

20 December 2023



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Dear Dominic,

**RE: Review of electromagnetic compatibility (EMC) rules**

Communications Alliance welcomes the opportunity to provide comments on the ACMA's *Review of electromagnetic compatibility (EMC) rules* consultation. AMTA has been involved in the development of this submission and endorses the submission.

Communications Alliance wishes to provide the following responses to the questions provided in the consultation paper.

**Question 1.** We are proposing to expand the range of EMC standards that may be used by suppliers to demonstrate compliance. This is anticipated to reduce barriers to trade, compliance costs and time to market. Do you have any comments on the proposal to reference all the EMC harmonised standards for emission under Directive 2014/30/EU in the ACMA's EMC regulatory arrangements?

Communications Alliance supports in principle the approach of expanding the range of EMC Standards, using as a basis the list of harmonised standards under *Directive 2014/30/EU* for EMC published by the Commission in the *Official Journal of the European Union (OJ)*.

In practice, when comparing the European and Australia EMC regulatory regimes, the differences between the two become apparent and need to be reviewed prior to proceeding to incorporate the European harmonised Standards under Australian arrangements. We are aware that there have been reservations from certain sectors of the industry in adopting European harmonised Standards. Communications Alliance recommends that the following items need due consideration and to be addressed by the ACMA prior to the second consultation round and development of the draft instruments scheduled for 2024:

1. Many of the EN standards listed are developed through Standards Development Organisations (SDOs) in which Australia has no involvement, so there is very little opportunity for Australian input on those standards. Although Australia participates in IEC and ISO processes through Standards Australia, a large majority of the EN Standards are developed by the European Committee for Electrotechnical Standardization (CENELEC), a European-centric SDO in which Australia has no voice.
2. The European EMC Directive covers both apparatus and installations so there will be some standards that are not applicable for EMC equipment regulation in Australia. The European EMC Directive covers apparatus (in Australia, 'equipment') and installations. Many of the Standards would apply to

infrastructure, two examples being for railway equipment and processing conveyor belts, which need to be excluded.

3. For television products, the frequency ranges that are used differ between the two regimes. In Australia, VHF Band III is widely used for television, with many or most TV viewing homes reliant on VHF, especially in the largest cities. This compares with Europe, where UHF-only digital TV is the norm and VHF Band III is used by or planned for use by Digital Audio Broadcasting (DAB or DAB+) in most jurisdictions. European jurisdictions also vary widely in the extent of reliance on broadcast TV reception, with only some (e.g. the UK; Spain) approaching the high levels of reliance on RF TV distribution seen in Australia. This suggests European EMC Standards should not automatically be relied on to address EMC issues experienced in Australia. Communications Alliance recommends that an analysis should be carried out of the frequency ranges used in these Standards, where there may be differences between frequencies used in Australia and in Europe.
4. The European EMC Standards also include Standards for radio devices,
5. The list of harmonised standards published in the OJ<sup>1</sup> is slow to be updated, both for newer versions of Standards and removing older or replaced versions. The current version of the list is 19 September 2022.
6. Work is still underway with CISPR on harmonised Standards for higher frequencies. Standards currently extend to 1 GHz, and most are transitioning to 6 GHz, with work to expand up to 40 GHz. It should be observed that at present there are no EMC measurements above 6 GHz in Europe or Australia. This means interference with products operating in the mmWave frequencies, for example 5G, is unknown.

Although the European Standards are being used by the majority of product that is imported into Australia, as these products are also being supplied to Europe, Australia needs to be sure that each Standard is suitable and that the industry wants it as an applicable Standard.

The ACMA also needs to be mindful not to over-regulate and consider exempting certain devices.

### **Overseas Standards**

Where practical, harmonisation with NZ EMC regulations is preferable, but only to the extent that Australia's interests are paramount.

With respect to harmonising with the USA and recognising FCC test results, historically it is noted that the FCC EMC Standards have not been accepted because of the different limits, mainly for conductive emissions. There are also issues relating to testing at 120 V 60 Hz, rather than 240 V 50 Hz, as compliance under the FCC would not necessarily mean compliance under the EU. Industry feels that it would be a significant change to also accept FCC test results.

Of note, all nbn tenders specify either Australian or ETSI compliance and it is very rare to quote ANSI Standards.

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<sup>1</sup> Electromagnetic compatibility (EMC). Directive 2014/30/EU [https://single-market-economy.ec.europa.eu/single-market/european-standards/harmonised-standards/electromagnetic-compatibility-emc\\_en](https://single-market-economy.ec.europa.eu/single-market/european-standards/harmonised-standards/electromagnetic-compatibility-emc_en)

## Applying the correct Standard

Communications Alliance is aware that in certain instances, devices are not being tested against the applicable Standards. A case in point is for Bluetooth-enabled products. Products are being tested against the EN 301 489-1<sup>2</sup> Standard for Bluetooth but neglecting to test the product against the applicable product Standard. Typical examples are for lightning products that are not tested against the applicable lighting EMC Standard and household appliances which are not being tested against the CISPR 14-1<sup>3</sup> Standard when these products include a Wi-Fi or Bluetooth transmitter.

## Australian EMC Standards list

Communications Alliance understands that the Australian EMC Standards list will not be maintained in its current format as a result of the proposed changes to EMC regulations. Our members feel that it is important to avoid any ambiguity that leads to industry thinking that the only acceptable Standards will be the CE or EN Standards. It will be important to maintain some flexibility for industry to choose the most appropriate Standards.

In addition, the new EMC regulations should not reintroduce the 'risk' terminology and should align with the *Radiocommunications Equipment (General) Rules 2021* in this respect.

**Question 2.** Modern vehicles are increasingly embedded with and reliant on advanced electronic and safety systems. Do you have any comments on whether the current EMC regulatory arrangements for managing EMC risks for vehicles, including electric vehicles, are effective?

Communications Alliance notes that there are issues within CISPR in updating standards to appropriately cover electric vehicles (EVs), particularly in charging mode, and when connecting back into the electric grid.

Work is still progressing slowly with CISPR but some revisions to the standards have been sent back for further consideration. Vehicle manufacturers have not agreed with the limits being proposed. The type of interference from electric vehicles is very different for ICE vehicles where Standards have been developed to address limits for spark ignition engine (high short pulse) as opposed to variable speed drives used in EVs.

In addition to electric vehicles, applicable Standards for testing other forms of EVs, such as electric scooters, bikes and skateboards, need to be considered. At present the CISPR-12<sup>4</sup> Standard is the default applicable Standard that is being used by industry.

Another issue is addressing large groups of installed EV chargers. The EMC arrangements cover individual equipment (such as a single EV charger, or a single EV in charging mode) but what about when there is an EV charging station, or a large number of EVs charging at the same location, examples being the EV version of a petrol service station or in the basements of high rise buildings. This would not be dissimilar to the scenario of a commercial office block with a range of LCD screens and other electronic devices. When EV chargers are located in a basement, there would be more of a concern due to the unknown interference from domestic devices such as radios, televisions and smart home devices. Questions that come to mind: would a

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<sup>2</sup> EN 301 489-1 *ElectroMagnetic Compatibility (EMC) standard for radio equipment and services - Part 1: Common technical requirements; Harmonised Standard for ElectroMagnetic Compatibility*

<sup>3</sup> CISPR 14-1 *Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission*

<sup>4</sup> CISPR-12 *Vehicles, boats and internal combustion engines - Radio disturbance characteristics - Limits and methods of measurement for the protection of off-board receivers*

group of chargers be exempt because they would be considered to be an installation; would a single EV charger installed in a customer premises be considered to an installation; or would individual compliant EV chargers be still compliant when installed as a group?

Communications Alliance recommends that the ACMA carefully consider EMC regulations for EVs.

**Question 3.** Do you have any comments on the options to exclude specified low-powered inductive power transfer devices such as wireless chargers for phones, electronic wearables and electric toothbrushes from the definition of a high-risk device?

Communications Alliance agrees that low power wireless chargers should not be automatically classed as high risk devices, noting that where the threshold is to be set is going to be important. It is noted that interference issues have decreased over the years with advances in product design, and if there is interference, then it is usually from intentional radiators interfering with each other.

There is a lot of work being done on Wireless Power Transfer (WPT), from charging wearables, such as watches, at a few hundred mWs, to phones and tablets using 5W to 10 W Qi chargers.

Wireless charging of kitchen appliances is now possible with charging pads located under kitchen benches. The Wireless Power Consortium (WPC), the organisation that created the Qi standard, is working on a new standard called Ki which is for powering kitchen appliances wirelessly. Chargers at 2200 W inductive power are under development for kitchen appliances such as power kettles, toasters and blenders.

Another development are wireless charging pads located on the garage floor to charge an electric vehicle. In these situations, it is not just the near field effects within the premises, but far field effects may be experienced kilometres from the changing pads needs to take in account.

**Question 4.** Do you have any comments on our proposal to lower the compliance level of certain household devices? Are there any other devices that we have not identified, where we should consider lowering the compliance level due to their low risk of causing interference? If so, please specify the types of devices and why their compliance level should be changed, including any common characteristics that cause these devices to pose a low risk of interference.

The aim of the EMC regime when it was introduced thirty years ago was to reduce the amount of interference to broadcast receivers from household appliances. Any change to the current compliance levels for household appliances will undo the results achieved.

The ACMA should consider reminding suppliers that the compliance levels relate to the type of evidence of compliance the supplier is required to retain. The product must comply with the applicable EMC standards regardless of compliance level.

**Question 5.** Do you have any comments on the categorisation of battery-powered devices as low-risk devices?

Communications Alliance considers that if the battery powered device is not rechargeable and uses replaceable batteries, then they would be deemed as low risk. Typical examples are calculators and toys, powered by alkaline batteries. It is noted that the ACMA retains the ability to declare a device not to be low risk if required, if there is cause to do so.

It is observed that there many more types of battery-powered devices now, with removable battery packs, such as power tools, blowers, lawn mowers, which were not considered when the EMC regulations were initially drafted.

The categorisation of battery powered device as low risk came at a time when there were minimal products that were battery powered and most of those had a rating of not more than 12V. With the improvements of battery technology more and more products have become portable i.e. power tools, lawn mowers and other garden tools, these types of products are more likely to interfere with broadcast receivers due to their design. Whilst there is still an argument that some low powered battery powered device can be classified as low risk, it is no longer possible to say that all battery powered devices are low risk.

Unless the ACMA has any evidence of interference from a battery powered device that currently meets the low-risk battery definition, Communications Alliance supports keeping the definition as it currently stands.

If you have any questions with respect to this submission, please contact Mike Johns at Communications Alliance on 0414 898 841.

Yours sincerely,



John Stanton  
**Chief Executive Officer**

### **Communications Alliance**

Communications Alliance is the primary communications industry body in Australia. Its membership is drawn from a wide cross-section of the communications industry, including carriers, carriage and internet service providers, content providers, platform providers, equipment vendors, IT companies, consultants and business groups.

Its vision is to be the most influential association in Australian communications, co-operatively initiating programs that promote sustainable industry development, innovation and growth, while generating positive outcomes for customers and society.

The prime mission of Communications Alliance is to create a co-operative stakeholder environment that allows the industry to take the lead on initiatives which grow the Australian communications industry, enhance the connectivity of all Australians and foster the highest standards of business behaviour.

For more details about Communications Alliance, see <http://www.commsalliance.com.au>.