

Report to the EMC Working Party by the EMC
Administrative Co-operation Group

*Joint Cross-Border EMC Market Surveillance
Campaign Carried Out in 2004/05 By European
Market Surveillance Authorities*

Survey Dates: 1 October 2004 – 31 May 2005
Report date: January 2006

**REPORT ON JOINT CROSS-BORDER EMC MARKET SURVEILLANCE
CAMPAIGN 2004/05**

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1 Executive Summary

A Joint Cross-Border EMC Market Surveillance Campaign was conducted between 1 October 2004 and 31 May 2005. The campaign was actively supported by 16 market surveillance authorities participating in the EMC Working Group on Administrative Co-operation.

The purpose of the campaign was to check the technical compliance of Energy Saving lamps (ESLs) products with the radio-frequency emission requirements of the EMC Directive. The campaign also aimed to improve information exchange between Member States, to give new Member States a chance to participate in EMC market surveillance, and to raise the public profile of EMC in the minds of consumers and industry.

It was agreed that following the analysis of the results of the campaign, a report would be presented to the EMC Working Party. This present document constitutes the report of the campaign.

The principal conclusions drawn from the campaign were as follows:

- Although there does not appear to be an intrinsic problem with the Energy Saving Lamps (ESLs) as a whole, because of very poor results from ESLs originating from some manufacturers an overall 23% of all the samples tested failed to meet the disturbance voltage (conducted emissions) limits of the relevant European harmonised standard EN55015.
- Some samples were also subjected to test methods other than the harmonised standard EN 55015. These tests included radiated emissions, disturbance power and a draft method using a coupling/decoupling network in the frequency range above 30 MHz. All samples tested met the requirements of those tests.
- Although not part of the original campaign, some samples were also tested for harmonics emissions in accordance with EN61000-3-2. Of the 142 samples tested, 23% failed to meet the requirements of the standard.
- A number of manufacturers and importers are not aware that “verification” documents issued by laboratories or certification bodies are not a valid substitute for Declarations of Conformity drawn up by the manufacturer.
- Certain member states reported a high proportion of incorrect Declarations of Conformity.
- For 21% of the product types, the country of origin could not be determined.
- A higher proportion of product types of non-EU origin than EU origin exhibited failures against the requirements of the harmonised standards, provision of a Declaration of Conformity and incorrect Declarations of Conformity.

2 Reasons for the study

At the EMC Working Group on Administrative Co-operation in London in March 2004 it was agreed that a joint cross-border EMC market surveillance campaign would be carried out to check the technical compliance of products with the EMC Directive. A number of different types of products were considered. A sub-group was subsequently set up which agreed that the campaign would target ESLs, as concern had been expressed by a number of Member States that these type of products might be a possible source of EMC problems.

The focus of the campaign was on products' compliance with the technical requirements of the EMC Directive. However, given that the administrative requirements for the EMC Directive are relatively simple, Members States were encouraged to take the opportunity to determine whether or not products were compliant in this respect as well.

The campaign also provided the opportunity to improve information exchange between Member States, to give new Member States a chance to participate in EMC market surveillance, and to raise the public profile of EMC in the minds of consumers and industry.

3 Participation in the campaign

Participation in the campaign was voluntary, and was open to all members of EMC ADCO.

4 Timing

The campaign began on 1 October 2004, and the information gathering, testing and data-reporting phase of the campaign was of 7 months duration, ending on 30 April 2005. Within that period, participating Member States were responsible for their own timing of market surveillance actions. Test results could be uploaded to CIRCA at any time during the course of the campaign so that they could be discussed, and interim conclusions drawn. However, following the testing part of the campaign, one further month, ending on 31 May 2005, was allowed for the remaining results obtained during the campaign to be uploaded to CIRCA. All statistical data included in this report is based on information supplied by member states up to and including 10 June 2005.

5 Choice of equipment surveyed

Participating market surveillance authorities were able to make their own choices of the specific types (manufacturers/models) of ESLs to be surveyed, and the quantities to be tested. To achieve a better statistical significance, the campaign policy was, where possible, for the testing of multiple examples (maximum five) of each type chosen. However, it was recognised that this might not be possible for some market surveillance authorities because of resource limitations, and in those cases a spot check of one item (example) sufficed for the purposes of the campaign. To obtain the broadest possible view of the products in the European marketplace, the chosen types included a mixture of national or European manufacture, and of those imported from third countries outside the EU/EEA (such as the Far East).

6 Code of Practice

In order for the campaign to be effective, it was considered that it was important that participating market surveillance authorities should have a common understanding of its purpose and, as far as possible, harmonised practices when carrying out the campaign. A Code of Practice and Technical Guidance document was agreed which described the purpose of the campaign and the practices to be employed when testing products.

A common electronic form for recording administrative aspects of marking, labelling and user information was agreed jointly by the market surveillance authorities. Each participating administration was responsible for passing on the common understanding to the field staff collecting data.

7 Data collection and processing

Data on the equipments surveyed were collected on the EMC ADCO section of the CIRCA website. All countries participating in the campaign or viewing the "raw" information on the CIRCA server were asked to keep the information about the equipments surveyed strictly confidential (especially information about the person responsible for placing on the market). This information was provided as part of the market surveillance's informal exchanges of information on products. However, such information has been removed from results or statistics that may be seen by persons or organisations other than those from member states market surveillance authorities.

8 Method of Analysis

The results of the European surveillance campaign was entered in an agreed format in an Excel spreadsheet and uploaded on the CIRCA server in a country by country section. The results were subsequently combine into one Excel spreadsheet to facilitate analysis.

9 Extent of the study

The number of Member States participating in the campaign results was 16, including 5 who had joined the Community on 1 May 2004.

10 Overall Compliance

Results of 555 samples (174 product types) were reported. The samples' countries of origin were varied, with the following being identified: Belgium, China, Cyprus, Germany, Holland, Hungary, Italy, Pakistan, Philippines, Poland, Rumania, Sri Lanka, Taiwan, the United Kingdom, the United Arab Emirates, and Vietnam. For a significant proportion (21%) of the product types, the country of origin could not be determined.

11 CE mark

Only one product (5 samples) from the 174 product types did not carry a CE mark and this product also failed the requirements of the harmonised standard, EN 55015.

12 Declaration of Conformity

Eighty-seven product types (50.0% of all product types) were not supported by Declarations of Conformity. It should be noted, however, that in some cases the importers had obtained a document from their suppliers that they believed to be sufficient. These are not valid Declarations of Conformity, and where such documents were offered solely, the data shows “no DoC”. Two Member States, although not encountering such documents during the exercise, indicated that they are commonly found.

Incorrect Declarations of Conformity were found for 18 product types. This represents 10.3% of product types, but 18.8% of the Declarations of Conformity examined.

13 Test results

The relevant harmonised standard is EN 55015:2000. Although the standard has been amended twice (A1:2001 and A2:2002) neither amendment has any effect on the testing of these samples. Some countries declared that testing had been carried out in accordance with the unamended standard, some with the addition of A1 and some with the addition of both amendments. These differences have no impact on the tests methods relating to ESLs.

Conducted emissions (disturbance voltage limits at mains terminals)

All but five of the 555 samples were tested against the requirements for conducted emissions.

126 out of these 550 samples tested failed to meet the requirements of the standard (22.9%).

Of the margins of failure reported, the largest margin was 33 dB.

Magnetic field emissions (radiated electromagnetic disturbance limits)

499 out of the 555 samples were tested for magnetic field emissions. All samples met the requirements. This includes some samples that had failed the conducted emissions test below 30 MHz (disturbance voltage limits).

Radiated emissions 30 - 1000 MHz (EN 55022:1998)

489 out of 555 samples were tested for radiated emissions in the frequency range 30 to 1000 MHz. All samples tested met the Class B limits of the standard. This includes some samples that had failed the conducted emissions test below 30 MHz (disturbance voltage limits).

CDN method 30 - 300 MHz (CISPR/F/391/CD draft test method and limits)

57 samples were subjected to the CDN test described in Annex B to the CISPR draft. All samples tested met the draft requirements, including four samples that had failed the conducted emissions test below 30 MHz (disturbance voltage limits).

Disturbance power 30 - 300 MHz (EN 55014-1:2000 +A1:2001 +A2:2002)

354 samples were subjected to the disturbance power test in the frequency range 30 to 300 MHz. All samples tested met the requirements of the standard, including some samples that had failed the conducted emissions test below 30 MHz (disturbance voltage limits).

Harmonics (EN 61000-3-2:2000)

Three Member States tested their samples for compliance with the limits for harmonic emissions. Although this was not within the scope of the campaign, because it is not concerned with radio-frequency interference, EN 61000-3-2 is a relevant harmonised standard under the EMC Directive.

142 samples were subjected to the test and 33 failed to meet the requirements of the standard (23%). Of these, 5 samples also failed the conducted emissions test below 30 MHz (disturbance voltage limits) but the remaining 28 samples passed this test.

14 Analysis of results**Analysis by country of origin**

When analysing the results it was recognised that the sample sizes are not large, and that whether or not the Declarations of Conformity are available may depend as much on the importer as on the country of origin. Nevertheless, a strong correlation was found between the failure to designate the country of origin, and the failure to support the CE mark by supplying a valid Declaration of Conformity on request.

Analysis by EU and non-EU origin

When analysing by country of origin within and outside the EU, the same caveats apply in general as for the previous analysis, but there appears to be a strong correlation in the results.

In respect of product types not supported by a Declaration, the percentages are: EU 35%, non-EU 45%, country of origin not known 84%.

In respect of incorrect Declarations of Conformity, the percentages are: EU 12% and non-EU 30%. None of the 6 declarations where the country of origin was not known was incorrect.

In respect of failures against the conducted emissions limits below 30 MHz (disturbance voltage limits) the percentages are: EU 3%, non-EU 30%, country of origin not known 31%.

15 Background information

It was difficult to determine the country of origin in many cases, especially where a declaration of conformity was not available. The country of origin was identified by information on the product or packaging or a combination of information on the packaging and information provided by the importer .

16 Overall Conclusions

1. The result of the campaign on Energy Saving Lamps (ESLs) has revealed that overall 23% of the samples tested, chosen by random selection, failed to meet the disturbance voltage (conducted emissions) limits of the relevant European harmonised standard EN55015. Samples were selected independently of the price range not considering the absolute number on the market. However, analysis of the data shows that the non-

compliance rate can be attributed to products from certain manufacturers and therefore there does not seem to be an intrinsic problem with Energy Saving lamps.

2. Some samples were also subjected to test methods other than the harmonised standard EN 55015. These tests included radiated emissions, disturbance power and a draft method using a coupling/decoupling network in the frequency range above 30 MHz. All samples tested met the requirements of those tests. Of the samples tested, none failed these additional requirements
3. Although not part of the original campaign, some samples were also tested for harmonics emissions in accordance with EN61000-3-2. On a reduced sample size the percentage of failures, at 23%, was the same as for the main study. Although individual lamps are of low power consumption, the cumulative effect of non-compliant samples on the level of harmonics in the power supply network will be significant, and checks for compliance with harmonics limits should be included in market surveillance exercises for these lamps.
4. Certain Member States reported that a high proportion of Declarations of Conformity supplied were incorrect.
5. Some laboratories and certification bodies have been found to produce documents which appear to be Declarations of Conformity. A number of manufacturers and importers were not aware such documents are not a valid substitute for Declarations of Conformity drawn up by the manufacturer.
6. For 21% of the product types, the country of origin could not be determined. These were spread throughout the EU. Such products exhibited a very high proportion of missing Declarations of Conformity, at 84%, and with 31% failing to meet the disturbance voltage (conducted emissions) limits of the relevant European harmonised standard EN55015, were above average in this respect also.
7. An analysis of EU/non-EU country of origin shows that a higher proportion of product types of non-EU origin compared with EU origin exhibited failures against the requirements of the harmonised standards (30 % against 3%) provision of a Declaration of Conformity (45% against 35%) and incorrect Declarations of Conformity (30% against 12%).