

VCCI DAYORI

No.155 2025.1

Contents

New Year's Greetings	President, VCCI Council Atsuo Hirai	1
Contribution		
Wireless Communication and EMC: Why Can't We See Radio Waves?	Yasushi Matsumoto	4
Committee Activities		7
●Steering Committee		7
●Technical Subcommittee		8
●International Relations Subcommittee		8
●Market Sampling Test Subcommittee		9
●Public Relations Subcommittee		10
●Education Subcommittee		11
●Registration Committee for Measurement Facilities		12
●Report on Committee Activities: List of Acronyms		13
1st instalment		
My First Encounter with EMC and My International Standardization Activities at CISPR	Fujio Amemiya	15
Report on the FY 2023 Business Report Meeting		18
Report on the VCCI seminar as the 2024 Info-Communication Promotion Month Event for MIC		19
Report on Participation in TECHNO-FRONTIER 2024		20
IEEE EMC+SIPI 2024: Business Trip Report		22
Status on FY2024 Market Sampling Tests		31
Report from the Secretariat		33
●List of Members (July 2024- September 2024)		33
●FY 2024 schedule of VCCI events and training seminars		34
●Status of Compliance Test Notifications		35
●Registration Status of Measurement and Other Facilities		36

New Year's Greetings



President, VCCI Council
Atsuo Hirai

I would like to begin 2025 by wishing everyone a happy new year.

Last year, 2024, was a year of many disasters including the Noto Peninsula Earthquake on New Year's Day, the accident involving a plane carrying supplies to the earthquake-stricken area, and torrential rains in the Noto Peninsula and other areas. My heart goes out to all of those affected by the disasters, and I pray for their swift recovery.

Now that new lifestyles such as work from home, online conferencing, and the cashless economy have spread and taken root in the wake of the COVID-19 pandemic, digital technologies are expanding beyond the scope of pandemic recovery. We are in the midst of an evolution to a highly advanced society driven by these digital technologies. Here at VCCI Council, we have been resuming face-to-face formats of some of our online-only events since FY 2022, such as hands-on education and training seminars and overseas business trips. In FY 2024, our activities finally returned to pre-pandemic levels.

Specifically, in May, we held a booth at EMC Japan/APEMC Okinawa 2024, and at our tutorial presentations, we introduced the status of our rules based on CISPR 32 Edition 2.0 and initiatives toward the next revision of CISPR 32. Through these activities, we successfully promoted VCCI Council on the international stage. During this period, we also held a joint conference in Okinawa with Taiwan's governmental body BSMI and industry group CTCA. In Taiwan, we were also able to share the status of market sampling tests in Japan, an early adopter of the CISPR-32-based rules, partly because these rules had been enforced in Taiwan since January 2024.

We also exhibited at Computex TAIPEI 2024 in Taiwan, where we actively promoted the VCCI mark, and presented papers at international symposiums held in Europe and the US.

In the IT and electronics industry, which has close ties with VCCI Council, we will leverage our technical capabilities developed amidst the rapid advancement of digital technologies and increasingly severe global competition. We expect to develop technological solutions to the many issues faced by our nation, an "advanced" country in terms of social issues, and in so doing, play our part in bringing about Society 5.0.

October 2024, on the occasion of its 25th anniversary, Japan's greatest comprehensive digital

innovation exhibition, CEATEC 2024, was held based on the concept "Toward Society 5.0". The 112,000 participants, numbering 20,000 more than last year, came from a variety of backgrounds including not only the IT and electronics industry, but also startups, global enterprises, young engineers, and students. The event was a good opportunity to learn and familiarize ourselves with digital technologies, and practice co-creation toward future social implementations of these technologies.

The use of radio and wireless communication, which allows us to connect anywhere, anytime, and with anybody, will be essential to achieving Society 5.0. To use these valuable radio-wave resources and increasingly sophisticated digital devices safely, securely, and efficiently, it is imperative that we ensure a clean electromagnetic environment. VCCI Council's roles and responsibilities are growing by the day, and with that in mind, we must push forward in our duties with a sense of responsibility toward the future.

Since VCCI Council's inauguration as the Voluntary Control Council for Interference by Information Technology Equipment (VCCI) in 1985, we have been engaged in activities to prevent interference caused by information technology devices, and to protect the interests of users and consumers of electrical and electronic devices. Compared to those days, CPU operating frequencies have improved from the order of MHz to the order of GHz. GPUs are expected to be used as core devices not only in PC gaming equipment, but also in various other equipment featuring with advanced AI functionalities. Meanwhile, high-speed wireless internet connections have been on the rise since the 2019 release of Wi-Fi 6.

As these technologies continue to progress rapidly with the emergence of more and more new digital devices, the driving force of VCCI Council's activities continues to be consumers' trust in the VCCI mark. Our operating Rules for Voluntary Control Measures are defined based on three "pillars" of regulation: our system for registering measurement facilities, our system of self-declaration by member-filed registrations of product conformity, and our fair market sampling tests; and securing trust remains our top priority. The current widespread social recognition of the VCCI mark could not have been achieved without the support and dedication of relevant government agencies and organizations and our VCCI members. We are exceedingly grateful for your support.

Currently, CISPR 32 Edition 2 is the world standard for electromagnetic emission from multimedia equipment. In Japan, we were one of the first in the world to adopt this international standard. We issued our new VCCI Rules for Voluntary Control Measures based on this international standard in November 2016, and have been enforcing them for eight years now. We are thankful to our members for their thorough understanding and steady operation of the Rules for Voluntary Control Measures. We are now actively participating in CISPR conferences toward the next revision of CISPR 32 (Edition 3), and expect this edition to be internationally standardized around the end of 2026. The number of

registrations of product conformity also remains steady, and we are seeing a rise in new members from countries where we previously had none. Our membership now encompasses 30 countries and regions.

This year, a world exposition will be held in Osaka, Kansai for the first time in 55 years. One stated goal of this expo is to “achieve Japan’s international strategy Society 5.0”. Here at VCCI Council, we too will contribute to building a clean electromagnetic environment toward realizing Society 5.0. We will strive to ensure that VCCI Council’s activities prove meaningful to all of our members, and in turn, consumers around the world. We will also continue to promote the transition of various conferences to online or hybrid format. I ask you all for your continued understanding and support for VCCI Council, and hope that this new year brings Japan ever greater socioeconomic prosperity.

Here’s to a promising and successful year of 2025.

Wireless Communication and EMC: Why Can't We See Radio Waves?

Yasushi Matsumoto

Since I joined the (then) Radio Research Laboratory of the Ministry of Posts and Telecommunications (currently, NICT) about 40 years ago, I have been working on projects related to radio waves. Here, I'd like to take this opportunity to briefly look back on my career.

My first job assignment was at a laboratory in Kashima, Ibaraki Prefecture (currently, Kashima City) researching satellite communications. Because this was not at all the field I'd majored in as a student, it was a whole new world and I hadn't yet found my bearings. Prior to my assignment to the laboratory by my university, I'd actually been touring the laboratory of Prof. Yasuto Mushiake, a well-known figure in antenna engineering. The staff of the laboratory told me "we need someone who can see radio waves" so I gave up (inwardly thinking that was impossible). My first task at Kashima was to build a model of satellite to display to the public. It was a fun job, carving shapes out of plastic plates from the cafeteria and turning them into reflector antennas and making mock solar panels out of poster panels. I spent several years at this laboratory, conducting experiments to demonstrate the viability of satellite communications devices that could allow direct access to satellite from aircraft and ships at sea. After that, I was seconded to NASDA (currently, JAXA), where I took over from Dr. Masato Tanaka in developing an S-band phased-array antenna to be mounted on satellites. In this series of satellite-communications jobs, I was amazed by the capabilities of these devices and systems to run as designed and according to theory. The strength of radio waves received at a distance of 40,000 km from satellite to ground barely deviated one decibel from the calculated value, and the bit error rate during demodulation hardly differed from the theorized value. Of course, this was the fruit of our predecessors' efforts, but I didn't know that at the time, and thought a system could be thrown together simply by wiring up devices according to the block diagram and emitting radio waves.

As for the antenna I was in charge of at NASDA, this was mounted on a satellite called Engineering Test Satellite-VI (ETS-VI) and launched into space on the second H-II rocket in 1994. Although the rocket launch was a success, the satellite could not enter geostationary orbit due to a failure in the satellite-mounted apogee engine, which resulted in a non-geostationary satellite with a short life.. I also remember a special program on this event being broadcast by NHK. After the launch, I worked with Dr. Tanaka and the members of the Kashima experimental station, racing against time to demonstrate the performance of the on-board experimental equipment within the satellite's limited

lifespan. Fortunately, the antenna I was in charge of ran perfectly, and we obtained many results. However, when we pointed antenna beams at various points on Earth, we received various types of noise and interference signals emitted from the ground. I believe this experience is what first kindled my interest in electromagnetic interference in communication systems.

After that, I had the wonderful opportunity to work under Prof. Akira Sugiura researching EMC in communication systems. This is where I experienced firsthand the conceptual shift needed to conduct EMC research. For example, connecting devices according to the diagram did not always yield the expected signals, or generated unnecessary signals. I had to consider the reasons behind these results as physical phenomena, and think of ways to prevent their recurrence. By this point, I had finally begun to understand what it had meant by the phrase "see radio waves". However, although I understood the necessity, the reality was that I was still far from reaching that state.

Speaking of which, I only recently discovered my answer to why humans cannot see radio waves. As I mentioned in the beginning, my first assignment was researching satellite communications at sea, a project originating from the 1960s research on marine communications using electromagnetic waves. At the time, researchers studied the propagation characteristics of electromagnetic waves of various wavelengths in seawater, ranging from VLF (very low frequency) waves to ultraviolet. The results, as detailed in the "Review of the Radio Research Laboratories" show that only VLF and visible light were found to have relatively smaller propagation attenuation. Not many details were given regarding the physical reasons why smaller attenuation coincided with visible-light wavelength bands. However, if we change our perspective, we can theorize that our distant ancestors born in the ocean evolved sensitivity to those wavelengths precisely because the attenuation was smaller at those wavelengths (and thus, those wavelengths became visible). The ability to see light confers an overwhelming advantage against invaders and prey. Meanwhile, one might say there was no need to be able to see waves at wavelengths that barely propagate in seawater. However, if life had originated from land or freshwater, or some medium with greater light attenuation, life could certainly have evolved organs sensitive to radio waves. If there were life forms that could see radio waves, what kinds of organs would they have? Would they have linear antennae like those of insects? Or perhaps array antennae like compound eyes? Endless possibilities come to mind, but alas, I am running out of paper. If you made it to the end of my meandering essay, thank you very much for reading.



Yasushi Matsumoto

- 1985 Completed a Master's program in electrical and communication engineering at the Graduate School of Engineering, Tohoku University
Joined the Radio Research Laboratory of the Ministry of Posts and Telecommunications (currently, National Institute of Information and Communications Technology)
Conducted R&D on satellite communications
- 1989-1994 Developed satellite-mounted communications equipment at the National Space Development Agency of Japan (currently, the Japan Aerospace Exploration Agency)
- 1994-1999 Conducted R&D on satellite communications at the Communications Research Laboratory (currently, National Institute of Information and Communications Technology)
- 1999-2005 Conducted education and research on electromagnetic wave engineering and EMC at Tohoku University
- 2005 onward Conducted EMC R&D and standardization at the National Institute of Information and Communications Technology
Received awards such as the FY 2020 Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology (development division) and the IEC1906 Award (2023).
Currently an Expert Member of CISPR SC-H, chief of the CISPR H working group, Radio Wave Utilization Environment Committee

Committee Activities

● Steering Committee

Date	July 17 and September 18, 2024	
Agenda items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 	<p>Selection of the Chair and nomination of the Vice Chair of the Steering Committee</p> <p>“Radiated emission measurements conducted when an EUT mains cable is terminated by a VHF-LISN” VCCI 32-1-L: 2024 (draft)</p> <p>“Guidance for Rules for Voluntary Control Measures” VCCI 32-1-J: 2024 (draft)</p> <p>Approval of new members</p>
Continuing agenda items	<ul style="list-style-type: none"> ● Agenda item 4 	
Decisions and reported items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Reported item 1 ● Reported item 2 ● Reported item 3 ● Reported item 4 ● Reported item 5 ● Reported item 6 ● Reported item 7 ● Reported item 8 ● Reported item 9 ● Reported item 10 	<p>Approved</p> <p>Approved</p> <p>Approved</p> <p>Meeting of the Council</p> <p>Activities performed by the dedicated subcommittees (Technical, International Relations, Market Sampling Test, Public Relations, and Education) from June to August</p> <p>Secretariat work (member entry and withdrawal trends, the number of registrations of product conformity, income and expenditure, etc.)</p> <p>Report on participation in TECHNO-FRONTIER 2024</p> <p>APEMC 2025 Tutorial (draft)</p> <p>Report on participation in IEEE EMC+SIPI 2024</p> <p>Revised report on “Guidance For Calculation Of Measurement Instrumentation uncertainty On Radiated Emission Measurement with A Hybrid Antenna” VCCI 32-1-K: 2024</p> <p>Report on the FY 2023 Business Report Meeting (see page 18)</p> <p>Report on the VCCI seminar at the Info-Communications Promotion Month held by the Ministry of Internal Affairs and Communications in 2024 (see page 19)</p> <p>Report on participation in the EMC EUROPE 2024 (quick report)</p>

● Technical Subcommittee

Date	August 23, 2024	
Agenda items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 ● Agenda item 5 ● Agenda item 6 	<p>On the Technical Subcommittee's planned activities for FY 2024</p> <p>Guidance document "Radiated emission measurements conducted when an EUT mains cable is terminated by a VHF-LISN"</p> <p>Tests and RRTs on voltage/current conversion ratio relating to improved transformer-coupled type AANs</p> <p>Phase-center measurements on hybrid antennas</p> <p>Confirming the effectiveness of and examining issues in NSA evaluation using hybrid antennas</p> <p>Activities for promoting standardization of mains cable termination conditions</p>
Continuing agenda items	● Agenda items 1, 2, 3, 4, 5, and 6	
Decisions and reported items	● Reported item	Presentation of a paper at IEEE EMC+SIPI 2024 (see page 22)

● International Relations Subcommittee

Date	July 10 and September 11, 2024	
Agenda items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 	<p>Comparison Chart of ITE / MME regulation in the world</p> <p>Survey of trends in EMC regulations</p> <p>This fiscal year's overseas surveys</p> <p>This fiscal year's international forum in on-demand format</p>
Continuing agenda items	<ul style="list-style-type: none"> ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 	<p>This fiscal year's overseas survey in South Korea</p> <p>Lecturers will be considered in the October committee meeting.</p>
Decisions and reported items	● Agenda item 1	The "FY 2024 Comparison Chart of ITE / MME regulation in the world: CISPR 22, 24, 32, and 35" on the website was updated on July 19.

●Market Sampling Test Subcommittee

Date	July 8, July 11, and September 4, 2024	
Agenda items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 ● Agenda item 5 	<p>Market sampling test report</p> <p>Document inspection report</p> <p>Joint committee meeting with testing laboratories</p> <p>Revised guide to addressing “Failed-tentative” products</p> <p>Comments on the draft VHF-LISN guidance document</p>
Decisions and reported items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 ● Agenda item 5 	<p>For the FY 2024 market sampling tests, target products are being selected and tests are underway. As a result, one product “Failed-tentative”, which is being investigated by the applicable member. Additionally, the result of one “Failed-tentative” product tested in FY 2023, which was then investigated in 2024, was reported to have been admitted as “Failed” by the member in question, and deemed “Failed”.</p> <p>43 products have been selected so far for the FY 2024 document inspections, which are underway.</p> <p>Notes on the FY 2024 market sampling tests were agreed upon with this fiscal year’s commissioned testing laboratories.</p> <p>Examination and approval of partial additions to the guide to addressing “Failed-tentative” products</p> <p>Committee examination and submission of comments regarding the draft VHF-LISN guidance document provided by the Technical Subcommittee to the Steering Committee</p>

●Public Relations Subcommittee

Date	July 5 and September 13, 2024	
Agenda items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 ● Agenda item 5 ● Agenda item 6 	<p>History (chronology) of VCCI panel</p> <p>Discussion of exhibits of Asian countries other than Taiwan (such as China and South Korea)</p> <p>Report on participation in TECHNO-FRONTIER 2024</p> <p>CEATEC 2024</p> <p>2025 desktop calendar</p> <p>Partial FAQ translation into multiple languages</p>
Continuing agenda items	<ul style="list-style-type: none"> ● Agenda item 4 and 6 	
Decisions and reported items	<ul style="list-style-type: none"> ● Agenda item 1 ● Agenda item 2 ● Agenda item 3 ● Agenda item 4 ● Agenda item 5 	<p>The corrected history (chronology) of VCCI panel underwent a final check and approval. In the future, this will be posted at exhibitions such as CEATEC and TECHNO-FRONTIER 2024.</p> <p>In FY 2025, APEMC will be held in Taipei, Taiwan from May 19 to 23. When COMPUTEXTAIPEI is held at roughly the same time (May 20 to 23), VCCI will hold an exhibit there. Other potential exhibitions will be considered by each participating company.</p> <p>Report on participation in TECHNO-FRONTIER 2024 (see page 20)</p> <p>Confirmation of booth position, design, and other matters regarding CEATEC held in October</p> <p>The desktop calendar design will undergo a final check and approval. The calendars will be distributed at CEATEC and kept on display at the VCCI office.</p>

●Education Subcommittee

Date	July 23 and September 19, 2024
Agenda items	<ul style="list-style-type: none"> ● Agenda item 1 Status of preparations for FY 2024 education and training ● Agenda item 2 FY 2024 textbook revisions ● Agenda item 3 Results of FY 2024 education and training
Continuing agenda items	<ul style="list-style-type: none"> ● Agenda items 1, 2, and 3
Decisions and reported items	<ul style="list-style-type: none"> ● Agenda item 1 - Upon soliciting participation in “The basic technique of EMI measurement (held on October 4)”, the target number of participants was reached, and the event was approved to be held. - “The basic of electromagnetic waves, EMI measurement technique (classroom lectures: held from November 28 to 29, TELEC hands-on training: held from December 5 to 6)” and “The basic of electromagnetic waves, EMI measurement technique (classroom lectures: held from November 28 to 29, KEC hands-on training: held from December 12 to 13)” are now accepting attendance applications. - “The level up of the EMI measurement technique (held on January 31, 2025)” and “The EMI measurement instrumentation uncertainty (MIU) (held from February 6 to 7, 2025)” are now accepting attendance applications. ● Agenda item 2 - Measures to improve comprehension checks are being considered as textbook revisions for “The basic of electromagnetic waves, EMI measurement technique”. - Incorporation of opinions on last year’s questionnaire results is being considered as a textbook revision for “The EMI measurement instrumentation uncertainty (MIU)”. ● Agenda item 3 - Preparations to hold “The basic technique of EMI measurement (held on October 4)” online (via livestream) are underway.

●Registration Committee for Measurement Facilities

Date	July 29, 2024
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions and reported items	<p>Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 15 companies</p> <p>Radiated emission measurement facilities below 1 GHz: 7</p> <p>AC-mains-ports-conducted emission measurement facilities: 6</p> <p>Wired-telecommunication-port-conducted emission measurement facilities: 10</p> <p>Radiated emission measurement facilities above 1 GHz: 12</p> <p>Applications returned with comments: None</p> <p>Applications carried over to the next meeting: None</p>
Date	September 9, 2024
Agenda items	● Reviewed the results of deliberations by the Measurement Facility Examination WG.
Decisions and reported items	<p>Conformity certified (including cases certified with qualification comments after checking of supplementary papers): 22 companies</p> <p>Radiated emission measurement facilities below 1 GHz: 7</p> <p>AC-mains-ports-conducted emission measurement facilities: 9</p> <p>Wired-telecommunication-port-conducted emission measurement facilities: 8</p> <p>Radiated emission measurement facilities above 1 GHz: 13</p> <p>Applications returned with comments: None</p> <p>Applications carried over to the next meeting: None</p>

● 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
Ecma	Ecma International
EICTA	European Information, Communications and Consumer Electronics Technology Industry Association
EMCC	Electro Magnetic Compatibility Conference
EMCAB	Electromagnetic Compatibility Advisory Bulletin
EMF	Electromagnetic Field
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
GB	guo jia biao zhun (National Standard of China)
GSO	Gulf Cooperation Council Standardization Organization
ICES	Interference-Causing Equipment Standard
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IS	International Standard
ISM	Industrial Scientific and Medical
ITE	Information Technology Equipment

Abbreviation	FULL NAME
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
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

1st instalment

My First Encounter with EMC and My International Standardization Activities at CISPR

Amemiya EMC Consulting Representative
Fujio Amemiya

1. Introduction

As a preamble to this series of articles, I'd like to introduce myself and touch on my first encounter with EMC, but first, allow me to very briefly outline my research from my student days. I will also present some of my experiences working experimentally to engineer electromagnetic-interference countermeasures in standard Japanese telephones (if I recall, the term "EMC" was not yet popular at the time). This work was carried out in my first job after graduation at Electrical Communications Laboratories at Nippon Telegraph and Telephone Public Corporation (hereinafter, "NTT ECL"). These stories are presented here as "my first encounter with EMC".

After that, I found myself venturing into a world inextricably tied to EMC when on October 31, 1989, I received a written request from the (then) Director General of the Communications Policy Bureau of the Ministry of Posts and Telecommunications. I was requested to assist with surveys and research at the Telecommunications Technology Council. In response, I joined CISPR's international standardization activities as a committee member (CISPR/G/WG2 expert) of the International Special Committee on Radio Interference (CISPR) of the International Electrotechnical Commission (IEC).

After my initial appearance at the 1988 CISPR/G WG1, WG2, and WG3 international conference in Eindhoven, Netherlands as an observer, I went on to attend over 140 CISPR international standardization conferences; mainly CISPR/G, CISPR/I, and their working group conferences. Although this new series of articles will likely focus on the relationship between CISPR/G and CISPR/I, I plan to introduce topics deliberated on at the many CISPR international conferences I attended in the past (and possibly a travelogue). I hope you enjoy them.

2. My research on high-density magnetic recording as a student, and my research at NTT ECL

I'd like to introduce my encounter with EMC with a very brief outline of my research on magnetic recording methods during my student days (the three years from my fourth undergraduate year to the second year of my Master's program). Although magnetic recording and EMC are quite different technical fields, I consider there to be some overlap between the two, electromagnetically speaking. Specifically, there are similarities in the measurement (pickup) of magnetic field changes during the physical movements of magnetic records on magnetic tape and magnetic disks, and the measurement of electromagnetic interference conducted along power lines and communication lines. For this reason, I'd like to touch on these topics a little in the first part of this series.

(1) My work in magnetic recording, researching high-density magnetic recording methods

At the School of Engineering and Graduate School of Engineering, Tohoku University, I spent about three years researching high-density magnetic recording methods. At the time, records were made longitudinally on magnetic tape using magnetic heads. I was researching high-density magnetic recording methods, vaguely skeptical of the feasibility of high-density recording of wavelengths shorter than the thickness of the magnetic layer of magnetic tape. I'd been hoping to focus on researching new high-density magnetic recording methods intentionally recording in the cross-sectional rather than longitudinal direction of the magnetic layer, and the efficient reproduction of such methods, but did not reach this goal before my graduation. When I was offered a position at NTT I dreamed to be assigned to the Musashino ECL (Electrical Communication Laboratories), and if possible, to continue this abandoned research from my student days. Unfortunately, while I was accepted at the Musashino ECL, I was assigned to the Telephone Laboratory of the Customer Premises Equipment Research Department (hereinafter, "TL-CPERD"), so this dream would not come true.

(2) My first encounter with EMC soon after joining TL-CPERD

I joined NTT in April 1973 (Showa 48), then after completed about a month of training, I was assigned to the Musashino ECL TL-CPERD just after the public holidays in May. Soon after that, I accompanied my supervisor and senior coworker to a customer's home in Kawaguchi City, Saitama Prefecture to address a complaint about a telephone product. Looking back, I recall that this experience was my very first encounter with EMC.

The customer had replaced their Type 600 telephone (black rotary-dial phone), which was common in Japan then, to a push-button dial phone (Type 600P), but when the phone was on-hook (awaiting calls), radio broadcasts could be continuously heard from the receiver. While this was bad enough during the day, late-night radio shows would also play from the receiver all night, disrupting the customer's sleep. At the same time, the phone could not be taken off-hook, so urgent assistance was required.

The local telephone exchange office had immediately dispatched a technician to the customer's home, who was unable to fix the problem. Then, Musashino ECL's TL-CPERD was tasked with investigating the cause and implementing corrective measures. Despite being a new employee at TL-CPERD, I was given the opportunity to join the on-site investigation, and helped carry several units of the new push-button dial phone to the customer's home. I still vividly remember arriving on site in a minicar provided by the telephone exchange office and walking toward the home with a box of new push-button telephones, only to hear the radio start playing from inside the box. I was so startled that I recall thinking the telephones' circuits must have been embedded with something akin to a crystal radio. At the same time, the gravity of the situation hit me – if drastic measures weren't taken, wouldn't push-button telephones be unusable near radio-broadcasting antennas across the entire country? To make a long story short, my supervisor explained to me on the spot, "This is the difference between 'research and development' and 'research commercialization'. To commercialize a product, we need to have checklists making sure the product ticks all the boxes, plus we need to monitor the product constantly and make

improvements as necessary. This case might be a good example of that.” The significance of his words left a deep impression on me that day, the day of my first encounter with EMC.



Fujio Amemiya

[Profile]

- 1967 Majored in electrical engineering, School of Engineering, Tohoku University
- 1971 Graduated from the Electronic Communication Department, School of Engineering, Tohoku University
- 1973 Completed Master's programs in electrical and communication engineering at the Graduate School of Engineering, Tohoku University
- 1973 Joined the Telephone Laboratory of the Customer Premises Equipment Research Department, Musashino ECL (Electrical Communication Research Laboratories), Nippon Telegraph and Telephone Public Corporation and researched electronic telephone circuits
- 1977 Transferred to NTT's Yokosuka ECL and researched digital telephones
- 1985 Transferred to NTT's Musashino ECL and operated and evaluated an experimental ISDN system
- 1988 Transferred to NTT's Telecommunication Networks Laboratories, began researching telecommunications EMC and worked on CISPR standardization
- 1992 Transferred to NTT's Technical Assistance & Support Center and worked on EMC failure countermeasures in telecommunications equipment and devices, and CISPR standardization
- 1996 Transferred to NTT's Telecommunication Networks Laboratory, researched ITS communication networks, and worked on CISPR standardization
- 2000 Transferred to NTT Advanced Technology Corporation, provided consulting for EMC testing, evaluation, and countermeasures, and worked on CISPR standardization
- 2019 Left NTT Advanced Technology Corporation, founded "Amemiya EMC Consulting," and joined VCCI as Technical Adviser

Academic association and committee activities

- CISPR committee investigative researcher at the Telecommunications Technology Council, Ministry of Posts and Telecommunications (from 1989)
- Expert at IEC CISPR Subcommittee G (from 1989)
- Secretary of the Technical Committee on Electromagnetic Compatibility (EMCJ) at The Institute of Electronics, Information and Communication Engineers (for two years from 1995)
- Acting Director of CISPR Committee G Subcommittee, Telecommunications Technology Council, Ministry of Posts and Telecommunications (from 1998)
- Specialist member of the CISPR committee and Subcommittee I Director of the Ministry of Internal Affairs and Communication's Information and Communications Council (from 2001)
- Assistant Secretary of IEC CISPR SC-I and SC-I expert (from 2001)

Awards and prizes received

- 2007 Commendation from the Chair of the Committee for the Promotion of IEC Activities, Shibusawa Award
- 2008 IEICE Merit Award, IEC 1906 Award, Maejima Award
- 2011 Science and Technology Award from the Minister of Education, Culture, Sports, Science and Technology (development department)
- 2011 Radio Achievement Award from the Association of Radio Industries and Businesses

Other

- 2007 PhD in Engineering at Tohoku University

Report on the FY 2023 Business Report Meeting

Steering Committee

Our business report meeting, whose face-to-face format we resumed after the COVID-19 pandemic, was held this year in the same fashion as last year. The following gives an overview of this meeting. Note that this year, we also held our first exchange meeting in five years since 2019.

1. Date and time: 3:00 p.m. to 5:15 p.m., July 17, 2024 (Wed)
2. Venue: Conference room 6D-4, Kikai Shinko Kaikan 6F
3. Participants: 40 (including membership applicants, Steering Committee members from various companies, and Subcommittee Chairs)
4. Presenters: Akira Oda, Executive Director of VCCI Council
Taihei Otsuka, former Chair of the Steering Committee (Sharp Corporation)
Shinichi Okuyama, Chair of the Technical Subcommittee (NEC Platforms, Ltd.)
Kazuyuki Hori, Vice Chair of the International Relations Subcommittee (Sony Group Corporation)
Hiroaki Suzuki, former Chair of the Market Sampling Test Subcommittee (Casio Computer Co., Ltd.)
Jiro Iizuka, Chair of the Public Relations Subcommittee (Oki Electric Industry Co., Ltd.)
Shinichi Okuyama, Chair of the Education Subcommittee (NEC Platforms, Ltd.)
FY 2023 activities were reported on in the preceding order.
5. Special lecture: “Deliberation trends in CISPR H: Highlighting matters relating to CISPR 32”
Yasushi Matsumoto, Researcher at the Electromagnetic Compatibility Laboratory, Electromagnetic Standards Research Center, Radio Research Institute, National Institute of Information and Communications Technology (NICT)

After the presentations, VCCI Council President Mr. Atsuo Hirai awarded letters of commendation to last fiscal year’s Steering Committee Chair, all Steering Committee members, and Subcommittee Chairs.



Special lecture by Yasushi Matsumoto, NICT researcher



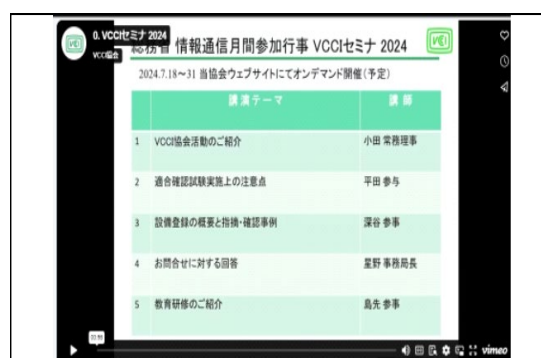
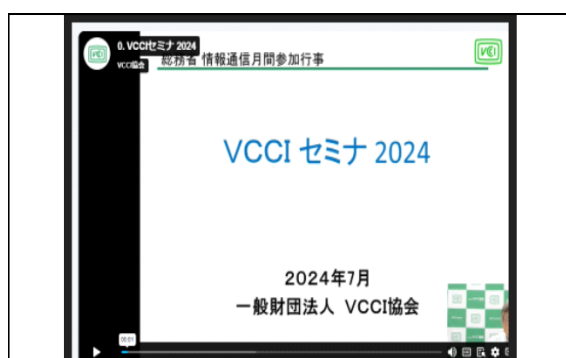
VCCI President Mr. Atsuo Hirai awarding letters of commendation

Report on the VCCI seminar as the 2024 Info-Communication Promotion Month Event for MIC

Steering Committee

VCCI Council usually holds a VCCI seminar as the Info-Communications Promotion Month event for the Ministry of Internal Affairs and Communications in May each year. In FY 2024, as in FY 2023, the target period of the Info-Communications Promotion Month was extended to the end of July (as a special exception). For the convenience of participants (viewers), introductory videos on the following topics were made available to interested parties (81 people applied to view the videos) for about two weeks from July 18 (Thu) to 31 (Wed) on the VCCI website.

	Theme	Lecturer
1	VCCI Council Activities	Akira Oda Executive Director
2	Notes on Conducting the Conformity Confirmation Test	Minoru Hirata Technical Counselor
3	Overview of Facility Registration and Examples of How We Check for Issues	Seijun Fukaya Technical Adviser
4	Answers to Questions	Masahiro Hoshino Secretary General
5	Introduction to Education and Training Sessions	Toshiki Shimasaki Technical Adviser



Report on Participation in TECHNO-FRONTIER 2024

Public Relations Subcommittee

This is a report on the TECHNO-FRONTIER 2024 exhibition.

Exhibition name: TECHNO-FRONTIER 2024 (EMC and Noise Countermeasures Technology Exhibition)

<https://www.jma.or.jp/tf/>

In-person exhibition period: July 24, 2024 (Wed) to 26 (Fri)

Number of exhibitor companies: 474

Actual number of visitors: 36,644

Venue: Tokyo Big Sight



1. On the EMC and Noise Countermeasures Technology Exhibition, where VCCI Council held an exhibit

TECHNO-FRONTIER is a mechatronics and electronics exhibition for manufacturing engineers to promote development and create markets. This is Japan's only specialist technology exhibition, which gathers the latest products and technologies relating to EMC and noise countermeasures, from electromagnetic noise-suppression components and materials to measurement equipment, measurement facilities, and consulting services, together in one place. VCCI participated in the exhibition to answer technical questions, learn about the latest regulatory trends, and introduce VCCI's education and training sessions.

2. In-person exhibition at Tokyo Big Sight

The VCCI booth showcased materials such as membership information, two types of panels, and introductory videos about VCCI Council.

● Materials

- Introduction to VCCI Council (triple-folded pamphlet)
- Information on VCCI enrollment
- Annual Report 2022
- Guide to VCCI Council's education and training
- Scope of the international standard CISPR 32

● Introductory videos

Three themes: "Do you know this mark?"; "Acquiring the VCCI mark"; and "Scope of VCCI" (approx. 7 minutes)



The VCCI Council booth

●Number of booth visitors

Over 100 people visited the booth. Among these, 76 gave us business cards and were given novelty goods in return. Of those who gave us business cards, 32 were VCCI members and 44 were non-members. Days later, we sent emails to each group thanking them for their attendance.

3. Online exhibition

In accordance with the sponsor’s online exhibition format, we published an overview of VCCI Council, introductory videos, and downloadable materials in both Japanese and English on our online booth.

●Number of online booth visitors: 112 (total)



Appearance of the online booth

4. Impressions

From its first day, the in-person exhibition attracted many attendees. Due to the nature of the exhibition, only a few visitors had not heard of VCCI, and some asked questions about trends in VCCI standards and VCCI education and training seminars.

While the exhibition was a good PR opportunity to present VCCI Council’s activities and the VCCI mark, the venue provided a valuable opportunity to communicate directly with visitors. For this reason, we plan to continue participating in this exhibition.

IEEE EMC+SIPI 2024: Business Trip Report

Steering Committee and Technical Subcommittee

This is a report on the 2024 IEEE International Symposium on Electromagnetic Compatibility, Signal/Power Integrity (EMC+SIPI 2024).

- Venue: Convention Center, Phoenix, Arizona, USA
- Period of participation: August 4 (Sun) to 8 (Thu), 2024
- Period of symposium: August 4 (Sun) to 9 (Fri), 2024
- Participants: Akira Oda, Executive Director of VCCI Council
Kunihiro Osabe, Technical Adviser of the Technical Subcommittee
Yoko Inagaki, Program Manager

I. Overview of IEEE EMC+SIPI 2024

We participated in this symposium to present papers submitted by VCCI Council, listen to other paper presentations, and to collect information through observation.

Of the papers presented during the event period, 146 (of which 5 were from Japan) were presented at technical sessions and 30 were presented at poster sessions. In addition, 8 special sessions, 24 workshops and tutorials, and 21 experimental demonstration sessions were held.

Symposium participants: 1,112 from 33 countries and regions; by industry, 57% were from industry and manufacturing, 8% were from governmental bodies, 8% were from educational institutions, 6% were from technical consulting, 8% were students, and 7% belonged to other categories.

93 companies exhibited at the event (the accreditation bodies A2LA, ANAB, and NVLAP), which was on par with last year.

At the EMC Society Awards, Mr. Soichi Watanabe, Director of the Electromagnetic Standards Research Center, Radio Research Institute, NICT, received a Technical Achievement Award.



Entrance of the Phoenix Convention Center

1. Paper presented by VCCI Council

- Date and time : 8:30 a.m. to 9:00 a.m., August 8 (Thu)
- Session name : Technical Session: EMC Measurements – VHF-LISN Termination, Current Coupling and Capacitive Coupling
- Paper title : Justification and Background for Terminating AC Mains Cable with Balanced VHF-LISN to Radiated Emission Measurement
- Authors : Mr. Osabe (VCCI Council), Mr. Kuwabara (Kyushu Institute of Technology), Mr. Muramatsu (VCCI Council)
- Presenter : Mr. Osabe (VCCI Council)
- Presentation overview : In view of the proposal of VHF-LISNs, the presenter described the process thus far, including the proposal made to CISPR based on a cross-site comparison experiment to improve correlations between radiated emission measurements and their results. The presenter summarized the validity of AC mains cable termination by balanced VHF-LISN from the verification results obtained during that period.
- Presentation questions:

An attendee asked about the importance of clarifying how to process cables coming out of the EUT. The presenter responded that each site, let alone each mains cable, has a different impedance at the mains outlet, so problems cannot be solved by processing all cables the same way, and that it is important to clarify termination conditions. The session chair agreed with this response.
- Presenter impressions:

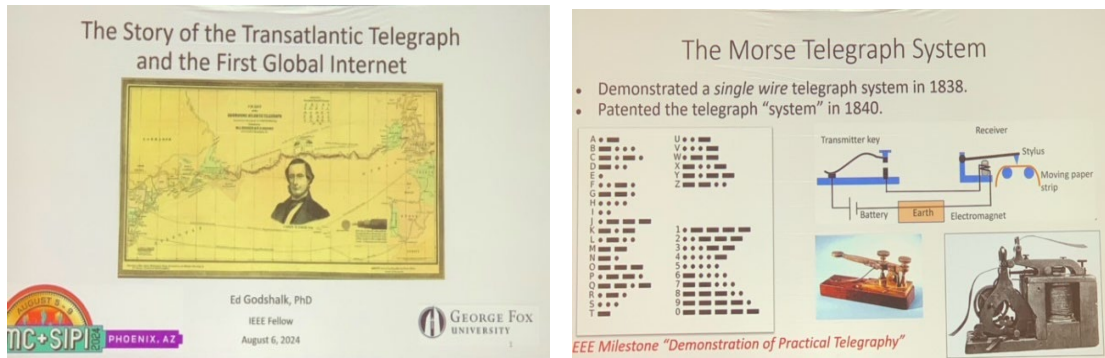
The presentation venue was a little larger than average, because it was in fact two venues combined into one. VHF-LISN termination was raised as a topic of the session. When the presentation started, there were many attendees, so we felt there was a lot of interest in the topic. There was only one question about the presentation (mentioned in the preceding section), but regarding VHF-LISN standardization, participants emailed us after the presentation asking for the presentation materials. For this reason, we believe attendees were aware of the context of the proposal for VHF-LISN-terminated mains cables in radiated emission measurements, and the necessity of such a proposal.



Presentation by Mr. Osabe, Technical Adviser, at the Technical Session

2. Keynote presentation

- Date and time: 8:30 a.m. to 9:30 a.m., August 6 (Tue)
- Session name: Keynote
- Title: The Story of the Transatlantic Telegraph and the World's First Internet



Excerpts from the presenter's slides

- Presenter: Ed Godshalk, Ph.D.
- Affiliation: George Fox University, USA
- Presentation overview: The topic of the keynote speech representing this year's symposium was the advancement of transmission-line engineering to build a global communication network, which began over 180 years ago.

First, the presentation discussed telegraphic communication by Morse code, which is generally seen as the first-ever commercialization of telecommunication in the form of the "Victorian-era internet". Then came a discussion of the transatlantic telegraph cables laid down in 1858, leading to the concept of the time constant in transmission lines, and the threat posed by sharks and whales to undersea cables. The presenter explained that many great 19th-century figures (Samuel Morse, Hans Christian Orsted, Joseph Henry, Carl Friedrich Gauss, and many others) helped solve this problem, and that the technology to transmit communication signals along undersea cables led to the development of improved battery design, insulated wires, coaxial cables, and techniques for modulation methods. The presenter went on to explain that the culmination of these advancements is the transoceanic optical fiber cable we have today, which forms the backbone of our current global communication network. Currently, 99% of data traffic across the ocean is transmitted through undersea cables. The total transmission capacity of undersea cables is in the range of terabits per second, while satellites usually only have a capacity of 1 gigabit per second.

3. Key paper presentations attended at the technical sessions

- Date and time: 1:30 p.m. to 2:00 p.m., August 6 (Tue)
- Session name: EMC Measurements for Wireless Communications, Pulsed Interference and Transistors
- Paper title: Assessing Time-Scale-Dependent Interference Vulnerabilities in Wireless Communications

- Authors: Michelle Pirrone^{1,2}, Jordan Bernhardt¹, Adam Wunderlich¹

¹ National Institute of Standards and Technology, USA

² University of Colorado Boulder, USA

- Presenter: Michelle Pirrone

- Presentation overview: This paper proposes a method of evaluating failures caused by pulsive noise existing in the world based on degradation in throughput level, which defines time-dependent communication quality. This is because failure evaluation methods for wireless communication generally specify a tolerance level after evaluation using the ratio between broadband noise and communication signals, but when it comes to communication quality, adequate evaluation cannot be performed using existing methods. The paper also discussed the impact on communication quality caused by the difference in pulsive-noise occurrence time, and raised issues in evaluation methods.

- Date and time: 2:00 p.m. to 2:30 p.m. August 7 (Wed)

- Session name: Technical Papers Session: Control of Electromagnetic Interference: Shielding, Filtering, Modeling and Prediction

- Paper title: Analysis of Common-Mode Filter Effect for Induced Voltage by Bulk Current Injection Using Chain Parameter Matrix

- Authors: Nobuo Kuwabara, Tohlu Matsushima, Yuki Fukumoto
Kyushu Institute of Technology, Japan

- Presenter: Nobuo Kuwabara

- Presentation overview: This paper analyzed the effects of common mode filters (CMFs) by estimating the interference voltage injected into a communication cable by a BCI (bulk-current-injection device) using chain-parameter-matrix calculations. The relationship between injected signal voltage and induced voltage from 1 MHz to 400 MHz was calculated using the matrix elements of a balun, CMF, BCI probe, and unshielded twisted pair wire, and the results closely matched actual measurement values. Thus, the paper showed that CMFs' effectiveness at suppressing radio interference could be analyzed by using the proposed method.

- Date and time: 2:30 p.m. to 3:00 p.m. August 8 (Thu)

- Session name: Modeling of Wireless Power Transfer System

- Paper title: Radiated Emission Modeling of a Wireless Power Transfer System

- Authors: Hanyu Zhang³, Guanghua Li⁴, Viswa Pilla⁴, and Chulsoon Hwang³
³ EMC Laboratory, Missouri University of Science and Technology, Rolla, MO, USA
⁴ Apple Inc., Cupertino, California, USA

- Presenter: Hanyu Zhang

- Presentation overview and comments: This paper proposed a method of modeling and estimating the properties of 30-MHz to 1-GHz radiated emissions from WPT devices using semiconductor switching elements as a supply source. In the verification of the validity of this method using actual measurements, the power-supply-source cable terminated with an artificial mains network (AMN).

However, data on the AMN properties showed that at 100 MHz or more, the CM impedance of the two wires deviated greatly from 25Ω . Therefore, at the Q&A session, we commented that CISPR is now at the stage of standardizing VHF-LISNs. From this paper, we recognized that among other uses, VHF-LISNs could be used as a tool for modeling and verifying power lines. This paper was also nominated as a candidate for EMC Best Paper.

4. Tutorial

- Date and time: 8:30 a.m. to 12:00 p.m. August 5 (Mon)
- Session name: Understanding EMC Regulations and Standards
- Topics & Speakers
 - “Introduction to Standards and Regulations”, Henry Benites, USA
 - “USA FCC Overview”, William Hurst, ANAB, USA
 - “TCB Overview of FCC Testing Development”, William H Graff, TCB, USA
 - “Success of Mutual Recognition Agreements”, Nathalie Rioux, NIST, USA
 - “FDA”, Yaswaman Ardeshirpour, USFDA, USA
 - “Role of Accreditation Bodies”, Megan McConnell, A2LA, USA
 - “CISPR H and CISPR A”, Andy Griffin, Cisco, USA
 - “CISPR SCI, CISPR 32 and CISPR 35”, Ghery S. Pettit, USA
 - “Automotive Standards Development by CISPR/D”,
“Review of CISPR 12, CISPR 36 and CISPR 25”, Craig Fanning, USA

This tutorial covered the general history of EMC-related regulations and the history of US and EU regulations. “VCCI” and “VLAC” were also mentioned in the presentation materials. The explanation of CISPR A also covered international standardization of VHF-LISNs.

- Date and time: 1:30 p.m. to 3:00 p.m. August 5 (Mon)
- Session name: EMC Measurements
- Topics & Speakers
 - “Use of Basic Measurement Facilities, Methods and Associated”,
Ghery S. Pettit, USA
 - “CISPR 32 Emissions Testing”, Ghery S. Pettit, USA
 - “Performing Immunity Testing to Transient Signals”, Tom Braxton, USA

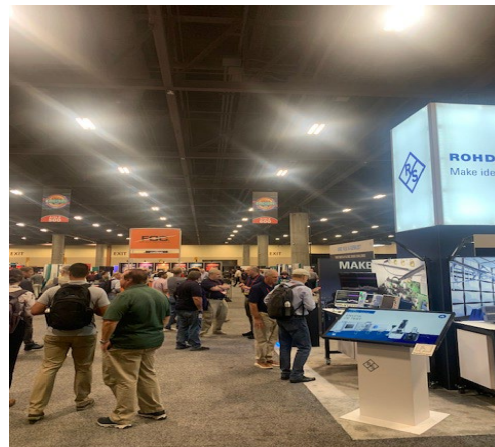
This tutorial covered RVC (reverberation chambers). It also explained that CISPR 32, which merges CISPR 13 and CISPR 22, arose in the context of the emergence of digital TV. One attendee asked whether 60-GHz class emissions were being considered. The answer was that this had not yet been decided.

5. Impressions

This symposium was held at a convention center in Phoenix, Arizona. Japan was also experiencing a heat wave during this period, but when we arrived in Phoenix, the temperature was 115°F (45°C). However, the venue was air conditioned as usual, to the point of requiring jackets. This year, perhaps due to EMC JAPAN/APEMC 2024 held in Okinawa in May, the number of papers adopted from Japan had unfortunately decreased from 11 last year to 5 this year. While we hope that many papers are submitted from Japan next year, VCCI Council would also like to promote the submission of a paper summarizing WG deliberation results after a thorough examination by the Technical Subcommittee. The Standards Session, which started in 2019, has been firmly established, and we were able to meet many members discussing these topics at CISPR. We felt that those at the IEEE EMC symposium recognized the position and importance of international-standard enactment.



In front of the IEEE EMC+SIPI 2024 sign



Exhibition hall for sponsor companies

II. A2LA meeting report

Date and time: 10:00 a.m. to 10:30 a.m. August 7 (Wed), 2024

Venue: Academic conference room, Exhibit Hall

Participants: A2LA: Ms. Megan Riebau, EMC Program Manager

Mr. Daniel Hopp, Accreditation Officer

VCCI: Akira Oda, Executive Director; Yoko Inagaki, Program Manager

Objective: A2LA (American Association for Laboratory Accreditation) has signed an MOU with VCCI to use the IEEE EMC+SIPI 2024 exhibit as an opportunity to meet face to face and report on the latest news and exchange opinions.

Agenda:

1. Speech from VCCI Council on their latest news

- Document: VCCI Update (Aug. 2024)

VCCI Executive Director Mr. Oda gave a business overview and reported the latest news regarding VCCI Council, focusing on the following topics:

- Appointment of Mr. Yajima as Councilor, and Mr. Hayashi as Director, number of members (including overseas members), trends in the number of registrations of product conformity, market sampling test results, guidance documents, International Forum (face to face), 40th anniversary, and more
- Explanation of the list of A2LA-accredited laboratories currently registered with VCCI

2. Speech from A2LA on their latest news

Ms. Megan Riebau spoke on the latest accreditation news and the latest topics. Among the latest accreditation trends was the news that recently, accreditation options are not limited to electronics departments, but are also expanding to food products. 178 accredited laboratories were reported to conform to VCCI rules. Of these, 152 conform to the VCCI-CISPR 32 Technical Requirements.

3. Main opinion exchange

An attendee asked whether VCCI Council’s old Technical Requirements V-3 were still within the scope of accreditation. The response was that for new registrations, only the new Technical Requirements (VCCI-CISPR 32) were valid, but that V-3 might apply to some confirmation tests for additional registrations and market sampling tests. There was also a request to confirm how to access VCCI Council’s members-only pages, to which the speaker responded on the spot. Currently, the MOU expiry date is May next year, but we confirmed that A2LA intends to renew the MOU next year.



At the A2LA exhibition venue

III. ANAB meeting report

Date and time: 10:40 a.m. to 11:10 a.m. August 7 (Wed), 2024

Venue: Academic conference room, Exhibit Hall

Participants: ANAB: Mr. Randy Long, Accreditation Manager

VCCI: Akira Oda, Executive Director; Yoko Inagaki, Program Manager

Objective: ANAB (ANSI National Accreditation Board) has signed an MOU with VCCI to use the IEEE EMC+SIPI 2024 exhibit as an opportunity to meet face to face and report on the latest news and exchange opinions.

Agenda:

1. Speech from VCCI Council on their latest news

- Document: VCCI Update (Aug. 2024)

VCCI Executive Director Mr. Oda gave a business overview and reported the latest news regarding VCCI Council, focusing on the following topics:

- Appointment of Mr. Yajima as Councilor, and Mr. Hayashi as Director, number of members (including overseas members), trends in the number of registrations of product conformity, market sampling test results, guidance documents, International Forum (face to face), 40th anniversary, and more
- Explanation of the list of ANAB-accredited laboratories currently registered with VCCI

2. Speech from ANAB on their latest news

The organization's operational systems are currently being revamped to enhance security-related operations, and the process is due to be completed in 2025.

3. Main opinion exchange

Some cases were reported to have failed VCCI Council's market sampling tests. An attendee asked whether the laboratories that tested these failed cases were accredited by ANAB. There have been no such cases these past eight years. The failure rate in FY 2023 was higher than in the past, and when an attendee asked whether a threshold had been set, the answer was no, but that the failure details (and importance) were being examined. At this stage, there are no serious violations. Currently, the MOU expiry date is May next year, but we confirmed that ANAB intends to renew the MOU next year.



At the ANAB exhibition venue

IV. NVLAP meeting report

Date and time: 11:20 a.m. to 11:50 a.m. August 7 (Wed), 2024

Venue: Academic conference room, Ballroom C

Participants: NVLAP: Ms. Amanda McDonald, Program Manager

Ms. Janneth I. Marcelo, Program Manager

VCCI: Akira Oda, Executive Director; Yoko Inagaki, Program Manager

Objective: NVLAP (National Voluntary Laboratory Accreditation Program) has signed an MOU with VCCI to use the IEEE EMC+SIPI 2024 exhibit as an opportunity to meet face to face and report on the latest news and exchange opinions.

Agenda:

1. Speech from VCCI Council on their latest news

- Document: VCCI Update (Aug. 2024)

VCCI Executive Director Mr. Oda gave a business overview and reported the latest news regarding VCCI Council, focusing on the following topics:

- Appointment of Mr. Yajima as Councilor, and Mr. Hayashi as Director, number of members (including overseas members), trends in the number of registrations of product conformity, market sampling test results, guidance documents, International Forum (face to face), 40th anniversary, and more
- Explanation of the list of NVLAP-accredited laboratories currently registered with VCCI

2. Speech from NVLAP on their latest news

- NVLAP is an organization within NIST (National Institute of Standard and Technology) under the US Department of Commerce. Federal stakeholders include computer- and security-related institutions. NVLAP is a member of the three institutions ILAC, APLAC, and IAAC. NVLAP conducts various accreditations including those related to EMC, but lately, accreditations in China have been on a downward trend. NVLAP also conducts accreditations for product safety, matters relating to medical equipment, biometrics, and food products.

3. Main opinion exchange

We stated that we would like to be notified when the VCCI Technical Requirements (VCCI-CISPR 32) are revised. When asked if we would hold an event for our 40th anniversary next year, we responded that we were planning a memorial ceremony, which NVLAP was welcome to attend. Currently, the MOU expiry date is May next year, but we confirmed that NVLAP intends to renew the MOU next year.



At the NVLAP meeting venue

Status on FY2024 Market Sampling Tests

Market Sampling Test Subcommittee

As of September 30, 2024

Planned number of market sampling tests	Purchase-based	65
---	----------------	----

Terms of sampling tests	Selected samples	Cancelled (Not shipped, etc.)	Testable samples	Test completed breakdown below	Judgment			
					Passed	Failed - tentative		
						Finally passed	Finally failed	Pending
Grand total	32	0	32	25	24	0	0	1

Loan-based testing total		32	0	32	25	24	0	0	1
Term (breakdown)	1 st Quarter	20	–	20	20	19	–	–	1
	2 nd Quarter	12	–	12	5	5	–	–	–
	3 rd Quarter	–	–	–	–	–	–	–	–
	4 th Quarter	–	–	–	–	–	–	–	–

"Failed- tentative" in FY 2023	Target samples	Passed	Failed	Pending
	2	–	1	1

FY 2024 total (Including "Failed- tentative" from FY 2023)	Passed	Failed	Pending
	24	1	2

Document inspection	Planned samples	Selected samples	Cancelled (withdrawal, etc.)	Inspectable samples	Pre-check completed	Judgment completed	Judgment	
							Cleared	Problems identified
	50	43	2	36	35	24	23	1

Company	HYTEC INTER Co., Ltd.
Device: model	Outdoor wireless access point: MO10
Test result	Conducted emission measurement -Wired network port: Over 24.7 dB at 0.207 MHz (AV value)
Cause/improvement	<p>Cause: The VCCI Class B conformity test conducted by the overseas OEM source found EMI cores mounted on the circuit board, but these were missing from the mass-produced product.</p> <p>Countermeasures: When used without grounding, the product in question was within the Class A limits in the Technical Requirements (VCCI-CISPR 32:2016). Therefore, the product name was changed to "PRISM MO10" and a new Class A registration was filed for the product. Because mounting EMI cores is currently difficult, and because the client has not requested a Class B registration, only the preceding countermeasure has been offered.</p> <p>Measures to take on stocked and shipped products: For products that have already been shipped, customers will be notified that the product is a Class A product, and sent instruction manuals for Class A products. Any reports of radio interference will be addressed appropriately such as by confirming the facts and recalling the product. For products in inventory, the model number will be changed to "PRISM MO10"; and the instruction manual will be replaced with one for Class A product specifications.</p> <p>Prevention: Conduct thorough conformity tests in house on products measured outside the company, for example those for which new reports were created by the OEM source.</p>

Report from the Secretariat

● List of Members (July 2024- September 2024)

New members

Membership	Member No.	Company Name	Country
Regular	4387	Fsas Technologies Inc.	JAPAN
Regular	4388	EnGenius Networks Japan	JAPAN
Regular	4389	Lithiunal Energy Inc.	JAPAN
Regular	4393	SPACE CORP.	JAPAN
Regular	4396	TVS REGZA Corporation	JAPAN
Regular	4384	Penguin Computing- Part of Smart Global Holdings	USA
Regular	4385	Vertiv Tech Co., Ltd.	CHINA
Regular	4386	VHOOD PTE LTD	SINGAPORE
Regular	4391	Rebellions Inc.	KOREA
Regular	4395	Wuhan TenaFe Electronics Co., LTD	CHINA
Regular	4397	Lonton Information Technology (Heyuan) Co., Ltd.	CHINA
Supporting	4382	Intertek Semko AB	SWEDEN
Supporting	4390	Element Materials Technology Dallas-Plano West	USA

Company name change

Membership	Member No.	Company Name	Country	Old company name
Regular	3780	Ericsson Enterprise Solutions, Inc.	USA	Cradlepoint, Inc.
Supporting	757	Eurofins Electrical and Electronic Testing NA, Inc.	USA	Eurofins MET Laboratories, Inc.
Supporting	892	HCT AMERICA, INC.	USA	Hyundai C-Tech, Inc. dba HCT America, Inc.
Supporting	3498	Keyway Testing Technology (Guangdong) Co., Ltd.	CHINA	Guangdong Keyway Testing Technology Co., Ltd.
Supporting	3598	Intertek Testing Services (Shanghai FTZ) Co., Ltd.	CHINA	Intertek Testing Services Ltd., Shanghai

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

● FY 2024 schedule of VCCI events and training seminars

<p>April</p>	<p>May</p>	<p>June</p> <ul style="list-style-type: none"> • Release VCCI Dayori No. 153 • COMPUTEXTAIPEI • Education and training seminar “The basic technique of EMI measurement”
<p>July</p> <ul style="list-style-type: none"> • TECHNO-FRONTIER 2024 • Education and training seminar “The basic of electromagnetic waves, EMI measurement technique” • Business report meeting 	<p>August</p> <ul style="list-style-type: none"> • Release Annual Report 	<p>September</p> <ul style="list-style-type: none"> • Release VCCI Dayori No. 154
<p>October</p> <ul style="list-style-type: none"> • CEATEC 2024 • Education and training seminar “The basic technique of EMI measurement” 	<p>November</p> <ul style="list-style-type: none"> • Education and training seminar “The basic of electromagnetic waves, EMI measurement technique (lecture)” 	<p>December</p> <ul style="list-style-type: none"> • Release VCCI Dayori No. 155 • Education and training seminar “The basic of electromagnetic waves, EMI measurement technique (hands-on training)”
<p>January</p> <ul style="list-style-type: none"> • Education and training seminar “The level up of the EMI measurement technique” 	<p>February</p> <ul style="list-style-type: none"> • Technical Symposium (plan) • Education and training seminar “The EMI measurement instrumentation uncertainty (MIU)” 	<p>March</p> <ul style="list-style-type: none"> • Release VCCI Dayori No. 156

● Status of Compliance Test Notifications

July 2024—September 2024 (Product names are examples and are not limiting)

Classification of MME (Product types are not limited to only the following examples.)			Classification code		July 2024			August 2024			September 2024			
			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	20	0	20	23	1	24	18	0	18
		Stationary	Workstation, Desktop PC, etc.	B 2	b 2	4	11	15	4	15	19	6	8	14
		Portable	Laptop PC, Tablet PC, etc.	C 2	c 2	0	24	24	0	24	24	0	37	37
		Other computers	Wearable computers, Wearable device, Smart watch, Smart glass, etc.	E 2	e 2	0	1	1	0	1	1	3	4	7
	Peripheral / Terminal	Memory device	HDD, SSD, USB Memory, Media drive, Disk device, NAS, DAS, SAN, etc.	G 2	g 2	7	21	28	13	12	25	13	14	27
		Printer device	Printer including multifunction machine, etc. (portable)	H 2	h 2	6	3	9	3	8	11	2	5	7
		Display device	CRT display, Monitor, Projector, etc.	J 2	j 2	11	55	66	6	67	73	6	76	82
		Other I/O devices	Image scanner, OCR, Pen tablet, Stylus pen, etc.	M 2	m 2	1	4	5	2	3	5	3	1	4
		General purpose terminal	Display controller terminal, etc.	N 2	n 2	0	2	2	0	0	0	0	0	0
		Special purpose terminal	POS, Terminal for finance, insmance, etc.	Q 2	q 2	8	7	15	5	1	6	5	1	6
		Other peripheral	PCI Card, Graphics Card, Mouse, Keyboard, Cradle, etc.	R 2	r 2	8	35	43	2	24	26	3	36	39
		Copying machine / Multifunction copying machine	Copying machine, Multifunction copying machine, etc. (Stationary)	S 2	s 2	2	0	2	0	0	0	0	4	4
	Communications equipment	Terminal equipment	Mobile phone, Smart phone, PHS phone, etc.	T 2	t 2	0	1	1	0	0	0	0	11	11
			Telephone device such as PBX, FAX, Key telephone systems, Cordless phone, etc.	U 2	u 2	0	0	0	3	0	3	5	0	5
		Network-related equipment	Communication line connecting device including Modem, Digital transmission unit, DSU, TA, Media converter, etc.	V 2	v 2	2	2	4	1	3	4	2	0	2
			LAN-related device, including Router, HUB, etc. Local switch, etc.	W 2	w 2	32	17	49	47	29	76	108	17	125
	Other communication equipment	Other communication equipment	X 2	x 2	5	4	9	17	3	20	11	3	14	
	Broadcast receiver equipment	TV, Radio, Tuner, Video recorder, Set-top box, etc.	/	k 2	/	0	0	/	0	0	/	2	2	
Audio equipment	Speaker, Amplifier, IC recorder, Digital audio player, Headset, DTM, AI speaker, etc.	L 2	l 2	0	6	6	0	6	6	0	9	9		
Video equipment	Video equipment	Digital video camera, Web camera, Network camera, Video player, Photo frame, Digital camera, Drive recorder, etc.	I 2	i 2	4	6	10	7	7	14	7	15	22	
	Other video equipment	VR goggles, Scan converter, etc.	P 2	p 2	0	0	0	2	0	2	1	1	2	
Entertainment lighting control equipment	Entertainment lighting control equipment, etc.	Z 2	z 2	0	0	0	0	1	1	0	0	0		
Other MME	Entertainment / Education	Electronic stationery	Electronic dictionary, e-book reader, Translator, Calculator, etc.	D 2	0	0	0	0	0	0	0	0	0	
		Electronic toy	Game console, Game pad, toy drone, etc.	Y 2	0	1	1	0	0	2	13	15	0	
		Other Entertainment / Education equipment	Navigator, AI robot, etc.	F 2	0	1	1	0	0	0	0	0	0	
	Other MME	MME other than the above	O 2	o 2	1	8	9	6	2	8	8	1	9	
Total						111	209	320	141	207	348	203	258	461

● 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 members of application for registration 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 (July 2024 – September 2024)

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:
KSIGNTESTING CO., LTD.	KSIGNTESTING CO., LTD.	-	-	-	○	-	R-20227	2027/7/28	Building 5, No. 316, Jianghong South Road, Binjiang District, Hangzhou 310052, China	KSIGNTESTING CO., LTD.
Taiwan Testing and Certification Center	Conduction Test Site 10 m	-	-	-	-	-	C-20186	2027/7/28	No. 8, Lane 29, Wenming road, Guishan district, Taoyuan city, Taiwan, R.O.C.	Taiwan Testing and Certification Center
LabTest Certification Inc.	LabTest Richmond Lab	-	-	-	○	-	R-20229	2027/7/28	3128-20800 Westminster Hwy, Richmond, BC, Canada	LabTest Certification Inc.
LabTest Certification Inc.	LabTest Richmond Lab	-	-	-	-	-	C-20189	2027/7/28	3128-20800 Westminster Hwy, Richmond, BC, Canada	LabTest Certification Inc.
LabTest Certification Inc.	LabTest Richmond Lab	-	-	-	-	-	T-20189	2027/7/28	3128-20800 Westminster Hwy, Richmond, BC, Canada	LabTest Certification Inc.
LabTest Certification Inc.	LabTest Richmond Lab	-	-	-	-	-	G-20225	2027/7/28	3128-20800 Westminster Hwy, Richmond, BC, Canada	LabTest Certification Inc.
International Standards Laboratory Corp.	Chamber 02	-	-	-	-	-	C-20188	2027/7/28	No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan	International Standards Laboratory Corp.
International Standards Laboratory Corp.	Chamber 02	-	-	-	-	-	T-20188	2027/7/28	No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist., Tao Yuan City 325, Taiwan	International Standards Laboratory Corp.
Kiwa Netherlands B.V.	Kiwa EMC & Wireless lab. Apeldoorn	-	-	-	-	-	G-20223	2027/9/9	Wilmersdorf 50, The Netherlands	Kiwa Netherlands B.V.
The State Radio_monitoring_center Testing Center	SAC-10	-	-	-	-	-	C-20190	2027/9/9	No. 80, Zhaojiachang, Beizang, Daxing District, Beijing, People's Republic of China	The State Radio_monitoring_center Testing Center
The State Radio_monitoring_center Testing Center	SAC-10	-	-	-	-	-	T-20190	2027/9/9	No. 80, Zhaojiachang, Beizang, Daxing District, Beijing, People's Republic of China	The State Radio_monitoring_center Testing Center

Company name	Equipment name	3 m	10 m	30 m	Dark 3m	Dark 10m	Registration number	Effective date	Location	Contact to:
Audix Technology (WuJiang) Co., Ltd.	Audix Wujiang No. 3 3 m Semi-anechoic chamber	-	-	-	-	-	G-20226	2027/9/9	No. 1289, Jiangxing East Road, The Eastern Part of Wujiang Economic Development Zone, JiangSu, China	Audix Technology (WuJiang) Co., Ltd.

Closing words

In 1985, the year VCCI Council was founded, an international science and technology exhibition called "Tsukuba Science Expo" (Expo '85) was held. Next year, it will have been 40 years since that momentous occasion.

Although I was a student at the time, my amazement at the exhibition is still vividly burned into my mind. Here, I'd like to reflect on Expo 85 while looking fondly back on the shock and excitement of those days, and the hope we had for the future.

The first thing that hit me was the sheer sense of scale. The vast venue was lined with innovative structures reminiscent of a futuristic city, and dotted with pavilions showcasing the greatest science and technology each country had to offer. I was blown away by the multimedia and robotics technology on display, both rarities at the time. I was especially proud to see Japan's impressive technical capabilities, and at the same time, immensely hopeful for our country's future. The futuristic city theme of the exhibition feels more retro-futuristic now, but at the time, it was as if I'd wandered into a science fiction movie.

What left the greatest impression on me was the space-development exhibit. Upon seeing the model of the space station and the demonstration of an astronaut training session, I was filled with wonder. Back in those days, a space-shuttle launch was a major

event, and space development represented our very hope for the future.

Meanwhile, there were many opportunities to experience other countries' cultures. As I sampled all the different countries' cuisine, handicrafts, and people, I was struck by the size and diversity of the world. To someone like me, who had grown up in the insular society of Japan, this valuable experience greatly broadened my horizons. I feel that being exposed to different cultures and values made me re-examine my own thinking and values, and helped me cultivate a more flexible mindset.

However, Expo '85 offered more than just entertainment. It also made us consider how scientific and technological progress would change our everyday lives, and the issues arising from this progress. Looking back, I recall that many problems faced by modern society, such as environmental and energy problems, had already been raised at the expo.

VCCI Council, which was founded that same year, is an organization dedicated to the voluntary control of electromagnetic interference from multimedia devices, one of our aforementioned environmental problems. We were among the first to start addressing environmental problems that were not so apparent in those days, and we aim to further advance our initiatives into the future. (K.S.)

Unauthorized duplication and republication are prohibited.

VCCI Dayori **No.155 (2025.1)**
Not for sale

Published on: December 20, 2024

Edited and published by: VCCI Council

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