
	Shih-Yi Yuan (Feng Chia University, Taiwan)
	1571100848: A Consistency Analysis of Electromagnetic Interference from Memory
	Components on High-Speed Digital Circuit Board
8:50	Chao-Shun Yang, Shun-Ping Chang, Bai-Yan Chen and Jyh-Liang Wang (Ming Chi University of
	Technology, Taiwan)
10:10	1571102674: Using Multi-Layer Perceptron to Analyze EMI Leakage During Program
(201C)	Execution
	Yu-Ssu Wang, Shih-Yi Yuan and Yi Feng Lee (Feng Chia University, Taiwan)
	Liang-Yang Lin (Bureau of Standards, Metrology & Inspection, Taiwan)
	Yuan-Fu Ku (Taiwan Testing and Certification Center, Taiwan)
	1571102891: Using the Poynting Method to Analyze the Antenna Noise Interference of
	Notebook Computer
	Chung-Hao Huang and Chao-Chin Xu (Chung Yuan Christian University, Taiwan)
	Kuan-Hsueh Tseng and Yang Chen-Kun (Micro-Star INTL CO. LTD, Taiwan)

	1571103317: Memory Polynomial Model-Based Digital Predistortion for Disturbance Signal
	Maintenance in Broadband Radiated Immunity Tests
	GyeongRyun Choi, Hanyang Li and Wansoo Nah (Sungkyunkwan University, Korea)
	Hongsik Keum (E&R, Korea)
	Hyeontae Kim and GeunHo Kim (Rohde & Schwarz, Korea)
	WE-D1: Special Topics on EMC I
	Session Chair: Masahiro Kinugawa (The University of Fukuchiyama, Japan)
	1571100703: Transformer Cores with Low Common Mode Currents for LLC Converters
	Yeu Torng Yau (National Chin-Yi University of Technology, Taiwan)
	Tsung-Liang Hung (Asian Power Devices Inc., Taiwan)
8:50	1571100838: Fundamental Study of High-Frequency Data Injection Attacks via Multiple-
	Wave IEMI on CMOS ICs Beyond Their Operating Frequency Range
10:10	Masahiro Kinugawa (The University of Fukuchiyama, Japan); Yuichi Hayashi (Nara Institute of
(201D)	Science and Technology, Japan)
	1571107677: Single-Antenna Echo TEMPEST Enabled by Nonlinearities and a Band-stop Filter
	Ryo Nagoshi, Shugo Kaji, Daisuke Fujimoto and Yuichi Hayashi (Nara Institute of Science and
	Technology, Japan)
	Masahiro Kinugawa (The University of Fukuchiyama, Japan)
	1571105432: Enhancing Portability in Profiled SCA Using Transfer Function-Based
	Preprocessing
	Taiki Kitazawa and Yuichi Hayashi (Nara Institute of Science and Technology, Japan)
	Lennert Wouters, Benedikt Gierlichs and Ingrid Verbauwhede (KU Leuven, Belgium)
	WE-E1: Antenna and Wave Propagation III
	Session Chairs: Ai-ichiro Sasaki (Kindai University, Japan) and
	I-Fong Chen (Jinwen University of Science and Technology, Taiwan)
	1571107344: Low-Profile Composite Inverted Current Path MIMO Antenna Design with
	Radiation Nulls for 5G Smartphone Applications
8:50	Chia-Mei Peng (Feng Chia University)
	Yi-Hsien Li and Yu-Cheng Lin (Feng Chia University, Taiwan)
10:10	I-Fong Chen (Jinwen University of Science and Technology, Taiwan)
(201E)	1571106888: Measurement of Channel Gain Characteristics of Human Body Communication
	Systems by Using Pseudo-Noise Signals
	Ai-ichiro Sasaki and Keita Kajihara (Kindai University, Japan)
	1571102843: Design of a 5G NR Broadband Base Station Antenna with Surface Wave
	Suppression and Radiation Null Control
	Chia-Mei Peng (Feng Chia University)
	Ching-Hung Chuang (Feng Chia University, Taiwan)
	I-Fong Chen (Jinwen University of Science and Technology, Taiwan)

	1571102792: Multi-Mode Ku-band Active Phased Array Antennas for CubeSat and Mobile
	Communications
	Hong-Kai Wang and Hsi-Tseng Chou (National Taiwan University, Taiwan)
May 21	, Wednesday 10:40-12:00
	WE-C2: EMC Measurement and Instrumentation II
	Session Chair: Shih-Yi Yuan (Feng Chia University, Taiwan)
	1571105332: Analysis of inter-laboratory comparison and wire-harness setup flexibility for
10:40	automotive reverberation chambers
1	Atsushi Arai (TOYO EMC Engineering Co., Ltd., Japan)
12:00	Tatsuya Inoue (Panasonic Industry Co., Ltd., Japan)
(201C)	Ryo Nishikaji (KEC Kansai Electronic Industry Development Center, Japan)
	Mitsuo Kaiyama and Takanori Uno (Denso EMC Engineering Service Corporation, Japan)
	1571107632: Measurement of Complex Permittivity Printed Circuit Boards Using BCDR and
	Free-Space Method Up to 90GHz
	Masahiro Tomioka, Yuki Akatsuka, Kaiji Obinata and Takashi Kasuga (National Institute of
	Technology, Nagano College, Japan)
	Taiki Kitazawa and Daisuke Fujimoto (Nara Institute of Science and Technology, Japan)
	Jerdvisanop Chakarothai (National Institute of Information and Communications Technology,
	Japan) Yuichi Hayashi (Nara Institute of Science and Technology, Japan)
	1571107684: Black-Box Modeling of Filter Components in the Frequency Range of up to 120
	MHz
	Altan Akar (Technische Universitat Braunschweig, Germany)
	1571107705: Balanced Antenna Circuit Fed by Absorber Covered Coaxial Line for Off-
	Resonance Antenna Operation
	Ikuko Mori (National Institute of Technology, Suzuka College, Japan)
	Andrzej Sowa (Wroclaw University of Technology, Poland)
	WE-D2: Special Topics on EMC II
	Session Chairs: Tohlu Matsushima (Kyushu Institute of Technology, Japan) and Aloysius Adya
	Pramudita (Telkom University, Indonesia)
	1571103359: Design of a 2.4 GHz Electromagnetic Bandgap Structure Utilizing Outer-Layer
	Ground Planes and Inner-Layer Parallel Plates with Through-Hole Vias on PCB
10:40	Chao-Shun Yang and Bevin Aqilla Faalih (Ming Chi University of Technology, Taiwan)
	1571132019: Wearable Antenna for Small Displacement Sensor
12:00	Aloysius Adya Pramudita (Telkom University, Indonesia)
(201D)	Erfansyah Ali (National Taiwan University of Science and Technology, Taiwan)
	1571107343: Multiple Regression Modeling of EMI from Cryptographic Hardware for
	Estimating Resistance to Deep Learning Side-Channel Attack
	Tatsuya Sakagami, Masaki Himuro, Kengo lokibe and Yoshitaka Toyota (Okayama University,
	Japan)

	1571107374: Scattering Measurement of Small Unmanned Aircraft Systems for Future
	Airport Surveillance Radar
	Gaku Sato, Junichi Honda and Kazuyuki Morioka (Electronic Navigation Research Institute,
	Japan)
	Naruto Yonemoto (National Institute of Maritime, Port and Aviation Technology, Japan)
	WE-E2: Integrated Circuit EMC
	Session Chair: Ming-An Chung (National Taipei University of Technology, Taiwan)
	1571089487: Estimating Radiated Emission Using Source Modeling from Near-Field
	Measurement
	Min-Hsu Tsai, Ming-Cheng Chang and Jen-Chieh Liu (Himax Technologies Inc., Taiwan)
10:40	1571099484: Controllable Eight-shaped Inductor Used in Voltage-Controlled Oscillator
	Ho-Chang Lee and Sin Chen (Chung Yuan Christian University, Taiwan)
12:00	Sheng-Lyang Jang and Jeng-Wen Huang (National Taiwan University of Science and Technology,
(201E)	Taiwan)
	1571102525: D-Band Branch-Line Coupler Using 0.18 μm CMOS Technology for 6th
	Generation Wireless Communication
	Ming-An Chung, Chia-Wei Lin and Chia Chun Hsu (National Taipei University of Technology,
	Taiwan)
	1571104500: Magnetic Coupling Noise Suppressive Low Noise Amplifier
	Sheng-Iyang Jang, Te-Lup Fan and Mijn-Horng Juang (National Taiwan University of Science
	Sheng Lyang Jang, te Lutran and Winn Horng Juang (National Janwah Oniversity of Science
	and Technology, Taiwan)
May 21	and Technology, Taiwan) , Wednesday 14:00-15:20
May 21	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC
May 21	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland)
May 21	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan)
May 21 14:00	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station
May 21 14:00 	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System
May 21 14:00 15:20	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian
May 21 14:00 15:20 (201C)	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine)
May 21 14:00 15:20 (201C)	and Technology, Taiwan) , Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies,
May 21 14:00 15:20 (201C)	and Technology, Taiwan) Wednesday WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands)
May 21 14:00 15:20 (201C)	Sherig Eyang Sang, He Cull rain and Humin Horing Stating (National Halwahl Oniversity of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia)
May 21 14:00 15:20 (201C)	Sheng Lyang Jung, He Lum and Winn Horing Juang (National Yawah Oniversity of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia) 1571102815: Core Models for EMC and Temperature Estimation
May 21 14:00 15:20 (201C)	Sitchig Lyang Sang, Te Lum and Minn Horing Stating (National Tarwan Oniversity of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia) 1571102815: Core Models for EMC and Temperature Estimation Umberto Paoletti and Zuitoku Shin (Hitachi, Ltd. & Research & Development Group, Japan)
May 21 14:00 15:20 (201C)	Sitchig Lyang Jang, Te Lun Yah and Winn Horng Juang (National Yahwah Oniversity of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia) 1571102815: Core Models for EMC and Temperature Estimation Umberto Paoletti and Zuitoku Shin (Hitachi, Ltd. & Research & Development Group, Japan) Yusaku Katsube and Shuaitao Zhang (Hitachi Astemo Ltd., Japan)
May 21 14:00 15:20 (201C)	Sincing Eyang Jung, Ite Edimentation Ministricting Stating (National National Contents) of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia) 1571102815: Core Models for EMC and Temperature Estimation Umberto Paoletti and Zuitoku Shin (Hitachi, Ltd. & Research & Development Group, Japan) Yusaku Katsube and Shuaitao Zhang (Hitachi Astemo Ltd., Japan) 1571105667: Reproducibility of actual railway conditions for on-board signaling fault caused
May 21 14:00 15:20 (201C)	Sitchig Eyang Sang, Te Edit Fair and Whith Horng Stang (National Tawah Oniversity of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia) 1571102815: Core Models for EMC and Temperature Estimation Umberto Paoletti and Zuitoku Shin (Hitachi, Ltd. & Research & Development Group, Japan) 1571105667: Reproducibility of actual railway conditions for on-board signaling fault caused by dead section
May 21 14:00 15:20 (201C)	Sitchig Eyang Jang, He tan and Mini Horng Juang (National Jawah Oniversity of Science and Technology, Taiwan) Wednesday 14:00-15:20 WE-C3: Transportation EMC Session Chairs: Krzysztof Sieczkarek (Lukasiewicz - Poznan Institute of Technology, Poland) and Umberto Paoletti (Hitachi, Ltd. & Research & Development Group, Japan) 1571107749: Monitoring Electromagnetic Interference and Code Current in The Station Interlocking System Tetiana Serdiuk, Maksym Serchenko and Volodymyr Profatylov and Artem Smirnov (Ukrainian State University of Science and Technologies, Ukraine) Rodica Botnarevscaia (University of Twente & State University of Science and Technologies, The Netherlands) Dwi Mandaris (National Research and Innovation Agency, Indonesia) 1571102815: Core Models for EMC and Temperature Estimation Umberto Paoletti and Zuitoku Shin (Hitachi, Ltd. & Research & Development Group, Japan) 1571105667: Reproducibility of actual railway conditions for on-board signaling fault caused by dead section Keisuke Fukumasu and Umberto Paoletti (Research & Development Group, Hitachi, Ltd., Japan)

	1571084511: Laboratory Train Detection Equipment Immunity System to Magnetic Fields
	from Rolling Stock
	Krzysztof Sieczkarek, Adam Mackowiak, Tomasz Warzynski, Bartlomiej Nagorny, Michal
	Rokossowki and Radoslaw Sczepanski (Lukasiewicz - Poznan Institute of Technology, Poland)
	WE-D3: Special Topics on EMC III
	Session Chairs: Takahiro Yoshida (Tokyo University of Science, Japan) and
	Taeho Kim (Samsung Electronics Co., Ltd., South Korea)
14:00	1571095466: Study on the PKG Design of LPDDR5 for Low EMI Characteristic
	Taeho Kim, Yoo-Chang Sung, Jun-Bae Kim, Jung Hoon Cho, Chang Soo Yoon, Janghoo Kim,
15:20	Kihan Kim, Won-Joo Yun and Seung-Jun Bae (Samsung Electronics Co., Ltd., South Korea);
(201C)	1571099441: Integrated Co-Simulation with Electromagnetic Field Circuits for Radiation
	Immunity of Printed Circuit Board
	Soki Akutsu, Akio Ikeda, Hisashi Shimizu, Toshihiko Nishimori and Jun Yasui (Mitsubishi Heavy
	Industries Ltd., Japan)
	1571103220: Fast detection of EMC level drifts induced by aging using biased thermal step
	stress: Application to an AC input EMC filter
	Matthieu Laidet (LAAS CNRS & EDF Power Network Lab, France)
	Alexandre Boyer and Sonia Ben Dhia (LAAS-CNRS, France)
	Julien Gazave (EDF Power Network Lab, France)
	1571107421: Investigation of LF and MF Electrical Noise Causing Playback Sound Quality
	Degradation Conducting between Audio Equipment
	Sho Narahara, Shun Muramatsu and Takahiro Yoshida (Tokyo University of Science, Japan)
	WE-E3: Signal Integrity and Power Integrity I
	Session Chair: Yoshitaka Toyota (Okayama University, Japan)
	1571102753: Design Methodology of Meshed Ground Plane for Signal Integrity
14:00	Enhancement in High-Performance Computing Systems
	Hyunwoo Kim, Changmin Lee, Seonghi Lee, Sanguk Lee, Dongryul Park, Jinwook Lee and
15:20	Dongkyun Kim and Seungyoung Ahn (Korea Advanced Institute of Science and Technology,
(201E)	Korea)
	Jongwook Kim (SK Hynix Inc., Korea)
	1571103188: Enhanced Modeling Method of Package Power Distribution Network (PDN) for
	Multiple Power Domain 3D-ICs
	Seonghi Lee, Seunghun Ryu, Dongryul Park, Seongho Woo, Sanguk Lee, Hyunwoo Kim, Jinwook
	Lee, Dongkyun Kim and Seungyoung Ahn (Korea Advanced Institute of Science and Technology,
	Korea)
	Sangsub Song and Seokbeom Yong (SAMSUNG Electronics, Korea)
	1571107665: Calculation of Mode Conversion Between Coaxial Cable and Microstrip Line for
	Immunity Estimation
	Tohlu Matsushima, Takumi Kawashima, Daisuke Nakayama and Yuki Fukumoto (Kyushu
	Institute of Technology, Japan)

	1571106813: Wire Bonding with Embedded Vertical Compensation and Novel BGA
	Interconnection Analysis for Multi-Layered System in Package
	Pei Ge and Hao-Ran Zhu (Anhui University, China)
	Jian Wang (University of Ningbo, China)
May 21	, Wednesday 16:00-18:00
	WE-C4: Electromagnetic Safety, Security, and Reliability in Power and Energy
	Applications
	Session Chair: Kye Yak See (Nanyang Technological University, Singapore)
	1571101596: Fixture Compensation Strategy for Impedance Characterization of Single-Phase
	Chokes Used in Power Electronics Applications
16:00	Huamin Jie, Mingke Yang, Zhen Tao, Yu Zeng and Kye Yak See (Nanyang Technological
	University, Singapore)
18:00	Zhenyu Zhao (National University of Singapore, Singapore)
(201C)	1571101599: Circuit Modeling of Nanocrystalline Common-Mode Chokes Using Particle
	Swarm Optimization Embedded Permeability-Dependence Adapter
	Huamin Jie, Karthik Mepurath Sriraman, Zhen Tao, Mingke Yang and Kye Yak See (Nanyang
	Technological University, Singapore)
	Zhenyu Zhao (National University of Singapore, Singapore);
	1571101604: Revealing the Intentional Electromagnetic Interference Impact on State-of-
	Charge Estimation in Electric Vehicles
	Zhen Tao, Huamin Jie, Mingke Yang and Kye Yak See (Nanyang Technological University,
	Singapore)
	Shiqi Jiang (Harbin Institute of Technology, China)
	Zhenyu Zhao (National University of Singapore, Singapore)
	1571102638: State-of-charge Estimation of Electric Vehicle Battery Based on Electromagnetic
	Inductive Coupling Theory
	Zhen Tao, Huamin Jie, Mingke Yang and Kye Yak See (Nanyang Technological University,
	Singapore)
	Zhenyu Zhao (National University of Singapore, Singapore)
	Yongqi Chang (Harbin Institute of Technology, China)
	1571106151: Protocol-Based HDMI Display Reconstruction with Conductive Signal Analysis
	Mingke Yang, Zhen Tao, Huamin Jie and Kye Yak See (Nanyang Technological University,
	Singapore)
	Yongqi Chang (Harbin Institute of Technology, China)
	Zhenyu Zhao (National University of Singapore, Singapore);
	1571107585: Triple-Frequency Intermodulation Automatic Characterization of Nonlinear
	Power Amplifier
	Taochen Gu and Zhenyu Zhao (National University of Singapore, Singapore)
	Xin Cheng, Hongyu Du and Fayu Wan (Nanjing University of Information Science & Technology,
	China)

May 21, Wednesday 16:00-17:40		
	WE-D4: Special Session in Honor of Professor Prabhakar H. Pathak on UTD-	
	based Electromagnetic Analysis	
	Session Chair: Panuwat Janpugdee (Chulalongkorn University, Thailand)	
	and Titipong Lertwiriyaprapa (King Mongkut's University of Technology North Bangkok,	
	Thailand)	
16:00	1571100115: Review of approximate UTD Solution for Diffraction of Thin Material Coated	
	Wedges	
17:40	Montree Saowadee and Titipong Lertwiriyaprapa (King Mongkut's University of Technology	
(201D)	North Bangkok, Thailand)	
	1571102656: UTD-Based Analysis of Antenna Radiation Patterns on PEC Surfaces with Thin	
	Material Coating	
	Kittisak Phaebua, Titipong Lertwiriyaprapa and Chuwong Phongcharoenpanich (King	
	Mongkut's Institute of Technology Ladkrabang, Thailand)	
	Prabhakar H. Pathak (The Ohio State University, USA)	
	1571102931: Transient Ray Solutions of EM Scattering from Large Objects based on Kirchhoff	
	Approximations	
	Shih-Chung Tuan (Asia Eastern University of Science and Technology, Taiwan)	
	Hsi-Tseng Chou (National Taiwan University, Taiwan)	
	Kung-Yu Lu (Fuzhou University of International Studies and Trade, China)	
	1571106206: A UTD-based Aperture Distribution and Radiation Pattern Calculation for	
	Conformal Phased Arrays	
	Panuwat Janpugdee (Chulalongkorn University, Thailand)	
	Prabhakar H. Pathak (The Ohio State University, USA)	
	1571107598: A Ray Technique for Modeling the Radiation by Realistic Small Antennas on	
	Locally Convex Large Complex Platforms	
	Kittisak Phaebua (King Mongkut's University of Technology North Bangkok & Faculty of	
	Technical Education, Thailand)	
	Prabhakar H. Pathak (The Ohio State University, USA)	
	WE-E4: Power System EMC and Smart Grid	
	Session Chair: Yeu-Torng Yau (National Chin-Yi University of Technology, Taiwan)	
	1571073283: Soft Switching Boost Converter with Passive Lossless Snubber	
	Yeu Torng Yau and Po Hong Hong (National Chin-Yi University of Technology, Taiwan)	
	1571090495: EMI Reduction Analysis and Verification for Power Conversion System of EV	
16:00	Chargers with Simulation Technique	
	Tzu-Hao Ho, Han-Nien Lin, Ching-Ya Chang, I-Li Yang, Ya-Ting Chou, Yen-Tzu Chang and Po-	
17:40	Hsuan Chen (Feng Chia University, Taiwan)	
(201D)	Yuan-Fu Ku (Taiwan Testing and Certification Center, Taiwan)	
	Chun-Yuan Chang (Bureau of Standards, Metrology and Inspection, Taiwan)	

1571102302: High-Frequency Accurate Dual-Side Equivalent Circuit Model for Transformers
Reza Vahdani, Manish Kizhakkeveettil Mathew, Zhekun Peng and DongHyun Kim (Missouri
University of Science and Technology, USA)
Junyong Park (Dankook University, Yongin, Korea)
Chiuk Song, Hycksu Kweon and Younghwan Kwack (Hyundai Mobis Co., Ltd., Korea)
1571105924: A Novel Nonlinear Current Injection Technique to Reduce Miller Effects and
Crosstalk in SiC MOSFETS
Daniel Smith, Zhijie Zhang, Yirui Yang and Shuo Wang (University of Florida, USA)
1571107455: Comparison between Calculated and Measured Distribution-Line Impedances
Yohei Tanaka, Kentaro Fukushima and Naotaka Okada (Central Research Institute of Electric
Power Industry, Japan)

Kenki Nakayama (Shikoku Electric Power Transmission & Distribution Company, Japan)

Oral/Poster Sessions, May 22 (Thu.), 2025

May 22,	, Thursday 8:50-10:10
	TH-B1: EMC Issues Related to Common-Mode Noise I
	Session Chairs: Yoshitaka Toyota (Okayama University, Japan)
	and Tohlu Matsushima (Kyushu Institute of Technology, Japan)
	1571102751: Field-and-Circuit Co-simulation for Self-Interference caused by mode conversion
	Kazuto Kohno, Kengo Iokibe, Sho Kanao, Yoshitaka Toyota and Md Zahidul Islam (Okayama
8:50	University, Japan)
	1571093395: A Novel Dual-Band Bidirectional Absorptive Common-Mode Filter
10:10	Yi-Man Shih, Yi-Ting Lin, Yu-Ying Cheng, and Tzong-Lin Wu (National Taiwan University, Taiwan)
(201B)	1571103126: Feasibility Study on Design of Defected Ground Structure Using Topology
	Optimization
	Yoshiki Kayano and Hayato Komatsu (The University of Electro-Communications, Japan)
	1571103896: Time-Domain Transmission Line Analysis Incorporating Frequency-Dependent
	Magnetic Material Properties
	Souma Jinno (Osaka Institute of Technology, Japan)
	Hiroshi Toki and Masayuki Abe (The University of Osaka, Japan)
May 22,	, Thursday 10:40-12:00
	TH-B2: EMC Issues Related to Common-Mode Noise II
	Session Chairs: Yoshiki Kayano (The University of Electro-Communications, Japan) and
	Souma Jinno (Osaka Institute of Technology, Japan)
10:40	1571100053: Unidirectional Absorptive Common-mode Filter Design with Magnified

	Defected Ground Structure for 5G Band Applications
12:00	Mei-Hui Wang and Ding-Bing Lin (National Taiwan University of Science and Technology,
(201B)	Taiwan)
	1571102579: Theoretical Circuit Analysis of Bidirectional Dual-band Absorptive Common-
	Mode Filter
	Fang-Ying Hsieh, Ding-Bing Lin and Cheng-Yi Zhuang (National Taiwan University of Science and
	Technology, Taiwan)
	1571107430: Immunity Measurement of Common Mode Conducted Noise for 1000BASE-T1
	Communication Equipment
	Akihiro Ikeda, Tohlu Matsushima and Yuki Fukumoto (Kyushu Institute of Technology, Japan)
May 22	, Thursday 8:50-10:10
	TH-C1: Aerospace EMC
	Session Chair: Robert Geise (University of Applied Science Leipzig & Technische Universitat
	Braunschweig, Germany)
8:50	1571098490: Electromagnetic Wave Absorption in GHz Band Consisting of Insulation-Treated
1	Single Walled Carbon Nanotubes in Ultra light Sheet Materials
10:10	Kishio Hidaka, Sho Muroga, Yasushi Endo and Saijian Ajia (Tohoku University, Japan)
(201C)	Motoshi Tanaka (Akita University, Japan)
	Tomonaga Ueno (Nagoya University, Japan)
	1571103570: An Error-Analysis for UAV-Based In-Situ Near-field Compliance Measurements
	of Antenna Arrays
	Robert Geise (University of Applied Science Leipzig & Technische Universitat Braunschweig,
	Germany)
	Bjorn Neubauer and Altan Akar (Technische Universitat Braunschweig, Germany)
	Rudiger Strauss and Torsten Fritzel (Aeroxess GmbH, Germany)
	1571107336: Automatic Electrical Characterization of End-to-End Channel
	Jimmy Hsu, Ryan Chang, Brian Ho and Lemon Lin (Intel Technology Asia Pte. Ltd., Taiwan)
	Alax Wei and Johnny Hsieh (MPI Corporation, Taiwan)
	TH-D1: EMC Standard and Management
	Session Chair: Wei-Chih Huang (Taiwan Testing and Certification Center, Taiwan)
	1571102315: Preliminary Research on the Use of Portable Vector Network Analyzers Working
8:50	with Two Measurement Coils to Determine the Impedance of Networks That Are Difficult to
	Access
10:10	Marcin Wojciechowski and Kateryna Hovorova (Central Office of Measures, Poland)
(201D)	Serdar Buyuk (TUBITAK UME, Turkey)
	Andrea Mariscotti (University of Genova, Italy)
	Klemen Stibernik (Slovenian Institute for Quality and Metrology, Slovenia)
	1571107188: Standardization Activities of IEC/CISPR 37 on in Situ Measurement Method for
	System EMC

	Kimihiro Tajima, Masashi Takabe, Eichi Kobayashi And Toshiaki Ono (NTT Advanced Technology
	Corporation, Japan)
	Nobuyuki Mitsuzuka (Matsudo laboratory, Telecom Engineering Center, Japan)
	1571107329: EMC Measurements in 5G Smart Pole System
	Wei-Chih Huang, Chiao-Jui Huang and Pau-Yen Liau (Taiwan Testing and Certification Center,
	Taiwan)
	TH-E1: Transient EMC & Others
	Session Chairs: Hideaki Sone (Tohoku University, Japan) and
	Naoyuki Tsukamoto (Otowa Electric Co., Ltd., Japan)
	1571102886: Asymmetric change of V-I characteristic of Metal Oxide varistors at low current
	stressed by short pulse
	Naoyuki Tsukamoto and Kensuke Kondo (Otowa Electric Co., Japan)
	Masaru Ishii (The University of Tokyo, Japan)
8:50	1571105893: Reproducibility of the Responses of MOVs to Extremely Steep Pulses with an
	FDTD Model
10:10	Hiroki Okada, Tatsuki Suwa and Yoshihiro Baba (Doshisha University, Japan)
(201E)	Naoyuki Tsukamoto (Otowa Electric Co., Ltd., Japan)
	1571107567: Latchup Sensitivity to Polarity in 0.35μm CMOS Technology: Transient Response
	to Voltage Pulse Injection for Understanding High-Power Microwave Effects
	Ahmad Raza, Scott William Haydon and Adrian T. Sutinjo (Curtin University & Curtin Institute of
	Radio Astronomy, Australia)
	1571107796: Improved Tolerance Evaluation of Cryptographic Device against CPA by
	Processing in Frequency Domain to Reduce Effect of Noise
	Hideaki Sone (Tohoku University, Japan)
	Yuichi Hayashi (Nara Institute of Science and Technology, Japan)
May 22	, Thursday 10:40-12:00
	TH-C2: System Level EMC and Protection and EMC in Wireless Communication,
	Artificial Intelligence of Things (AIoT), and 5G/6G Smart Poles
	Session Chairs: Sung-Nien Hsieh (National Taiwan University of Science and Technology,
10:40	Taiwan) and Po Yu Chen (Taiwan Electric Research & Testing Center, Taiwan)
	1571098444: Compact RF Absorber for Shielding Component Radiation in Laptops
12:00	Yu-Kai Huang, Fei-Peng Lai and Yen-Sheng Chen (National Taipei University of Technology,
(201C)	Taiwan)
	Kuan-Hsueh Tseng, Cheng-Hsiung Chiang and Chao-Yu Chen (Micro-Star INTL CO., LTD, Taiwan)
	1571105360: A Schmitt Trigger Circuit with Improved Electrostatic Discharge Protection
	Po Yu Chen, Chi Liang Wang and Chun Hung Lin (Taiwan Electric Research & Testing Center,
	Taiwan)
	1571103933: Wavefront Multiplexing and De-Multiplexing of Multiple Signals in MIMO
	Fading Channels

	Joe Lee and Ming Chang (Spatial Digital Systems, USA)
	Hen-Geul Yeh (California State University, USA)
	1571107703: Quantification of Margins and Uncertainty in the Ability of Power Circuits to
	Resist y Total Dose Radiation and EMP Harmonic Effects
	Chicheng Liu and Cui Meng (Tsinghua University, China)
	Cui Meng (Zhejiang University, China)
	TH-D2: Biomedical Electromagnetics & Electronic packaging EMC
	Session Chair: Wen-Cheng Lai (Ming Chi University of Technology, Taiwan)
	1571103535: Design of RF Transmitter Frontend Used Envelope Tracking for Medical Imaging
10:40	Classifications
	Wen-Cheng Lai and Ren-Jie Lin (Ming Chi University of Technology, Taiwan)
12:00	Jingchen Wang (Xi'an Jiaotong-Liverpool University, China)
(201D)	1571107790: Assessment of in situ Electric Field in Human Body Exposed to Low-Frequency
	Magnetic Field using Nonuniform Adaptive Sampling
	Yinliang Diao (South China Agricultural University, China)
	1571108405: Impacts on Coupling Voltage in PIFA by Differential and Common Modes in USB
	Signaling
	Yuan-Yuan Tsai and Ruey-Beei Wu (National Taiwan University, Taiwan)
	Chun-Huang Lee (Universal Scientific Industrial Company, Taiwan)
	TH-E2: EMC in Nanotechnology and Advanced Materials
	Session Chair: Sreekanth Ginnaram (National University of Singapore, Singapore) and
	Shen Shou Max Chung (National Penghu University of Science and Technology, Taiwan)
10:40	1571101052: Dual-Cross Ultrawideband Absorber Design
	Wei-Chun Kao and Cheng-Nan Chiu (Yuan Ze University, Taiwan)
12:00	Chun-Teng Chen (Bureau of Standards, Metrology and Inspection, Taiwan)
(201D)	Casper Tsai (Auray Technology Corporation, Taiwan)
	1571101053: Bandpass Linear-to-Circular Polarization Converter for ISM-band Applications
	Cheng-Hsin Ku and Cheng-Nan Chiu (Yuan Ze University, Taiwan)
	Ming-Kun Hsieh and Liang-Yang Lin (Bureau of Standards, Metrology & Inspection, Taiwan)
	Yuan-Fu Ku (Taiwan Testing and Certification Center, Taiwan)
	1571102916: Aramid and Cellulose Nanofiber Aerogel for Electromagnetic Wave Attenuation
	Kokila Khanal, Sreekanth Ginnaram and Yang Yong (National University of Singapore,
	Singapore)
	1571103504: Cellulose-Based Aqueous Polyurethane Aerogels for Bifunctional
	Electromagnetic Wave Application
	Sreekanth Ginnaram, Kokila Khanal and Yang Yong (National University of Singapore,
	Singapore)
May 22	, Thursday 13:40-15:20
	TH-B3: Antenna and Wave Propagation IV

	Session Chair: Chung-Tse Michael Wu (National Taiwan University, Taiwan)
	1571102765: Novel Waveguide-based Dual-band Dipole Antenna for High-Efficient WLAN
	Applications
	Kuan-Hsun Wu, Hsi-Tseng Chou and Nai-Yuan Hsu (National Taiwan University, Taiwan)
	Rong-Huang Jiang (ASUS, Taiwan)
13:40	1571100705: Asymmetric Coplanar Strip Structure Antenna for Triple-Band Applications
	Yu-Chen Chiu, Chia Hao Ku and Chia-Hsi Shen (Ming Chi University of Technology, Taiwan)
15:20	Ming-Shan Lin (Bureau of Standards, Metrology & Inspection, Taiwan)
(201B)	Yuan-Fu Ku (Taiwan Testing and Certification Center, Taiwan)
	1571107186: A Wideband H-Shape Aperture Coupled Microstrip Antenna Array for mmW
	Mobile Applications
	Tai-Ci Tang, Jui-Han Tai, Pei-Hsuan Yang and Chien-Chang Huang (Yuan Ze University, Taiwan)
	1571107451: High-Order Dynamic Mode Decomposition for Multidimensional Harmonic
	Retrieval
	Yanming Zhang and Steven Shichang Gao (Chinese University of Hong Kong, Hong Kong)
	Lijun Jiang (Missouri University of Science and Technology, USA & EMC Lab, USA)
	1571107822: RF Interferometer-Based Unitary Matrix Synthesis for Analog Array
	Beamforming
	Minning Zhu (Rutgers University, USA)
	Chung-Tse Michael Wu (Rutgers University, USA & National Taiwan University, Taiwan)
	TH-C3: EMC Measurement and Instrumentation IV
	Session Chairs: Nozomi Miyake (NEC Coroporation, Japan) and
	Chih-Hung Lee (Taiwan Testing and Certification Center, Taiwan)
	1571093043: A Proposal of Test Set-Up for the Separation of GaN Transistors During
	Measurements of Radiated Emissions in the Gigahertz Band
13:40	Krzysztof Sieczkarek, Adam Mackowiak, Michal Rokossowski, Tomasz Warzynski, Radoslaw
	Szczepanski and Bartlomiej Nagorny (Lukasiewicz - Poznan Institute of Technology, Poland)
15:20	1571100656: Verification of the Voltage/Current Conversion Factor due to conversion from
(201C)	Differential Mode to Common Mode of Transformer-Type AANs for Conducted Emissions on
	8-wire Unscreened Balanced Pairs
	Nozomi Miyake (NEC Coroporation, Japan); Naoya Haraguchi (Fujifilm Business Innovation
	Corp., Japan); Fujio Amemiya (VCCI Council & The University of Electro-Communications,
	Japan); Nobuo Kuwabara (Kyushu Institute of Technology, Japan); Hidenori Muramatsu (VCCI
	Council, Japan)
	1571103182: Measurements of Emission Spectra with different Detectors and Bandwidths at
	Subcarrier Resolution in a Reverberation Chamber
	Lukas Oppermann (TU Braunschweig, Germany)
	Robert Geise (Leipzig University of Applied Sciences, Germany)
	1571107531: Jitter Modeling Due to Electromagnetic Interference in Electro-optic
	Modulators
E1	

	Hasan Ahmed, Sameer Hemmady and Edl Schamiloglu (University of New Mexico, USA)
	Payman Zarkesh-Ha (University of New Mexico, USA)
	1571107663: A Novel Ground Plane Design for Semi-Anechoic Chamber in EMI Measurement
	Chih-Hung Lee (Taiwan Testing and Certification Center, Taiwan); Ding-Bing Lin (National
	Taiwan University of Science and Technology, Taiwan)
	TH-D3: Signal Integrity and Power Integrity II
	Session Chair: Wen-Cheng Lai (Ming Chi University of Technology, Taiwan)
	1571103516: Measured Transmitter and Differential Input Return Loss of Multilayer Printed
	Circuit Board with Load Impedance Design and Noise Jitter Analysis
	Wen-Cheng Lai and Hsi-Jen Liu (Ming Chi University of Technology, Taiwan)
13:40	Wen Liu (Xi'an Jiaotong-Liverpool University, China)
	1571107503: A Machine Learning Modeling and Optimization Framework for Signal Integrity
15:20	Design Support
(201D)	Julian Withoeft, Emre Ecik, Jan Wastian and Jurgen Gotze (TU Dortmund, Germany)
	Werner John (PYRAMIDE2525 & TU Dortmund, Germany)
	Ralf Bruning (Zuken GmbH/EMC Technology Center Paderborn, Germany)
	1571107611: Simulation of Mode Conversion Characteristics in Twisted/Untwisted Pair Cable
	Placed Near Shielded Power Supply Cable
	Mao Inoue, Tohlu Matsushima, Daisuke Nakayama and Yuki Fukumoto (Kyushu Institute of
	Technology, Japan)
	1571102884: Electrical Characterization of High-Speed Raw Cables in Peripheral Component
	Interconnect Express (PCIe) 5.0 and Beyond
	Huafang Ju and Karen Kang (Intel, USA)
	Jimmy Hsu (Intel, Taiwan)
	Loong Jin and Huanzhong Yan (Luxshare, China)
	1571103288: Analysis of Signal Integrity Performance of Twinax Cable under Bending
	Conditions
	Yu Bi, Shitao Liu, Bi Yi, Xiang Liu, Zheng Yan and Yiran Zhang (ZTE Corporation, China)

May 22	, Thursday 13:40-15:20
	P3: Regular Poster Session
	Session Chair: Ming-Lin Chuang
	(National Penghu University of Science and Technology, Taiwan)
	1571068364: A GaN-based Fully-Integrated Transceiver Module for V-band Wireless
13:40	Communication Systems
	Hao-Yu Luo, Heng-Tung Hsu and Yi-Fan Tsao (National Yang Ming Chiao Tung University,
15:20	Taiwan)

(201	1571075039: Novel Winding Method for Enhanced Bandwidth in Toroidal Cores
A+F)	Yeu Torng Yau (National Chin-Yi University of Technology, Taiwan)
	Chih-Lung Yang (Asian Power Devices Inc., Taiwan)
	1571097276: Bandwidth Limitation of SAS Cable Measurements after 2X-Thru De-embedding
	Wei-Hsiu Tsai (National Taiwan University of Science and Technology & BizLink International
	Corporation, Taiwan)
	Ding-Bing Lin and Po-Jui Lu (National Taiwan University of Science and Technology, Taiwan)
	Tzu-Fang Tseng (Bizlink International Corporation, Taiwan)
	1571098290: Study on the Effects of Jammer Location on a Tank with Add-on Anti-Drone Bird
	Cage Structure
	Shen Shou Max Chung (National Penghu University of Science and Technology, Taiwan)
	Shih-Chung Tuan (Asia Eastern University of Science and Technology, Taiwan)
	1571097143: Millimeter-Wave Dual-Polarized High-Isolation Filtering Patch Array Antenna
	Kuo-Sheng Chin, Yun-Tai Chuang and Yi-Chyun Chiang (Chang Gung University, Taiwan)
	Chao-Hsiang Liao (SGS Taiwan Ltd., Taiwan)
	Eric S. Li (National Taipei University of Technology, Taiwan)
	1571097009: Influence of Jammer Drone Transmitted Power to Radar in Electronic Warfare
	Shen Shou Max Chung (National Penghu University of Science and Technology, Taiwan)
	Shih-Chung Tuan (Asia Eastern University of Science and Technology, Taiwan)
	1571097276: Bandwidth Limitation of SAS Cable Measurements after 2X-Thru De-embedding
	Wei-Hsiu Tsai (National Taiwan University of Science and Technology & BizLink International
	Corporation, Taiwan)
	Ding-Bing Lin and Po-Jui Lu (National Taiwan University of Science and Technology, Taiwan)
	Tzu-Fang Tseng (Bizlink International Corporation, Taiwan)
	1571102433: Efficient Millimeter-Wave SAR Imaging Method Based on Interpolation
	Technique
	Ming-An Chung, Jun-Hao Zhang, Ming-Chun Hsieh, Chia-Wei Lin, Chia Chun Hsu and Sung-Yun
	Chai (National Taipei University of Technology, Taiwan)
	1571100059: Multiphysics Simulation and Design of Broadband Current Probe
	Jingxuan Xia, Pingan Du and Yaya Liang (University of Electronic Science and Technology of
	China, China)
	1571101904: A Broadband High Isolation SPDT Switch for Reconfigurable Sub-6 GHz Antenna
	Arrays
	Jiun-Jie Huang, Hao-Yu Luo, Heng-Tung Hsu and Yi-Fan Tsao (National Yang Ming Chiao Tung
	University, Taiwan)
	1571102818: Electromagnetic Interference Shielding Property of Carrier-Doped Transparent
	Graphene
	Ryota Okuda (AGC Inc. & Aoyama Gakuin University, Japan)
	Kazuhiko Niwano and Naoto Oota (AGC Inc., Japan)
	Kosei Tomizawa, Yamato Shinada, Ryosuke Suga, Takeshi Watanabe and Shinji Koh (Aoyama

Gakuin University, Japan)

1571102589: Analysis and Improvement Techniques for Signal Integrity and Thermal Effect of High-Speed Pogo Pin Structures

Tzu-Hao Ho, Han-Nien Lin, Po-Hsuan Chen, Ching-Ya Chang, Yen-Tzu Chang, I-Li Yang and Ya-Ting Chou (Feng Chia University, Taiwan)

Chiu-Kuo Chen (Bureau of Standards, Metrology and Inspection, Taiwan)

1571102767: A Holistic Approach to Characterize Signal Vias in Anisotropic PCB Substrates for PCIe Gen6

Nick K. H. Huang (Hewlett Packard Enterprise, Taiwan)

1571102821: Reflection and Transmission Characteristics of Composites Containing Ag-Coated Cu Flakes

Teruhiro Kasagi and Kazuya Goda (Sanyo-Onoda City University, Japan) Shinichiro Yamamoto (University of Hyogo, Japan)

1571102912: A Comparative Study on Field Uniformity in Reverberation Chamber Using Mode Tunning and Mode Stirring Techniques

Fu-Zhi Ye and Chiu-Chih Chou (National Central University, Taiwan)

1571102889: System Level 12Gbps SerDes Eye Diagram Prediction with SoC Equalizer Effects Yuna Kim, Chungju Kim, Dae Hyun Cho, Tai Sik Yang and Yong Seok Kang (LG Electronics Inc., Korea)

1571105206: The Effectiveness of Suppression for Y-Capacitor with Different Ground Area Chi-Yuan Yao and Tsung-Ching Lin (Taiwan Testing and Certification Center, Taiwan) Wen-Jiao Liao (National Taiwan University of Science and Technology, Taiwan)

1571106372: Improvement of a Numerical Model for Calculating Power Absorption Ratio for a Vertical Minute Dipole

Ken Sato (National Institute of Technology, Oyama College, Japan)

Yoshitsugu Kamimura (Utsunomiya University, Japan)

1571106778: Tri-band Asymmetric Coplanar Wave Antenna for Fifth Generation Mobile Communication Applications

Hung-Yeh Chang and Yuan-Fu Ku (Taiwan Testing and Certification Center, Taiwan) Tzu-Hao Ho (Feng Chia University, Taiwan)

1571107214: Evaluation of Total Radiated Noise Power from Multiple LED Lights Using RVC Ifong Wu and Yasushi Matsumoto (National Institute of Information and Communications Technology, Japan)

1571107246: Input/Output Common-Mode Noise Suppression Based on an Integrated Magnetic Component in Non-Isolated Power Converters

Yohei Takada and Shotaro Takahashi (Akita University, Japan)

1571107261: A Dual-Polarized Magneto-electric Dipole Antenna Arrays with L-shaped Strips for Ka-band Satellite Communications

Sung-Nien Hsieh, Kun-Lin He and Ding-Bing Lin (National Taiwan University of Science and

Technology, Taiwan)

1571107335: High Directivity Dual-Polarized Antenna for Unmanned Surface Vehicles

Jheng-Yong Gao, Ming-Tien Wu and Ming-Lin Chuang (National Penghu University of Science and Technology, Taiwan)

1571107368: EMC Test in Electric Motorcycles

Che-Hao Hsu, Tsung-Ching Lin and Pau-Yen Liau(Taiwan Testing and Certification Center, Taiwan)

1571107505: A Broadband Phase Difference Coupler Using 180-nm CMOS for Vital Sign IQ Channel Detection

Shih-Chun Yeh, Tian-Wei Huang, Jian-Ming Lin, Yi-Hsien Lin, Ti-Yu Chao, Chun-Cheng Yeh and Yuen-Tzu Teng (National Taiwan University, Taiwan)

1571107603: Slot-Structured 5G MIMO Six-Antenna Design for Laptop Applications

Shu-Chuan Chen (National Defense University Chung Cheng Institute of Technology, Taiwan & Chung Cheng Institute of Technology, Taiwan); Yung-Lung Lee and Nian-Shen Hong (National Defense University Chung Cheng Institute of Technology, Taiwan)

1571108068: Design of a High-Efficiency Circularly Polarized Rectenna and Transmitting Antenna Array for 2.45 GHz Energy Harvesting System

Hua-Ming Chen, Yi-Fang Lin and Yi-Ray Chen (National Kaohsiung University of Science and Technology, Taiwan)

Chien-Hung Chen (R.O.C. Air Force Academy, Taiwan)

Chia-Te Liao (R.O.C. Air Force Institute of Technology, Taiwan)

Exhibition



A1 BTL Inc.

A2 & A3 SPORTON International Inc. & International Certification Corp.

A4 & A5 AA Electro Magnetic Test Laboratory Private Limited

- A6 KAI TUO ENTERPRISES LTD.
- A7 Haefely AG
- A8 CYBERNET SYSTEMS TAIWAN
- A9 SGS Taiwan Ltd
- A10 Burgeon Instrument Co., Ltd.
- A11 Chunghwa Telecom Telecommunication Laboratories
- A12 Ohmplus Technology | NTUT
- A14 Rohde & Schwarz Taiwan Ltd.

- A15 DEKRA Testing and Certification Co.,
- Ltd.
- A16 WavePro Inc.
- A17 VEGINEAN TECHNOLOGY CO., LTD
- A18 Global EMC Standard Technology Corp.
- A19 WAVEFIDELITY INC.
- A20 Anritsu Company, Inc.
- A21 IEEE EMC Society
- A22 EMC Master Instrument Co., Ltd.
- A23 & A25 Auden Techno Corp.
- **A24** Bureau of Standards, Metrology and Inspection, MOEA
- A26 Keysight Technologies

Conference Venue



The Taipei International Convention Center (TICC) will be the venue of the APMC2023. It is adjacent to the Taipei City Hall and the landmark building of Taipei 101. It is located near the entrance of a MRT station with very convenient transportation. International participants can also easily arrive at the venue by transferring from Taoyuan Airport MRT to Taipei MRT. Nearby five-star hotels such as Grand Hyatt, Humble House Taipei, The Howard Plaza Hotel Taipei, etc., can provide comfortable accommodation.

To hold high-quality international conferences for demonstrating abundant research achievements in microwave and related fields, TICC is the first choice as the venue of international academic conferences in Taiwan. We sincerely invite business owners and industrial operators related to microwaves, antennas, and wireless communications to participate in this grand event and support the cultivation of national research capability.

Address: No. 1, Section 5, Xinyi Road, Taipei City, Taiwan

TICC Floorplan (1F)



TICC Floorplan (2F)



TICC Floorplan (3F)



Taipei Metro System



SPORTON GROUP





SPOTONN Taiwan

SPORTON LAB.

Since its establishment in 1986, Sporton has been dedicated to providing professional product testing and verification services to its clients. Through years of diligent operation and active participation in international standard-setting organizations, the company has earned prestigious accreditations, including FCC TCB (USA), IC FCB (Canada), Notified Body (EU and UK), and NCC RCB (Taiwan). It is also widely recognized by TAF and accredited as a testing laboratory.

In addition, Sporton holds various testing and certification qualifications for the next generation of smart IoT products (5G+AI), such as PTCRB, GCF, and CTIA. This positions Sporton as the largest and most credible professional certification laboratory in Taiwan, specializing in Mobile Communications, RF, EMC, Safety, Conformance, Performance, and Field Trial testing.

We believe that with the generous guidance and support from our partners, Sporton will become your best collaborator, working hand-in-hand to create new and exciting business opportunities together.

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International Certicification Corp.

Founded in Taoyuan's Hwa-ya Technology Park, International Certification Corp. provides comprehensive certification services with unparalleled expertise. With 72% of our team having more than five years of experience and a decade of global partnerships with the electronics industry, we understand the critical role that test labs play in Taiwan's technology ecosystem.



Our state-of-the-art facilities specialize in wireless communications testing, including cutting-edge LTE/5G-NR and WiFi 7 solutions. With a commitment to enthusiasm, professionalism and speed, we help manufacturers achieve efficient time-to-market goals while maintaining the highest quality standards for global market entry.

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Sporton International Inc. (KunShan)

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www.sporton.com.tw

Hwaya Lab. No.52, Hwaya 1st Rd., Hwaya Technology Park, Guishan Dist., Taoyuan City, Taiwan, R.O.C. TEL: +886-3-327-3456

No. 3-1, Lane 6, Wensan 3rd St, Guishan District, Taoyuan City 333, Taiwan



Sporton International (USA) Inc.

1175 Montague Expressway Milpitas, CA 95035 USA TEL: +1-732-407-8718

Quang Ma Mail: <u>QuangMa@sporton-usa.com</u>

Zhubei Lab. No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County, Taiwan R.O.C. TEL: +886-3-656-9065 ext:101 Wensan Lab. No.58, Aly. 75, Ln. 564, Wenhua 3rd Rd., Guishan Dist., Taoyuan City, Taiwan R.O.C. TEL: TEL:+886-3-327-0868 Safety Lab. 14F-2, NO.186, Jianyi Rd., Zhonghe District, New Taipei City, Taiwan, R.O.C. TEL: +886-2-8227-2020



About Us

Established in 1981, Auden Group is a leading provider of connectivity solutions based in Taiwan. Continuously striving to worldwide, the company provides support in the wireless communication market, spanning antenna design & manufacturing, system-level integration, wireless product testing, laboratory & security, and green energy.

Best Service

Sub-6GHz Antenna Solutions

High-performance designs for wireless communication.

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website



ABOUT US

AA EMT Labs (AA Electro Magnetic Test, Private Limited), is an independent testing and international approval laboratory ideally located in Udyog Vihar, Gurugram, Delhi-NCR, which is one of the largest engineering development regions.

AA EMT Labs is Accredited as per ISO 17025:2017 by NABL, BIS, TEC, ILAC, FDA, A2LA for FCC (USA), ISED (Canada), CE(Europe), VCCI (Japan), RCM (Australia) and BSMI and NCC(Taiwan).

We provide One Stop Solution for TEC, BIS, military, automotive standard for Testing Certifications in New Delhi, India. Also, AA EMT provides international approval services.

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東研信超股份有限公司 BTL Inc.

BTL Testing Group, founded in 1987, is the first listed company in Taiwan to be listed on the Strategic New Board.

Starting from electromagnetic compatibility testing services, BTL has gradually extended to safety testing, mobile communication testing and other testing services that keep pace with the development of electronic products market. BTL is committed to providing global and high-quality testing and certification services with the mission of helping customers sell high-quality products worldwide. At present, BTL has set up branches in Beijing, Shanghai, Shenzhen, Dongguan and other places, providing customers with a series of services such as measurement services, test reports, certification applications, global product compliance solutions worldwide. Our service products cover a wide range of fields, information technology, audio



and video, wired communications, mobile communications, Internet of Vehicles, home appliances, smart homes, medical care, science, etc..

BTL built high-power AI server EMC testing system, can provide 300kVA AC power, the voltage 0-310V ac and the frequency 45-65Hz, which can meet the requirements of \triangle connection power supply and Y connection power supply and adjustable phase difference double live wire configuration while DC power supply is equipped with a bidirectional 1500Vdc /150kW power supply. The anechoic chamber and shielded room are equipped with a three-phase AC filter with a current of up to 500A, and a DC filter with a current of up to 400A. In response to the need for high-power server cooling, CDU and Sidecar are equipped for heat dissipation. Meanwhile, in order to achieve the diversification of connector types for AI server water cooling systems, a variety of connectors are also available (Ex.FD-83, UQD-02, UQD-04, SCG, etc.).

WWW.BTL.COM.TW

AUDX TESTINGLAB 產品驗證事業

Our Service

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- オ 安規認證服務 (SAFETY)
- ▶ RF 認證
- ➤ NCC 審查驗證服務
- ▶ 軟硬體開發服務

Information

http://www.audix.com/index.aspx



DEKRA德凱 EMC電磁相容測試

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為市場准入做準備

根據國際標準,DEKRA德凱的全球測試實驗室網路和專家能夠協助您對您的產品進行EMC 電磁相容測試。DEKRA德凱的測試報告能夠證明您的產品符合適用或要求的EMC電磁相容 性和車輛零組件電磁相容與RF射頻要求,有助於您的產品順利進入國際市場。此外,我們 還能夠根據客戶的需求量身定制不同的服務。

作為歐盟電磁兼容指令(Directive 2014/30/EU)認可的檢驗檢測認證機構,DEKRA德凱 能夠提供EMC電磁相容測試服務。DEKRA德凱可以協助您的產品進入歐盟以及歐盟以外的 市場,例如美國、南非和澳大利亞等。美國聯邦通信委員會(FCC)已將我們列為合格評 估機構(CAB),這表示FCC認可DEKRA德凱提供的EMC電磁相容測試報告與RF射頻要求, 並允許您的產品進入美國市場。

- RED
- EMC
- CENELEC (歐洲)
- IEC (國際)
- ETSI (歐洲)

產品測試範圍

- FCC(美國)
 PCC(加合)
- RSS (加拿大)
- Automotive standards(BMW, GM, PSA, VW等)
- MIC / VCCI (日本)
- 提供電磁干擾(傳導干擾、輻射干擾、輻射磁場、干擾功率、電源諧波、電壓閃爍)及電磁耐受 (靜電放電、電源快速暫態/叢訊、雷擊突波耐受、射頻傳導抗擾度、射頻輻射抗擾度、電源頻率磁 場抗擾度、電壓瞬斷與瞬降耐受)測試等。
- 車輛零組件電磁相容測試:傳導干擾、輻射干擾、自由場(ALSE)電磁耐受、TEM Cell電磁耐受、 BCI電磁耐受、Stripline電磁耐受、磁場耐受、電源線傳導暫態(待測件工作電流可達25A/100A、 信號線傳導暫態、靜電放電)。

為什麼選擇DEKRA德凱?

- DEKRA德凯擁有多個不同尺寸的EMC電磁兼容實驗室。在全球範圍內,我們的EMC電磁兼容實驗室的最大範圍可達10米。
- DEKRA德凯擁有多間車輛零組件測試場地與測試設備,可提供客戶使用。同時有足夠的專家可以協助規劃與測試各大品牌車廠的 需求測試項目。
- DEKRA德凯不僅能夠提供完整的型式認證,還可以根據您特定的 需求,量身訂製獨立的測試方案。我們提供現場測試、使用您的 設備進行測試和預測試等多種測試類型。
- DEKRA德凯在世界各地擁有多個EMC電磁相容實驗室,我們可以 在荷蘭、西班牙、義大利、美國、中國、韓國、台灣等地為您提 供相關的測試服務。



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From Lab to Field, Keysight Empowers You To Push the Boundaries of 6G Innovation



PathWave System Design Bridging the 5G technology to 6G research and standardization study items that are adopting AI / ML technologies, use PathWave System Design to benchmark PHY layer optimizations with AI / ML with RF system models.



6G AI-Based Model Validation Use EDA and hardware to integrate AI / ML signal processing models into the physical layer and verify algorithm performance.



6G AI Neural Receiver Design Design and validate a neural receiver using ray-traced channels for site-specific training and digital twins.



6G Sub-Terahertz R&D Test Bed Enables sub-THz signal generation and analysis between 220 to 330 GHz for developing early 6G system-level prototypes.



Energy Plane Test Suites Optimize RAN components for energy efficiency with ETSI standards testing for anticipated sustainability KPIs in 6G.



6G Vector Component Analysis Solution

Leverage network analysis measurement accuracy at up to 10 GHz bandwidth for wideband sub-THz components in 130-330 GHz bands.



EXata Network Modeling Simulate entire wired or wireless network models to model virtualization of 6G RAN elements and bring circuit digital twins into channel-accurate full network simulations.



Device Performance Testing Solutions

Validate the interoperability and performance of mobile devices and applications with a live base station under real-world terrestrial (TN) and Non Terrestrial (NTN) radio channel conditions.



是德科技客服專線:0800-047 866 Email: tm_taiwan@keysight.com