

5th Edition - Autumn 2010



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Dear Readers:

Welcome to the fifth edition of EMC Talk, the EMC Newsletter from TÜV Product Service. After the great success of the first four editions we continue to communicate important information and news, keeping you aware of changes in EMC standards and the EMC regulatory environment as well as in our activities.

We trust you will enjoy this fifth issue. If you have any questions on any of the related topics please contact us, and we will be happy to help.
Jean-Louis Evans - Managing Director

EMC Testing in the Midlands

Did you know as well as a state of the art EMC facility in Fareham, Hampshire there is also a TÜV Product Service test lab in the Midlands?

Based in Bearley near Stratford-Upon-Avon there is a fully equipped EMC test facility which has just been supplemented with a new Safety service, meaning we can fully test to the EMC and Low Voltage Directive. We can now offer comprehensive advice and testing to meet your entire CE marking requirements.

Our facility includes a 3m chamber, a 3/10m open area test site (we can test at the preferred measurement distance of 10m) and 2 other screened rooms. We have a 3-Phase supply up to 32Amps meaning we can test industrial products and a single phase supply to 16Amps.

In addition to the main EMC standards we also specialise in broadcast receiver products testing (EN 55013 & EN 55020) and are one of only a few labs in the UK UKAS accredited to test TV's and set top boxes. We are also a listed technical service for the Vehicle Certification Agency (VCA) so now we can test products that go into vehicles enabling you to be able to 'e' mark your products.

We consider our service to be extremely flexible and efficient and have an industry leading average report issue time of 2 days after completion of testing. This is what one of our biggest customers had to say about our service....

"Toshiba Information Systems UK Ltd have been using the EMC testing services of TÜV Product Service at Bearley for approximately twelve years for compliance testing on all European TV products. We consistently find the service we receive to be flexible, cost effective and change to meet the requirements of our ever changing product specifications and design. Recently, the flexibility has extended to developing new services to meet our needs under one roof, which has enabled testing turn around to be as short as possible and compliance to be achieved within tight development timelines". Matthew Allitt, Principal Engineer, Toshiba.

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EMC Solutions

At TÜV Product Service we understand that EMC is intrinsically a complex matter and that the design and assembly of machinery to meet the requirements of the EMC directive is not an exact science.

Due to the wide scope of EMC testing which covers all kinds of electrical and electronic appliances, systems and even installations, sometimes testing is not enough. When a product fails EMC testing manufacturers often require a fast, effective and practical solution. Our EMC test engineers pride themselves on going that little bit further.

Product failures can be a fundamental basic issue, which is why our engineers check to ensure that grounding has been implemented correctly. These checks are often simple, such as tightening up bonds, ensuring that correct bonding protocol has been adhered to, checking that bonding hasn't been applied over zealously causing ground loops and also that intended bare metal surfaces are actually bare and not painted over. We also check that existing EMC components aren't being compromised by incorrect cable routing, excessive loops of cable or by incorrectly terminated shielding. If the basic design is good then a solution is a lot easier to find and install.

When it's too late to go back to the drawing board in order to solve an EMC test issue, retro-fitting is sometimes the only way that problems can be solved. TÜV Product Service holds a wide range of "Off the Shelf" EMC solutions to assist in fault finding. These include commercial EMC filters, Ferrite solutions and if need be, we can go back to the basics with foil and copper tape.

TÜV Product Service has a wide range of test specialists and there is always someone on hand that can give valuable expert advice on specific test related problems and failures with a view to finding a solution.



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Ask the Expert

How do military standards and testing differ to Commercial EMC test standards?

Both civil and military EMC standards are designed around the same principal, to prove that the equipment under test is fit for purpose and to operate in its intended environment. However, military environment tend to be more hostile and therefore military EMC test levels are usually more severe. For example, the civil radiated immunity requirement for equipment intended for use in an industrial environment is a field strength of 10 V/m where as for military testing this can be 200 V/m and higher.

The driving force behind Commercial Test Standards and testing is EU legislation. A piece of commercial equipment will be tested to the correct product specific, product family or generic harmonised EU test standards. To ensure that a test in the UK to BS EN55011 will be just as relevant and acceptable as a test in Germany to DIN EN 55011 and in some cases to outside of the EU so that it's also as relevant and acceptable as a test in Australia to AS/NZS CISPR 11.

The driving force behind Military testing are usually contractual requirements. A piece of military equipment will be tested to either the relevant countries own Military Test Standards (Def Stan for the UK, Mil Std for the US) or to the military standard that the country has chosen to adopt. In addition to this military equipment may then be subject to additional testing from product specific specifications. For example, military aircraft may be subject to tests from the RTCA airborne test specifications as well as Def Stan or Mil Std. For larger military projects, specific product EMC Test Standards may be developed and written to cover that product only, an example of this is the EFA specs for the Euro-fighter project.

If we have a multi role piece of military hardware that is airborne, ship borne and also fitted to land vehicles then a complete set of Def Stan testing would be the very minimum required. If this product is also being marketed to the US, then a gap analysis of Def Stan to Mil Std specifications may be required to identify areas that Mil Std differs from Def Stan. On top of this, tests from the RTCA specifications will be relevant for the airborne version and Commercial Maritime test standards may be relevant for the ship borne version.

If you require more advice, please email our experts on info@tuvps.co.uk



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