

Better to Check than Retrofit

Why SCHURTER offers a mobile EMC measurement service

Switched mode circuits are being used increasingly in electronic equipment. Because of the rapid switching the probability of high frequency interferences is also increasing. At the same time the legislator is tightening the EMC regulations. The outcome: The leeway for retrofits with filters and chokes is growing smaller. Therefore, SCHURTER has set up a mobile service for wired EMC measurements. It allows a regular check of new machines and equipment during the development process.

On 29 March 2014 the following appeared in the Official Journal of the European Union: the European Parliament and Council on the harmonisation of the laws of member states relating to electromagnetic compatibility published the latest version of Directive 2014/30/EU. The national governments have time until 20 April 2016 to integrate the new directive into their regulations.

Thus the mechanical and electrical industry in the European Economic Area is faced with a further tightening of the EMC regulations. This at a time when more and more electrical applications are being equipped with frequency inverters to enhance their energy efficiency and easy controllability. The result is an increase in the unwanted electromagnetic effects, primarily in devices with high clock or pulse frequencies.

The use of CE-compliant assemblies can mislead many a device designer to dispense with the EMC testing. Yet the task of squaring of the circle which guides the assembly of CE-tested components, leading in the end to a device that is compatible with the standard, is becoming more and more difficult. The mode of operation, the wiring and the assembly of the components have such a great effect on the emissions that it is advisable to measure them first.

SCHURTER is a leading manufacturer of passive and electromechanical components such as fuses, switches and connectors. Products that ensure the electromagnetic compatibility of devices and machines have long been part of its range of services.



Consultation about object being measured (source: SCHURTER AG)

As a supplier of installation filters and chokes the company is also involved in the development processes of its customers. The outcome is recognition that the EMC problems for the manufacturers are associated with increased risks.

If attention is paid too little or too late to the EMC requirements, there is a threat of delays in obtaining marketing authorisation; with all the potential negative consequences for a company. A subsequent re-engineering leads to rising costs; the roadmap leading to series production must be revised and, in the worst-case scenario, supplier loyalty is at stake.

Therefore SCHURTER decided many years ago to add a mobile EMC measurement service to its range of EMC products. At present, about 1000 companies in Switzerland, Germany, Austria and northern Italy are being served. In other European countries, Asia and North America SCHURTER offers the service through its global network of partners.



Large systems or machines are better measured on site (source: shutterstock)

The measurements in the actual environment give a more accurate indication of the susceptibility to interference than the laboratory environment can simulate. In addition, the wired measurements of electromagnetic compatibility on site bring the customers four key advantages:

- **Logistical simplification:** many businesses avoid ongoing EMC checks during the development processes for reasons of cost. The machines or equipment must be disassembled, packaged, loaded and taken to the laboratory. The SCHURTER measurement service eliminates this expense. The staff sets up its testing equipment on site, right where the customer requires it.
- **Integrated consultation:** if an EMC limit value exceeds the authorised level, the SCHURTER measuring engineers provide immediate assistance. They either adjust the filters to the system requirements or they offer recommendations about optimising the equipment design, wiring or power supply.

- **Conclusions with regard to wireless measurements:** remote measurements of electromagnetic radiation required for a CE authorization cannot be replaced by a cable measurement. However, it provides valuable indications and reduces the risk of experiencing unpleasant surprises during measurements in the laboratory.

- **Flexibility:** in a testing laboratory the measuring environment can be controlled. That is impossible during a measurement in the field. Close to an industrial production, for example, electromagnetic background noises can dominate because of the high network load. In order not to disrupt the operational flows SCHURTER measurement technicians are also available during off-peak hours or at night.



SCHURTER's mobile measurement service

In general, ongoing EMC checks during the engineering processes represent a useful addition to operational quality and risk management. With regard to the entry into force of the new European EMC directives, however, they acquire quite a special significance.

Directive 2014/30/EU requires manufactures to expand substantially the technical documents for recently introduced devices. Beginning mid-2016 they must contain a "suitable risk analysis and assessment".

The staff of the SCHURTER EMC measurement service have years of experience and are able to interpret the measurement results and also advise the customer during the preparation of the necessary documents.

Smaller devices can also be measured in one of the company's own EMC laboratories. With its own development and production SCHURTER has acquired a wealth of sound EMC knowhow.

Links

- [1] emc-service.schurter.com
 [2] <http://www.schurter.ch/en/Components/EMC-Products>



Headquarters in Lucerne

Company

SCHURTER continues to be a progressive innovator and manufacturer of electronic and electrical components worldwide. Our products ensure safe and clean supply of power, while making equipment easy to use. We offer a broad range of standard products including circuit protection, connectors, EMC products, switches and input systems, as well as electronic manufacturing services. Moreover, SCHURTER is ready to work with our customers to meet their application specific requirements, not covered in our standard range. You can rely on SCHURTER's global network of companies and partners to guarantee a high level of local service and product delivery.

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