SMB/6364/R

STRATEGIC BUSINESS PLAN (SBP)

IEC/TC OR SC:	SECRETARIAT:	DATE:
CISPR	**GB**	**13 October 2017**

Please ensure this form is annexed to the Report to the Standardization Management Board if it has been prepared during a meeting, or sent to the Central Office promptly after its contents have been agreed by the committee.

A. STATE TITLE AND SCOPE OF TC

CISPR :International special committee on radio interference

Scope:

Standardization in the field of electromagnetic compatibility (EMC) including:
1) Protection of radio reception in the range 9 kHz to 400 GHz from interference caused by operation of electrical or electronic products and systems in the electromagnetic environment.
2) Measurement instrumentation, facilities, methods and statistical analysis for the measurement of disturbance.
3) Limits for radio disturbances caused by electrical or electronic appliances and systems.
4) Requirements for the immunity of electrical appliances, multimedia equipment, information technology equipment and sound and television broadcast receiving installations from interference.
5) Liaison with IEC Technical Committees that maintain basic standards that apply the prescriptions of methods of measurement of immunity. Test levels for immunity tests are set by CISPR in relevant product standards.
6) The consideration jointly with other IEC and ISO committees of the emission and immunity requirements for devices and products where their standards cover EMC requirements which do not match to the respective requirements in CISPR standards.
7) Taking into account the impact of human safety issues on disturbance suppression and immunity of electrical products.
For further information about CISPR standards see the CISPR Guide and the CISPR dashboard.

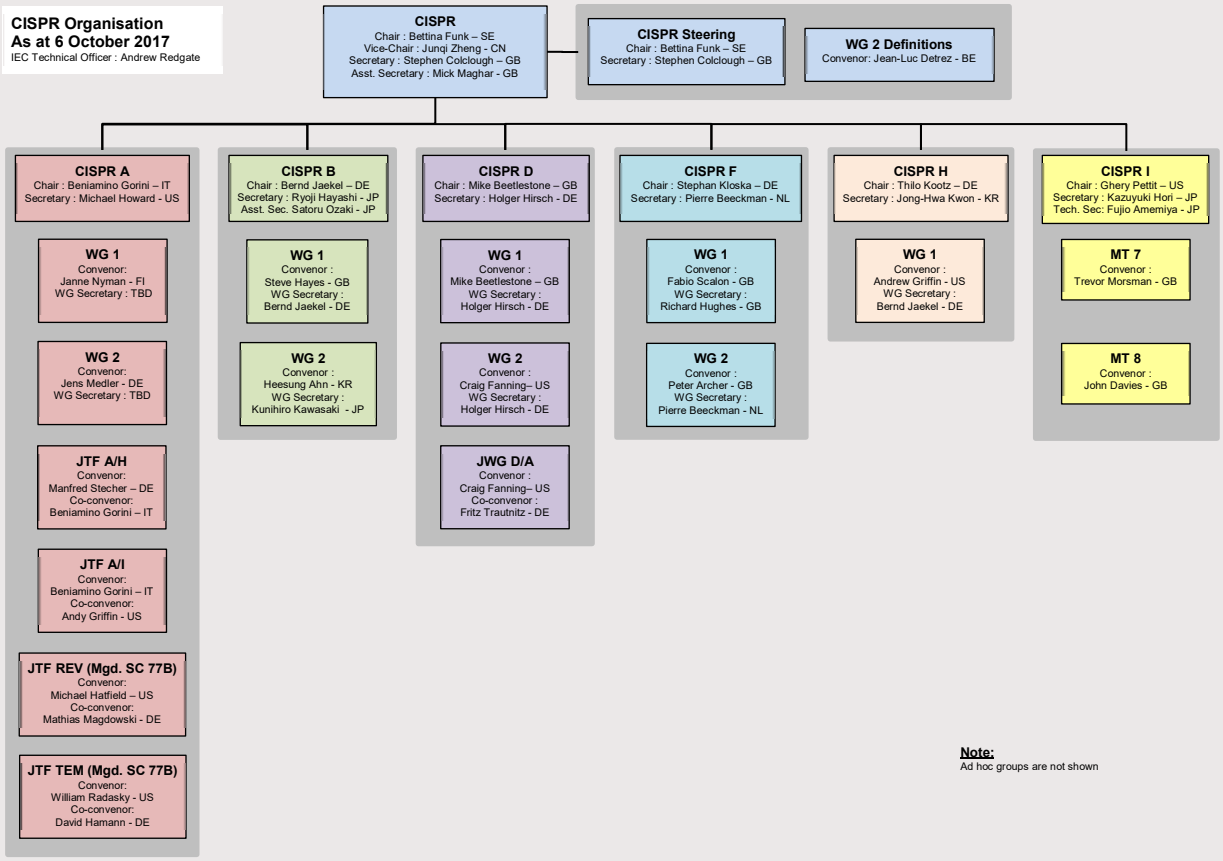
Note: The following list is not part of the CISPR scope but important to recognize that CISPR's member constituency includes more than national committees. I-members are shown here as CISPR is a special committee, unique in this aspect and the IEC web-site structure currently has no other section for such I membership.
The CISPR is composed of the following bodies:
Participating National Committees of the IEC and the following International Organizations:
- CIGRE (International Council on Large Electric Systems)
- EBU (European Broadcasting Union)
- ETSI (European Telecommunications Standards Institute)
- IARU (International Amateur Radio Union)
- ITU-R (International Telecommunication Union - Radio-communication Sector)
- ITU-T (International Telecommunication Union - Telecommunication Standardization Sector)

New or emerging trends in technology

Section E details the trends in technology which the activity of CISPR is concerned with.

B. MANAGEMENT STRUCTURE OF THE TC

The structure of CISPR is shown below:



This structure was last formally reviewed at the CISPR Steering plenary meeting in 2017.

Changes since last review are:

VISPR new Vice Chair,
CISPR/A WG1 and WG 2 new Convenors,
CISPR/H new Secretary
CISPR/I WG2 and WG4 disbanded, MT7 and MT8 established

Each subcommittee has its own editing group.

The structure will next be formally reviewed in October 2018. There are no planned changes to the current structure.

C. BUSINESS ENVIRONMENT

Virtually all electrical products, systems and installations radiate (through the air) or conduct (over the mains and other connected interfaces) unwanted radio frequency emissions. These emissions may affect radio services and radio reception. To ensure that such emissions are suitably controlled, it is important that the CISPR continues to retain its function as the focus point for controlling unwanted radio frequency emissions within the entire IEC. Note that CISPR does not address radio transmitters.

The technical and economic impact of CISPR activity extends across virtually the whole of the electrical and electronics industries. In particular, legislation of many countries makes use of a wide range of CISPR standards, either by taking parts from the standards, or by making reference to them in full. Consequently, nearly all types of electrical/electronic equipment are being tested according to CISPR standards or to national or regional standards derived from CISPR standards or standards which have significant similarities to show product compliance to these standards.

Finally, there is an increased demand for radio services, using existing and new technology, which in some cases use radio services in frequency bands not previously addressed. Whilst this is not within CISPR control, liaison with organisations which may present new technology issues is seen as a necessary activity. This is due to the control of unintended emissions and disturbances associated with digital circuitry and not associated with the primary radio transmitter frequency spectrum (which is not within CISPR's scope) being a key factor in enabling these services to develop.

As a consequence, businesses are affected significantly by the standards that CISPR produces and as such participate in the technical activity of the committee.

D. MARKET DEMAND

CISPR standards are amongst the best-selling publications of the IEC as they are used for a very wide array of products. The CISPR has recognised that products are now being developed that combine several technologies and so has developed multimedia standards which apply for example to information technology and broadcast receivers which may be part of a single product while still retaining product specific standards desired by industry. Considerable interest from National Committees has been generated by the multimedia work. The basic measurement standardization work in CISPR continues to support the testing community, including: manufacturers of measuring receivers and accessories (coupling networks, antennas, antenna towers) and test labs, as well as test houses and calibration centres which in general are assessed for competency by accreditation bodies. CISPR is also monitoring the work in IEC SC-77A WG 8 on compatibility levels for the mains in the frequency range 9 kHz to 150 kHz covering the operation of SmartGrid meters and equipment as well as grid connected power converters. CISPR's interest is in the range above 9 kHz. Consequently, work in CISPR/A and CISPR/H may be needed to address the development of emission limits and new measurement techniques for differential signals on the mains up to 150 kHz.

The CISPR has to continue to maintain and update its standards in the face of new developments in radio services and technology. This challenge has been enthusiastically taken on as witnessed by the intense activity of its subcommittee programmes of work and the active experts in its committees, but there continues to be a need to have more technical experts as jobs change, employer support varies and retirements naturally occur. With the increasing use of the radio spectrum at ever higher frequencies, CISPR is now considering the need to control unwanted emissions in the 6 to 40 GHz range. This will entail carrying out development and consultation with regard to limits and their applicability, to test equipment and to test methods.

In order to improve user awareness, and improve sales, the CISPR Guide was developed, which is now a key part of the EMC zone of the IEC website. This is reviewed and updated by the CISPR Steering Committee. Parts of the guide, which gave history of some CISPR standards was considered to be archival information and were removed. What remains is considered to be the most useful to users of CISPR standards. The archival material was not lost and has been transferred to the informative publication CISPR 16-3. The EMC Zone is also used to make information available to users and developers of CISPR standards. Recently a new document was uploaded to the EMC zone which summarises the history and rationale for the different Definitions of Environments used in CISPR publications.

CISPR has always taken the initiative for standards in the area of EMC, including emission and immunity aspects as they apply to its product committees. The CISPR customers come from all areas of industry (manufacturers), testing organizations, and regulators as CISPR standards have a broad application with product committees meeting regulatory or industry needs. For example, at the regional level, CENELEC has harmonised most of its standards with CISPR to meet the needs of the European Union in support of its EMC Directive. Consequently there is a broad range of participants within the Sub-Committees representing these areas:

- Regulatory authorities,
- Technical universities,
- Research centres,
- Telecommunication organisations,
- Manufacturers and manufacturing organisations of products and test instrumentation,
- EMC testing and calibration institutes
- Practicing test labs
- Consultants that support test labs.
- Test lab accreditation bodies.

This widely diverse membership helps to create a system approach covering aspects needed to bring products to market that do not present interference to radio services.

E. TRENDS IN TECHNOLOGY AND IN THE MARKET

Trends in technology and trade that require the CISPR to increase its activity include:

1. Growth of SmartGrid systems and by extension Smart City installations, encompassing challenges in respect of future power quality and reliability of services, application of special power meters, efficient

use of power lines for transfer and distribution of electric energy as well as communications. Since the SmartGrid activity resides in the frequency range 9 kHz to 150 kHz, activity in this frequency range is accelerating to assist in defining requirements for SmartGrid devices that may cause interference to radio services in this band.

2. Use of radio spectrum by mobile devices above 18 GHz (eg. 5G Mobile Services)
3. Higher installed density of electrical and electronic products in all RF environments,
4. Digitalisation of all radio broadcast services,
5. Growth of mobile radio communication services,
6. Integration of radio devices into non-radio products,
7. Mixed use of allocated radio frequency spectrum by mobile radio communication and fixed broadcast services,
8. Increase of shared (co-existence) use of the radio frequency spectrum allocated to primary and secondary radio services by short range radio-communication devices (SRDs) and other wireless devices such as ISM equipment offering wireless power transfer (WPT).
9. Introduction of electric vehicles including the use of wired and wireless battery charging systems.
10. Widespread application of wireless power transfer (WPT) to power or recharge all sorts of non-automotive battery operated equipment and its potential to cause radio interference.
11. Transition from traditional incandescent and discharge lighting technologies to solid-state (LED) lighting.
12. Application of DC-grid networks.
13. Mixed use of wired interfaces for control, communication, data and powering, e.g. Power over Ethernet and power-line communication,

These changes in technology will require:

1. Advances in the development of measurement methods, measurement sites and instrumentation. These measurement considerations have to be associated with limits for emissions and the need to place in perspective the associated product immunity needs using standards developed by TC 77 and test levels selected by the product committee.
2. The extension of the frequency range requiring emission control, and increasing attention to immunity characteristics and in some cases the emission characteristics, in particular in the ranges 9 kHz to 150 kHz and 6 to 40 GHz.
3. Assessing the effects of the increased probability of radio frequency interference (RFI) or mutual electromagnetic incompatibility in wire-line networks, in particular for broadband communication in wire-line telecom and LV a.c. or d.c. mains networks.
4. Determining the interference potential for newer RF sensitive products that appear in the market on a regular basis, e.g. smart phones, internet ready devices, etc.
5. Re-assessment of emission limits and application of immunity tests. i.e. have interference complaints lessened and have immunity levels increased, respectively or have the opposite occurred.
6. Addressing the increased use of and need for energy efficient products that will require attention to the attendant EMC issues and testing challenges of such technology.
7. Dealing with the introduction of such products as LED lighting and wireless power transfer and the associated potential and existing interference from these devices.
8. The ever increasing diversity of types and technologies of wired interfaces for control, communication, data and powering (or combinations thereof) requires a more generic methodology on how disturbances from these interfaces must be specified and measured.
9. Liaisons with the ITU and other TCs, to ensure that the latest radio technology developments are considered in CISPR standards.

Market Trends

The CISPR continues to see the market of the use of the radio frequency spectrum expanding every day and in virtually every way. With the economic conditions, there will be need to ensure that industry has the option of using the spectrum efficiently and effectively with limited interference to existing radio services and electrical/electronic products. This trend is expected to continue indefinitely.

While these trends continue, the support to address them is diminishing, evidenced by less available funding to work on standards especially for the travel costs to attend face to face meetings which is considered the most efficient way to come to a consensus. In addition, those that are engaged in standards in general are being reduced either by early retirement, loss of employment, or simply moving on to new areas of

technology application, in addition to the loss of travel funding. These trends parallel the market trend for products that are targeted for special application and not universal use or those that are made with less costs and less money set aside for standards work. At the present time, the CISPR's work program remains strong but the Steering Committee is very aware of the above costs and participation challenges in its reports to the IEC Standardization Management Board. In particular this past year, the Steering Committee is working to address how to replenish the loss of experts. But the solution is still not obvious. For the most part there are experts remaining to do the work but that resource is lessening. Work on the basic measurement method/instrument standards has been impacted and hence CISPR is looking for methods to seek out needed expertise such as asking national committees to help in the recruitment. There may be the possibility of enlisting the interest in the work by young professionals that join national committees and then assigned to working groups.

Finally, CISPR takes full advantage of the availability of webinar conferencing hosted by the IEC. Its Steering Committee and the Chair's Advisory Group uses this method for monthly webinars to address actions needing to be taken to keep CISPR management sensitive to the CISPR's needs. This approach eliminates travel and the need for travel funding. This may become more active at the subcommittee levels in the future.

F. SYSTEM APPROACH ASPECTS (REFERENCE - AC/33/2013)

The CISPR has for years adopted a system approach at several levels. Firstly its publications are structured into 3 levels; basic, generic and product standards. Hence, generic standards can be applied for new and existing products, thus establishing limits for compliance testing if there are no specific product standard limits already established. Basic standards provide the measurement methods, test facility requirements and measurement instrumentation specification for that compliance testing. Secondly CISPR's committee structure is organised to facilitate identification of the CISPR product standard covering the emission limits and measurement methods suitable for new and existing products, with many liaisons with other technical committees and member organisations with an interest in EMC. It also establishes joint working groups within its organisation and with TC 77 as necessary to bring together the best experts to provide emission and immunity practical solutions. TC77 is a member of the CISPR Steering Committee to ensure this close coordination.

The CISPR offers limits and methods of measurement for other IEC product committees to use in their publications. To manage this aspect, it has instituted and maintains a standards tracking tool that indicates not only which subcommittee has primary responsibility for a CISPR activity but which of the several product committees will use the work that is being addressed in the basic subcommittees (those that work with the measurement methods, instrumentation specifications and generic emission limits). Those basic methods not foreseen as being used by the product committees are given less attention or even held for consideration until there is a "customer" subcommittee for them. This is done to not unnecessarily divert experts from their main tasks as outlined in the programs of work. In addition CISPR has representative membership in the Advisory Committee on EMC (ACEC) and contributed to the text of the 2014 edition of Guide 107 (guide to the drafting of EMC publications) which is to be used to ensure the coherence of EMC requirements of product standards which have EMC aspects and are controlled by other TCs in the IEC.

The CISPR also actively encourages other IEC Product Committees to develop EMC requirements within their publications using CISPR standards thus assuring a systems approach for their work.

System evaluation group and system committees:

At this point CISPR does not envision the need to form any system committee or system evaluation group as again its structure and activity noted above is strongly based on the system approach.

Work with ISO:

There is at least one coordination with the ISO automotive committees with that of CISPR/D (automotive EMC). The two committees generally meet together or in sequence. There is no other ISO collaboration expected or needed.

Fora or Consortia:

There are no known fora or consortia that work on similar activities of CISPR as the work of CISPR remains the most relevant for manufacturers, industry, regulators, etc.

G. CONFORMITY ASSESSMENT

CISPR standards are developed and provided to serve the needs of industry for EMC tests on products intended for worldwide marketing and sales without barriers to trade. Application of the CISPR standards by manufacturer or supplier (first party), user or purchaser (second party), or independent body (third party) conformity assessment activities results in comparable, repeatable and reliable assessment results, independently of the party actually doing the conformity assessment. CISPR considers its work in developing standards that have to be met to show product compliance is equivalent to the use of the term conformity assessment. In this respect, all CISPR standards are fully in line with conformity assessment aspects set out in Part 2 of the ISO/IEC Directives. CISPR standards also contain clear advice and recommendations for the use of statistical methods to determine the conformity of a product type with a given regulation, based on type testing of a limited number of samples from series-production. These statistical methods are recognized by the majority of market surveillance authorities around the world.

CISPR standards are used in the IEC Conformity Assessment Systems, such as the IECEE CB-Scheme. They are however not part of such systems. The CISPR does not have any intention to supplement these IEC Conformity Assessment Schemes with any specific rules. Standardisation in CISPR aims at the provision of CISPR standards which are recognized by regulatory authorities around the world for use in well-established conformity assessment systems.

H. 3-5 YEAR PROJECTED STRATEGIC OBJECTIVES, ACTIONS, TARGET DATES

STRATEGIC OBJECTIVES 3-5 YEARS	ACTIONS TO SUPPORT THE STRATEGIC OBJECTIVES	TARGET DATE(S) TO COMPLETE THE ACTIONS
Provide information on test pulse generation for the verification of the weighting function of the AV and RMS/AV detectors and for general maintenance of the standard	CISPR/A Amend CISPR 16-1-1	2018
Introduction of Delta-networks for emission measurement of Grid Connected Power Converters	CISPR/A Amend CISPR 16-1-2	2017
Provide background on the uncertainty of impedance and voltage-division-factor measurements of AMNs.	CISPR/A Amend CISPR 16-1-2	2019
Provide background on the uncertainty of calibration using both methods for the calibration of absorbing clamps.	CISPR/A Amend CISPR 16-1-3	2019
Test Site Validation above 1 GHz Accounting for the antenna pattern.	CISPR/A Amend CISPR 16-1-4	2018
Test site validation at 5 m distance	CISPR/A Amend CISPR 16-1-4	2018
Cross-Polar Ratio measurement uncertainty	CISPR/A Amend CISPR 16-1-4	2018-2020
Basic test facility and test methods for radiated emission measurements in the frequency	CISPR/A Amend CISPR 16-1-4	2018-2019

range of 9 kHz to 30 MHz		
Account for a critical analysis of the LLAS validation factor	CISPR/A Amend CISPR 16-1-4	2018
Provide background on the uncertainty of test site validation in the frequency range 30 to 1000 MHz and 1 to 18 GHz.	CISPR/A Amend CISPR 16-1-4	2020
Addition of Three-Antenna Method and Standard Field Method loop antenna calibrations	CISPR/A Amend CISPR 16-1-6	2018
Include an Annex on time-domain measurements above 1 GHz to show the advantages and limitations of the method	CISPR/A Amend CISPR 16-1-6	2019
Introduction of Delta-networks for emission measurement of Grid Connected Power Converters	CISPR/A Amend CISPR 16-2-1	2017
Development of EUT volume limits for radiated emission measurements at short distances	CISPR/A Amend CISPR 16-2-3	2018
Basic test facility and test methods for radiated emission measurements in the frequency range of 9 kHz to 30 MHz	CISPR/A Amend CISPR 16-2-3	2019
Further improvements of cable arrangements and cable terminations to improve test reproducibility	CISPR/A Amend CISPR 16-2-3	2019
Introduction of Delta-networks for emission measurement of Grid Connected Power Converters	CISPR/A Amend CISPR 16-4-2	2017
Addition of uncertainty budgets for further test equipment: Large Loop Antenna System	CISPR/A Amend CISPR 16-4-2	2017
Uncertainty of radiated disturbance measurements (small EUTs at 3 m)	CISPR/A Amend CISPR 16-4-2	2017
Uncertainty of radiated disturbance measurements using hybrid antennas.	CISPR/A Amend CISPR 16-4-2	2017
Uncertainty of conducted disturbance measurements using CP & CVP	CISPR/A Amend CISPR 16-4-2	2017

Basic test facility and test methods for radiated emission measurements in the frequency range of 9 kHz to 30 MHz	CISPR/A Amend CISPR 16-4-2	2019
Emission measurements in a reverberation chamber	CISPR/A Amend CISPR 16-4-5	2019
Development of EUT volume limits for radiated emission measurements at short distances	CISPR/A Amend CISPR 16-4-5	2019
Establishment of essential requirements for radiated emissions of power electronic ISM equipment offering wireless power transfer (WPT), in the range 9 kHz to 30 MHz	CISPR/B Maintenance of CISPR 11 Ed. 6.1	2018 to 2020
Extension of the types of equipment having requirements for d.c. power ports (i.e. in addition to solar inverters)	CISPR/B Maintenance of CISPR 11 Ed. 6.1	2018 to 2020
Emission measurements for large equipment: methods and limits for *in situ* measurements	CISPR/B Maintenance of CISPR 11 Ed. 6.1	2018 to 2022
Introduce vehicle radiated emission testing for application during Wireless Charging	CISPR/D Update to CISPR 12	March 2019
Review of Digital service bands and measuring bandwidths. May include (but not limited to) digital radio, digital TV, mobile radio, ITS, Wi-Fi.	CISPR/D Amendment to CISPR 25 edition 4	December 2019
Development of a measurement procedure for electric and hybrid road vehicles for magnetic radiated field measurement for frequencies below 30 MHz.	CISPR/D New Standard CISPR 36	October 2018
Introduce emission requirements for inductive charging of household and similar equipment and of lighting equipment.	CISPR/F Develop or take over well-established methods and limits for the measurement of magnetic fields and disturbance voltage in CISPR 14-1.	2019
Introduce emission requirements for inductive charging of household and similar equipment and of lighting equipment.	CISPR/F Develop or take over well-established methods and limits for the measurement of magnetic fields and disturbance voltage in CISPR 15.	2019
For emission testing of lighting equipment, application of a technology-neutral and generic-port/interface approach to	CISPR/F Full revision of CISPR 15 (ed. 9)	2019

accommodate present and future lighting technologies.		
Deleting all pseudo-regulatory statements (e.g. 80-80 rule)	CISPR/F Maintenance of CISPR 14-1	2019
Clarifying the method for the clicks measurement in CISPR 14-1	CISPR/F Maintenance of CISPR 14-1	2019
Deleting all pseudo-regulatory statements (e.g. 80-80 rule)	CISPR/F Maintenance of CISPR 14-2	2019
Deleting all pseudo-regulatory statements (e.g. 80-80 rule)	CISPR/F Maintenance of CISPR 15	2019
Removal of the voltage probe method and consider alternatives such as the combined voltage-probe and current-probe method in CISPR 15.	CISPR/F Maintenance of CISPR 15	2020
Definition and assessment of emission limits applicable for Fully Anechoic Room for floor-standing equipment	CISPR/H Amend IEC 61000-6-3	2018
Definition and assessment of emission limits applicable for Fully Anechoic Room for floor-standing equipment	CISPR/H Amend IEC IEC 61000-6-4	2017
Definition and assessment of emission limits applicable for Reverberation chambers	CISPR/H Amend IEC 61000-6-3	2019
Definition and assessment of emission limits applicable for Reverberation chambers	CISPR/H Amend IEC IEC 61000-6-4	2019
Definition of generic limits for magnetic field radiated emissions in the frequency range 9 kHz – 30 MHz	CISPR/H Amend IEC 61000-6-3	2018
Definition of generic limits for magnetic field radiated emissions in the frequency range 9 kHz – 30 MHz	CISPR/H Amend IEC IEC 61000-6-4	2018
Definition of generic limits for electric field radiated emissions in the frequency range 9 kHz – 30 MHz	CISPR/H Amend IEC 61000-6-3	2020
Definition of generic limits for electric field radiated emissions in the frequency range 9 kHz – 30 MHz	CISPR/H Amend IEC IEC 61000-6-4	2020

Definition of the models for estimation of radiation from photo-voltaic (PV) generators and extra low voltage (ELV) in-house lighting installations	CISPR/H Amend CISPR 16-4-4	2018
Improve CISPR 32 publication	CISPR/I Amend CISPR 32 Edition 2	2019
Consider limits for emissions below 150 kHz for SmartGrid	CISPR/I Amend CISPR 32	2021
Consider increasing the upper frequency limit for emission to cover protection of Mobile Communications	CISPR/I Amend CISPR 32	2021
Improve CISPR 35 publication	CISPR/I Amend CISPR 35 Edition 1	2019
Note: The progress on the actions will be reported in the RSMB.		