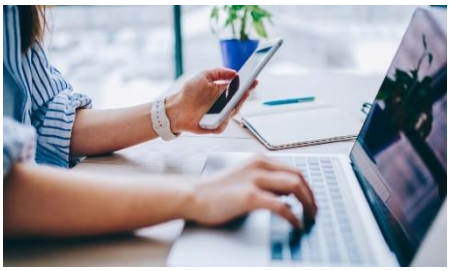
What is Electromagnetic Compatibility (EMC)?



Electromagnetic Compatibility (EMC) and Radio Frequency (RF) Testing

Electromagnetic Compatibility, also known as EMC, is the interaction of electrical and electronic equipment with its electromagnetic environment, and with other equipment. All electronic devices have the potential to emit electromagnetic fields. With the proliferation of electronic devices into everyday life - TVs, washing machines, electronic ignitions, traffic lights, mobile phones, ATMs, anti-theft tags, to name but a few - there is therefore a huge potential for devices to interfere with each other.

Why is it necessary?

Although not as prevalent in the media as food or child toy safety, there have been several well published cases where, because electromagnetic compatibility and EMC Testing was not fully considered, products have had to be recalled or withdrawn from the market. Some well-known brands have been left embarrassed by products failing to meet EMC and RF regulations. Could it also happen to you?

What are the legalities?

To prevent the occurrence of EMC problems the UK government adopted stringent laws, first back in 1992, forcing all manufacturers and importers of electronic goods to ensure that their products are electromagnetically compatible.

Business customers also often require that the products they buy are CE marked. This mark signifies that the goods meet all the relevant 'CE Marking' directives in place in Europe, including the EMC Directive as written into UK law by Statutory Instruments. The legislation in place guides manufacturers down a route of proving EMC compliance through EMC type Testing. It offers two basic methods to prove EMC Compliance:

Declaration of Conformity: EMC Testing to harmonised standards and make a declaration that the product complies, known as the EC Declaration of Conformity.

Technical Construction File: Agree an alternative or reduced test plan with a 'Competent Body', test and submit all relevant document to the body, known as the Technical Construction File.

Should a case come to court, the manufacturer can defend themselves if they can show that they have taken "all reasonable precautions and due diligence". I.e. have checked the product, undertaken EMC Tests and made a concerted effort not to inadvertently break the law.

How to reduce the risk?

As EMC is an intangible phenomenon, it is difficult for manufacturers to know if their products are electromagnetically compatible. The only real way to find out is to conduct scientific EMC Tests. These need to be performed with a production model and may need to be repeated at a later date to ensure compliance is maintained following changes in the production. OEM parts and accessories should come with a Declaration of Conformity and be checked for compatibility with the final product's intended use.

How can we help?

Kiwa Electrical Compliance is a leading EMC testing laboratory and has been testing products for EMC since the regulations came into full force at the end of 1995. With our experienced staff we can help companies limit their risks in a cost-effective manner. We first and foremost are committed to providing exceptional testing services, innovative technical problem solving plus a fast response time to meet our client's needs.

Get in touch to learn more about our EMC testing services and see how Kiwa Electrical Compliance an established, cost effective, knowledgeable, and complete service solution can help you.

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