VCCI DAYORI

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Contents

Contribution

My memoriam about technical ability growth of VCCI

Nobuo Kuwabara
Technical Advisor to the VCCI Technical Subcommittee

VCCI was established in 1985, and it has been 34 years since establishment. When VCCI was established, I was working at NTT Ibaraki Telecommunication laboratory, and joined the briefing concerning to the establishment of VCCI by my superiors order. At that time, I reported to my superiors that VCCI would be established and thought my mission was over. The next opportunity was that I joined the overseas survey conducted by VCCI in 1992, and I visited the laboratories and the committees together with Mr. Nagasawa and others. Although, I could not contribute to VCCI activities because of my poor of experience concerning to VCCI, I was deeply impressed with the energetic activity of other members, and at the same time I could learn the actual situation of the EMC evaluation in abroad.

After that, I have worked as a member of the Technical Subcommittee and so on. At the time, the Technical Subcommittee had dissatisfied with the fact that VCCI's technical standards were strongly influenced by the International Standards Committee (CISPR) and VCCI could not join to the discussion in CISPR. At the time, I was also a member of G Investigative Commission, a CISPR-related committee in Japan, where I helped enable VCCI to contribute documents to CISPR. After that, these activities were recognized, and Mr. Osabe who was currently the technical adviser of VCCI, was to attend CISPR / G as an expert. In addition, the committee which supported the activity of the expert was prepared in VCCI because the expert should contribute the standardization in CISPR. Although the name of the committee was changed by the reconstruction of the organization, the CISPR Measures Working Group in VCCI Technical Subcommittee currently works as the supporting group. As a member of this WG, I also continue to support the experts for the purpose that they can make meaningful activities for VCCI members and maintain their international status.

In order to maintain the status of VCCI in CISPR, it is important that VCCI contribute the standardizing process in CISPR. The first contribution is adding the new EUT layout in CISPR publication. The layout was reflecting the actual test situation, and added to CISPR 22 5th Edition by the efforts of the experts and the relevant commission members.

Next important contribution is the proposing termination device for radiated disturbance measurement. In 1992, Mr. Atsuya Maeda who was a member of VCCI Technical Subcommittee presented the paper in IEICE transaction where he pointed out that the test results deviation between test facilities could be reduced by specifying the termination impedance of the EUT AC mains cable. Although the Technical Subcommittee in VCCI continued the investigation of the effect and published the paper in EMC international symposium, VCCI did not propose the method to CISPR.

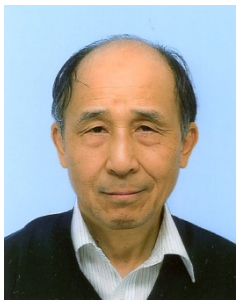
In 2011, VCCI started the standardizing action of the method. At that time, CMAD was proposed as the device for specifying the termination impedance. However, the VCCI Technical Subcommittee understood that the VHF-LISN which was termination device proposed from VCCI had excelent effects compare to the CMAD, and proposed the VGF-LISN to CISPR as the termination device. The international round robin test was performed led by VCCI, and the VCCI claims were recognized internationally. However, other termination devices have also been proposed, and the discussion still continues toward standardization.

Currently, VCCI has three experts including VCCI technical advisors. In addition, other experts and a member of national committee join the VCCI Technical Subcommittee. Therefore, the status of VCCI in CISPR sufficiently maintain by the effort of VCCI members.

I have not the exactly data when VCCI presented the paper at EMC international symposium. In a VCCI establishment early stage, members of the Technical Subcommittees made presentation by their company names. As far as I know, the first EMC international symposium where VCCI's name indicated as the author was the EMC international symposium which was held in Tokyo in 1999. At that time, the paper explained the VCCI's activity. In 2000, the technical paper was presented at the EMC international symposium which was held in the United States. After that, the many papers was passed the review and presented at the EMC international symposiums which were held in the United State, Europe, and Asia for showing the VCCI technical activity. According to the database in IEEE, five papers were presented at the EMC international symposiums in 2018. In addition, VCCI promoted the organized session at the EMC international symposiums which were held in Tokyo in 2014 and in Sapporo in 2019.

The VCCI Technical Subcommittee was organized by the engineers of VCCI member companies, and I believe that the member's level up will contribute the growth of VCCI technology level. In that respect, I consider that the technology of VCCI is sufficiently growing for contributing the standardization in CISPR and presenting the paper at EMC international symposium. I believe that the VCCI technology level will developed more by an effort of the engineers constructing the subcommittee.

Nobuo Kuwabara was born in 1952 in Gifu Prefecture. He received his M.E. degrees in electronic engineering from Shizuoka University in 1977. He joined NTT in 1977, where he was initially engaged in research on overvoltage protection and electromagnetic compatibility relating to telecommunication system. From April, 2001 to March 2016, he was a professor in the Department of Electrical Engineering and Electronics at Kyushu Institute of Technology. From June, 2011 to May, 2013, he was a Chair of IEICE Technical Subcommittee on Electromagnetic Compatibility (EMCJ). From January, 2014 to December 2015, he was a Chair of IEEE EMC Society Japan Council. In June, 2016 he received the title of Professor emeritus from Kyushu Institute of Technology. Since July, 2018, he was Visiting professor of Kyushu Institute of Technology. Currently, he is a technical adviser of the Technical Subcommittee on VCCI council.



Nobuo Kuwabara

June 1952 Born in Gifu Prefecture
March 1977 Completed a master's course at Shizuoka University
April 1977 Entered the Nippon Telegraph and Telephone Public Corporation (now NTT)
April 2001 to March 2016 Professor of Electric Engineering Department, Kyushu Institute of Technology
June 2011 to May 2013 Chair of the Technical Committee on Electromagnetic Compatibility (EMCJ) at The Institute of Electronics, Information and Communication Engineers
January 2014 to December 2015 IEEE EMC Society Japan Chapter, Chair
June 2016 Professor Emeritus at the Kyushu Institute of Technology
July 2018 Visiting Professor at the Kyushu Institute of Technology
Present Technical Advisor to the VCCI Technical Subcommittee

Committee Activities

● Council

Date	June 25, 2019
Agenda items	● Agenda item 1 FY 2018 business report ● Agenda item 2 FY 2018 settlement of accounts ● Agenda item 3 Select a director and auditor
Decisions and reported items	● Agenda item 1 Approved ● Agenda item 2 Approved ● Agenda item 3 Approved ● Reported item 1 FY 2019 business plan ● Reported item 2 FY 2019 budget

● Board

Date	June 11, June 25, 2019
Agenda items	● Agenda item 1 FY 2018 business report ● Agenda item 2 FY 2018 settlement of accounts ● Agenda item 3 Select members of the Registration Committee for Measurement Facilities ● Agenda item 4 Select a representative of the board of directors, and others
Decisions and reported items	● Agenda item 1 Approved ● Agenda item 2 Approved ● Agenda item 3 Approved ● Agenda item 4 Approved

● Steering Committee

Date	May 22, June 19, July 17, 2019
Agenda items	● Agenda item 1 FY 2018 business report ● Agenda item 2 FY 2018 settlement of accounts ● Agenda item 3 Select the head of the Market Sampling Test Subcommittee ● Agenda item 4 New members from April to June
Decisions and reported items	● Agenda item 1 Approved ● Agenda item 2 Approved ● Agenda item 3 Approved ● Agenda item 4 Approved ● Reported item 1 Activity reports for the period from April to June were made by the dedicated subcommittees (Technical, International Relations, Market Sampling Test, Education, Public Relations). ● Reported item 2 Status report regarding secretariat work (member entry and withdrawal trends, the number of conformity verification reports, income and expenditure, etc.) ● Reported item 3 On EMC Sapporo & APEMC 2019 VCCI Tutorial (see page 27) ● Reported item 4 On the business report meeting (see page 33)

● Technical Subcommittee

Date	May 15, July 10, 2019
Agenda items	● Agenda item 1 On the Technical Subcommittee's planned activities for FY 2019 ● Agenda item 2 On FDIS for addendum 1 to CISPR 32 Ed.2.0 ● Agenda item 3 On EUT volume and measurement distance when measuring radiated emissions above 1 GHz ● Agenda item 4 On spectral mask measurement for priority network ports ● Agenda item 5 On calibration testing for free-space antenna factors ● Agenda item 6 On performing RRT with mains cable terminal conditions SC-A&I JAHG6 was passed to participants in June, with measurement planned to start in July.
Continuing agenda items	● Agenda item 1 ● Agenda item 3 ● Agenda item 4 ● Agenda item 5 ● Agenda item 6
Decisions and reported items	● Agenda item 2 Approved ● Reported item 1 On the CISPR Singapore conference report ● Reported item 2 On the EMC Sapporo & APEMC 2019 VCCI Tutorial report (see page 27)

● International Relations Subcommittee

Date	April 18, May 10, June 12, 2019
Agenda items	● Agenda item 1 International Forum ● Agenda item 2 Survey on trends in world EMC standards ● Agenda item 3 This fiscal year's overseas survey
Continuing agenda items	● Agenda item 1
Decisions and reported items	● Agenda item 2 On June 28, this fiscal year's version of the Comparison Chart of ITE regulation in the world was published on the members-only site page of the VCCI website. ● Agenda item 3 We published a meeting report from our visits to Indonesia's SDPPI and Vietnam's MIC in March as part of our overseas survey on the members-only site page of the VCCI website (see page 15).

● Market Sampling Test Subcommittee

Date	May 9, June 6, July 4, 2019
Agenda items	● Agenda item 1 Document inspection ● Agenda item 2 Report on continued surveys on the display of the VCCI mark ● Agenda item 3 Joint committee ● Agenda item 4 FY 2019 selection policy ● Agenda item 5 Document forms
Continuing agenda items	● Agenda item 2
Decisions and reported items	● Agenda item 1 Of the 40 tests planned for this fiscal year, we have currently selected up to 10 tests, of which 8 found no problems, and 2 found problems that had been corrected. ● Agenda item 3 We discussed notes on this fiscal year's market sampling tests with four designated testing laboratories. It was agreed upon that sampling tests would be conducted based on the technical standards adopted upon notification from last fiscal year. ● Agenda item 4 Conduct 100 market sampling tests again this fiscal year. Products to focus on include those that have HDMI interfaces, miniature mobile products, and products with wireless functionality. ● Agenda item 5 We revised and corrected the format of the implementation status sheet for market sampling tests.

● Education Subcommittee

Date	June 14, 2019
Agenda items	● Agenda item 1 On the questionnaire results of the 39th "The basic technique of EMI measurement" and the 49th and 50th "The basic of electromagnetic waves, EMI measurement technique below 1GHz" ● Agenda item 2 On considerations regarding textbooks for education and training conducted in FY 2019 ● Agenda item 3 On the status of education and training conducted in FY 2019
Continuing agenda items	● Agenda item 2 ● Agenda item 3
Decisions and reported items	● Agenda item 1 All questionnaire responses showed satisfaction or better results. ● Agenda item 2 Textbook corrections were completed. Going forward, corrections will be applied as appropriate based on questionnaire results. - Based on the questionnaire results for "The basic technique of EMI measurement", we will revise parts of the course structure from the second half of the fiscal year to make the course easier to understand for attendees. - Based on the questionnaire results for "The basic of electromagnetic waves, EMI measurement technique below 1GHz", we learned that attendees were very interested in EUT placement, and will conduct practical courses involving several types of EUT. ● Agenda item 3 - The 49th "The basic of electromagnetic waves, EMI measurement technique below 1GHz" was held on May 9 and 10 (lectures) and May 16 and 17 (practical courses), as well as the 50th "The basic of electromagnetic waves, EMI measurement technique below 1GHz" on May 9 and 10 (lectures) and May 23 and 24 (practical courses). There were a total of 24 attendees, who received completion certificates. - The 15th "The EMI measurement technique above 1GHz" was held on June 13 and 14, with 12 attendees, who received completion certificates. - The 5th "The level up of EMI measurement technique" was held on June 11, with 12 attendees, who received attendance certificates. - The 2nd "The EMI Measurement Instrumentation uncertainty" was held on June 12, with 25 attendees, who received attendance certificates.

● Public Relations Subcommittee

Date	May 10, June 13, July 12
Agenda items	● Agenda item 1 Report on TECHNO-FRONTIER 2019 ● Agenda item 2 Report on EMC Sapporo & APEMC 2019 ● Agenda item 3 On the introduction of LED panels for exhibitions ● Agenda item 4 On the 2020 version of the desktop calendar cover design ● Agenda item 5 On changes to the door-window sticker design for the Hibiya Line ● Agenda item 6 On materials presented at the FY 2018 business report meeting
Continuing agenda items	● Agenda items 3 ● Agenda items 4 ● Agenda items 5
Decisions and reported items	● Agenda item 1 We gave an exhibit report on TECHNO-FRONTIER 2019 held in April, which was approved. ● Agenda item 2 We gave an exhibit report on EMC Sapporo & APEMC 2019 held in June, which was approved (see page 27). ● Agenda item 6 We discussed the materials presented at the VCCI FY 2018 business report meeting held on July 4, which were approved (see page 33).

● Registration Committee for Measurement Facilities

Date	May 20, 2019
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) 21 companies Radiated EMI measurement facilities 11 Mains-ports-conducted EMI measurement facilities 11 Telecommunication-port-conducted EMI measurement facilities 13 Measurement facilities for radiated EMI above 1 GHz 12 Applications returned with comments None Applications carried over to the next meeting None
Date	June 24, 2019
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions	Conformity certified (including cases certified with qualification comments after extra document checks) 21 companies Radiated EMI measurement facilities 14 Mains-ports-conducted EMI measurement facilities 13 Telecommunication-port-conducted EMI measurement facilities 7 Measurement facilities for radiated EMI above 1 GHz 11 Applications returned with comments None Applications carried over to the next meeting 1
Date	July 22, 2018
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions	Conformity certified (including cases certified with qualification comments after extra document checks) 17 companies Radiated EMI measurement facilities 10 Mains-ports-conducted EMI measurement facilities 9 Telecommunication-port-conducted EMI measurement facilities 8 Measurement facilities for radiated EMI above 1 GHz 8 Applications returned with comments None Applications carried over to the next meeting None

●Report on Committee Activities: List of Acronyms

Abbreviation	Full Name
AAN	Asymmetric Artificial Network
AMN	Artificial Mains Network
ANSI	American National Standards Institute
APD	Amplitude Probability Distribution
APAC	Asia Pacific Accreditation Corporation
AQSIQ	General Administration of Quality Supervision , Inspection and Quarantine of the People's Republic of China
BSMI	Bureau of Standards, Metrology and Inspection
CALTS	Calibration Test Site
CB	Certification Body
CB	Competent Body
CCC	China Compulsory Product Certification
CD	Committee Draft
CDN	Coupling Decoupling Network
CDNE	Coupling Decoupling Network for Emission
CDV	Committee Draft for Vote
CEMC	China Certification Center for Electromagnetic Compatibility
CEN	European Committee for Standardization
CENELEC	European Committee for Electro Technical Standardization
CISPR	International Special Committee on Radio Interference
CMAD	Common Mode Absorbing Device
CQC	China Quality Certification Center
CSA	Classical（Conventional）Site Attenuation
CSA	Canadian Standards Association
DAF	Dual Antenna Factor
DC	Document for Comment
DoC	Declaration of Conformity
DOW	Date of Withdrawal
DTI	Department of Trade and Industry
DUT	Device Under Test
ECANB	EC Association of Notified Bodies
Ecma	Ecma International
EICTA	European Information, Communications and Consumer Electronics Technology Industry Association
EMCC	Electro Magnetic Compability Conference
EMCAB	Electromagnetic Compatibility Advisory Bulletin
EMF	Electromagnetic Field
EMF	Electromotive Force
ETSI	European Telecommunication Standards Institute
EUANB	European Union Association of Notified Bodies
EUT	Equipment Under Test
FAR	Fully Anechoic Room
FDIS	Final Draft International Standard

Abbreviation	Full Name
GB	guo jia biao zhun（National Standard of China）
GSO	Gulf Cooperation Council Standardization Organization
ICES	Interference-Causing Equipment Standards
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IS	International Standard
ISM	Industrial Scientific and Medical
ITE	Information Technology Equipment
LCL	Longitudinal Conversion Loss
MIC	Ministry of Information and Communication
MME	Multimedia Equipment
MOU	Memorandum of Understanding
MP	Magnetic Probe
MRA	Mutual Recognition Agreement/Arrangement
NCB	National Certification Body
NICT	National Institute of Information and Communications Technology
NIST	National Institute of Standards and Technology
NP	New Work Item Proposal
NSA	Normalized Site Attenuation
OFDM	Orthogonal Frequency Division Multiplex
PAS	Publicly Available Specification
PLT	Power Line Telecommunication
R&TTE	Radio & Telecommunications Terminal Equipment
RBW	Resolution Band Width
REF	Reference
RRA	Radio Research Agency
RRT	Round Robin Test
RSM	Reference Site Method
RVC	Reverberation Chamber
SAC	Semi Anechoic Chamber
SDPPI	Semangat Disiplin Profesional Procuktif Integritas
S/N	Signal to Noise ratio
TF	Task Force
TG	Tracking Generator
UPS	Uninterruptible Power Supply
VBW	Video Band Width
VHF-LISN	Very High Frequency-Line Impedance Stabilization Network
VSWR	Voltage Standing Wave Ratio
WG	Working Group
WP	Working Party

18th instalment

EMC Standards of the IEC 61000-5 (Installation and Mitigation Guidelines) Series Developed by TC77

Masamitsu Tokuda

1. Foreword

The EMC standards developed by TC77 (Technical Committee 77 for EMC (Electromagnetic Compatibility)) of the IEC (International Electrotechnical Commission) are assigned IEC 61000 series numbers, and consist of parts 1 (General) to 9 (Miscellaneous)[1-5].

This document introduces the IEC 61000-5 series standards, which stipulate guidelines on device installation and problem mitigation.

2. Standards of the IEC 61000-5 (installation and mitigation guidelines) series

As shown in Table 1, international standards of the IEC 61000-5 (installation and mitigation guidelines) series are being developed by the TC77 parent committee (EMC) and the SC77C subcommittee (High power transient phenomena). At the TC77 plenary meeting held in May 1992 in Rome, Italy, the modifier "between electrical equipment including networks" was deleted from TC77's title, simplifying the title to "Electromagnetic Compatibility", and the decision was made to handle EMC of more general electrical and electronic equipment. At that time, the new SC77C "Immunity to high altitude nuclear electromagnetic pulses (HEMP)" was established, which considers immunity to electromagnetic pulses emitted from high-altitude nuclear detonations. At the time SC77C was established, "HEMP" included "nuclear", but the nuclear part was recently removed, and HEMP now only refers to "high-altitude electromagnetic pulses". Later, regarding SC77C, the title was changed to "High power transient phenomena" in 1998, and considerations targeted not only HEMP, but also immunity to more general transient phenomena in high-power electromagnetic fields. Considerations even included EMC installation and mitigation guidelines subject to IEC 61000-5.

IEC TR 61000-5-1 (general considerations) developed by TC77 stipulates outlines such as the purpose of appropriate installation and design, interference transmission paths, electromagnetic interference, selection of electromagnetic environments, equipment immunity, and mitigation measures. In addition, IEC TR 61000-5-2 (earthing and cabling) stipulates equipment earthing, bonding, cabling and wiring methods, and more.

Among the standards being developed by SC77C are two sets of non-HEMP standards. The first is IEC TR 61000-5-6, which stipulates shields, filters, decoupling devices and surge-protected devices as methods of mitigating conducted and radiated interference. The second is IEC TR 61000-5-7, which stipulates a notation method for frequency and level combinations that specify shields, and requirements for measuring instruments.

Among the standards being developed by SC77C are six sets of HEMP-related standards. IEC TR 61000-5-3 stipulates HEMP protection concepts, IEC TS 61000-5-4 stipulates specifications for protective devices against

HEMP radiated interference, and IEC 61000-5-5 stipulates specifications for protective devices against HEMP conducted interference[6]. Additionally, IEC TS 61000-5-8 stipulates HEMP protection methods for distributed infrastructure, and IEC TS 61000-5-9 stipulates system-level susceptibility assessments of phenomena containing not only HEMP, but also HPEM (high-power electromagnetic fields). Furthermore, IEC TS 61000-5-10 stipulates guidelines on protecting facilities from phenomena containing not only HEMP, but also IEMI (intentional electromagnetic interference). Finally, IEC TR 61000-5-3 additionally compares protection methods against HEMP and lightning surge pulses.

Table 1 Standards of the IEC 61000-5 (installation and mitigation guidelines) series developed by TC77

(as of July 2019)

International standard (latest version)	Developer organization	Name of standard
IEC TR 61000-5-1 [Ed.1.0: 1996-12]	TC77	Electromagnetic compatibility (EMC) - Part 5-1: Installation and mitigation guidelines General consideration – Basic EMC publication
IEC TR 61000-5-2 [Ed.1.0: 1997-11]	TC77	Electromagnetic compatibility (EMC) - Part 5-2: Installation and mitigation guidelines Earthing and cabling
IEC TR 61000-5-3 [Ed.1.0: 1999-07]	SC77C	Electromagnetic compatibility (EMC) - Part 5-3: Installation and mitigation guidelines HEMP protection concepts
IEC TS 61000-5-4 [Ed.1.0: 1996-08]	SC77C	Electromagnetic compatibility (EMC) - Part 5-4: Installation and mitigation guidelines Immunity to HEMP – Specifications for protective devices against HEMP radiated disturbance. Basic EMC publication
IEC 61000-5-5 [Ed.1.0: 1996-05]	SC77C	Electromagnetic compatibility (EMC) - Part 5-5: Installation and mitigation guidelines Specification of protective devices against HEMP conducted disturbance. Basic EMC publication
IEC 61000-5-6 [Ed.1.0: 2002-06]	SC77C	Electromagnetic compatibility (EMC) - Part 5-6: Installation and mitigation guidelines Mitigation of external EM influences
IEC 61000-5-7 [Ed.1.0: 2001-01]	SC77C	Electromagnetic compatibility (EMC) - Part 5-7: Installation and mitigation guidelines Degrees of protection provided by enclosures (EM code)
IEC TS 61000-5-8 [Ed.1.0: 2009-08]	SC77C	Electromagnetic compatibility (EMC) - Part 5-8: Installation and mitigation guidelines HEMP protection methods for the distributed infrastructure
IEC TS 61000-5-9 [Ed.1.0: 2009-07]	SC77C	Electromagnetic compatibility (EMC) - Part 5-9: Installation and mitigation guidelines System-level susceptibility assessments for HEMP and HPEM
IEC TS 61000-5-10 [Ed.1.0: 2017-05]	SC77C	Electromagnetic compatibility (EMC) - Part 5-10: Installation and mitigation guidelines Guidance on the protection of facilities against HEMP and IEMI

HEMP: High-altitude electromagnetic pulse
HPEM: High-power electromagnetic field
IEMI: Intentional electromagnetic interference

[References]

1) EMC Electromagnetic Environmental Studies Handbook (head of the editing committee: Risaburo Sato) References EMC common standards and stipulations (editing chief examiner: Masamitsu Tokuda), Mimatsu (publisher), Maruzen (publisher), pp.88-110, 2009.9.
2) Edited by the IEEJ Dedicated Committee for Investigating Noise Immunity in Electronic and Electrical Equipment (Chair: Masamitsu Tokuda): Handbook for Testing and Engineering Noise Immunity in Electronic and Electrical Equipment, Kagaku Gijutsu Shuppan (publisher), Maruzen (publisher), pp.31-32, pp.54-55, 2013.4.
3) Masamitsu Tokuda: I. International organizations for EMC standardizations and EMC standards, special feature "World EMC standards and stipulations" (FY 2019 edition), Japan Management Association, p.2-14, 2019.4.
4) IEC, EMC Zone, Basic EMC Publications, IEC 61000 Structure
http://www.iec.ch/emc/basic_emc/basic_61000.htm
5) IEC Guide 107: Electromagnetic compatibility - Guide to the drafting of electromagnetic compatibility publications
https://webstore.iec.ch/publication/7518
6) Translation supervised by Eisuke Masada, Eiji Hashimoto, Eiji Sakashita, and Masamitsu Tokuda: "IEC 1000 series Japanese translation Ver.1 Electromagnetic compatibility (EMC), Japan Standards Association", pp.833-871, 1997.3.

Masamitsu Tokuda

1967 Graduated from Electronics Engineering Department of Hokkaido University
1969 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 Local Surveys on Information and Communication Regulations in Vietnam and Indonesia

International Relations Subcommittee

1. Purpose

In May 2018, the Vietnamese Ministry of Information and Communications (MIC) promulgated the amended notice "Circular" regarding communication equipment. In addition, the Indonesian Ministry of Communication and Information Technology (KOMINFO) promulgated revised regulations and related notices relating to communication equipment.

However, it is difficult to ascertain trends in regulation of EMC requirements for information equipment only based on information that can be acquired from websites and similar sources, and it is preferable for these regulation trends to be ascertained at an early stage. To respond to such requests from members, the International Relations Subcommittee investigated the latest status of regulations. This was done by visiting Vietnam's regulatory authority, the Ministry of Information and Communications (MIC), and the Directorate General of Resources and Equipment for Post and Information Technology (Direktorat Jenderal Sumber Daya Dan Perangkat Pos Dan Informatika (SDPPI)) of the Indonesian Ministry of Communication and Information. This document reports the results of the investigation.

Note that there are no blanket guarantees on the accuracy of the information given in this report. For conclusive information, please contact the appropriate regulatory authority.

2. Vietnam survey

2-1 Period　March 25, 2019 (Mon)

2-2 Visited location

Ministry of Information and Communications: MIC
(http://english.mic.gov.vn/Pages/home.aspx)

2-3 Participants

MIC

Mr. DINH HAI DANG: Official

TÜV Rheinland Vietnam

Mr. Nguyen Dinh Quy: Specialist

VCCI

International Relations Subcommittee Chair: Yukio Uchida (Panasonic Corporation)

International Relations Subcommittee Vice Chair: Kazuyuki Hori (Sony Corporation)

International Relations Subcommittee Secretariat: Yoko Inagaki (VCCI)

2-4 Investigation results

(1) Target scope

Question	Answer
In Circular No. 04/2018/TT-BTTTT[#], there are safety requirements for lithium secondary batteries (including lithium ion secondary batteries) for mobile phones, tablets, laptops. Could you please clarify the definition of the target "lithium batteries for mobile phone"? Example: "This does not include external power banks for charging mobile phones", etc.	The scope of Circular No. 04 covers only secondary batteries built into devices in the three categories (mobile phones, tablets, laptops) and the batteries' service components. The scope excludes power banks. We are considering expanding the scope of target battery products, which is planned to become compulsory in June 2019, although the details are still undecided. As a rule, the product list will be updated every year. There are plans to revise the Technical Regulation QCVN101/2016 BTTT, on which we have now received comments over a two-month period. Because we have adopted the IEC's latest standards on batteries, our understanding is that there will be no impact on manufacturers.

#: The official title is "Circular No. 04/2018/TT-BTTTT Regulations on list of products and goods liable to cause unsafety under the management responsibilities of the Ministry of Information and Communications".

(2) Markings

Question	Answer
Do you plan to introduce options for digital display of the ICT mark and other marks?	We have no plans regarding digital display. Markings are to be displayed on products and their packaging. Display on instruction manuals is optional.
We understand from Decision No. 1983/QD-TDC Appendix 3 that when electrical equipment is certified by two different certification bodies (safety and EMC), we need to display the names of the two certification bodies. We have not been given any visual examples, so is any form of display acceptable as long as it is clear, easy to read, and resistant to erasure and removal?	Even if certification marks and logos are the same, their regulatory authorities differ (MOST - safety/EMC, MIC – radio (EMC)), so both certification bodies' marks or logos (that is, two marks or logos) must be displayed according to the information of the certification body.

Note: TÜV Rheinland has given an example of marking display on refrigerators with wireless functionality. MIC has requested that any good ideas for simplification be proposed.

(3) Application standards

Question	Answer
Because versions such as the EN standards referenced by the Vietnam standards have not been updated, it is difficult to check whether products conform to the latest standards. Do you plan to update standards such as the referenced EN standards?	As a rule, standards are updated once a year, but because there are more than 100 technical regulations, we have not been able to keep the list of latest standards up to date. We adopt the international standards as far as possible. Please let us know if you experience any problems due to the latest standards not being listed.
Are the technical standards (especially the EMC requirements) exactly the same as (no different from) the international standards (such as CISPR standards)? If so, how are you integrating the technical standards with the latest international standards and keeping the technical standards updated?	Same as preceding answer

(4) Conformity assessments

Question	Answer
Regarding safety requirements for lithium secondary batteries (including lithium ion secondary batteries) for mobile phones, tablets, laptops), we understand that only test reports issued by testing laboratories certified by Vietnamese authorities are currently recognized. Are test reports from in-house laboratories of ISO/IEC-17025-certified manufacturers or other similarly certified testing laboratories no longer accepted?	Your understanding is correct. Only two testing locations are recognized in Vietnam (Hanoi and Ho Chi Minh). If you wish for us to accept test reports from in-house laboratories of manufacturers that have been ISO/IEC-17025 certified by Japanese manufacturers, or other similarly certified testing laboratories, you can make an inquiry. However, the governments of Japan and Vietnam have not yet signed an MRA to that effect. If an MRA is signed between the two nations, we believe the number of accredited laboratories will also increase[#].
When importing radio-tested samples into Vietnam, there have been cases of samples modified for conducted emissions testing being stopped at customs because they are deemed second-hand goods. To prevent problems with customs clearance, we have been submitting unmodified test samples in brand-new product packaging for radiated emissions testing at Vietnamese testing laboratories. Can unmodified samples actually be tested? If there is a way to import samples modified for conducted emissions testing into Vietnam without problems with customs clearance, please let us know.	There is no need for modification for conducted emissions testing. We actually perform radiated emissions testing on unmodified samples.

#: Currently accredited laboratories (in the US, South Korea, Canada, and Singapore) are listed on the MIC website.

(5) Procedures

Question	Answer
We understand that currently, the only countries subject to MRAs are the US, South Korea, Canada, and Singapore. Do you have plans to add more countries?	At this point, we have no plans to expand MRA coverage. China inquired with us about this around November 2018, but we have not received any other inquiries.
We appreciate the law exempting transmission output of 60 mW or less, but it is extremely labor-intensive to conduct tests only to check transmission output. Are you planning any operational changes, for example making it so that only application forms are required?	There is no need to test whether transmission output is 60 mW or less. You only have to send a letter or document declaring that transmission output is 60 mW or less.
There are rules for both TA (Type Approval) and DoC, and it is hard to tell that the word "DoC" has a different meaning from general DoC. Do you have any plans to deprecate the word "DoC" and use a different word instead?	According to the Circular 30/2011/TT-BTTT amended by Circular No. 15/2018TT-BTTT, you do not need to issue and register DoC after acquiring TA, and registration to authorities by the importer after acquiring TA has been simplified.

(6) Other

In addition to the questions prepared in advance via interviews, we were able to check the following information.

MIC site information	MRA-related information http://mic.gov.vn/mra/Pages/trangchu.aspx
Dissemination of proposed regulations	Vietnam is a member of the WTO, and reports to TBT when issuing new regulations. Comments have been received from stakeholders.
CISPR 32 adoption trends	Make QCVN 118:2018 (that is, CISPR 32 Ed.2.0 RLV:2015+Corrigendum 1:2016) compulsory in July 2019. Issuing these regulations replaces TCVN7189:2009 (that is, CISPR 22) and TCVN7600:2010 (that is, CISPR 13) with CISPR 32.
Relationship between Circular and Technical Regulation	Circular is a legal document, which is signed by the minister. TR is a technical document, and this, too, is issued and announced as a Circular.

3. Indonesia survey

3-1 Period March 26, 2019 (Tue)

3-2 Visited location

Directorate General of Resources and Equipment for Post and Information Technology (Direktorat Jenderal Sumber Daya Dan Perangkat Pos Dan Informatika: SDPPI) (https://www.postel.go.id/)

3-3 Participants

SDPPI

Mr. BUDHI SETIYANTO: HEAD of Section for Data Information

Ms. CENDRAWNASIH ARDHI PUTRI: Analyst of Quality of Service and Standard Harmonization

PT TÜV Rheinland Indonesia

Ms. Susi Indah Yani: Project Engineer

VCCI

International Relations Subcommittee Chair: Yukio Uchida (Panasonic Corporation)

International Relations Subcommittee Vice Chair: Kazuyuki Hori (Sony Corporation)

International Relations Subcommittee Secretariat: Yoko Inagaki (VCCI)

3-4 Survey results

(1) Target scope

Question	Answer
When is the official issuing date, enforcement date, and compulsory enforcement date of Regulation No. 16/2018[#]? Is there a grace period?	The compulsory enforcement date is December 31, 2018, and there will be no grace period. This information was published on the website on January 14, 2019, though it was later than we would have liked.
Before attempting customs clearance, we will need time, for example to create blueprints, distribute labels and such, switch over products currently in production, and schedule shipping and customs clearance. Therefore, we would like to receive information more than a year before the compulsory enforcement date. Is that possible?	For new and changed regulations, we usually have stakeholders (locally registered manufacturers) convene about a year in advance to hear their opinions. Then, we accept comments on the website over a three-week period. Because we follow this process, our operation does not involve immediate compulsion or grace periods.
While all products with wireless functionality are subject to the regulations, do products that have receiver functionality only (such as NFC Passive) not require certification? Are there no display requirements for these products? (We have heard that it is preferable to acquire recommendation letters from authorities for such products.)	Products that have receiver functionality only (such as NFC Passive) do not require certification. SDPPI does not require recommendation letters. If you cannot determine whether a product is subject to regulations, please inquire with us by email (we will reply with a clarification letter). Recommendation letters are required for the following four categories: Trial products, test samples, products for events, and products needed in disasters.

#: The official title is "Regulation No. 16/2018 (Operational Provisions of Certification of Telecom Equipment/devices)".

(2) Markings

Question	Answer
Are there any requirements for font, size, and color specifications?	There are no requirements on font and size as long as the text is legible. Text in the triangular frame of the warning label must be red.
Does warning text need to match the example exactly, including line breaks?	Line breaks in the warning text below the warning label do not need to follow the display example in Regulation No. 16. Mid-word line breaks are not allowed, but there are no other requirements as long as the text is the same and is legible.
When new certification is acquired for the same model, the certification number and QR code differ. By when do we need to update the information displayed on the model?	Products with updated certificates must display their new certification number and QR code if they clear customs on the issuing date or later. Products that have already cleared customs and are on the market do not need their displays updated.
We want to be able to download QR code and warning label data from overseas as well. Is this possible?	This is possible only within Indonesia. Please acquire such data through sales companies in Indonesia, or by similar methods.
We would like to have the data in ai format for use in drawing blueprints. Is this possible?	We will check about the ai data and discuss the issue within SDPPI.
We would like separate regulations on the size of warning label marks and text for small products, so that the labels fit on such products. Is this possible?	There are no requirements on size; the text only needs to be legible.

(3) Application standards and testing laboratories

Question	Answer
We understand that most of the adopted standards are the Indonesian and EN standards. Is that correct?	Yes. Most of the adopted standards are Indonesian and EN standards.
Is there an official source where we can see which standards have been adopted?	You can see which standards have been adopted on the SDPPI website[#].
Could you please clarify the assessment criteria and conditions of the "pre-test" performed before the main radio test?	Details of the pre-test differ depending on the testing laboratory, so please check with your particular testing laboratory.
We would like to check the following detail about the EMC requirements: Do Indonesia's radiated interference standards stipulate a maximum of 6 GHz based on CISPR 32?	Unanswered.
Are both radiated and conducted measurements required?	You can choose between radiated and conducted measurement.
Does wireless mode need to be turned on during EMC measurement?	Turn wireless mode on during EMC measurement.

We would like to be provided local test reports (including those in English). Is this possible?	Reports from local testing laboratories are in Indonesian. Other: There are no immunity requirements (Note: Immunity data might be included depending on the testing laboratory.) Other: We received a comment saying that products might be modified for radio testing, which might have an influence on subsequent EMC testing, so it might be best to consider the order in which to conduct tests.
Where can we check the latest authority-accredited testing laboratories?	The following websites give information on accredited testing laboratories: In Indonesia: http://elab.postel.go.id/home/budn Outside Indonesia: http://elab.postel.go.id/home/buln
On what criteria are accredited testing laboratories selected? What are the conditions or procedures for currently unaccredited testing laboratories to become accredited?	This depends on the general requirements of ISO/IEC 17025 relating to testing laboratories' capabilities. For laboratories outside Indonesia, there must first be an MRA between the nations.
Regarding radio testing sample specifications, it is difficult to remove SMA connectors from small-sized equipment, so is it possible to use micro-F-type connectors instead?	Operation and interpretation of modification details might differ depending on the testing laboratory, so please check with your particular testing laboratory.
We would like to be present at local testing laboratories to check their measurement methods. Is this possible?	Yes, you can be present at local testing laboratories. Submit an official request letter to the testing laboratory, and if necessary, SDPPI will provide support.
Our limited-time work on EMC test reports (where reports other than those from accredited testing laboratories are being accepted as exceptional cases) is being delayed a little at a time each month. How long will the work ultimately be delayed? We would like a finalized deadline.	The capacity of EMC testing laboratories in Indonesia is checked on the appropriate occasions. If it is difficult for a laboratory to accept tests, a letter will be issued stating that reports other than from accredited testing laboratories will be accepted.
We would like you to increase the number of accredited testing laboratories. Is this possible?	There are currently plans to register three new accredited testing laboratories. If there is a sufficient number of testing laboratories in Indonesia, certifications outside the country will be revoked.

#: https://www.postel.go.id/regulasi-keputusan-direktur-jenderal-41
https://www.postel.go.id/regulasi-peraturan-direktur-jenderal-42
https://www.postel.go.id/regulasi-rancangan-peraturan-direktur-jenderal-51
(draft standards)

(4) Conformity assessments

Question	Answer
We would like you to shorten the time it takes to receive certification so that we can be certified by the time the new products are shipped. Is this possible?	If all of the application papers are provided with no problems, and are uploaded to the website by 11 A.M. (local time), a certificate is issued on the same day. If upload is performed at 11 A.M. or later, the certificate is issued on the following day.
Why are warning labels and QR codes checked during customs clearance only for HS CODE:8443.31.31 and HS CODE:8443.31. 39?	The Ministry of Trade has requested such checks to prevent the printing of counterfeit money.
Certifications must be re-acquired after three years, which also requires a new certification number to be acquired. From a shipping and distribution perspective, it is difficult for manufacturers to control certification numbers to be consistent with the new and old certification numbers. We would like you to consider measures to mitigate this problem. For example, It could be made possible to assign two certification numbers to one product starting one year before the certification expiry date. For a year after a certificate is revoked, the old number could continue to be valid as long as there is an ongoing application to re-certify the same product.	For products clearing customs on the day an updated certificate is issued or later, the new certification number and QR code must be displayed. For products that have already cleared customs and are on the market, certification numbers and QR codes do not need to be updated.
The wireless LAN frequencies are 2.4 GHz and 5.8 GHz (W58) only. When will 5.2 GHz (W52), 5.3 GHz (W53), and 5.6 GHz (W56) be assigned for use with wireless LANs?	This is currently being discussed by the relevant departments. If 5.2 GHz (W52), 5.3 GHz (W53), and 5.6 GHz (W56) become usable for wireless LAN, they will be limited to indoor use.
We heard that products that have the same model number but are manufactured in different countries need different certificates. Is this true?	That is true. If there are different countries of origin, multiple certificates are necessary. However, test reports can be reused.

(5) Procedures

Question	Answer
If we are having trouble providing mass-produced packaging or products within 30 working days after certification, can we upload photos of non-final versions of the packaging or products? What happens if we cannot upload a photo within 30 working days after certification?	You can upload photos of non-final versions of the packaging or products, but please do so within three months.

(6) Other

In addition to the questions prepared in advance via interviews, we were able to check the following information.

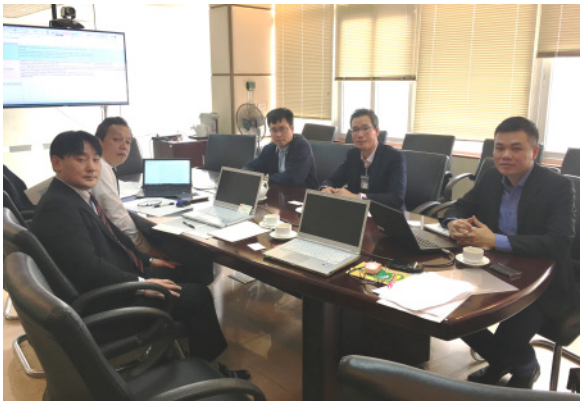
Market monitoring	The market is being monitored. SDPPI is using its budget to purchase and test products from the market. Products that fail the test have their certification revoked. If a manufacturer has any doubts, the test can be performed with the manufacturer present (the expenses of which are borne by the manufacturer).

4. Conclusion

We believe that our member-requested initiative to visit local sites and collect information through interviews was a great achievement. In the future, we expect this initiative to have a wider impact on our members, and more specific doubts to arise, for example relating to interpretation of the law. To solve these issues, we will make effective use of the network we built with Vietnam's MIC and Indonesia's SDPPI to provide further information, while developing stronger trust with both regulatory authorities.

Finally, we would like to express our deepest gratitude to everyone at MIC and SDPPI for taking time out of their busy schedules to welcome our sudden visits and patiently answer our many questions during this survey.

We also offer our heartfelt thanks to those at TÜV Rheinland Vietnam, PT TÜV Rheinland Indonesia, and TÜV Rheinland Japan for making arrangements for us to visit authorities, and for providing such strong local support.



Vietnam MIC

Indonesia SDPPI

38th REDCA Meeting: Business Trip Report

Steering Committee

Date and time: May 13, 2019 (Mon) 9:00 - 17:00, 14th (Tue) 9:00 - 17:00

Venue: Hilton Sofia, Sofia, Bulgaria

Participants: 120 from Europe, US, China, South Korea, Japan, and more (members and observers)
(including the EU commission, ETSI, and NIST/USA)
Chair: Mr. Pieter de Beer, Technical Secretariat: Mr. Nick Hooper

Participants on business: Yoshinori Watari, Chair of the Steering Committee (NEC Corporation)
Akira Oda, Executive Director (VCCI)

Reference: REDCA membership (as of May 5, 2019) of approx. 260 groups (full members, observers)
Full members: 251 groups (among which 16 are Japanese groups)
New full members (approved in the latest meeting): 13 groups (among which 0 are Japanese)
Observers: 8 groups (among which 2 are Japanese (Ministry of Internal Affairs and Communications, etc.))

1. Introduction

REDCA (Radio Equipment Directive Compliance Association) was formed based on the requirements of Radio Equipment Directive 2014/53/EU, and holds biannual general meetings for members on radio equipment compliance with EEA (European Economic Area) regulations and technical standards. These meetings also address compliance in countries that have signed mutual recognition agreements such as EU countries, the US, Canada, Japan, New Zealand, and Australia.

Materials distributed at meetings and details on proceedings are restricted to REDCA members, so this document only contains information disclosed to the general public.

2. Meeting overview

(1) Status of new members

Since the last meeting in Berlin, new full members (13 groups) have been reported on and approved.

(2) Agenda items regarding workshops

The following information was reported and discussed:

- An introduction to medical devices and the RED
- A SAR standards update
- Cyber Security
- EN 62368-1 Ed.3 updates
- Fake test reports

(3) Agenda items regarding this meeting

- Updates on a number of the draft TGNs (Technical Guidance Notes)
- Updates from the EU commission
- Updates from ADCO (Administrative Cooperation Group) RED on market surveillance
- ETSI (European Telecommunications Standards Institute) updates on the progress of their standards CISPR updates
- TCB (Telecommunication Certification Body) Council / ISED (Innovation, Science and Economic Development) updates

3. Next meeting

The next meeting is planned to be held in Malta in November 2019.

4. Impressions

This meeting included topics such as the General Data Protection Regulation (GDPR), cybersecurity measures, implications of product IoT development, and latest topics on the latest international safety standard IEC62368-1:2018 regarding data tampering and IT, network, and multimedia equipment. The scope of the meeting had widened to topics beyond just EMC.

At the workshop, a report was given on the result of several years' investigation into falsified test reports. At this meeting, there was a report on market sampling test results in Europe. These reports were both directly and deeply related to VCCI's Market Sampling Test Subcommittee activities, and of reference in the future operations of VCCI.

Going forward, VCCI will continue participating in REDCA, strengthening its partnerships and deepening its friendships with relevant groups, while focusing on the variety of latest trends that were discussed, and receiving feedback on its activities.

With the Chair and Secretary

Meeting venue

Report on the VCCI seminar

2019 Info-Communications Promotion Month

Steering Committee

The following gives an overview of the VCCI seminar at the Info-Communications Promotion Month held by the Ministry of Internal Affairs and Communications in 2019.

1. Date: May 24, 2019 (Fri) 13:30 – 16:30
2. Venue: VCCI Council 5F A/B meeting rooms
3. Participants: 46
4. Special lecture: Shinji Tsuzuki, Associate Professor at the Graduate School of Science and Engineering, Ehime University
   Chair of the IoT-Age Systems and EMC Survey Committee of the Institute of Electrical Engineers of Japan
5. Speakers: Akira Oda, Executive Director (VCCI)
   Yoshinori Watari, Chair of the Steering Committee (NEC Corporation)
   Shin Kanno, Chair of the Market Sampling Test Subcommittee (NTT Advanced Technology Corporation)
   Shinichi Okuyama, Chair of the Education Subcommittee (NEC Platforms, Ltd.)
   Seijun Fukaya, Secretariat of the Measurement Facility Registration Committee (VCCI)

6. Seminar overview

Every year, VCCI holds a public seminar at the Info-Communications Promotion Month held by the Ministry of Internal Affairs and Communications. This year, the seminar was held in order to further understanding of topics such as: (1) VCCI's activities and future trends in regulations on electromagnetic interference, (2) stipulation of the VCCI 32-1 rules (based on CISPR 32), and operation after the period of migration to the new rules, (3) rules for market sampling tests and market sampling test results, (4) overview of the education and training business, (5) rules on the registration of measurement and other facilities and examination results. In addition, the special lecture "EMC in the IoT age" was given by Prof. Shinji Tsuzuki, Chair of the IoT-Age Systems and EMC Survey Committee of the Institute of Electrical Engineers in Japan and Associate Professor at the Graduate School of Science and Engineering, Ehime University. Many questions were posed and opinions exchanged.

Report on the EMC Sapporo & APEMC 2019 Symposium

Steering Committee/Technical Subcommittee/Public Relations Subcommittee

At EMC Sapporo & APEMC 2019 this fiscal year, we held tutorials and an exhibition in order to disseminate and raise awareness of VCCI's new rules. We also participated in the symposium in order to make presentations at the Technical Program and Poster Session, and participate in the Plenary Session, Tutorials & Workshops, Technical Program, and Poster Sessions to collect information.

Venue: Sapporo Convention Center (Sapporo)

Period: June 3 (Mon) - June 7, 2019 (Fri)

Participants: Yoshinori Watari, Chair of the Steering Committee (NEC Corporation)
Yoshiharu Akiyama, member of the Steering Committee (Nippon Telegraph and Telephone Corporation)
Takuya Nakamori, Chair of the Technical Subcommittee (Panasonic Corporation)
Jiro Iizuka, Chair of the Public Relations Subcommittee (Oki Electric Industry Co., Ltd.)
Shin Kanno, Chair of the Market Sampling Test Subcommittee (NTT Advanced Technology Corporation)
Kouichi Kakuda, member of the Technical Subcommittee (NTT Advanced Technology Corporation)
Yasushi Hirakawa, member of the Technical Subcommittee (NEC Platforms, Ltd.)
Katsunori Miura, member of the Technical Subcommittee (Japan Quality Assurance Organization)
Shinichi Okuyama, member of the Technical Subcommittee (NEC Platforms, Ltd.)
Tsuyoshi Kobayashi, member of the Technical Subcommittee (Mitsubishi Electric Corporation)
Nozomi Miyake, member of the Technical Subcommittee (NEC Platforms, Ltd.)
Kunihiro Osabe, Technical Advisor (VCCI)
Seijun Fukaya, Secretariat of the Registration Committee for Measurement Facilities (VCCI)
Akira Oda, Executive Director (VCCI)
Masahiro Hoshino, Head Secretariat (VCCI)
Hidenori Muramatsu, Technical Manager (VCCI)
Naoko Hori, Program Manager (VCCI)

Overview of the symposium

This program was composed of the Plenary Session, tutorials and workshops, Technical Program, Poster Sessions, and Exhibition.

Number of presentations at tutorials and workshops: 6 (among which two were Japanese) 271 theses were presented from 22 countries and regions; 114 from Japan, 57 from China, 24 from South Korea, and 24 from Chinese Taipei in that order.

VCCI's Steering Committee held a tutorial titled "Application of 'Rules for Voluntary Control Measures' in

Compliance with CISPR 32 Ed.2.0" on June 4".

For the Technical Program, Technical Subcommittee members Tsuyoshi Kobayashi and Shinichi Okuyama of VCCI presented "EMC Management" as their thesis submission on June 4. "EMC Measurements (1)" of June 6 was presented by Technical Subcommittee member Nozomi Miyake. At the Poster Session, committee member Kunihiro Osabe gave a talk on June 5. An exhibit was held at the Exhibition from June 4 to 7.

1. Tutorial

Date and time: June 4, 2019 (Tue) Session 1: 14:10 - 15:50, Session 2: 16:20 - 18:00

Venue: Sapporo Convention Center Meeting Room 108

Attendees: 46

Purpose

In November 2016, we set a precedent for the world by introducing VCCI's new rules, which are now being applied in Japan to regulate compliance with CISPR 32 Ed.2.0. The transition period for the old rules (V-2, based on CISPR 22) ended on March 31, 2019. In Session 1 of this tutorial, we explained the following to manufacturers who are shipping or are considering shipping multimedia equipment to the Japanese market: rules for enforcing the new rules for voluntary control measures, technical requirements, rules for market sampling tests, rules for registration of measurement facilities, rule interpretations, new rules composed of the guidelines, notes on operation after the transition period, and more. In Session 2, we reported on VCCI's activities regarding the test results for technical requirements of CISPR 32 Ed.2.0 whose revision is currently under review.

(1) Tutorial title: "Application of 'Rules for Voluntary Control Measures' in Compliance with CISPR 32 Ed.2.0"

(2) Tutorial details

Chair: Yoshiharu Akiyama, Member of the Steering Committee, VCCI

Session 1: 14:10 - 15:50

① "VCCI Point of View for a New Rules"
Akira Oda, Executive Director, VCCI

② "Closing of Registration Application According to Rules V-2 (Compliant with CISPR 22)" - Closing of Transition Period according to Rules VCCI 32-1 (Compliant with CISPR 32) -
Yoshinori Watari, Chair of the Steering Committee, VCCI

③ "Formulation of Technical Requirements (VCCI-CISPR 32:2016)"
Takuya Nakamori, Chair of the Technical Subcommittee, VCCI

④ "Rules for and results of market sampling tests"
Shin Kanno, Chair of the Market Sampling Test Subcommittee, VCCI

⑤ "Overview and Notes On VCCI Facility Registration"
Seijun Fukaya, Secretariat of the Registration Committee for Measurement Facilities, VCCI

Session 2: 16:20 - 18:00

"Technical review result for revision of technical requirements"

⑥ "Technical Report on the Influence of Radio Function Activation on Conducted Emission Measurements"
Kouichi Kakuda, member of the Technical Subcommittee, VCCI

⑦ "Technical Report on the Influence of Radio Function Activation (Radiated Emissions)"
Yasushi Hirakawa, member of the Technical Subcommittee, VCCI

⑧ "Verification of Free-space Antenna Factor Calibration of Bi-conical, Log-periodic and Hybrid Antennas"
Katsunori Miura, member of the Technical Subcommittee, VCCI

⑨ "Termination condition of the mains cable leaving from test area"
Shinichi Okuyama, member of the Technical Subcommittee, VCCI

2. Theses presented by VCCI

(1) Presented theses relating to the Radiated EMI WG
- Thesis title: "Investigation into the influence of Mains Cable Bundling on Reproducibility of Radiated Emission Measurements"
- Presenter: Tsuyoshi Kobayashi, member of the Technical Subcommittee
- Session title: EMC Management

(2) Presented theses relating to the Conducted EMI WG
- Thesis title: "Verification of suitability of the AAN shown in Fig. G.3 of CISPR 32 for conducted emission measurement on single and two-pair unscreened balanced cables"
- Presenter: Nozomi Miyake, member of the Technical Subcommittee
- Session title: EMC Measurements (1)

(3) Presented theses relating to the VHF-LISN WG
- Thesis title: "Influence of Power Line Termination Device Placed on Ground Plane to NSA Measurement"
- Presenter: Shinichi Okuyama, member of the Technical Subcommittee
- Session title: EMC Management

④ Presented theses relating to the VHF-LISN WG
- Thesis title: "An Adequate Impedance Measurement Adaptor with a Metal Support to use for VHF-LISN Validation"
- Presenter: Kunihiro Osabe, Technical Advisor
- Session title: Poster Session 2

3. Exhibition

Period: June 4, 2019 (Tue) - June 7, 2019 (Fri)

Venue: Sapporo Convention Center, Main Hall (Booth No. 6)

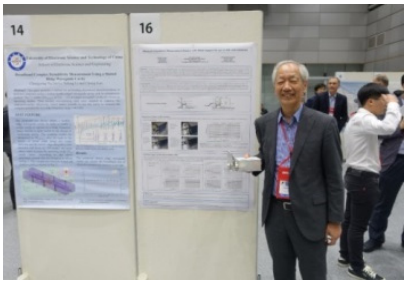
The exhibition was held in the Main Hall of the same venue as the EMC Sapporo & APEMC 2019 Symposium. EMC exhibits were held by 30 companies from Japan and overseas, who introduced VCCI to symposium participants. Many visitors, including those from Chinese Taipei, South Korea, and other neighboring countries and regions, and large numbers of university professors, researchers, and students from the Hokkaido and Tohoku regions, also attended VCCI booths. Explanations were given at these booths to further attendees' understanding of the VCCI mark, VCCI's activities, operation of the new rules, and more.

4. Impressions

This session of VCCI's Tutorial and its thesis presentations were a great success. We received many technical questions from the audience about VCCI 32-1.

Our next sessions are planned for APEMC 2020 in Sydney (Australia), IEEE EMC SIPI 2020 in Nevada (US), and EMC EUROPE 2020 in Rome (Italy) from June 19 to 22, 2020. VCCI plans to continue considering issues in measurement methods and actively submitting theses based on experiments and their results to the symposium, while sharing opinions and exchanging information with experts.

Participants and Secretariat



Poster session with Technical Advisor Kunihiro Osabe

VCCI exhibit booth

Report on the Meeting on Japan-Chinese Taipei Cooperation Regarding EMC Technology

Date and time: June 5, 2019 (Wed) 9:30 - 11:30

Venue: Sapporo Convention Center Meeting Room 101

Participants

From Chinese Taipei: 8

BSMI (Bureau of Standards, Metrology and Inspection)

- Chun-Chao Wang, Vice Director of the 3rd Division
- Liang-Yang Lin, Head of EMC of the 6th Division
- Yung-Chi Tang, member of the 3rd Taiwan Renewable Energy Division and ETC Executive Assistant

CTCA (Chinese Testing and Certification Association)

- Steven Chiou, Chair of the International Cooperation Commission and Managing Director of SGS Taiwan
- Paul Liao, member of the International Cooperation Commission and Manager of the EMC Testing Laboratory, ETC
- Charles Wang, Vice Chair of the EMC Commission and Supervisor of the EMC Testing Laboratory, TERTEC
- Kevin Chen, member and Director of DEKRA
- Allen Wang, member and Assistant General Manager of Audix

From Japan: 10

Yoshinori Watari, Chair of the Steering Committee (NEC Corporation)

Takuya Nakamori, Chair of the Technical Subcommittee (Panasonic Corporation)

Shinichi Okuyama, Chair of the Education Subcommittee (NEC Platforms, Ltd.)

Akira Oda, Executive Director (VCCI)

Masahiro Hoshino, Head Secretariat (VCCI)

Minoru Hirata, Principal Engineer (VCCI)

Hidenori Muramatsu, Technical Manager (VCCI)

Kunihiro Osabe, Technical Advisor (VCCI)

Seijun Fukaya, Secretariat of the Registration Committee for Measurement Facilities (VCCI)

Yoko Inagaki, Program Manager (VCCI)

1. Background and purpose

Regular technical exchange meetings on EMC between Chinese Taipei and Japan were planned around 2014, but had not been put into any specific action. In February 2019, at a meeting with BSMI (at Taipei BSMI), participants of Chinese Taipei expressed their wish to meet and talk about holding technical exchange meetings between Japan and Chinese Taipei. This was because while Japan was ahead of the rest of the world in complying with the "CISPR 32 Ed.2.0" international standards on multimedia equipment, Chinese Taipei also planned to start regulating compliance with CISPR 32 Ed.2.0 in the future. Because the participants of Chinese Taipei would already be in Japan for EMC Sapporo & APEMC 2019, this academic conference would be an opportunity to discuss topics such as how to approach technical exchange meetings going forward.

2. Summary of the day

- Both sides agreed to the following method and details of technical exchange from next year onward:
- Period: Two days, including the seminar, workshop, and observation of the testing laboratory.
- Details: The following ideas have been proposed for the next session in 2020. Specifics will be decided at another occasion.
    - Issues in conducting tests for CISPR 32
    - Details of education and training regarding CISPR 32
    - Deviations from the international standards etc.
- Period: In 2020, around the Computex Taipei 2020 session in June
- Venue: Alternating between Chinese Taipei and Japan each year

3. Future plans (for the next session)

After the meeting, we learned that Computex Taipei 2020 is planned to be held from June 2 (Tue) to June 6 (Sat), so we would like the next session to be on June 1 (Mon), or the period from June 1 to June 2 (Tue).

4. Other

Mr. Tang, who served as the Chinese Taipei contact point, will retire in February next year. We thank Mr. Tang for all his help, and hope to maintain communication between Chinese Taipei and Japan in the future.

Report on the Business Report Meeting

The following gives an overview of the business report meeting:

1. Date: July 4, 2019 (Thu) 13:30 - 17:00
2. Venue: Kikai Shinko Kaikan 6F Meeting Room 66
3. Participants: 55
4. Speakers:

Keiichi Kawakami, President of VCCI

Greeting

Akira Oda, Executive Director of VCCI

Presentation including the FY 2018 business report and FY 2019 business plan

Yoshinori Watari, Chair of the Steering Committee (NEC Corporation)

Takuya Nakamori, Chair of the Technical Subcommittee (Panasonic Corporation)

Shinichi Okuyama, Chair of the Education Subcommittee (NEC Platforms, Ltd.)

Shin Kanno, Previous Chair of the Market Sampling Test Subcommittee (NTT Advanced Technology Corporation)

Yukio Uchida, Chair of the International Relations Subcommittee (Panasonic Corporation)

Jiro Iizuka, Chair of the Public Relations Subcommittee (Oki Electric Industry Co., Ltd.)

The FY 2018 business report and FY 2019 business plan were reported on in the preceding order.

Afterwards, President Keiichi Kawakami awarded letters of commendation to committee Chairs from the previous fiscal year, including Hideyuki Ohashi, former Chair of the Steering Committee (Mitsubishi Electric Corporation), and Minoru Hirahara, former Chair of the Technical Subcommittee (formerly of Fujitsu Limited)).

5. Special lecture: Noboru Koshizuka, Vice Dean and Professor at the Interfaculty Initiative in Information Studies, The University of Tokyo; Head of the Ubiquitous ID Center

"Current State of the Role and Mechanisms of IoT for a Data-Driven Society, Society 5.0"

Special lecture from Professor Koshizuka

Speakers

President, Executive Director, and last fiscal year's subcommittee Chairs

Status on FY2019 Market Sampling Tests

Market Sampling Test Subcommittee

As of July 31, 2019

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

Sampling test	Selected	Cancelled (Not shipped, etc.)	Owner's consent pending Inspectable samples	Testable samples	Test completed	Judgment awaited	Judgment			
							Passed	Failed - tentative		
								Finally passed	Finally failed	Pending
Grand total	45	4	2	39	14	10	4	0	0	0
(Previous month grand total)	0	0	0	0	0	0	0	0	0	0
Loan-based testing total	25	4	0	21	6	3	3	0	0	0
1st Quarter	13	2	0	11	6	3	3	0	0	0
2nd Quarter	12	2	0	10	0	0	0	0	0	0
3rd Quarter	0	0	0	0	0	0	0	0	0	0
4th Quarter	0	0	0	0	0	0	0	0	0	0
Purchase-based testing total	20	0	2	18	8	7	1	0	0	0
1st Quarter	20	0	2	18	8	7	1	0	0	0
2nd Quarter	0	0	0	0	0	0	0	0	0	0
3rd Quarter	0	0	0	0	0	0	0	0	0	0
4th Quarter	0	0	0	0	0	0	0	0	0	0

Final Result

Passed	Failed	Pending
4	0	0

Document inspection	Selected	Cancelled (withdrawal, etc.)	Owner's consent pending Inspectable samples	Inspectable samples	Pre-check completed	Judgment awaited	Judgment completed	Judgment	
								Cleared	Problems identified
	21	0	4	17	15	1	14	12	2

* A case among the document inspections is a change from a loan-based test.

Report from the Secretariat

● List of Members (May 2019 - July 2019)

New members

Membership	Member No.	Company Name	Country
Regular	3980	JOLED Inc.	JAPAN
Regular	3995	SAKAKI CORPORATION	JAPAN
Regular	4005	Hitachi Industrial Product, Ltd.	JAPAN
Regular	4003	AXELL CORPORATION	JAPAN
Regular	3981	MAKERBOT INDUSTRIES, LLC	USA
Regular	3982	Big Innovation Company Limited	CHINESE TAIPEI
Regular	3986	Sequent Ltd.	SWITZERLAND
Regular	3988	Verico International Co., LTD.	CHINESE TAIPEI
Regular	3989	DIGIEVER Corporation	CHINESE TAIPEI
Regular	3990	ValueHD Corporation	CHINA
Regular	3991	SHENZHEN HYUNION ELECTRONICS CO., LIMITED	CHINA
Regular	3992	Cosmo Industries (Dongguan) Co., Ltd.	CHINA
Regular	3993	Cambricon Technologies Corporation Limited	CHINA
Regular	3994	Biamp Systems, LLC	USA
Regular	3996	PENSANDO SYSTEMS	USA
Regular	3997	Nozomi Networks Inc.	USA
Regular	3998	Impossible B.V.	THE NETHERLANDS
Regular	4000	Endace Limited	NEW ZEALAND
Regular	4006	Drobo, Inc.	USA
Regular	4007	Waltop International Corp.	CHINESE TAIPEI
Supporting	3987	Radiometrics Midwest Corporation	USA
Supporting	4004	TÜV Rheinland (Shanghai) Co., Ltd.	CHINA

Company name change

Membership	Member No.	Company Name	Country	Old company name
Regular	3511	Nokia Solutions and Networks Japan GG	JAPAN	Nokia Solutions and Networks Japan Corp.
Regular	3671	HOYA DIGITAL SOLUTIONS COOPERATION	JAPAN	HOYA Service Corporation
Regular	1182	Marvell Semiconductor Inc.	USA	Qlogic a Cavium company
Regular	3486	Contec Americas Inc	USA	Contec DTx Inc.
Regular	3529	Moxa Inc.	CHINESE TAIPEI	MOXA INC.
Regular	3668	Veritas Technologies LLC	USA	Veritas Technologies Corp.
Regular	3713	Tintri by DDN, Inc.	USA	Tintri, Inc.
Regular	3758	Everest Networks, Inc.	USA	Tembo Systems, Inc.
Regular	3829	Warwick Acoustics Limited	U.K.	Sonoma Acoustics Ltd.
Regular	3901	Commcepts	USA	Telestream, LLC
Regular	3904	PAKERSS CO., LTD	KOREA	DAEJIN DMP CO., LTD

Membership	Member No.	Company Name	Country	Old company name
Supporting	433	TÜV SUD Ltd.	U.K.	TUV SUD (UK) Ltd.
Supporting	3081	Bureau Veritas Consumer Products Services, Inc.	USA	SIEMIC INC.

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

Withdrawal members

Membership	Member No.	Company Name	Country
Regular	2289	DION Corporation	JAPAN
Regular	2861	DKSH Japan K.K.	JAPAN
Regular	3233	Fon Japan K.K.	JAPAN
Regular	3853	Acrox Technologies Co., Ltd.	CHINESE TAIPEI
Supporting	2213	Bureau Veritas Consumer Products Services Germany GmbH	GERMANY

● VCCI Schedule for FY 2019

April ・Exhibition at TECHNO FRONTIER ・The basic technique of EMI measurement	**May** ・The basic of electromagnetic waves, EMI measurement technique below 1 GHz	**June** ・EMC SAPPORO & APEMC 2019 ・The EMI measurement technique above 1 GHz ・Release VCCI Dayori No.133
July ・VCCI Business Reporting Meeting ・The level up of EMI measurement technique ・The EMI Measurement Instrumentation uncertainty ・Release Annual Report	**August**	**September** ・Release VCCI Dayori No.134
October ・Exhibition at CEATEC JAPAN ・VCCI International Forum ・The basic technique of EMI measurement	**November** ・The basic of electromagnetic waves, EMI measurement technique below 1 GHz	**December** ・The EMI measurement technique above 1 GHz ・Release VCCI Dayori No.135
January ・VCCI Technical Symposium ・The level up of EMI measurement technique ・The EMI Measurement Instrumentation uncertainty	**February**	**March** ・Release VCCI Dayori No.136

● Status of Compliance Test Notifications (VCCI 32-1)
(April 2019 ～ June 2019)

					April 2019			May 2019			June 2019		
			Class A	Class B	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B	Total
Computer	Server	Super Computer, Server, etc.	A 2	a 2	26	1	27	22	2	24	25	1	26
	Tabletop type	WS, Desk-top PCs, etc.	B 2	b 2	3	12	15	0	22	22	3	25	28
	Portable type	Note PCs, Tablet PCs, etc.	C 2	c 2	0	47	47	1	47	48	0	53	53
	Others	Office Computer, Wearable computers, etc.	E 2	e 2	5	2	7	5	4	9	5	2	7
Peripherals/Terminals Equipment	Storage Device	HDD, SSD, USB Memory, Media drives, etc. Disk drives, NAS, DAS, SAN, etc.	G 2	g 2	3	22	25	22	33	55	12	19	31
	Printer	Printer (Compound equipment included), etc.	H 2	h 2	10	14	24	7	8	15	3	9	12
	Display	CRT displays, Monitor, projector, etc.	J 2	j 2	7	36	43	12	49	61	11	37	48
	Input/Output Device （excluding Auxiliary Memory, Printer, Display）	Image scanners, OCR, etc.	M 2	m 2	4	8	12	7	8	15	6	5	11
	General Purpose Terminal	Display control terminals, etc.	N 2	n 2	0	0	0	1	2	3	0	0	0
	Exclusive Terminal	POS, Terminal for Financial and Insurance use, etc.	Q 2	q 2	7	2	9	10	1	11	10	5	15
	Other Peripherals Equipment	Others (PCI cards, Graphics cards, Mouse, Keyboard, etc.)	R 2	r 2	1	38	39	15	87	102	16	60	76
Audio visual equipment	Broadcast receivers	Television, Radio, Tuner, Video recorder, Set-top Boxes, etc.	K 2	k 2	0	1	1	0	0	0	3	2	5
	Audio equipment	Speaker, Amplifier, IC recorder, MP3 player, Headsets, etc.	L 2	l 2	0	15	15	0	5	5	1	13	14
	Video/Camera equipment	Digital video cameras, Web cameras, Network cameras, Video players, Photo frames, Digital-camera, etc.	I 2	i 2	5	12	17	5	5	10	12	35	47
	Others	Other Audio visual equipment	P 2	p 2	8	3	11	0	3	3	6	6	12
Copying Machine/ Compound	-	Copying Machine/Compound equipment, etc.	S 2	s 2	1	4	5	0	1	1	2	1	3
Communications Equipment	Terminal equipment	Mobilephone, Smartphone, PHS telephones	T 2	t 2	0	5	5	0	13	13	0	3	3
		Telephone Equipment (PBX, FAX, Key Telephone System, etc.), Cordless telephones	U 2	u 2	0	1	1	0	2	2	1	3	4
	Network related equipment	Network Channel Terminating Equipment (Modem, Digital Transmission Equipment, DSU, TA, etc.)	V 2	v 2	0	1	1	2	3	5	0	6	6
		LAN Equipment (Rooter, HUB, etc.), Switching-node, etc.	W 2	w 2	40	12	52	43	15	58	55	23	78
	Others	Other Communications Equipment	X 2	x 2	16	8	24	16	4	20	11	9	20
Entertainment and educational equipment	Electronic stationeries	Electronic dictionaries, Electronic book readers, etc.	D 2	d 2	0	2	2	0	0	0	0	0	0
	Electronic toys	Game machines, Game pads, Toy drones, etc.	Y 2	y 2	1	1	2	0	4	4	0	2	2
	Lighting control equipment for entertainment	Lighting control equipment for entertainment	Z 2	z 2	0	0	0	0	0	0	0	0	0
	Others	Others (Navigator, etc.)	F2	f 2	0	0	0	0	0	0	0	0	0
Others			O 2	o 2	7	6	13	8	4	12	11	6	17
Total					144	253	397	176	322	498	193	325	518

● 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 (May 2019 – July 2019)

R: Field strength measuring facility　C: Mains Port Conducted interference measuring facility

T: Communication Port Conducted interference measuring facility　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:
Jiangsu Electronic Information Product Quality Supervision & Inspection Institute	RES10	-	-	-	○	○	R-20055	2022/5/19	No.100 Jinshui Road,Wuxi,Jiangsu,P.R.China	+86-510-85140038
DEKRA Testing and Certification Co., Ltd.	CB8	-	-	-	○	-	R-20074	2022/5/19	No.5-22, Ruishukeng, Linkou Dist., New Taipei City, Taiwan, R.O.C.	+886-2-86013788
新潟県工業技術総合研究所	10m 電波暗室（登録）	-	-	-	-	-	G-20073	2022/5/19	新潟県長岡市深沢町2085-17	025-886-8141
新潟県工業技術総合研究所	10m 電波暗室（登録）	-	-	-	○	○	R-20072	2022/5/19	新潟県長岡市深沢町2085-17	025-886-8141
新潟県工業技術総合研究所	10m 電波暗室（登録）	-	-	-	-	-	C-20055	2022/5/19	新潟県長岡市深沢町2085-17	025-886-8141
新潟県工業技術総合研究所	10m 電波暗室（登録）	-	-	-	-	-	T-20051	2022/5/19	新潟県長岡市深沢町2085-17	025-886-8141
3C Test Ltd	Anechoic Chamber 4	-	-	-	-	○	R-20073	2022/5/19	Silverstone Technology Park, Silverstone Circuit, Northamptonshire, United Kingdom	+44-1327-857500
KES Co., Ltd.	KES Co., Ltd. （D-Dong, Yeoju Site）	-	-	-	-	○	R-20079	2022/6/23	473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, Korea	+82-31-425-6200
Shenzhen Morlab Communications Technology Co., Ltd.	EMC LAB-1	-	-	-	○	-	R-20068	2022/6/23	"Fl.1,Building A, Feiyang Science Park, No.8 Longchang Road, Block 67, Baoan District" Shenzhen, Guangdong Province, China	+86-75536698555
Shenzhen Academy of Metrology and Quality Inspection	Shenzhen Academy of Metrology and Quality Inspection	-	-	-	○	-	R-20077	2022/6/23	NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China	+86-86009898
Guangzhou Quality Supervision And Testing Institute（GQT）	CE Test Site	-	-	-	-	-	C-20056	2022/6/23	NO. 1-2 zhujiang Road, chaotian Industrial Area, Shilou, Panyu District ,Guangzhou, Gongdong, China	+86-20-82022358
Guangzhou Quality Supervision And Testing Institute（GQT）	10m Chamber	-	-	-	-	-	G-20074	2022/6/23	NO. 1-2 zhujiang Road, chaotian Industrial Area, Shilou, Panyu District ,Guangzhou, Gongdong, China	+86-20-82022358

Company name	Equipment name	3 m	10 m	30 m	Dark 3m	Dark 10m	Registration number	Effective date	Location	Contact to:
Huawei Technologies CO., LTD.	No.1RE test site in Dongguan （3m chamber）	-	-	-	○	-	R-20076	2022/6/23	Section D, No.2, New City Avenue, Songshan Lake Sci. & Tech. Industry Park, Dongguan, P.R.C	+86-769-23830808
Huawei Technologies CO., LTD.	No.1RE test site in Dongguan （3m chamber）	-	-	-	-	-	G-20075	2022/6/23	Section D, No.2, New City Avenue, Songshan Lake Sci. & Tech. Industry Park, Dongguan, P.R.C	+86-769-23830808
Huawei Technologies CO., LTD.	No.2 CE test site in Dongguan	-	-	-	-	-	C-20057	2022/6/23	No.2, New City Avenue, Songshan Lake Sci. & Tech. Industry Park, Dongguan, 523808, P.R.C	+86-769-23830808
Huawei Technologies CO., LTD.	No.2 CE test site in Dongguan	-	-	-	-	-	T-20053	2022/6/23	No.2, New City Avenue, Songshan Lake Sci. & Tech. Industry Park, Dongguan, 523808, P.R.C	+86-769-23830808
株式会社インタフェース	第一電波暗室	-	-	-	○	-	R-20079	2022/7/21	広島県大竹市晴海二丁目 10 番 36 号	0827-57-7000
株式会社インタフェース	第一電波暗室	-	-	-	-	-	G-20077	2022/7/21	広島県大竹市晴海二丁目 10 番 36 号	0827-57-7000
株式会社インタフェース	計測室	-	-	-	-	-	C-20058	2022/7/21	広島県大竹市晴海二丁目 10 番 36 号	0827-57-7000
株式会社インタフェース	計測室	-	-	-	-	-	T-20055	2022/7/21	広島県大竹市晴海二丁目 10 番 36 号	0827-57-7000
東芝キヤリアエンジニアリング＆ライフサポート株式会社	＃505 電波暗室	-	-	-	-	-	T-20055	2022/7/21	静岡県富士市蓼原 336 番地	0545-62-5739
KCTL Inc.	10M Chamber	-	-	-	-	○	R-20080	2022/7/21	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea	+82-10-6744-3391
KCTL Inc.	10M Chamber	-	-	-	-	-	G-20078	2022/7/21	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea	+82-10-6744-3391
KCTL Inc.	Shielded Room No.1	-	-	-	-	-	C-20059	2022/7/21	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea	+82-10-6744-3391
KCTL Inc.	Shielded Room No.1	-	-	-	-	-	T-20056	2022/7/21	65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea	+82-10-6744-3391
KCTL Inc.	10M Chamber	-	-	-	-	-	G-20079	2022/7/21	52-20, Sinjeong-ro 41 beon-gil, Giheung-gu, Yongin-si, Gyeonggi-do, Korea	+82-31-326-6750

Closing words

If only I'd had a smartphone

The other day, I went on my first long-distance business trip in quite a while. Usually on business trips, I head straight to my destination from the nearest train station, changing from train to plane to taxi, and my return trip is much the same. However, this time, I was determined to do some touring before my return flight.

When the job I'd traveled for was done, and I'd finished partying with my associates from the company, I was feeling great. I managed to get back to my hotel just a ways from the bar, collapse into bed, and fall asleep.

I woke up early the next morning, showered, waited until opening time, and went for breakfast. No matter how much I'd eaten the previous night, there was always room for the hotel's breakfast buffet. I could easily eat three times the usual amount. Was it just me? After washing it all down with a hot cup of coffee, I recalled my determination from earlier. There was no time for dawdling. I only had three hours left. Without any preparation, I left the hotel restaurant and dashed outside with nothing but the light clothes I had on. All I carried was my flip phone, but I figured things would work out. Confident I could make it five kilometers and back, I dismissed the passing taxis and started walking.

About half an hour in, I noticed the hotels and company buildings around me giving way to more and more of what looked like government offices. There was the odd store, but no people, since nothing was open yet. It was a little lonely, being in these unfamiliar surroundings. About forty minutes had passed since I'd set out. I noticed one or two more passersby now. Hoping I was almost there, I quickened my pace. Whether it was the anticipation or excitement, my legs found new strength. But alas, the same old scenery lay before me, with my destination nowhere in sight. That's when the rain started sprinkling. First one, then two specks hit my glasses. The droplets were still small, but grey clouds filled the sky. I realized I should have gone back to my hotel room before leaving.

I still couldn't see the building I was looking for, but it was time to make a decision. Not a big decision, but considering the route I had to take back, I knew my feet were close to their limit. The droplets hitting me all over, larger now, were turning into a shower. I was done; abort mission. I turned back towards the hotel. Since the rain was really coming down now, halfway through I started jogging. By the time I got back, my shirt was so soaked, I couldn't tell if it was rain or sweat.

Back in my room, I searched online and realized I'd made my U-turn right before the building I'd been heading for. It hadn't seen it because another building was in the way. "Next time", I muttered to myself over and over as I left the hotel behind me.

(K.K.)

VCCI Dayori

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Not for sale

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