



## ELECTROMAGNETIC COMPATIBILITY

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Electromagnetic Compatibility stands for the product's or system's capability to function in a reliable way in its environment of use.

- The product must not produce electromagnetic disturbance that exceeds the EMC requirements and it must also withstand a stipulated amount of disturbance. The disturbances can be either radiating or conductive
- The compatibility is related to interaction between devices as well as components of the devices
- Strict International Standards are used for EMC testing
- SGS Fimko offers high grade premises and professional skills for carrying out EMC testing

### SGS FIMKO'S EMC TESTING SERVICES

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- Pre-Compliance Testing
- Full Compliance Testing
- EMC and RF Expert Services
- SGS Fimko's EMC Laboratories
- Testing for Product and Production Quality
- EMC and RF Testing for Radio Equipment
- EMC Testing for Vehicle Electronics

#### PRE-COMPLIANCE TESTING IS A RELIABLE PREDICTION OF THE PRODUCT'S EMC CONFORMITY:

- Pre-Compliance testing is carried out at the development stage of the products as the earlier defects are found the more inexpensive it is to correct them (e.g. investigating printed circuit boards with EMC scanner)
- Pre-Compliance testing lasting only a couple of hours gives valuable information for product development
- Testing is carried out in accordance with essential requirements
- Pre-Compliance testing gives the opportunity to carry of different experiences in a flexible way
- Short delivery times, 1 to 2 days – bargain price

#### FULL COMPLIANCE

Full Compliance testing include a complete testing of the products in accordance with the standards, the aim being to verify the EMC conformity of the product for the markets of different countries.

- Testing is carried out on the final product
- When the product fulfils the requirements of the standard, it can be granted an EMC certificate, e.g. the globally recognized and renowned CB EMC certificate
- Normal delivery time 1 – 2 weeks.

#### EMC AND RF

SGS Fimko is Notified Body under the European Union EMC and Radio and Telecommunication Terminal Equipment Directives and Competent Body under the Australian and New Zealand legislation to ensure the conformity of the product with the requirements.



Our Expert Services Include:

- Clarification of Requirements
- Assessment and Approval of Technical Construction File
- Notified Body Statement to be Enclosed to the Technical Construction File
- Training Services
- Commentary of Documentation

## EMC LABORATORIES

SGS Fimko has several EMC chambers of different sizes. Our premises offer reliable frameworks for testing in accordance with EMC requirements.

At our customers' disposal are the following testing premises:

- **10 m Chamber - Full Compliance Testing**
  - Radiated emission at 3 m and 10 m measurement distance
  - Conducted emission
  - Radiated and conducted immunity
  - 4.5 m rotating table with 4,500 kg carrying capacity
- **5 m Chamber - Full Compliance Testing**
  - Radiated emission at 3 m and 5 m measurement distance
  - Conducted emission
  - Radiated and conducted immunity
  - 3 m rotating table with 1,000 kg carrying capacity
- **3 m Chamber - Full Compliance Testing**
  - Radiated emission at 3 m measuring distance
  - Conducted emission
  - Radiated and conducted immunity
  - Vehicle emission and immunity
  - Testing in accordance with MIL standards
  - RF-measurements
  - 2 m rotating table with 1,000 kg carrying capacity
- **3 m Fully Anechoic Chamber**
  - Pre-compliance testing: Radiating emission and immunity
  - 2 m rotating table with 500 kg carrying capacity

## TESTING FOR PRODUCT AND PRODUCTION QUALITY MANAGEMENT

Producing all products in conformity with the relevant requirements is a great challenge for any manufacturer. Discrepancies may be the result of changes in the product or production process. Uniform quality can be effectively ensured by having some of the products tested at regular intervals according to SGS Fimko's Pre-Compliance program. Any defects in the products or problems in the production process can then be corrected in time. Agreement is first reached with the customer on the following items:

- The products to be tested
- The EMC characteristics examined in the test
- Testing dates
- Method of delivery
- Reports

The testing of quality management can also be extended to become a part of our EMC certification.

## EMC AND RF TESTING OF RADIO EQUIPMENT

SGS Fimko tests radio and telecommunication terminal equipment and their peripheral devices in accordance with European and North American standards and requirements.

We carry out testing for the following product groups:

### Short Range Devices (SRD)

- Bluetooth, WLAN, other devices operating at 2,4 GHz frequency

As a Notified Body under the Radio and Telecommunication Terminal Equipment Directive (1999/5/EC) SGS Fimko is able to assess the product's conformity with the directive and issue a Notified Body Statement when needed.

For the North American market we carry out tests needed and we can apply for certification on behalf of the customer.

## EMC TESTING OF VEHICLE ELECTRONICS

SGS Fimko is accredited EMC laboratory under the Automotive EMC Directive 2004/104/EC and UNECE regulation 10.3.

### **Type Approval covers all EU countries**

The Automotive EMC Directive is valid for all vehicles and electronic devices used in them. The Directive requires that testing be carried out by an impartial laboratory recognized by the appropriate authorities, and that type approval be issued by the vehicle administration if the electronics have influence on the controllability of the vehicle and can under fault conditions disturb the driver. In Finland, type approvals are granted by the Finnish Vehicle Administration AKE.

### **SGS Fimko offers the following services for testing of vehicle electronics:**

- Tests the product in accordance with the Automotive EMC Directive or the UNECE requirement
- Helps customers to prepare the documents for type approval
- Carries out annual factory inspections if needed.

## **CONTACT**

For help with any questions, email us at [sgs.fimko@sgs.com](mailto:sgs.fimko@sgs.com)