

# VCCI DAYORI

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National Institute of Information and Communications Technology

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# Fifty years with radio waves

Director General, Radio Research Institute,  
National Institute of Information and Communications Technology  
Kazumasa Taira

An invitation to write for VCCI Dayori gave me pause to look back over my life and realize that I have been fascinated by radio waves for the best part of 50 years. Since I have been given this opportunity to write for VCCI Dayori, I would like to look back on my 5-decades-long relationship with radio waves.

The radio itself played a big part in my becoming involved in radio-wave research. Around the time I was in third grade, I remember being intrigued by a mysterious non-broadcast signal I found by turning the medium wave dial of our household portable radio to its far end. Thinking back now, it may have been the LORAN signal used at the time. Later, I bought a transistor radio kit to build, marking the beginning of my radio-related craft making. It was also around this time that I discovered that the farther away from our building I extended my wire antenna the better signal reception I could obtain. When I was in junior high school, the so-called "BCL boom" was all the rage, and I enjoyed being able to receive overseas short- and medium-wave broadcasts. In the summertime, sporadic E events (allowing for reception of foreign FM broadcasts) also roused this young man's enthusiasm for radio. My interest gradually turned to amateur radio, and by the fall of my freshman year of high school, I'd set up my own amateur radio station. In college, I majored in electrical engineering and joined a laboratory for electromagnetic wave engineering, earning master's and doctoral degrees in electromagnetic field analysis of planar transmission lines. After the doctoral course, I joined the Communications Research Laboratory of the Ministry of Posts and Telecommunications (currently, National Institute of Information and Communications Technology), where I was engaged in research on radio propagation in mobile communications. I also worked on EMC-related research when I was seconded to the Telecommunications Advancement Organization (TAO).

In my 50 years of involvement with radio waves, I have had three very important encounters. The first being with my father. Not so much an 'encounter' as Fate itself, I suppose (given the parental factor). My father is a music lover and has a keen interest in audio (or "stereo", as we called it back then). My father, who earned a meager salary, could not afford to buy new ready-made equipment, so he modified old equipment on which to play his records. As a child, I would sit beside him and watch as he soldered electrical components and wires together on his free weekends. Thus spawned my interest in electricity and a love of radio, which subsequently led me to pursue a career

in radio research. I am forever grateful for the inspiration my father gave me.

The second encounter was my one with amateur radio. This year marks my 44th year of being an amateur radio enthusiast, which started in high school and remains my number-one hobby to this day. There is a certain excitement you feel about a signal being sent via a home-brewed antenna and then hearing the respondent signal – to imagine what kind of environments the radio waves had to have traversed between those two points. This feeling becomes even more apparent when communicating internationally using the ionosphere. I also get a lot of satisfaction from making my own devices and antennas using electronic components bought in Akihabara. I have made countless acquaintances through amateur radio. I remain in touch with some of the people I have happened upon over those air waves some 40 years ago, and have learned a great deal from them ever since. Some of these people I can proudly say are friends for life. Amateur radio has undoubtedly been a significant aspect of my life.

The third encounter was of the kind I had with Emeritus Professor Dr. Risaburo Sato. At the TAO Sendai EMC Research Center, where I was seconded from the end of 2000, I had the opportunity to work under the direct supervision of Dr. Risaburo Sato for four years. Many readers of this bulletin will know that Dr. Sato is a major authority on radio research, as well as a spearheading figure for EMC research in Japan. Many people perceive him to be this rather scary professor figure (laughs), but he took this very young and eager-to-learn lad under his wing. Among all the invaluable guidance he gave me, I was particularly impressed by his words, "Real-world experimental results speak for themselves". These words served as a warning to a new generation that often satisfies itself with merely the interpretation of simulation results, despite the fact that such results can differ from those of actual experiments. His opinion was that many critical aspects and issues of radio research would remain elusive in such simulated environments. Despite Twin Technology being all the rage now, Dr. Sato's words hold true for me, and I tend to think that the very nature of radio waves makes Twin Technology hard to apply in this context.

With my retirement coming up at the end of this fiscal year, I envisage changes in my subsequent relationship with radio. I will sign off with the hope that I can continue to find new interests and endeavors related to this most fascinating of subjects.



## Kazumasa Taira

- 1986 Graduated from the Department of Electrical Engineering, Faculty of Science and Technology, Tokyo University of Science
- 1991 Completed his Ph.D. in electrical engineering at Graduate School of Science and Technology of the same university (PhD (Engineering))  
Joined Communications Research Laboratory, Ministry of Posts and Telecommunications
- 2000 Senior Researcher, Sendai EMC Research Center, Telecommunications Advancement Organization
- 2005 Senior Officer, Technology Policy Division, Information and Communication Policy Bureau, Ministry of Internal Affairs and Communications
- 2008 Strategic Planning Department, National Institute of Information and Communications Technology (NICT)
- 2011 Executive Director, Outcome Promotion Department, NICT
- 2012 Director General, Network Security Research Institute, NICT
- Current position since 2016  
Advisory committee member of Radio Wave Utilization Environment Committee, Information and Communications Council of the Ministry of Internal Affairs and Communications

## Committee Activities

### ●Board

Date	March 30, 2022	
Agenda items	● Agenda item 1	FY 2022 business plan (draft)
	● Agenda item 2	FY 2022 budget (draft)
Decisions and reported items	● Agenda item 1	Approved
	● Agenda item 2	Approved

### ●Steering Committee

Date	January 19, February 24, and March 24, 2022	
Agenda items	● Agenda item 1	FY 2022 business plan (draft)
	● Agenda item 2	FY 2022 budget (draft)
	● Agenda item 3	Guidance for Emission Measurement Using FFT-Based Measuring Instruments (draft)
Decisions and reported items	● Agenda item 1	Approved
	● Agenda item 2	Approved
	● Agenda item 3	Approved
	● Reported item 1	2022 Rules Briefing and Technical Symposium program
	● Reported item 2	Translating "Guidance for Emission Measurement Using FFT-Based Measuring Instruments" into English
	● 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 20 and March 17, 2022	
Agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> <li>● Agenda item 3</li> <li>● Agenda item 4</li> <li>● Agenda item 5</li> <li>● Agenda item 6</li> <li>● Agenda item 7</li> <li>● Agenda item 8</li> </ul>	<p>Technical Subcommittee’s planned activities and results for FY 2021</p> <p>Technical Subcommittee’s planned activities for FY 2022</p> <p>2022 Rules Briefing and Technical Symposium</p> <p>"Guidance for Emission Measurement Using FFT-Based Measuring Instruments"</p> <p>"Considerations on height scan and allowable values in radiated emission measurements above 1 GHz"</p> <p>"Assessment of whether EUT impedance affects AANs with asymmetrical transformers" during measurement of conducted emissions</p> <p>Methods of validation for test sites for radiated emission measurement up to 30 MHz</p> <p>Activities for promoting standardization of mains cable termination devices</p>
Continuing agenda items	<ul style="list-style-type: none"> <li>● Agenda item 2, 5, 6, 7, 8</li> </ul>	
Decisions and reported items	<ul style="list-style-type: none"> <li>● Agenda item 3</li> <li>● Agenda item 4</li> <li>● Reported item 1</li> </ul>	<p>Report on 2022 Rules Briefing and Technical Symposium (February 7-10, 2022) (see page 15)</p> <p>Issued the "Guidance for Emission Measurement Using FFT-Based Measuring Instruments"</p> <p>Verified the technical subcommittee's planned activities and results for FY 2021</p>

## ●International Relations Subcommittee

Date	January 12, February 9, and March 9, 2022	
Agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> </ul>	<p>Survey on trends in world EMC standards</p> <p>International Forum for the current fiscal year</p>
Continuing agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> </ul>	<p>Preparation for the International Forum for the current fiscal year</p>
Decisions and reported items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> </ul>	<p>The results of the survey on trends in world EMC standards were published on the VCCI website on January 12 and February 9.</p> <p>VCCI International Forum 2022 was distributed on demand from March 14 through March 18. This year, guest speakers were invited from China, USA, UK, and EU. The event was well received, with approximately 700 accesses (see page 22).</p>

## ●Market Sampling Test Subcommittee

Date	January 6, February 7, and March 1, 2022	
Agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> <li>● Agenda item 3</li> <li>● Agenda item 4</li> </ul>	<p>Market sampling test report</p> <p>Document inspection report</p> <p>Budget draft for planned activities for FY 2022</p> <p>Report on the survey of the display of the VCCI mark</p>
Continuing agenda items	<ul style="list-style-type: none"> <li>● Agenda item 4</li> </ul>	
Decisions and reported items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> <li>● Agenda item 3</li> </ul>	<p>Sampling tests were completed for a total of 93 products for FY 2021. One item was tentatively determined as "failed" in the fourth quarter, and responsible members started investigation.</p> <p>Fifteen documents were inspected and approved.</p> <p>Budget draft for planned activities for FY 2022 were discussed and approved.</p>

## ●Public Relations Subcommittee

Date	January 7, February 4, and March 4, 2022
Agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1 Creating a video about disturbances by electromagnetic interference</li> <li>● Agenda item 2 Creating Chinese, Taiwanese, and Korean versions of some pages of the VCCI website</li> <li>● Agenda item 3 Planned activities and budget draft for FY 2022</li> <li>● Agenda item 4 Participation in TECHNO-FRONTIER 2022</li> <li>● Agenda item 5 New contract for illuminated billboard at Haneda Airport</li> <li>● Agenda item 6 COMPUTEXTAIPEI 2022</li> </ul>
Continuing agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1, 2, 5</li> </ul>
Decisions and reported items	<ul style="list-style-type: none"> <li>● Agenda item 1 The subcommittee plans to produce an introductory video to be played for people who are not familiar with the VCCI mark and VCCI Council at exhibitions, etc. It discussed the method of filming the segment about the occurrence of electromagnetic interference, which is planned for inclusion in the video. It reported that it would proceed with video recording of the segment about the occurrence of electromagnetic interference, based on the experiment plan with help of JQA. It plans to begin creation of the entire introductory video after the segment about the occurrence of electromagnetic interference is completed.</li> <li>● Agenda item 3 Final confirmation of planned activities and budget draft for FY 2022</li> <li>● Agenda item 4 TECHNO-FRONTIER 2022 is scheduled to be held in July 2022. The subcommittee decided to exhibit at both a real exhibition (Tokyo Big Sight) and an online exhibition. It will continue deliberations on details of the exhibition.</li> <li>● Agenda item 5 After deliberating on new media for transport advertising, it was decided to post an illuminated billboard in the baggage claim area of Haneda Airport Terminal 1. The design will be discussed in the future.</li> <li>● Agenda item 6 Since there is a quarantine period upon entry into Taiwan as of March, the subcommittee has abolished plans for exhibition due to the severe outlook in regard to exhibitions from Japan.</li> </ul>



## ● Education Subcommittee

Date	January 14 and February 18, 2022	
Agenda items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> <li>● Agenda item 3</li> </ul>	<p>Revision of textbooks for FY 2021 education and training sessions</p> <p>Holding status of education and training sessions for FY 2021</p> <p>Planned education and training sessions for FY 2022</p>
Continuing agenda items	<ul style="list-style-type: none"> <li>● Agenda item 3</li> </ul>	
Decisions and reported items	<ul style="list-style-type: none"> <li>● Agenda item 1</li> <li>● Agenda item 2</li> <li>● Agenda item 3</li> </ul>	<p>Seven TFs were created to refine the textbooks to cope with online distribution and to examine and prepare methods of implementing measures to prevent COVID-19 infection. The seven TFs completed their tasks.</p> <p>Two education and training sessions including hands-on training ("The basic of electromagnetic waves, EMI measurement technique below 1 GHz" and "EMI measurement technique above 1 GHz") were canceled due to the issuance of a quasi-state of emergency. In addition, two education and training sessions ("The level up of the EMI measurement technique" and "EMI measurement instrumentation uncertainty (MIU)") were canceled due to insufficient participation.</p> <p>In FY 2022, the subcommittee will hold five seminars. The subcommittee is considering to hold classroom seminars in both actual and online (live streaming) formats. It is also considering to provide seminars including hands-on training on an attending basis. Note that whether to provide seminars including hands-on training will depend on the status of the COVID-19 pandemic at that time.</p> <p>The seminars planned for FY 2022 are as follows:</p> <ol style="list-style-type: none"> <li>① The basic technique of EMI measurement (April, second half of the year (tentative))</li> <li>② The basic of electromagnetic waves, EMI measurement technique below 1 GHz (May, second half of the year (tentative))</li> <li>③ EMI measurement technique above 1 GHz (June, second half of the year (tentative))</li> <li>④ The level up of the EMI measurement technique (second half of the year (tentative))</li> <li>⑤ EMI measurement instrumentation uncertainty (MIU) (June, second half of the year (tentative))</li> </ol>

## ●Registration Committee for Measurement Facilities

Date	January 17, 2022												
Agenda items	● The subcommittee reviewed the results of deliberations by the Measurement Facility Examination and Registration WG.												
Decisions and reported items	<p>Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 27 companies</p> <table> <tbody> <tr> <td>Radiated emission measurement facilities below 1 GHz</td> <td>13</td> </tr> <tr> <td>AC-mains-ports-conducted emission measurement facilities</td> <td>14</td> </tr> <tr> <td>Telecommunication-port-conducted emission measurement facilities</td> <td>8</td> </tr> <tr> <td>Radiated emission measurement facilities above 1 GHz</td> <td>10</td> </tr> <tr> <td>Applications returned with comments</td> <td>None</td> </tr> <tr> <td>Applications carried over to the next meeting</td> <td>None</td> </tr> </tbody> </table>	Radiated emission measurement facilities below 1 GHz	13	AC-mains-ports-conducted emission measurement facilities	14	Telecommunication-port-conducted emission measurement facilities	8	Radiated emission measurement facilities above 1 GHz	10	Applications returned with comments	None	Applications carried over to the next meeting	None
Radiated emission measurement facilities below 1 GHz	13												
AC-mains-ports-conducted emission measurement facilities	14												
Telecommunication-port-conducted emission measurement facilities	8												
Radiated emission measurement facilities above 1 GHz	10												
Applications returned with comments	None												
Applications carried over to the next meeting	None												
Date	February 21, 2022												
Agenda items	● The subcommittee reviewed the results of deliberations by the Measurement Facility Examination and Registration WG.												
Decisions and reported items	<p>Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 24 companies</p> <table> <tbody> <tr> <td>Radiated emission measurement facilities below 1 GHz</td> <td>10</td> </tr> <tr> <td>AC-mains-ports-conducted emission measurement facilities</td> <td>4</td> </tr> <tr> <td>Telecommunication-port-conducted emission measurement facilities</td> <td>12</td> </tr> <tr> <td>Radiated emission measurement facilities above 1 GHz</td> <td>14</td> </tr> <tr> <td>Applications returned with comments</td> <td>None</td> </tr> <tr> <td>Applications carried over to the next meeting</td> <td>None</td> </tr> </tbody> </table>	Radiated emission measurement facilities below 1 GHz	10	AC-mains-ports-conducted emission measurement facilities	4	Telecommunication-port-conducted emission measurement facilities	12	Radiated emission measurement facilities above 1 GHz	14	Applications returned with comments	None	Applications carried over to the next meeting	None
Radiated emission measurement facilities below 1 GHz	10												
AC-mains-ports-conducted emission measurement facilities	4												
Telecommunication-port-conducted emission measurement facilities	12												
Radiated emission measurement facilities above 1 GHz	14												
Applications returned with comments	None												
Applications carried over to the next meeting	None												
Date	March 22, 2022												
Agenda items	● The subcommittee reviewed the results of deliberations by the Measurement Facility Examination and Registration WG.												
Decisions and reported items	<p>Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 24 companies</p> <table> <tbody> <tr> <td>Radiated emission measurement facilities below 1 GHz</td> <td>11</td> </tr> <tr> <td>AC-mains-ports-conducted emission measurement facilities</td> <td>7</td> </tr> <tr> <td>Telecommunication-port-conducted emission measurement facilities</td> <td>12</td> </tr> <tr> <td>Radiated emission measurement facilities above 1 GHz</td> <td>12</td> </tr> <tr> <td>Applications returned with comments</td> <td>None</td> </tr> <tr> <td>Applications carried over to the next meeting</td> <td>None</td> </tr> </tbody> </table>	Radiated emission measurement facilities below 1 GHz	11	AC-mains-ports-conducted emission measurement facilities	7	Telecommunication-port-conducted emission measurement facilities	12	Radiated emission measurement facilities above 1 GHz	12	Applications returned with comments	None	Applications carried over to the next meeting	None
Radiated emission measurement facilities below 1 GHz	11												
AC-mains-ports-conducted emission measurement facilities	7												
Telecommunication-port-conducted emission measurement facilities	12												
Radiated emission measurement facilities above 1 GHz	12												
Applications returned with comments	None												
Applications carried over to the next meeting	None												

# International EMC Product Standards without JIS Counterparts and Responsible TCs (Part 3)

Masamitsu Tokuda

## 1. Foreword

The IEC (International Electrotechnical Commission) have TCs (technical committees) for various products. Such TCs define EMC requirements for particular products in product standards. The EMC zone news page of the IEC website provides access to a list of EMC product standards<sup>1)</sup>. There are two methods to define EMC requirements in product standards. One method is to define EMC requirements in clauses in the main body of product standards. The other method is to create stand-alone EMC publications, separate from the main body of product standards. This article covers only the latter type – stand-alone EMC product standards defining EMC requirements<sup>2-4)</sup>. Table 1 lists the EMC product standards that were created by IEC TCs for particular products, without JIS (Japanese Industrial Standards) counterparts<sup>5)</sup>. Note that the EMC product standards for automobiles are not included in this article because they were already explained in previous articles in VCCI Dayori<sup>6-8)</sup>. The EMC product standards for semiconductor devices are also not included here because they are planned to be explained in future articles in VCCI Dayori.

This article introduces the EMC product standards created by TC 48 (electric connectors, connecting devices and mechanical structures for electronic and electrical equipment), TC 57 (power systems management and associated information exchange), TC 64 (electrical installations and protection against electric shock), TC 79 (alarm and electronic security system), TC 95 (measuring relays and protection equipment), TC 96 (transformers, reactors, power supply units, and similar products), and TC 100 (audio, video and multimedia systems and equipment) in Table 1.

## 2. TC 48 (electric connectors, connecting devices and mechanical structures for electronic and electrical equipment)<sup>5)</sup>

SC 48D (mechanical structures for electrical and electronic equipment) of TC 48 developed IEC 61587-3, which is an EMC product standard for specifying the electromagnetic shielding performance tests for cabinets and subracks of electrical and electronic equipment. With transmission sources using coaxial cables, electromagnetic radiation leaks from the cabinet through the coaxial cables, making it impossible to perform shielding performance tests. The author's group has solved the problem of electromagnetic radiation leakage by using a transmission source that controls the transmission frequency with an optical fiber developed by the group.<sup>9-13)</sup>

### 3. TC 57 (power systems management and associated information exchange)<sup>5)</sup>

TC 57 developed IEC 60870-2-1, which is an EMC product standard for specifying power supplies and EMC in telecontrol equipment and systems.

### 4. TC 64 (electrical installations and protection against electric shock)<sup>5)</sup>

TC 64 developed IEC 60364-4-44, which is an EMC product standard for specifying protection of low-voltage electrical installations against voltage disturbances and electromagnetic disturbance, and IEC TR 62066, which is an EMC product standard for specifying surge overvoltages and surge protection in low-voltage AC power systems.

Table 1 List of International EMC Product Standards and Responsible IECTC (Part 3)

(as of March 2022)

Standard number [latest edition: month and year of issue]	Standard name
TC 48 (electric connectors, connecting devices and mechanical structures for electronic and electrical equipment)/SC 48D (mechanical structures for electrical and electronic equipment)	
IEC 61587-3 [Ed.2.0: 02/2013]	Mechanical structures for electronic equipment - Tests for IEC 60917 and IEC 60297- Part 3: Electromagnetic shielding performance tests for cabinets and subracks
TC 57 (power systems management and associated information exchange)	
IEC 60870-2-1 [Ed.2.0: 12/1995]	Telecontrol equipment and systems- Part 2: Operating conditions- Section 1: Power supply and electromagnetic compatibility
TC 64 (electrical installations and protection against electric shock)	
IEC 60364-4-44 [Ed.2.2: 01/2018]	Low-voltage electrical installations- Part 4-44: Protection for safety- Protection against voltage disturbances and electromagnetic disturbances
IECTR 62066 [Ed.1.0: 06/2002]	Surge overvoltages and surge protection in low-voltage AC power systems- General basic information
TC 79 (alarm and electronic security system)	
IEC 62599-2 [Ed.1.0: 05/2010]	Alarm systems- Part 2: Electromagnetic compatibility- Immunity requirements for components of fire and security alarm systems
TC 95 (measuring relays and protection equipment)	
IEC 60255-26 [Ed.3.0: 05/2013]	Measuring relays and protection equipment- Part 26: Electromagnetic compatibility requirements
TC 96 (transformers, reactors, power supply units, and similar products)	
IEC 62041 [Ed.3.0: 08/2017]	Transformers, power supplies, reactors and similar products - EMC requirements
TC 100 (audio, video and multimedia systems and equipment)	
IEC 60728-2 [Ed.3.0: 01/2018]	Cable networks for television signals, sound signals and interactive services- Part 2: Electromagnetic compatibility for equipment

IEC 60728-12 [Ed.2.0: 06/2017]	Cable networks for television signals, sound signals and interactive services- Part 12: Electromagnetic compatibility of systems
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#### 5. TC 79 (alarm and electronic security system)<sup>5)</sup>

TC 79 developed IEC 62599-2, which is an EMC product standard for specifying immunity requirements for components of fire and security alarm systems.

#### 6. TC 95 (measuring relays and protection equipment)<sup>5)</sup>

TC 95 developed IEC 60255-26, which is an EMC product standard for measuring relays and protection equipment.

#### 7. TC 96 (transformers, reactors, power supply units, and similar products)<sup>5)</sup>

TC 96 developed IEC 62041, which is an EMC product standard for transformers, power supplies, reactors and similar products.

#### 8. TC 100 (audio, video and multimedia systems and equipment)<sup>5)</sup>

TC 100 developed IEC 60728-2, which is an EMC product standard for equipment in cable networks for television signals, sound signals and interactive services, and IEC 60728-12, which is an EMC product standard for systems.

#### [References]

- 1) EMC zone news page, IEC website: list of EMC product standards, September 2021  
EMC Product Standards | IEC
- 2) Electromagnetic compatibility – Wikipedia  
[https://en.wikipedia.org/wiki/Electromagnetic\\_compatibility](https://en.wikipedia.org/wiki/Electromagnetic_compatibility)
- 3) EMC-related JIS (Japanese Industrial Standards) in Japan – EMC, safety standards- FC2  
<http://firstspring.blog.fc2.com/blog-entry-131.html>
- 4) EMC Test (OKI Engineering)  
<https://www.oeg.co.jp/emc/emc.html>
- 5) Masamitsu Tokuda: "Handbook on EMC Designs and Measurement Tests", Kagakujiyoho Shuppan Co., Ltd., pp. 133-138, July 2021
- 6) Masamitsu Tokuda: "Automotive EMC Standards Developed by CISPR and IEC/TC69", VCCI Dayori, No. 136, pp.11-13, April 2020
- 7) Masamitsu Tokuda: "Automotive Immunity Standards Developed by ISO/TC22", VCCI Dayori, No. 137, pp.10-15, July 2020
- 8) Masamitsu Tokuda: "R10: International Regulation on EMC of Automobiles", VCCI Dayori, No. 138, pp.10-12, October 2020
- 9) Masamitsu Tokuda: 3. Efforts Toward Standardization, 3-1 Spherical Dipole Antenna, the Journal of Institute of Electronics, Information and Communication Engineers, Special Issue on EMC, Vol. 78, No. 9, pp. 839-840, September 1995
- 10) Masamitsu Tokuda, Nobuo Kuwabara, Ken Ideguchi: Current Status of Optical Applications for Electromagnetic Field Measurement, Monthly EMC, No. 68, pp. 34-41, December 1993
- 11) T. Mori, K. Shinozaki, and Y. Kaneko: Improving shielding effectiveness measurements with a spherical dipole antenna, IEEE 1994 International Symposium on EMC, Chicago, pp.1-4, 1994.
- 12) Masamitsu Tokuda, Ken Ideguchi: Electromagnetic Compatibility of Communication Equipment, the Journal of Institute of Electronics, Information and Communication Engineers, Vol. 74, No. 5, pp. 472-481, 1991

- 13) M. Tokuda and N. Kuwabara : Recent Progress in Fiber Optic Antennas for EMC Measurement, IEICE Trans. Commun. Vol.E75-B, No.3, pp.107-114, 1992.



### 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 2022 Rules Briefing and Technical Symposium**

Technical Subcommittee

The 2022 Rules Briefing and Technical Symposium was held (on-demand, as in 2021, due to the spread of COVID-19) with 165 participating members on February 7th (Mon) through Thursday 10th (Tue).

In Part 1: Special Lecture, Mr. Manabu Nakazato, Ministry of Internal Affairs and Communications and Mr. Hideaki Tanaka, Ministry of Economy, Trade and Industry, gave lectures.

In Part 2: Rules Briefing and Technical Symposium, two guidances were firstly explained, providing an overview of the rules of the briefing. Then, the Technical Subcommittee chairperson gave a briefing on the FY 2021 activities of the Technical Subcommittee and working groups and provided an overview of papers presented at academic conferences. This was followed by reports detailing the activities of the working groups.

# Report on the 2022 VCCI International Forum

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 March 14-18, 2022, in an online/on-demand format (as in 2021). As before, this online forum aimed for dissemination of information and approach to domestic and overseas members.

In this international forum, presentations on the trends of regulations in various countries were conducted with invited lecturers from China, United States of America (USA), United Kingdom of Great Britain and Northern Ireland (UK), and the European Union (EU).

[Countries and presentation themes]

- China: Status of adopting CISPR 32 in China
- USA: Outline of ANSI C 63.4 draft revisions
- UK: New product regulation system in the UK
- EU: Advancement of the EU regulatory framework in the engineering field

The forum was a great success, with 695 participants including Japanese members (mainly manufacturers and testing laboratories) and 58 overseas members (China, USA, Korea, Taiwan, Germany, Thai, and Canada). The general opinion was that the latest information on EMC standards, and presented information in general, was useful, and participants appreciated the opportunity to hear from countries where acquisition of information is difficult. Some of the participants also requested that the on-demand format be continued in the future.

The VCCI International Relations Subcommittee plans to continue to hold international forums in the future, and will select themes that suit the wishes of our members so that more people can participate in the next forum. If you have a country, region, or theme you would like to present, please contact the VCCI Secretariat.



# VCCI International Forum 2022 Program

- Greeting from Chairman of VCCI International Relation Sub-committee,  
Mr. Yukio UCHIDA, Panasonic Corporation
- Greeting from VCCI International Forum 2022 leader;  
Ms. Nozomi MIYAKE, NEC Corporation

No.	Theme	Lecturer
-	Greeting	Mr. Akira ODA Director, VCCI Council
1	CISPR 32 Development in China	Mr. Jesse HUANG R&D manager CQC Intime Testing Technology Co., Ltd
2	Draft ANSI C63.4:202? a review	Mr. Andy GRIFFIN Chair of ANSI C63.4 WG Cisco Systems
3	The New UK Regime for Goods	Ms. Erin FAIR UKCA Policy Adviser Goods Regulation Team, Department for Business, Energy and Industrial Strategy (BEIS)
4	Developments in EU regulatory framework in engineering sector	Mr. Gwenole COZIGOU Director Sustainable Industry and Mobility DG for Internal Market, Industry, Enterprenurship and SME's European Commission



Mr. Jesse HUANG (China)



Mr. Andy GRIFFIN (USA)



Ms. Erin FAIR (UK)



Mr. Gwenole COZIGOU (EU)

# Status on FY2021 Market Sampling Tests

Market Sampling Test Subcommittee

As of March 31, 2022

Planned number of market sampling tests	Loan-based	45	100
	Purchase-based	55	

Sampling test	Selected	Cancelled (Not shipped, etc.)	Testable samples	Test completed (Included number)	Judgment			
					Passed	Failed- tentative		
						Finally passed	Finally failed	Pending
Grand total	101	1	100	100	95	1	1	3
(Previous month grand total)	99	1	87	73	58	1	1	2

Loan-based testing total		46	1	45	45	42	1	1	1
Term (Included number)	1 <sup>st</sup> Quarter	12	1	11	11	11	—	—	—
	2 <sup>nd</sup> Quarter	20	—	20	20	17	1	1	1
	3 <sup>rd</sup> Quarter	8	—	8	8	8	—	—	—
	4 <sup>th</sup> Quarter	6	—	6	6	6	—	—	—

Purchase-based testing total		55	0	55	55	53	0	0	2
Term (Included number)	1 <sup>st</sup> Quarter	20	0	20	20	19	—	—	1
	2 <sup>nd</sup> Quarter	20	—	20	20	20	—	—	—
	3 <sup>rd</sup> Quarter	13	—	13	13	12	—	—	1
	4 <sup>th</sup> Quarter	2	—	2	2	2	—	—	—

Final Result

Passed	Failed	Pending
96	1	3

Document inspection	Selected	Cancelled (withdrawal, etc.)	Inspectable samples	Pre-check completed	Judgment completed	Judgment	
						Cleared	Problems identified
	42	2	40	40	38	32	6

## Report from the Secretariat

### ● List of Members (January 2022 - March 2022)

#### New members

Membership	Member No.	Company Name	Country
Regular	4219	HOUSEI Inc.	JAPAN
Regular	4222	SUN ELECTRONICS CO., LTD.	JAPAN
Regular	4231	Richemont Japan Ltd.	JAPAN
Regular	4232	KYUSHUTEN LIMITED	JAPAN
Regular	4208	Hefei Huntkey Display Technology Co., Ltd.	CHINA
Regular	4215	Teradata Operations, Inc.	USA
Regular	4218	Lanto Electronic Ltd.	CHINA
Regular	4220	Huawei Digital Power Technologies Co., Ltd.	CHINA
Regular	4221	Verkada Inc.	USA
Regular	4223	xFusion Digital Technologies Co., Limited	CHINA
Regular	4225	Octane Biotech Inc.-A Lonza Company	CANADA
Regular	4226	Acroname Inc.	USA
Regular	4227	Workaround GmbH	GERMANY
Regular	4228	ViGEM GmbH	GERMANY
Regular	4229	MJLINK Co., Ltd.	KOREA
Regular	4230	Montblanc-Simplo GmbH	GERMANY
Supporting	4217	Hubei Institute of Measurement and Testing Technology	CHINA
Supporting	4224	The Nebraska Center for Excellence in Electronics	USA

#### Company name change

Membership	Member No.	Company Name	Country	Old company name
Regular	1489	SocioFuture, Ltd.	JAPAN	ATM Japan, Ltd.
Regular	3769	FOVE Co., Ltd.	JAPAN	K.K.FOVE
Regular	4088	SANYO Electric Co., Ltd.	JAPAN	Panasonic Group IS Company SANYO Electric Co., Ltd.
Supporting	2234	PENTEL Co., Ltd.	JAPAN	PENTEL Co., Ltd.
Regular	3657	OXTI PTE LTD	SINGAPORE	OXTI CORPORATION
Regular	3720	GLAAM Co., Ltd.	KOREA	G-SMATT Co., Ltd.
Supporting	2959	MiCOM Labs Inc	USA	MiCOM Labs

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

● VCCI Schedule for FY 2022 (as of March 31, 2022)

<p><b>April</b></p> <ul style="list-style-type: none"> <li>• The basic technique of EMI measurement</li> </ul>	<p><b>May</b></p> <ul style="list-style-type: none"> <li>• The basic of electromagnetic waves, EMI measurement technique below 1 GHz</li> </ul>	<p><b>June</b></p> <ul style="list-style-type: none"> <li>• EMI measurement technique above 1 GHz</li> <li>• EMI measurement instrumentation uncertainty (MIU)</li> <li>• Release VCCI Dayori No.145</li> </ul>
<p><b>July</b></p> <ul style="list-style-type: none"> <li>• TECHNO-FRONTIER 2022</li> </ul>	<p><b>August</b></p> <ul style="list-style-type: none"> <li>• Release Annual Report</li> </ul>	<p><b>September</b></p> <ul style="list-style-type: none"> <li>• Release VCCI Dayori No.146</li> </ul>
<p><b>October</b></p> <ul style="list-style-type: none"> <li>• CEATEC 2022</li> </ul>	<p><b>November</b></p>	<p><b>December</b></p> <ul style="list-style-type: none"> <li>• Release VCCI Dayori No.147</li> </ul>
<p><b>January</b></p>	<p><b>February</b></p>	<p><b>March</b></p> <ul style="list-style-type: none"> <li>• Release VCCI Dayori No.148</li> </ul>

● Status of Compliance Test Notifications

January 2022—March 2022 (Product names are examples and are not limiting)

Classification of MME (Product types are not limited to only the following examples.)			Classification code		January 2022			February 2022			March 2022			
			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.	A 2	a 2	19	2	21	32	0	32	13	5	18
		Stationary	Workstation, Desktop PC, etc.	B 2	b 2	1	29	30	0	12	12	7	32	39
		Portable	Laptop PC, Tablet PC, etc.	C 2	c 2	1	76	77	0	51	51	0	83	83
		Other computers	Wearable computers, Wearable device, Smart watch, Smart glass, etc.	E 2	e 2	0	1	1	3	0	3	2	1	3
	Peripheral / Terminal	Memory device	HDD, SSD, USB Memory, Media drive, Disk device, NAS, DAS, SAN, etc.	G 2	g 2	8	20	28	9	23	32	10	22	32
		Printer device	Printer including multifunction machine, etc. (portable)	H 2	h 2	5	2	7	5	5	10	12	6	18
		Display device	CRT display, Monitor, Projector, etc.	J 2	j 2	12	61	73	5	47	52	9	72	81
		Other I/O devices	Image scanner, OCR, Pen tablet, Stylus pen, etc.	M 2	m 2	1	2	3	1	3	4	4	7	11
		General purpose terminal	Display controller terminal, etc.	N 2	n 2	4	0	4	0	0	0	6	0	6
		Special purpose terminal	POS, Terminal for finance, insurance, etc.	Q 2	q 2	5	4	9	3	0	3	4	3	7
		Other peripheral	PCI Card, Graphics Card, Mouse, Keyboard, Cradle, etc.	R 2	r 2	13	41	54	7	37	44	10	50	60
		Copying machine / Multifunction copying machine	Copying machine, Multifunction copying machine, etc. (Stationary)	S 2	s 2	2	1	3	0	1	1	1	0	1
	Communications equipment	Terminal equipment	Mobile phone, Smart phone, PHS phone, etc.	T 2	t 2	0	0	0	0	5	5	0	13	13
			Telephone device such as PBX, FAX, Key telephone systems, Cordless phone, etc.	U 2	u 2	1	1	2	2	2	4	6	5	11
		Network-related equipment	Communication line connecting device including Modem, Digital transmission unit, DSU, TA, Media converter, etc.	V 2	v 2	0	3	3	2	1	3	0	6	6
			LAN-related device, including Router, HUB, etc. Local switch, etc.	W 2	w 2	47	13	60	35	16	51	39	14	53
	Other communication equipment	Other communication equipment	X 2	x 2	9	9	18	19	5	24	21	11	32	
	Broadcast receiver equipment		TV, Radio, Tuner, Video recorder, Set-top box, etc.		k 2		1	1		2	2		0	0
	Audio equipment		Speaker, Amplifier, IC recorder, Digital audio player, Headset, DTM, AI speaker, etc.	L 2	l 2	0	14	14	0	6	6	0	6	6
Video equipment	Video equipment	Digital video camera, Web camera, Network camera, Video player, Photo frame, Digital camera, Drive recorder, etc.	l 2	i 2	13	9	22	1	10	11	25	14	39	
	Other video equipment	VR goggles, Scan converter, etc.	P 2	p 2	1	1	2	0	0	0	0	0	0	
Entertainment lighting control equipment		Entertainment lighting control equipment, etc.	Z 2	z 2	0	0	0	1	0	1	0	0	0	
Other MME	Entertainment / Education	Electronic stationery	Electronic dictionary, e-book reader, Translator, Calculator, etc.	D 2	d 2	0	0	0	0	2	2	0	0	0
		Electronic toy	Game console, Game pad, toy drone, etc.	Y 2	y 2	1	2	3	0	0	0	0	0	0
		Other Entertainment / Education equipment	Navigator, AI robot, etc.	F 2	f 2	0	0	0	0	0	0	0	0	0
	Other MME	MME other than the above	O 2	o 2	20	5	25	2	3	5	15	9	24	
Total					163	297	460	127	231	358	184	359	543	

## ● 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 2022 – March 2022)

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:
TÜV SÜD PSB Pte. Ltd.	3 m RF Chamber (Lab 7)	-	-	-	-	-	G-20149	2025/1/16	15 International Business Park Singapore 6099387	+65-6973-6268
ETL Inc.	3 m Chamber	-	-	-	-	-	G-20148	2025/1/16	100, Masan-ro, Siheung-si, Gyeonggi-do, 14988, Republic of Korea	+82-2-858-0786
ETL Inc.	10 m Chamber	-	-	-	-	○	R-20154	2025/1/16	100, Masan-ro, Siheung-si, Gyeonggi-do, 14988, Republic of Korea	+82-2-858-0786
Dongguan Dongdian Testing Service Co., Ltd.	10 m Chamber	-	-	-	-	○	R-20155	2025/1/16	No. 17, Zongbu Road 2, Songshan Lake Sci & Tech Industry Park Dongguan City, Guangdong Province, People's Republic of China	+86-18617273487
TDK株式会社	秋田EMCセンター 10 m法電波暗室	-	-	-	-	-	T-20114	2025/2/20	秋田県にかほ市平沢字立沢200	0184-35-5088
TDK株式会社	秋田EMCセンター 3 m法電波暗室	-	-	-	-	-	T-20115	2025/2/20	秋田県にかほ市平沢字立沢200	0184-35-5088
TDK株式会社	秋田EMCセンター シールドルーム	-	-	-	-	-	T-20116	2025/2/20	秋田県にかほ市平沢字立沢200	0184-35-5088
TÜV Rheinland Taiwan Ltd.	Conducted Room (Shield Room A)	-	-	-	-	-	T-20117	2025/2/20	No. 458-19, Sec. 2, Fenliao Rd., Linkou Dist., New Taipei City 244, Taiwan, R.O.C.	+886-2172-7000 #1120
Shenzhen Huaxia Testing Technology Co., Ltd.	Shenzhen Huaxia Testing Technology Co., Ltd.	-	-	-	○	-	R-20156	2025/2/20	1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China	+86-755-2664-8642
Ultratech Engineering Labs Inc.	UltraTech TDK Semi-Anechoic Chamber	-	-	-	-	○	R-20157	2025/2/20	3000 Bristol Circle, Oakville, Ontario, Canada	+1-905-829-1570
新電元工業株式会社	3 m 法電波暗室 (EMI 電波暗室)	-	-	-	-	-	C-20113	2025/3/21	埼玉県朝霞市幸町 3-14-1	048-483-5323

Company name	Equipment name	3 m	10 m	30 m	Dark 3m	Dark 10m	Registration number	Effective date	Location	Contact to:
新電元工業株式会社	3 m 法電波暗室 (EMI 電波暗室)	-	-	-	○	-	R-20158	2025/3/21	埼玉県朝霞市幸町 3-14-1	048-483-5323
新電元工業株式会社	3 m 法電波暗室 (EMI 電波暗室)	-	-	-	-	-	G-20150	2025/3/21	埼玉県朝霞市幸町 3-14-1	048-483-5323
宮城県産業技術総合センター	宮城県産業技術総合センター EMC 総合試験棟	-	-	-	-	-	C-20115	2025/3/21	宮城県仙台市泉区明通 2 丁目 2 番地	022-377-8700
宮城県産業技術総合センター	宮城県産業技術総合センター EMC 総合試験棟	-	-	-	-	○	R-20160	2025/3/21	宮城県仙台市泉区明通 2 丁目 2 番地	022-377-8700
宮城県産業技術総合センター	宮城県産業技術総合センター EMC 総合試験棟	-	-	-	-	-	G-20152	2025/3/21	宮城県仙台市泉区明通 2 丁目 2 番地	022-377-8700
SIQ Ljubljana	SIQ Ljubljana	-	-	-	-	-	T-20119	2025/3/21	Masera-Spasicева ulica 10, SI-1000 Ljubljana, Slovenia	+386-1-4778-178
SIQ Ljubljana	SIQ Ljubljana	-	-	-	-	-	C-20116	2025/3/21	Masera-Spasicева ulica 10, SI-1000 Ljubljana, Slovenia	+386-1-4778-178
SIQ Ljubljana	SIQ Ljubljana	-	○	-	-	-	R-20161	2025/3/21	Masera-Spasicева ulica 10, SI-1000 Ljubljana, Slovenia (Location: Saveljska cesta 1, SI-1000 Ljubljana)	+386-1-4778-178
Hubei Institute of Measurement and Testing Technology	Shielded Room	-	-	-	-	-	T-20118	2025/3/21	No. 2, Mao Dian Shan Road, East Lake Hi-Tech Park, Wuhan, Hubei, China	+86-18040519001
Hubei Institute of Measurement and Testing Technology	10 m Anechoic chamber	-	-	-	-	-	G-20151	2025/3/21	No. 2, Mao Dian Shan Road, East Lake Hi-Tech Park, Wuhan, Hubei, China	+86-18040519001

## Closing words

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It's already been two years since my last editorial postscript. Now in my mid-fifties, I'm feeling the passage of time accelerate like a quadratic curve. Though, I certainly don't believe this acceleration is only due to aging.

Drastic social changes worldwide caused by climate change, natural disasters, and the COVID-19 pandemic, and the associated(?) rise in geopolitical risks..... It's tumultuous times like these that make you want to tune out for a change. And that brings me to solo camping.

Since around April last year, I've been going camping alone about once a month. Actually, I often take my son, but we each bring our own tents, fire pits, and other tools, so we might as well be two people camping solo (ha!). My son and I rarely drink together at home, so as a parent, I cherish these occasions, but at the same time, I personally can't truly slow down and relax. As a certain solo camping celebrity often says, sometimes you just want to be alone with nature. And, if I can, I'd like to go somewhere far away. With

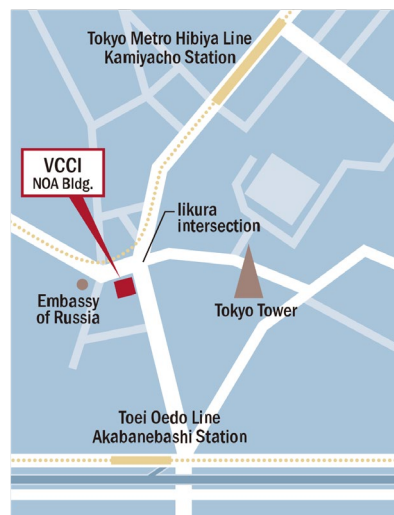
that in mind, I recently changed my car.

Now that cars are increasingly going electric, I opted for a used 17-year-old station wagon. In the past, I'd only driven *kei* (low-engine-capacity) four-wheel drives, so I'm enjoying the extra luggage space and room to lie down, stretch my legs, and sleep in my car if I want to! Though, I wonder how long this car will stay in good shape. Because she already looks worse for wear, I don't mind too much if she gets muddy on a camping trip, and she feels so relaxing to drive, I have no desire to speed. Quite the pleasant partner, I must say. Despite the recent storm of high oil prices, I've also been secretly planning a long trip.

Thanks to the aforementioned state of the world, used-car prices have been skyrocketing lately. I've come to admire the hobby of lovingly maintaining an older car like in the movie *Drive My Car*. If you ever see a battered old station wagon driving at a constant speed, trying to avoid accelerating or decelerating like a heavy-duty truck, that might be me enjoying the slow life. (Y.H.)

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