interview

DigiProces

“Tests performed in our EMC lab offer high certainty that official certification will be just a mere formality”

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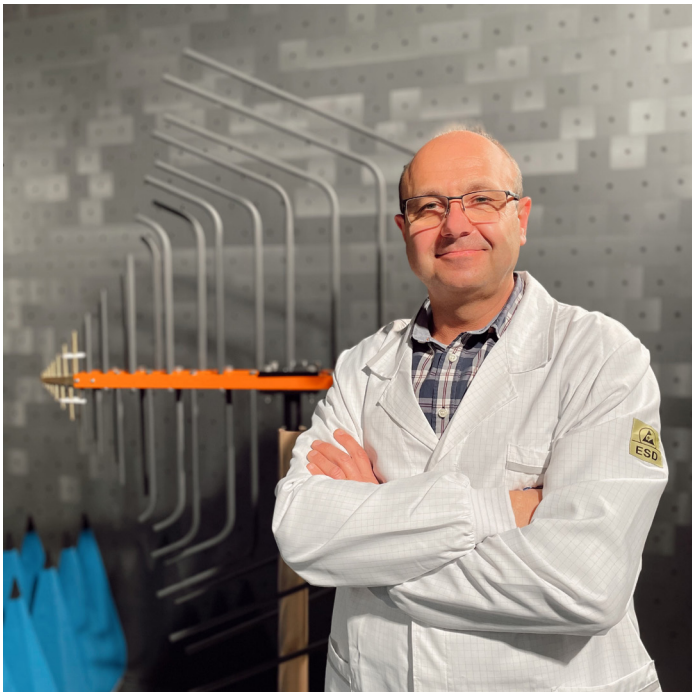

What are EMC tests for and why do results need to be validated in a lab?

EMC tests are used to prove compliance with EMC European Directive that, together with other mandatory regulations, qualify the manufacturer or importer of a product to mark it with the CE stamp, essential to get marketed in the European Union.

Other required standards are related to electric safety (to avoid electrocution when using the product, even in non-normal situations), ROHS (absence of lead in solderings) and recycling of materials. In some cases there are additional specific norms, as it occurs with medical equipment.

What technical capacities does DigiProces lab own?

DigiProces possess a semi-anechoic chamber for precertifications where it is possible to perform radiated and conducted emissions tests, up to 1GHz by now. It also integrates RF generators and amplifiers to perform radiated immunity tests, a conducted transient generator for conducted immunity tests and an ESD (electrostatic discharge) generator. We cover four basic types of tests: conducted emissions, radiated emissions, conducted immunity and radiated immunity.

Are tests addressed to any sector in particular?

DigiProces’ EMC lab makes up a long term project consisting of different stages. In this first stage we have focused on general standards in the industrial and residential sectors, which are the ones affecting most of the products. Starting with single-phase supply, but some three-phase supply capacities, our goal is performing tests on 32A three-phase equipment.

However, other sectors such as automotive, railway, military or aeronautical share the core of many of these tests and allow the use of the same equipment, so we do not dismiss to exceptionally adapt to some specific test in these fields. We can say that railway sector is widely covered due to similarities. In fact, some modifications in the chamber have been planned and made to be able to adjust to the particularities of these other sectors in the future.

Which are the advantages for DigiProces to have a lab within its premises?

This involves many advantages. The first of them is the most obvious one: the ease of having a lab to perfom tests without having to depend on availability of external labs. It is also very important the peace of mind that comes from having performed the tests before going to an external lab, as we have a high certainty that it is going to be just a mere formality.
On the other hand, it offers the possibility of investigating the origin of problems and optimize the solutions that allow to pass the tests.

Is the EMC lab an added value for the customer?

The most important benefit of our lab is without a doubt the creation of knowledge or know-how, as this becomes an added value for the final product. When having an EMC lab, the experience acquired when investigating the origin of problems and searching for the best solution in each project results in a knowledge that can be applied in all following products.

Quality of products is constantly growing and problems on new projects are being driven out. Normally, problems related to EMC mean a new PCB has to be designed and produced to integrate the filters or protections that solve non-compliance with regulations. This implies delays and over-costs. However, by incorporating the knowledge acquired we can create better designs and add the space and connections needed in case additional filters or other elements may be required. A simple change in the materials list solves a problem without having to redesign the PCB. In this way, solutions can be optimized by testing until we find an optimal solution cost-wise.

Is this problem solving experience hard to achieve?

Yes, it is. It is a process needing time, but it gets increasingly reduced with every product. We have to take into account that EMC is not a mandatory subject in engineering study programmes. The only way to acquire this knowledge is through practice and experience.

How are reliability and security of results guaranteed?

With a laboratory like the one we have at DigiProces and with the appropriate experience, results are extremely reliable and quite close to those we would get in an official lab. The most important thing is being aware of limitations of the system and leaving a bigger or smaller security margin according to how far you are from the certification system. And that can be achieved with experience.

The professional team at DigiProces has 25 years of experience in the EMC sector, both in the industrial and the automotive sectors as well as the military and railway ones. Not only in tests, but also in electronic design, which allows to provide an added value to the lab service.

How can this lab help other companies and industries?

Firstly, by performing tests in a smooth and quick way without having to wait for months to access the authorised laboratories. Secondly, by providing the experience to carry out the most critical tests that allow to find problems and their origin, an essential previous step to their solution. It may seem logical, but very often that vision gets lost in other environments.

And the most important aspect, guiding and helping customers to solve the problem in an effective and cost saving manner. The aim of the lab is not just giving a PASS or NO PASS result and/or offering typical solutions not really eligible for mass-production, the aim is helping our customers to improve the design by guiding them in the type of solution to apply in each case, suggesting alternatives and modifications. Customers will be then able to implement one solution or another by following their own criteria.

Is it possible to offer customised services according to the customer needs?

Yes, of course, always within our capacities. Sometimes it is much more effective to divert from the standard test to find the problem and DigiProces is quite flexible in this respect.

How can customers know if services of DigiProces lab will solve their requirements?

The best thing is to contact directly with the lab on the email info@digiproces.com or on our website to know exactly the needs of the project in question, assessing our test capacities to apply the most suitable solution.