VCCI DAYORI

No.149 2023.7

Contents

Contribution

The Study of Electromagnetic Compatibility Starting From Electromagnetism and Electronic Circuits

Kimitoshi Murano
Professor at the School of Engineering, Tokai University

20 years have passed since I began working at Tokai University. During that time, under the tutelage of my senior colleagues, I have been engaged in educational activities, mainly in the communication engineering, electromagnetic wave engineering, and radio wave engineering fields, and research on electromagnetic environments of electrical and electronic equipment. At IEICE conferences and committees such as the IEICE Technical Committee on Electromagnetic Compatibility (EMCJ), I have received a wealth of useful advice from experienced VCCI members, along with valuable opportunities to learn about technologies in the field. I would like to take this opportunity to express my sincere gratitude for their support.

One of our key missions as educators is to use our lectures to disseminate the latest knowledge and diverse experiences we gain from our research activities back to our students. Here, I would like us to think about the study of basic electronics as an important foundation for studying electromagnetic wave engineering and electromagnetic compatibility.

I once participated in a technical speaking engagement where I heard a senior expert with a long track record in EMC research stress the importance of acquiring a solid foundation in electromagnetism and electronic circuits in university. The world of electrical and electronic engineering is advancing rapidly, with new practical technologies cropping up on a daily basis. While attractive, cutting-edge technologies certainly grab attention, as you are all aware, the study of electrical and electronic engineering requires us to diligently build upon the basics. These basic subjects are, and have always been, electromagnetism and electronic circuits. Conversely, a shaky understanding of these subjects will inevitably trip students up in their future studies. To prevent this from happening, we are constantly emphasizing the importance of these basics to young aspiring electrical and electronic engineers, working tenaciously to give lectures using a variety of teaching materials.

Despite electromagnetism and electronic circuits being essential to the study of electricity, the fact remains that few students take interest in these subjects. Of these subjects, electronic circuits are relatively easy to visualize thanks to circuit diagrams, which might be why more and more students grow comfortable with circuit analysis as the course goes on. On the other hand,

electromagnetism can be abstract and difficult to grasp, involving problems like: "From an observation point at a distance of r meters from a q-Coulomb charge in a vacuum..." Students can easily get confused about what they are doing and why, eventually losing sight of their purpose. To make things worse, electromagnetism requires students to think about phenomena in three dimensions, demanding prerequisite knowledge of not only calculus but other mathematical areas such as vector analysis, and a firm understanding of the physical implications. This seems to be another reason why students are put off by the subject. Our challenge as educators is to figure out how to get students to understand beginner-unfriendly subjects like electromagnetism, and we have not yet found a definitive teaching method that promotes a strong understanding. I expect that our search will go on for some time. Thus far, the conclusion we have painstakingly reached for electromagnetism is Maxwell's electromagnetic equations, which serve as a springboard for understanding electromagnetic waves. From here, students can finally step into the world of electromagnetic waves, beginning their long journey toward grasping the form of invisible electromagnetic waves. The road only goes on from there. Eventually, students are assigned to a laboratory to begin their graduation thesis. There, students will use what they have learned about electromagnetism, electronic circuits, and other relevant subjects not as individual, discrete units of knowledge, but as interlocking parts that can be combined to solve various problems. Typical examples include emissions mechanisms for electrical and electronic equipment and solutions for equipment immunity to external electromagnetic disturbances.

In recent years, computer performance has advanced in leaps and bounds, making the once-difficult electromagnetic field analysis of complex systems relatively easy to simulate on a personal computer. While this is a wonderful development, it has given rise to many dangerous incidences of people asserting the validity of results obtained from a simulator without understanding the underlying principles. I hope that in this day and age, students aiming to become electronic engineers reap the benefits of effective use of simulators without forgetting the importance of a strong foundation in electromagnetism and electronic circuits.

Kimitoshi Murano

2000 Completed a PhD in engineering at the University of Electro-Communications

2003 Lecturer at the School of Information Technology and Electronics, Tokai University

2017 Professor at the School of Engineering, Tokai University

First-Class Radio Operator for General Services, First-Class Technical Radio Operator for On-The-Ground Services

Committee Activities

●Board

Date	March 30, 2023
Agenda items	● Agenda item 1 FY 2023 business plan (draft) ● Agenda item 2 FY 2023 budget (draft) ● Agenda item 3 Selection of the members of the Registration Committee for Measurement Facilities
Decisions	● Agenda item 1 Approved ● Agenda item 2 Approved ● Agenda item 3 Approved

●Steering Committee

Date	January 18, February 22, and March 22, 2023
Agenda items	● Agenda item 1 FY 2023 budget (draft) ● Agenda item 2 FY 2023 business plan (draft)
Decisions and reported items	● Agenda item 1 Approved ● Agenda item 2 Approved ● Reported item 1 2023 Rules Briefing and Technical Symposium (draft) ● Reported item 2 VCCI International Forum 2023 ● Reported item 3 Activities of subcommittees (Technical, International Relations, Market Sampling Test, Public Relations, and Education) in the period from January to March ● Reported item 4 Secretariat work (member entry and withdrawal trends, the number of compliance verification reports, income and expenditure records, etc.)

●Technical Subcommittee

Date	January 26 and March 22, 2023
Agenda items	● Agenda item 1 Technical Subcommittee's planned activities for FY 2022 ● Agenda item 2 Allowable values and measurement methods for height scans above 1 GHz ● Agenda item 3 Testing of EUT impedance's effect on the voltage-to-current conversion ratio for transformer-type conducted emissions ● Agenda item 4 Discussing evaluation methods for measurement site validity for radiated emission measurement up to 30 MHz ● Agenda item 5 Discussing evaluation methods for test sites (18 GHz to 40 GHz) ● Agenda item 6 Activities for promoting standardization of mains cable termination conditions ● Agenda item 7 2023 Rules Briefing and Technical Symposium (draft) ● Agenda item 8 On the Technical Subcommittee's planned activities for FY 2023 (draft)
Continuing agenda items	● Agenda items 2, 3, 4, 5, 6, 7, and 8
Decisions and reported items	● Reported item 1 Confirmation of the Technical Subcommittee's past activities for FY 2022 ● Reported item 2 Report on 2023 Rules Briefing and Technical Symposium February 10: Offline session attended by 41 people March 6- 10: On-demand distribution to 48 people

●International Relations Subcommittee

Date	January 11, February 8, and March 8, 2023
Agenda items	● Agenda item 1 Survey on trends in world EMC standards ● Agenda item 2 Preparing for the VCCI International Forum 2023
Continuing agenda items	● Agenda items 1 and 2
Decisions and reported items	● Reported item 1 The website "Survey of Trends in World EMC Regulations" was updated on February 8. ● Reported item 2 VCCI International Forum 2023 was held from March 27 to March 31, 2023 in on-demand format.

●Market Sampling Test Subcommittee

Date	January 12, February 9, and March 9, 2023
Agenda items	● Agenda item 1 Market sampling test report ● Agenda item 2 Document inspection report ● Agenda item 3 Budget draft for planned activities for FY 2023 ● Agenda item 4 Report on the survey of the display of the VCCI mark
Decisions and reported items	● Agenda item 1 100 products were selected to be purchased and borrowed for FY 2022 sampling tests, and tests are being performed. The one item determined as failed in the first round and detected in the third quarter has now passed. Additionally, one item was detected in the fourth quarter, and is being investigated by members. ● Agenda item 2 43 products were selected for the FY 2022 document inspection. Inspections were completed for the 39 products whose inspections were not canceled, and the subcommittee is waiting for a member report for the remaining 1 product. ● Agenda item 3 Approved ● Agenda item 4 Report on results of the second round of surveys of the 23 unregistered products extracted in the first round of surveys of the display of the VCCI mark

●Public Relations Subcommittee

Date	January 6, February 3, March 3, 2023
Agenda items	● Agenda item 1 Vision for regional cities ● Agenda item 2 Candidate website pages for additional translation into multiple languages ● Agenda item 3 COMPUTEXTAIPEI 2023 ● Agenda item 4 TECHNO-FRONTIER 2023 ● Agenda item 5 CEATEC 2023 ● Agenda item 6 Planned activities for FY 2023 ● Agenda item 7 Budget draft for planned activities for FY 2023
Continuing agenda items	● Agenda items 3, 4, and 5
Decisions and reported items	● Agenda item 3 We decided to hold our first exhibition in five years. We decided to present a showcase and seminar at the exhibition booth. ● Agenda item 4 and 5 We applied for exhibitions at various exhibition venues. ● Reported item 1 We decided to play VCCI's 30-second PR video as part of our street-level vision for 12 regional cities across the country. ● Reported item 2 We decided on additional website pages for translation into multiple languages (Chinese, Taiwanese, and Korean), and reported that the completed translations were applied to the website. ● Reported items 6 and 7 Approved

●Education Subcommittee

Date	January 18 and March 17, 2023
Agenda items	● Agenda item 1 On the status of education and training conducted in FY 2022 ● Agenda item 2 Confirmation on the progress of the education and training task force (TF) in FY 2022 ● Agenda item 3 Education and training plans for FY 2023
Continuing agenda items	● Agenda items 2 and 3
Decisions and reported items	● Agenda item 1 - "The level up of the EMI measurement technique" was held online (livestreamed) on February 2 with 7 attendees, who received completion certificates. - "EMI measurement instrumentation uncertainty (MIU)" was held online (livestreamed) on February 3 with 6 attendees, who received completion certificates. - In FY 2022, five training sessions were completed according to plan. Of particular note is the training session that accompanied our first hands-on training held in three years. ● Agenda item 2 - We confirmed the progress of the three task forces. TF 1: Discussing the incorporation of "EMI measurement technique above 1 GHz" education and training into "The basic of electromagnetic waves, EMI measurement technique below 1 GHz" education and training TF 2: Discussing the enhancement of calculation exercises and explanations of "EMI measurement instrumentation uncertainty (MIU)" TF 3: Discussing the implementation of comprehension checks in education and training ● Agenda item 3 - Four training sessions are planned to be held in FY 2023. - We began receiving applications for "The basic technique of EMI measurement", planned for May 12.

●Registration Committee for Measurement Facilities

Date	January 23, 2023
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions	Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 10 companies Radiated emission measurement facilities below 1 GHz: 10 AC-mains-ports-conducted emission measurement facilities: 6 Wired-telecommunication-port-conducted emission measurement facilities: 3 Radiated emission measurement facilities above 1 GHz: 6 Applications returned with comments: None Applications carried over to the next meeting: None
Date	February 20, 2023
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions	Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 14 companies Radiated emission measurement facilities below 1 GHz: 6 AC-mains-ports-conducted emission measurement facilities: 6 Wired-telecommunication-port-conducted emission measurement facilities: 7 Radiated emission measurement facilities above 1 GHz: 7 Applications returned with comments: None Applications carried over to the next meeting: None
Date	March 20, 2023
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions	Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 13 companies Radiated emission measurement facilities below 1 GHz: 7 AC-mains-ports-conducted emission measurement facilities: 9 Wired-telecommunication-port-conducted emission measurement facilities: 4 Radiated emission measurement facilities above 1 GHz: 7 Applications returned with comments: None Applications carried over to the next meeting: None

33rd instalment

EMC Standards for Semiconductor Devices: EMC Modelling Standard for Semiconductor Devices

Masamitsu Tokuda

1. Foreword

As IoT, sensor networks, and automated driving become an increasing part of our daily life, it is important to ensure reliability of electrical and electronic systems hardware. With development of ADAS (advanced driver assistance systems), the techniques that are required for achieving EMC are shifting from conventional "techniques for minimizing noise" to techniques for securing functional safety and reliability of equipment, especially for onboard networks. At the same time, as immunity characteristics and ESD (electrostatic discharge) tolerance are expected to improve and wireless networks with lower electromagnetic emissions are high in demand, EMC evaluation and design of semiconductor devices (the building blocks of electrical and electronic systems) are also becoming increasingly more important. In TC47 (Semiconductor devices) and SC47A (Integrated circuits) of the IEC standards, EMC standards have been created for integrated circuits (ICs). However, this document explains the EMC modelling standard for semiconductor devices in the IEC 62228 series based on documents 1 and 2. For your reference, an overview of the EMC standards for semiconductor devices is provided in VCCI Dayori No. 139[3], emission measurement methods in VCCI Dayori No. 146[4], methods for measuring immunity in VCCI Dayori No. 147[5], and EMC standards for integrated-circuit product groups in VCCI Dayori No.148 [6].

2. EMC modelling standard for semiconductor devices: IEC 62433 series (relating to WG2 of IEC SC47A)

At WG2 of IEC SC47A, the EMC modelling standard for semiconductor devices shown in Table 1 has been discussed and defined as a standard. In the IEC 62433 series, the series name is "EMC IC modelling", and Part 1 consists of IEC 62433-1, which specifies the overall modelling framework. The difference between IEC 62433-1: 2019 and the original IEC TS 62433-1:2011 is the model notation format, which now includes the XML format "model data exchange format". COR1:2020 only corrects a citation error, and has not substantially changed.

Part 2 onward deals with the ICEM (Integrated Circuit Emission Model), which models high-frequency noise emissions from integrated circuits, and the ICIM (Integrated Circuit Immunity Model) for simulating IC immunity (electromagnetic immunity), both of which are for simulating circuit-board or system-level EMC. Therefore, these are not detailed physical models such as the SPICE model, but macro behavioural models consisting of blocks expressing high-frequency noise propagation (transfer) and blocks expressing noise emissions or integrated circuit malfunctions.

From the 2020 edition of this document, the EMC modelling standard for semiconductor devices has been changed to reflect the publication of the pulse immunity model ICIM-CPI (Conducted Pulse Immunity): IEC 62433-6. Because this model expresses the response to high-amplitude disturbances, non-linear blocks (NLB) expressing non-linearity within ESD protection diodes and semiconductor devices have been added to the existing ICEM and ICIM linear models.

Recently, as proposed by France, discussions have begun regarding a technical report (IECTR 62433-4-1) relating to the immunity simulation method for printed circuit boards (PCB) using the conductive immunity model ICIM-CI.

Table 1 EMC modelling standard for semiconductor integrated circuits: IEC 62433: EMC IC modelling (as of April 2022)

	Title
IEC TS 62433-1:2011 Ed.1.0 (04/21/2011) IEC 62433-1: 2019 Ed.1.0 (03/08/2019) COR1:2020 (07/10/2020)	Integrated circuits – EMC IC modelling – Part 1: General modelling framework
IEC 62433-2:2008 Ed.1.0 (10/08/2008)	Part 2: Models of integrated circuits for EMI behavioural simulation – Conducted emissions modelling (ICEM-CE)
IEC 62433-2: 2017 Ed.2.0 (01/27/2017)	Part 2: Models of integrated circuits for EMI behavioural simulation – Conducted emissions modelling (ICEM-CE)
IEC TR 62433-2-1:2010 Ed.1.0 (10/05/2010)	Part 2-1: Theory of black box modelling for conducted emission
IEC 62433-3: 2017 Ed.1.0 (01/27/2017)	Part 3: Models of integrated circuits for EMI behavioural simulation – Radiated emissions modelling (ICEM-RE)
IEC 62433-4 :2016 Ed.1.0 (05/25/2016)	Part 4: Models of Integrated Circuits for RF Immunity behavioural simulation – Conducted Immunity modelling (ICIM-CI)
IEC TR 62433-4-1 ED1 47A/1135/CD (03/04/2022)	Part 4: Models of integrated circuits for RF immunity behavioural simulation – Conducted immunity modelling (ICIM-CI) – Section 1: Technical Report on the use of ICIM-CI model (IEC 62433-4) to predict the IC conducted immunity in a PCB
IEC 62433-5 to be proposed	Part 5: Models of Integrated Circuits for RF Immunity behavioural simulation – Radiated Immunity modelling (ICIM-RI)
IEC 62433-6:2020 Ed.1.0 (09/22/2020)	Part 6: Models of Integrated Circuits for Pulse Immunity behavioural simulation – Conducted Pulse Immunity modelling (ICIM-CPI)

3. Summary and future trends regarding EMC standards for semiconductor devices

Regarding EMC characteristic measurement methods for semiconductor devices focusing on integrated circuits, the emissions and immunity measurement methods for frequency ranges (IEC 61967 series, IEC 62132 series) have become well-established as practical test methods. However, due to demand for measurement frequencies across a wider bandwidth, supported frequencies are currently being expanded; first to 3 GHz, then if possible, to 6 GHz. Standardization of the impulse immunity measurement method (IEC 62215 series) cannot yet be considered complete, but IEC 62215-3 is now widely used. The first product-group standard, the bus transceiver EMC evaluation method standard (IEC 62228 series), has now reached a practical level as a practical test of the

functional reliability and safety of integrated circuits, mainly for application to vehicle-mounted equipment.

Regarding measurement method standards for semiconductor devices, the IEC SC47A standard only specifies demands regarding the existing "standard test board for measurement methods and standard measurements". Decisions regarding standard value limits are now left between the semiconductor suppliers and users, rather than being specified in an IEC standard. However, the first product group standard for EMC in semiconductor devices, the bus transceiver EMC evaluation method standard (IEC 62228 series), displays a line indicating a limit, but only as an example. In addition, recently, many European members are leaning toward the belief that "EMC test requirements ought to be specified on the integrated-circuit level to meet the EMC test conditions for vehicle-mounted equipment". Accordingly, this was debated during the discussion of the recently published CXPI (IEC 62228-7) and the currently discussed PSI5 (IEC 62228-6) standard. Specifically, the debate was held to determine the limit line of IEC 62132-4 (DPI method), which is used as the standard integrated-circuit immunity test method for transceivers, in relation to immunity tests (BCI method) for vehicle-mounted equipment. In IEC 62228-7 Ed.1, published this year, a limit line was not included, but this will likely need to be debated for revisions in the near future. For this reason, the proof-of-concept SWG of the JEITA semiconductor EMC-SC has begun conducting relevant surveys and verifications, focusing on CXPI. Care will be required on how to use this going forward. Furthermore, the characteristic evaluation method for common mode chokes (CMCs) for differential-bus CAN, CAN FD, and Ethernet transceivers is Informative Annex, which has been specified in detail, and might come into use as a de-facto product standard.

[References]

1) Osami Wada: "VI. EMC Standards for Semiconductor Devices, World EMC standards and stipulations" (FY 2020 version), Japan Management Association, pp. 42-52, July 2020
2) Osami Wada: "VII. EMC Standards for Semiconductor Devices, World EMC standards and stipulations" (FY 2022 version), Japan Management Association, pp. 59-67, July 2022
3) Masamitsu Tokuda: "EMC Standards for Semiconductor Devices: Overview", VCCI Dayori No. 139, pp. 11-13, January 2021
4) Masamitsu Tokuda: "EMC Standards for Semiconductor Devices: Emission Measurement Methods", VCCI Dayori No. 146, pp. 9-13, October 2021
5) Masamitsu Tokuda: "EMC Standards for Semiconductor Devices: Methods for Measuring Immunity", VCCI Dayori No. 147, pp. 11-14, January 2023
6) Masamitsu Tokuda: "EMC Standards for Semiconductor Devices: EMC Standards for Integrated-Circuit Product Groups", VCCI Dayori No. 148, pp. 9-15, April 2023.

Masamitsu Tokuda

1967 Graduated from Electronics Engineering Department of Hokkaido University
1969 Completed Electronics Engineering, Faculty of Engineering, Graduate School of Hokkaido University
Joined NTT, assigned to the Electrical Communications Laboratories
1987 Leader of EMC Study Group, NTT Telecommunication Networks Laboratories
1996 Professor of Electric Engineering Department, Kyushu Institute of Technology
2001 Professor of Electronic Communication Department, Musashi Engineering University
2010 Professor emeritus of Tokyo City University
Visiting co-researcher of the Graduate School of Frontier Sciences, The University of Tokyo

Major prizes received

1986 Merit award – IEICE
(on the design theory and evaluation method for optical fiber cables)
1997 Information communication merit award by MPT
(on EMC technology development)
2003 Industrial standard merit award by the minister of METI
2004 IEICE fellow
2007 Promoted to IEEE fellow

Report on the 2023 Rules Briefing and Technical Symposium

Technical Symposium

This is a report on the 2023 Rules Briefing and Technical Symposium.

- Venue: Kikai Shinko Kaikan
- Date: February 10, 2023 (Fri)

I. 2023 Rules Briefing and Technical Symposium <Overview>

The 2023 Rules Briefing and Technical Symposium was held offline on February 10, 2023 (Fri) at the Kikai Shinko Kaikan building for the first time in three years. 41 members attended. Afterwards, Chris Harvey, whose business trip to Japan had been canceled due to the COVID-19 pandemic, held an on-demand livestream including a special lecture. The livestream was held from March 6 to March 10, 2023, attracting a total of 48 viewers. The following table shows the program of the event.

The special lecture titled "FCC Regulations for EMC & 5G NR" featured explanations of the FCC requirements regarding EMC requirements under FCC Part 15 and 5G NR.

In the rules briefing in Part 1, the secretariat described the set of guidelines that was published and the set of guidelines that was revised in FY 2022.

In the technical symposium in Part 2, the chair of the Technical Subcommittee gave a briefing focusing on the FY 2022 activities of the Technical Subcommittee. The chair explained the particulars of the FY 2022 activities of the Technical Subcommittee and working groups, and gave an overview of the papers presented at domestic and foreign academic conferences. This was followed by reports detailing the activities of the working groups.

2023 Rules Briefing and Technical Symposium Program

Theme	Presenter
Part 1: Greetings and Rules Briefing	
Overview of VCCI Council	Akira Oda Executive Director, VCCI Council
FCC Regulations for EMC & 5G NR	Mr. Chris Harvey Certification Director for HCT America
Guidance for Rules for Voluntary Control Measures (VCCI 32-1-J:2022)	Hiroshi Sawa VCCI Council
Guidance for Registration of Product Conformity — How to Input the Model Number — (VCCI 32-1-G:2022)	Minoru Hirata VCCI Council
Part 2: Technical Symposium	
Technical Subcommittee Opening Considerations for the Technical Symposium	Kazuyuki Hori Sony Group Corporation Chair, Technical Subcommittee
Technical Subcommittee - CISPR Project Working Group Deliberation Efforts for CISPR Standards and Progress of Domestic Endorsement	Takuya Nakamori Panasonic Operational Excellence Co., Ltd. Convener, CISPR Project WG, Technical Subcommittee
Technical Subcommittee - VHF-LISN Working Group Efforts for CISPR Standardization of VHF-LISN - CISPR16 Standards/CISPR32 Revision Deliberation Trends and Consideration for Embodying Large-current 3-Phase VHF-LISN -	Kunihiro Osabe VCCI Council CISPR/SC-A/I JAHG6 Co-Convener Convener, VHF-LISN WG, Technical Subcommittee
Technical Subcommittee - Conducted Emission Working Group Additional Verification on Whether Uncertainty Due to Mounting of CMAD at the AE Side Is Improved in Measurements Where CVP and CP Are Used	Nozomi Miyake NEC Corporation Convener, Conducted Emission WG, Technical Subcommittee
Technical Subcommittee - Antenna Calibration and Site Validation Working Group Calibration of Loop Antennas for Measurement of Radiated Emissions Below 30 MHz and Consideration for NSIL Validation Method - In Relation to CISPR 16-1-6 (CIS/A/1362/FDIS) and CISPR 16-1-4 (CIS/A/1323/CDV) -	Hironari Tanaka Ohtama Calibration Service Co., Ltd. Convener, Antenna Calibration and Site Validation WG, Technical Subcommittee
Technical Subcommittee – Radiated Emission Working Group Verification of Radiated Emissions (Below 30 MHz) Measurement Method	Fuminori Kanahara Sony Global Manufacturing & Operations Corporation Convener, Radiated Emission WG, Technical Subcommittee

Presenters

Report on the VCCI International Forum 2023

International Relations Subcommittee

The VCCI Council provides members with information on the status of countries and regions where EMC regulations are undertaken or under consideration. VCCI Council holds an international forum every year to provide members with the latest information. Due to the impact of COVID-19, the forum was held from March 27 (Mon) to March 31 (Fri), 2023, in an online, on-demand format just like in 2022. As before, this online forum aimed to disseminate information and approach domestic and overseas members.

At this year's International Forum, guest speakers were invited from China, the United States, the GSO (GCC Standardization Organization), South Korea, and the EU (European Union) to give presentations on regulatory trends in their respective countries.

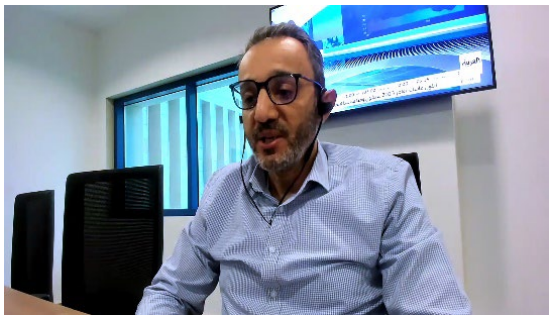
[Presentation topics]

- China: GB/T 9254.1 for CCC and CQC authentication
- United States: Outline of ANSI C 63.4 draft revisions
- GSO: The GSO's latest information technology regulations relating to its 2021-2025 strategy
- South Korea: Introduction of 3-m measurement and a standardized KS system
- EU: Latest news on the revisions to EU regulations on electronic equipment and machinery

The forum was a great success, with 306 participants including Japanese members (mainly manufacturers and testing laboratories), 98 overseas members (Taiwan, Hong Kong, South Korea, the United States, Slovenia, the Netherlands, the UK, Germany, Singapore), and 1200 accesses. Participant feedback included comments like, "I learned a lot because all the content was deep yet simple, and the topics were clear" and "materials were provided in both their original language and a Japanese translation, making things easy to understand". From this, we can see that the forum successfully provided useful information to participants. We also received requests, for example to continue providing the on-demand format in the future, and to hold discussions on the same topic.

The VCCI International Relations Subcommittee plans to continue holding the International Forum in the future, selecting topics for the next forum that live up to members' expectations, and attracting more participants. If there are any countries or regions you want to see presentations from, or topics you would like to see discussed, please contact the VCCI Secretariat.

Mr. Gwenole COZIGOU (EU)



Mr. Basem SALAMEH (GCC)

Mr. Jesse HUANG (CHINA)

Mr. Andy GRIFFIN (U.S.A.)

Mr. Bong-sik MYUNG（KOREA）

Status on FY2022 Market Sampling Tests

Market Sampling Test Subcommittee

As of March 31, 2023

Planned number of market sampling tests	Loan-based	35	100
	Purchase-based	65	

Sampling test	Selected	Cancelled (Not shipped, etc.)	Testable samples	Test completed (Included number)	Judgment			
					Passed	Failed- tentative		
						Finally passed	Finally failed	Pending
Grand total	104	4	100	93	82	5	1	1

Loan-based testing total		39	4	35	35	32	1	1	0
Term (Included number)	1st Quarter	9	3	6	6	6	–	–	–
	2nd Quarter	12	–	12	12	11	–	1	–
	3rd Quarter	10	–	10	10	9	1	–	–
	4th Quarter	8	1	7	7	6	–	–	–

Purchase-based testing total		65	0	65	58	50	4	0	1
Term (Included number)	1st Quarter	18	–	18	18	14	4	–	–
	2nd Quarter	10	–	10	10	8	–	–	1
	3rd Quarter	13	–	13	13	11	–	–	–
	4th Quarter	24	–	24	17	17	–	–	–

Passed	Failed	Pending
87	1	1

Document inspection	Selected	Cancelled (withdrawal, etc.)	Inspectable samples	Pre-check completed	Judgment completed	Judgment	
						Cleared	Problems identified
	43	3	40	40	39	37	2

Report from the Secretariat

● List of Members (January 2023 - March 2023)

New members

Membership	Member No.	Company Name	Country
Regular	4293	C.T.MACHINERY CO., LTD.	JAPAN
Regular	4294	TCL JAPAN ELECTRONICS Co., Ltd	JAPAN
Regular	4289	Nile Global Inc	USA
Regular	4290	FADU INC	KOREA
Regular	4292	MaxLinear, Inc.	USA
Regular	4295	Giga Computing Technology Co., Ltd.	CHINESE TAIPEI
Regular	4298	Shenzhen Horn Audio Co., Ltd.	CHINA
Supporting	4296	TÜV Rheinland Vietnam Co., Ltd.	VIETNAM
Supporting	4297	ENG Co., Ltd.	KOREA

Company name change

Membership	Member No.	Company Name	Country	Old company name
Regular	19	LIMNO Co., Ltd.	JAPAN	SANYO Techno Solutions Tottori CO., Ltd.
Regular	3346	DMC Co., Ltd.	JAPAN	Seedsware Corporation
Supporting	348	DMG MORI Digital Co., LTD.	JAPAN	DMG MORI B.U.G. CO., LTD.
Regular	578	HP Inc. UK Limited	U.K.	Plantronics Limited
Regular	1440	F5 Inc.	USA	F5 Networks, Inc.
Supporting	409	Nemko USA, Inc. (Austin)	USA	Professional Testing (EMI), Inc.

Note: Please fill out and submit "Form 9 Change Notification" on the website when a company name has been changed.

● VCCI Schedule for FY 2023

April	May The basic technique of EMI measurement COMPUTEXTAIPEI 2023 (from May 30 through June 2)	June Release VCCI Dayori No.149
July TECHNO-FRONTIER 2022	August Release Annual Report	September Release VCCI Dayori No.150
October CEATEC 2023	November	December Release VCCI Dayori No.151
January	February	March Release VCCI Dayori No.152

● Status of Compliance Test Notifications

January 2023—March 2023 (Product names are examples and are not limiting)

Classification of MME (Product types are not limited to only the following examples.)				Classification code		January 2023			Fevruary 2023			March 2023		
				Class A	Class B	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B	Total
ITE	Computer	Large	Super computer, Server, etc.	A2	a2	28	0	28	26	1	27	28	0	28
		Stationary	Workstation, Desktop PC, etc.	B2	b2	7	10	17	1	12	13	3	20	23
		Portable	Laptop PC, Tablet PC, etc.	C2	c2	1	92	93	2	82	84	0	64	64
		Other computers	Wearable computers, Wearable device, Smart watch, Smart glass, etc.	E2	e2	1	2	3	0	3	3	10	2	12
	Peripheral / Terminal	Memory device	HDD, SSD, USB Memory, Media drive, Disk device, NAS, DAS, SAN, etc.	G2	g2	6	13	19	12	27	39	15	20	35
		Printer device	Printer including multifunction machine, etc. (portable)	H2	h2	12	5	17	8	2	10	3	10	13
		Display device	CRT display, Monitor, Projector, etc.	J2	j2	13	47	60	7	43	50	5	50	55
		Other I/0 devices	Image scanner, OCR, Pen tablet, Stylus pen, etc.	M2	m2	2	3	5	2	2	4	1	2	3
		General purpose terminal	Display controller terminal, etc.	N2	n2	0	4	4	0	2	2	0	0	0
		Special purpose terminal	POS, Terminal for finance, insmance, etc.	Q2	q2	1	0	1	2	3	5	3	3	6
		Other peripheral	PCI Card, Graphics Card, Mouse, Keyboard, Cradle, etc.	R2	r2	2	40	42	3	58	61	11	37	48
		Copying machine / Multifunction copying machine	Copying machine, Multifunction copying machine, etc. (Stationary)	S2	s2	0	2	2	0	1	1	0	1	1
	Communications equipment	Terminal equipment	Mobile phone, Smart phone, PHS phone, etc.	T2	t2	0	0	0	0	6	6	0	2	2
			Telephone device such as PBX, FAX, Key telephone systems, Cordless phone, etc.	U2	u2	3	0	3	0	0	0	0	2	2
		Network-related equipment	Communication line connecting device including Modem, Digital transmission unit, DSU, TA, Media converter, etc.	V2	v2	0	0	0	2	0	2	1	1	2
			LAN-related device, including Router, HUB, etc. Local switch, etc.	W2	w2	22	10	32	39	8	47	73	18	91
		Other communication equipment	Other communication equipment	X2	x2	4	8	12	7	3	10	13	10	23
Broadcast receiver equipment			TV, Radio, Tuner, Video recorder, Set-top box, etc.		k2		1	1		0	0		0	0
Audio equipment			Speaker, Amplifier, IC recorder, Digital audio player, Headset, DTM, AI speaker, etc.	L2	l2	0	2	2	0	5	5	1	9	10
Video equipment		Video equipment	Digital video camera, Web camera, Network camera, Video player, Photo frame, Digital camera, Drive recorder, etc.	I2	i2	6	8	14	15	11	26	6	6	12
		Other video equipment	VR goggles, Scan converter, etc.	P2	p2	2	0	2	1	0	1	0	1	1
Entertainment lighting control equipment			Entertairunent lighting control equipment, etc.	Z2	z2	0	0	0	0	1	1	0	0	0
Other MME	Entertainment / Education	Electronic stationery	Electronic dictionary, e-book reader, Translator, Calculator, etc.	D2	d2	0	0	0	0	1	1	0	0	0
		Electronic toy	Game console, Game pad, toy drone, etc.	Y2	y2	0	0	0	0	1	1	0	8	8
		Other Entertainment / Education equipment	Navigator, AI robot, etc.	F2	f2	1	0	1	0	0	0	0	0	0
	Other MME		MME other than the above	O2	o2	6	4	10	5	3	8	6	2	8
Total						117	251	368	132	275	407	179	268	447

● Registration Status of Measurement and Other Facilities

The following table indicates the status on registration of measuring facilities in the most recent three months.
Facilities listed here are only those made open by registering members in principle. Members with those facilities whose valid period expired are kindly advised to contact VCCI to inform of the status they are in. Status to choose from are, renewal application being filed, new application being filed, waiting for the next issue to carry, or terminating the registration (all facilities are posted in the Web site).
Facilities in Japan are listed in Japanese.

List of newly registered or renewed facilities (January 2023 – March 2023)

R: Radiated EMI measurement facilities below 1GHz C: AC-mains-ports-conducted EMI measurement facilities
T: Telecommunication-port-conducted EMI measurement facilities G: Radiated EMI measurement facilities above 1GHz

Company name	Equipment name	3 m	10 m	30 m	Dark 3m	Dark 10m	Registration number	Effective date	Location	Contact to:
KES Co., Ltd.	KES Co., Ltd. (B-Dong, Yeoju Site)	-	-	-	-	○	R-20181	2026/1/22	473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea	+82-31-425-6200
KES Co., Ltd.	KES Co., Ltd. (B-Dong, Yeoju Site)	-	-	-	-	-	T-20137	2026/1/22	473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea	+82-31-425-6200
KES Co., Ltd.	KES Co., Ltd. (B-Dong, Yeoju Site)	-	-	-	-	-	G-20176	2026/1/22	473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea	+82-31-425-6200
World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.	966 Chamber	-	-	-	○	-	R-20180	2026/1/22	Building A-B, Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China	+86-132-6581-6812
World Standardization Certification & Testing Group (Shenzhen) Co., Ltd.	966 Chamber	-	-	-	-	-	G-20175	2026/2/19	Building A-B, Baoshi Science & Technology Park, Baoshi Road, Bao'an District, Shenzhen, Guangdong, China	+86-132-6581-6812
TÜV Rheinland Taiwan Ltd.	966 Semi-Anechoic Chamber A	-	-	-	-	-	G-20177	2026/2/19	No. 458-19, Sec. 2, Fenliao Rd., Linkou Dist., New Taipei City 244, Taiwan, R.O.C.	+886-2172-7000 #1075
TÜV Rheinland Taiwan Ltd.	966 Semi-Anechoic Chamber A	-	-	-	○	-	R-20182	2026/2/19	No. 458-19, Sec. 2, Fenliao Rd., Linkou Dist., New Taipei City 244, Taiwan, R.O.C.	+886-2172-7000 #1075
UL International-Singapore Pte Ltd	Conducted Emissions Lab	-	-	-	-	-	C-20138	2026/2/19	20 Kian Teck Lane, Singapore	+65-6876-4682
UL International-Singapore Pte Ltd	Conducted Emissions Lab	-	-	-	-	-	T-20138	2026/2/19	20 Kian Teck Lane, Singapore	+65-6876-4682

Company name	Equipment name	3 m	10 m	30 m	Dark 3m	Dark 10m	Registration number	Effective date	Location	Contact to:
ICR Co., Ltd.	ICR Shield Room (Telecommunicatio n)	-	-	-	-	-	T-20139	2026/2/19	112, Hwanggeum 3-ro 7beon-gil,Yangchon-eup Gimpo-si, Gyeonggi-do Korea	+82-02-6351-9002
ICR Co., Ltd.	ICR 10 m Chamber	-	-	-	-	○	R-20183	2026/3/19	112, Hwanggeum 3-ro 7beon-gil,Yangchon-eup Gimpo-si, Gyeonggi-do Korea	+82-02-6351-9002
ICR Co., Ltd.	ICR 3 m Chamber	-	-	-	-	-	G-20178	2026/3/19	112, Hwanggeum 3-ro 7beon-gil,Yangchon-eup Gimpo-si, Gyeonggi-do Korea	+82-02-6351-9002
ICR Co., Ltd.	ICR Shield Room (AC Mains)	-	-	-	-	-	C-20139	2026/3/19	112, Hwanggeum 3-ro 7beon-gil,Yangchon-eup Gimpo-si, Gyeonggi-do Korea	+82-02-6351-9002
ENG Co., Ltd.	CE	-	-	-	-	-	C-20140	2026/3/19	135-60, Gyeongchung-daero, Gongjiam-eup, Gwangju-si, Gyeonggi-do, Rep. of Korea	+82-31-727-8301
ENG Co., Ltd.	CE_Telecom	-	-	-	-	-	T-20140	2026/3/19	135-60, Gyeongchung-daero, Gongjiam-eup, Gwangju-si, Gyeonggi-do, Rep. of Korea	+82-31-727-8301
ENG Co., Ltd.	10 m SAC	-	-	-	-	○	R-20184	2026/3/19	135-60, Gyeongchung-daero, Gongjiam-eup, Gwangju-si, Gyeonggi-do, Rep. of Korea	+82-31-727-8301
ENG Co., Ltd.	10 m SAC	-	-	-	-	-	G-20179	2026/3/19	135-60, Gyeongchung-daero, Gongjiam-eup, Gwangju-si, Gyeonggi-do, Rep. of Korea	+82-31-727-8301

Closing words

Here's a rather personal story. The other day, I fell for a phishing scam. While part of me thinks I ought to give up my qualification as a Registered Information Security Specialist who passed the National Examination for Information Processing Technicians, I'd like to recount this embarrassing incident in the hopes of mitigating the risk to you and your families.

Their trick was simple: Send the target an "urgent message from the bank", have them log in from a fake URL, and ask them to input information needed to make a transfer. Apparently, there had been a rash of similar cases, so I was quickly alerted by my bank. I then had to go through the process of having my account frozen and calling the police, my head spinning from shock the entire time.

Looking back on what was going through my head, I noticed that aside from being busy and rushed at the time, the following were the likely causes:

1) The initial trigger

I would have noticed something was wrong if I'd taken a good look at the URL, but I'd simply assumed the notification was from my bank.

2) Why I assumed that

This notification happened to be from the bank I'd taken out my home loan from, and thus seized on my vulnerabilities. I felt I had to respond and deal with the situation right away.

3) Why I didn't notice during the subsequent steps

Due to the assumption I'd made, I wasn't thinking. I was in work mode.

I definitely think the cause was "not stopping after I'd made an assumption". I had a false sense of security, when in reality, I needed to anticipate being scammed, and specify the highest-security system settings in advance, such as requiring SMS authentication for transfers.

The police officer I spoke to told me that scammers often posed not only as financial institutions, but also as shipping companies or Amazon.

For example, someone expecting a delivery that day might receive a fraudulent email from the shipping company saying, "Urgent message on your delivery status", or from Amazon saying, "Auto-renewal of your Prime subscription was canceled", leading to a fake site.

When you receive fake notifications from the services you use regularly, it can be all too easy to assume they're genuine. Please be careful, everyone.

(T.Y.)

VCCI Dayori

No.149 (2023.7)

Not for sale

Published on: June 20, 2023

Edited and published by: VCCI Council

Address: NOA Bldg. 7th Floor, 3-5 Azabudai 2-chome,
Minato-ku Tokyo 106-0041
TEL +81-3-5575-3138
FAX +81-3-5575-3137
https://www.vcci.jp/