The new EMC Directive 2014/30/EU:
An overview
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Introduction

Anyone involved in the development or quality assurance of electrical products – either apparatus or fixed installations, needs to be aware of the essential requirements of the Electromagnetic Compatibility Directive (EMC) 2014/30/EU. This document is a recast of the original EMC Directive 2008/108/EC, and essentially requires that:

“1. “Equipment shall be so designed and manufactured, having regard to the state of the art, as to ensure that:

(a) the electromagnetic disturbance generated does not exceed the level above which radio and telecommunications equipment or other equipment cannot operate as intended;

(b) it has a level of immunity to the electromagnetic disturbance to be expected in its intended use which allows it to operate without unacceptable degradation of its intended use.

2. Specific requirements for fixed installations

Installation and intended use of components

A fixed installation shall be installed applying good engineering practices and respecting the information on the intended use of its components, with a view to meeting the essential requirements set out in point 1”

(2014/30/EU, ANNEX 1)

The EMC Directive provides a common framework of regulation for certain types of electrical and electronic products across all EU member states - effectively levelling the performance playing field between them. In short, if a product is placed on the market in one member state, it would have the same basic level of EMC immunity and emissions as a product placed on the market in any other member state.

This paper is intended to provide a brief overview of the requirements of EMC Directive.

EMC Directive 2014/30/EU

The recast EMC Directive comes into force on 20th April 2016. Whilst provision has been made for all products in compliance with 2004/108/EC placed upon the market prior to this date to still be considered compliant, any major changes to that existing equipment/installation may mean that the manufacturers have to reissue their Declaration of Conformity against the recast Directive.

Whilst there have been no changes to the ‘Essential Requirements’ of the Directive from 2004/108/EC, the format and scope of the Directive have changed, meaning some products that did not previously come under the EMC Directive now do, and
some previously covered product types are excluded and covered by alternative legislation.

The recast Directive has been redrafted to match the layout and language of other later Directives and the document has been updated and the contents bought in line with Decision No. 768/2008/EU on a Common Framework for the Marketing of Products in the EU.

Scope

The scope of the Directive applies to electrical equipment and permanent installations, but it excludes equipment covered by Directive 1999/5/EC for Radio and Telecommunications Terminal Equipment (R&TTE). As this legislation is being repealed on 12th June 2016 and is being replaced by the Radio Equipment Directive (RED), 2014/53/E, the recast EMC Directive too is affected.

The EMC Directive has exemptions where EMC requirements are specifically laid out by other Directives, such as the Medical Devices Directive. The RED is another such Directive and changes in its scope mean that wireline telecommunications equipment that is no longer included in the RED now falls into the scope of the EMCD and broadcast receiving equipment, now included in the RED will no longer be covered by the EMCD.

Responsibilities

Manufacturers

For manufactures, one major change is the requirement that marking on the product includes a single address, not just the name, trade name or registered mark.

New, or enhanced requirements for manufacturers include:

“Manufacturers shall ensure that apparatus which they have placed on the market bear a type, batch or serial number or other element allowing their identification, or, where the size or nature of the apparatus does not allow it, that the required information is provided on the packaging or in a document accompanying the apparatus.” (Article 7, paragraph 5)

“Manufacturers shall indicate, on the apparatus, their name, registered trade name or registered trade mark and the postal address at which they can be contacted or, where that is not possible, on its packaging or in a document accompanying the apparatus. The address shall indicate a single point at which the manufacturer can be contacted. The contact details shall be in a language easily understood by end-users and market surveillance authorities.” (Article 7, paragraph 6)
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“Manufacturers shall ensure that the apparatus is accompanied by instructions and the information referred to in Article 18 in a language which can be easily understood by consumers and other end-users, as determined by the Member State concerned.” (Article 7, paragraph 7)

“Manufacturers who consider or have reason to believe that an apparatus which they have placed on the market is not in conformity with this Directive shall immediately take the corrective measures necessary to bring that apparatus into conformity, to withdraw it or recall it, if appropriate. Furthermore, where the apparatus presents a risk, manufacturers shall immediately inform the competent national authorities of the Member States in which they made the apparatus available on the market to that effect, giving details, in particular, of the non-compliance and of any corrective measures taken.” (Article 7, paragraph 8)

The Distribution Chain

The recast Directive now addresses the responsibilities of various economic operators (the distribution chain) in Europe. These were not addressed in the previous EMC Directive but were covered in the Low Voltage Directive 2014/35/EU and so should be familiar to anyone already working with such related legislation.

Article 3 defines the character of each of the economic operators:

(11) ‘manufacturer’ means any natural or legal person who manufactures apparatus or has apparatus designed or manufactured, and markets that apparatus under his name or trade mark;

(12) ‘authorised representative’ means any natural or legal person established within the Union who has received a written mandate from a manufacturer to act on his behalf in relation to specified tasks;

(13) ‘importer’ means any natural or legal person established within the Union who places apparatus from a third country on the Union market;

(14) ‘distributor’ means any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes apparatus available on the market;

Authorised Representatives

Authorised representatives can take on any of the manufacturers compliance tasks on their behalf, but at very least they should hold the CE Conformity Documentation for 10 years, provide the authorities with this documentation on request and cooperate with the authorities on ‘eliminating risks’ that the products pose.

Importers

Importers must check that the compliance work for the product has been completed, and provide their contact details on the products alongside the Manufacturers (to ensure tracability).

They must ensure that instructions and information is

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issued with the product in a language acceptable to the member state and they must not jeopardise the product’s compliance in their storage or transportation of the product.

They also have an obligation to take corrective action where a product isn’t in compliance – or if it poses a risk to report it to the national authorities in all the countries that they made it available to. They must hold documentation for 10 years and cooperate national authorities on risk elimination.

**Distributors**

Distributors must apply ‘due care’ concerning the Directive – basically they should verify that the product bears CE Marking, and is accompanied by the appropriate documentation in a language easily understood but the end users. If they believe a product not to be in compliance, they shall not put it on the market. If a product poses a risk, they must notify the importer, manufacturer and their national authority and provide the authorities with all associated documentation on request.

Like importers they too must not jeopardise product compliance during transportation or storage.

**Using Testing to Harmonised EMC Standards for compliance**

Harmonised standards are generally international standards that have been adopted by the European Union – having been formally published in the Official Journal. The Official Journal has a list of harmonised standards and the date to which a revision can be used to presume conformity to the Directive.

*Tip: When Declaring Conformity, you must use the current version of the applicable product Standard. Manufacturers should therefore check in the Official Journal that the version of the Standard that they are using to assess their device is the latest one; so keep an eye on the ‘date of withdrawal’.*

**Assessment without Harmonised Standards for compliance**

If it is not possible to test to harmonised Standards because they don’t exist or given the nature of the equipment it is only possible to test to them in part; a technical file documenting how and why the manufacturer believes that the device meets the essential requirements of the Directive needs to be created.

If the manufacturer believes that they are technically competent to compile a technical file correctly and base their conformity on it they may do so. However not all manufacturers have the engineering resource to do this and in these circumstances they may compile their construction file and have it checked by a
Notified Body of the European Union. The Notified Body can then issue an opinion that they believe the device meets the essential requirements of the Directive. Also, if more than one model has been tested to cover a range, a Construction File can be used to identify and justify the worst case scenario.

**Technical File Requirements**

It is now stated that the Technical Documentation shall make it possible to assess the apparatus’ conformity with the applicable requirements of this Directive and shall include an adequate analysis and assessment of the risk(s).

The technical documentation shall cover, as far as relevant, the design, manufacture and operation of the apparatus and include at least the following:

- a general description;
- conceptual design and manufacturing drawings and schemes of components, sub-assemblies, circuits, etc., and the descriptions and explanations necessary for their understanding;
- a list of the harmonised standards applied in full or in part, and, where those harmonised standards have not been applied, descriptions of the solutions adopted to meet the essential requirements. Where applied, parts of partly applied harmonised standards should be specified;
- results of design calculations made, examinations carried out, etc.;
- test results

**Fixed installations**

Although under paragraph 36 of the introduction fixed installations are said not to require CE Marking or a Declaration of Conformity, technical documentation is still required for compliance. Article 19, paragraph 1 requires:

“...the accompanying documentation shall identify the fixed installation and its electromagnetic compatibility characteristics and shall indicate the precautions to be taken for the incorporation of the apparatus into the fixed installation in order not to compromise the conformity of that installation. It shall also include the information referred to in Article 7(5) and (6) and Article 9(3). The good engineering practices referred to in point 2 of Annex I shall be documented and the documentation shall be held by the person or persons responsible at the disposal of the relevant national authorities for inspection for as long as the fixed installation is in operation.”

**Declaration of Conformity**

The Declaration of Conformity shall have the structure set out in Annex IV (a template is now provided), and it shall contain the elements specified in the
modules of Annexes II and III (Module A: Internal production Control and Module B: EU type examination, respectively)

* This document shall be continuously updated as required. It must also be translated into the language or languages required by the member state in which the apparatus is made available.

The new contents are as follows:

- The title is now ‘EU Declaration of Conformity’
- The Declaration can be numbered (optional).
- It should include: This declaration is issued under the sole responsibility of the manufacturer.
- It should state: The object of the declaration is in conformity with the relevant Union harmonisation Legislation.
- Suitable identification of the product should be included, sufficient to allow product traceability (there is a suggestion that a colour image of sufficient clarity could be employed).

And, of course, the new Directive number should be employed: 2014/30/EU.

Non-conformity and Penalties

It is the responsibility of the member states to individually check that the devices available in their country are compliant with the Directive and take action in the event of non-conformity. Enforcement activities can be random product surveillance (i.e. the authorities taking products ‘off the shelf’ and retesting them independently) or be initiated due to a complaint by a consumer, retailer, distributor and even from a manufacturer’s competitor. The authorities will then have the product assessed and if necessary request ‘corrective action’ to bring about compliance.

Article 7, Paragraph 9. Manufacturers shall, further to a reasoned request from a competent national authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of the apparatus with this Directive, in a language which can be easily understood by that authority

It’s worth noting that non-compliance doesn’t necessarily mean ‘dangerous’. Something as simple as incorrect documentation presented with a device can lead to a non-conformity, and in most cases these can be easily resolved when identified. Some non-conformities are serious though, and may require for the product to be recalled, which will have a significant financial implication for the company involved.

Depending on the seriousness of the non-compliance, penalties from member states can include:
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• 3 months imprisonment, £5k fine or both

• Remedial action – being forced to pay for a full recall of all sold items, this has further implications of costs:
  o Logistics of Recall
  o Bad press
  o Loss of contracts with retailer’s exporters etc

• Forfeiture – the courts can take non-compliant stock and destroy it

• Court Expenses – this can be significant if there is a defence experts would be required spiralling costs incurred

Summary

CE Marking a product when it complies with all relevant Directives is not a new process, so meeting the recast EMCD requirements should be familiar ground for most companies. The recast Directive doesn’t bring a whole raft of new obligations, but it does have a different scope of products within it and it uses clearer language to explain the obligations of the economic operators involved. It leaves less room for misinterpretation and it is more explicit about how an organisation communicates with their customers, supply chain and the authorities.

Compliance with the EMC Directive is mandatory in Europe for the devices covered by the Directive. When you’re working to achieve compliance, remember that it is part of a suite of Directives that form the infrastructure of the CE Marking regulations – so compliance work for the EMCD shouldn’t be undertaken in isolation. You will still need to consider device characteristics such as electrical safety under the Low Voltage Directive, the material safety under the Restriction of Hazardous Substances (RoHS) Directive and even perhaps the energy efficiency of the product under the EcoDesign Directive – so check which Directives apply.

Successful testing to EU harmonised Standards is widely used by manufacturers to provide specific evidence of conformity with the EMCD. Manufacturers should use an appropriately constructed technical file as a basis of their CE Marking and Declaration of Conformity activity. Getting the associated paperwork right is key, as incorrect or incomplete documentation can lead to a non-conformity that requires corrective action

Compliance with the Directive is mandatory and is policed. Serious non-conformity carries serious penalty, so diligence is required to ensure that all obligations are met.
How Intertek can help

**EMC**

Compliance with the EMC Directive is a mandatory requirement for CE marking within Europe and is fast becoming mandatory for an increasing range of products for countries outside the EU, such as Japan, USA and the Middle East.

Nearly 50% of all products fail to fulfil the EMC requirements at the first attempt of EMC testing. This is why Intertek’s experienced engineers are on hand to assist you with the investigation and resolution of EMC problems that can occur during the testing phase. Our engineering experts provide support and guidance at every point during the design process to ensure products comply with market requirements - through design review and pre-compliance testing, full testing to Standards and stringent professional assessment.

Whether you need advice on factory production control, advice on building a technical file or even how CE Marking should be applied, we can help. From evidence to support your CE Marking and Declaration of Conformity activities or for a full product certification and Marking - or even working towards international market access via the IECEE CB scheme, Intertek have a compliance route to meet your needs and budget.

We are an EU Notified Body under the EMC Directive and a member of the IECEE CB scheme as well as being accredited by a number of other international authorities such as the US FCC, Industry Canada, A2LA, the Australian Communications Authority (ACMA), Japan’s Voluntary Control Council for Interference (VCCI) for IT & telecom Equipment, the HOKLAS scheme in Hong Kong, the Swedish Board for Accreditation and Conformity Assessment (SWEDAC) and Taiwan’s Bureau of Standards, Metrology and Inspection (BSMI) to name a few.

So get in touch to see how we can help you with your next EMC assessment project.

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