



European Radiocommunications Committee (ERC)
within the European Conference of Postal and Telecommunications Administrations (CEPT)

**MARKET SURVEILLANCE ASPECTS OF ENFORCEMENT
FOR RADIO EQUIPMENT**

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MARKET SURVEILLANCE ASPECTS OF ENFORCEMENT FOR RADIO EQUIPMENT

1 INTRODUCTION

1.1 Purpose of this Report

For the preparation of guidance on Market Surveillance it is necessary to have a common idea about the subject and what has to be done in this respect. Although harmonisation is desirable, within the EU and the wider CEPT community, Market Surveillance activities are a national matter. The New Approach directives foresee it to be carried out and there is also Chapter 8 in the Guide to the Implementation of Directives based on the New Approach and Global Approach dedicated to the principles of Market Surveillance.

This ERC Report concentrates on the specific case of Radio Equipment covered by the R&TTE Directive (1999/5/EC¹). For the non-EEA countries this Report covers Market Surveillance activities for the ERC/DEC/(97)10 conformity assessment regime. Also, to justify the initiatives to develop Market Surveillance activities to e.g. the industry, it is necessary to have a description of the activities that are referred to when using the term Market Surveillance.

The following discussion concentrates on Market Surveillance aspects of Enforcement. For other Enforcement activities, such as Inspection of radio stations before they are taken into use and regular inspection during their use in order to control the use of radio equipment with respect to observance of the licensing conditions, another Report has been prepared (ERC Report 66 on Inspection Procedures including Knowledge, Skills, Training and Duties of Enforcement Staff). Possible action against individual import of radio equipment for the purpose of taking it into use in a country where it does not comply with the national frequency usage is covered by the general concept of Enforcement.

1.2 Definitions

For the purposes of this Report it is necessary to define the following terms:

Enforcement:

The range of actions and sanctions that can be used to enhance the respect of law and regulations for the purpose of achieving the best possible quality of communications for the users of the radio frequency spectrum. It includes taking action against occurred and potential sources of interference and unauthorised use and may include appropriate enforcement measures. Enforcement can include all types of activities such as inspection of radio equipment, investigation, monitoring and/or market surveillance.

Market Surveillance:

The control (performed after conformity assessment procedures) of radio equipment placed, or to be placed on the European market, until the time the user purchases the equipment.

Market Surveillance of products is one Enforcement activity

It includes verification of;

- compliance with the technical requirements and
- compliance with regulatory requirements for marking, labeling and other documentation e.g. user information.

After non-compliance has been confirmed by verification, such as measurements, follow-up action will need to be put in place to have the discovered problems corrected.

Inspection of radio equipment:

Carrying out on-site measurements on radio stations and checking whether or not radio equipment complies with the general/individual licence and/or permitted conditions.

¹ Directive 1999/5/EC of the European Parliament and the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity, OJ L 91, 7.4.1999

1.3 Differences of approach between legislation in the various countries and impact on the wording

It appears that in some countries it will be allowed to possess any radio equipment but nevertheless licences (e.g. for radio frequency use) must be held to use some radio equipment. In other countries licences may be needed to both possess and use radio equipment.

The R&TTE Directive 99/05/EC also contains provisions in art. 9.5 to set up restrictions on having specific radio equipment on a particular national market. However the Commission Services have concluded that application of this article in advance should be limited to cases where serious interference risks exist, which cannot be controlled in any other way, so as, for example, with "GSM Jammers". In general the Member States should first wait and see if the other safeguards built into the Directive will take care of the problem.

As a result this Report has been carefully worded in order to cover as much as possible all the situations identified.

2 GENERAL OVERVIEW OF NATIONAL MARKET SURVEILLANCE SITUATION WITHIN THE CEPT MEMBER COUNTRIES

This section of the Report is based on results obtained from a questionnaire on Market Surveillance in the Telecommunications area and Inspection of radio equipment that was issued in November 1998 to 43 CEPT member countries, 21 of which responded. Among these were 12 EU Member States.

In most member countries there is some level of Market Surveillance. Those countries where there is not yet Market Surveillance are considering to establish it. Market Surveillance for radio and telecommunications terminal equipment is typically organised by the telecommunications regulatory Authority but in some CEPT countries these tasks for radio and other telecommunications matters may be split between two separate organisations.

Within these organisations Market Surveillance tasks may belong to a separate Enforcement Department but it may also be carried out using a decentralised organisation that collects technical and legal expertise from different departments and uses e.g. the radio monitoring service for fieldwork. There is great variation in the amount of resources used but also great differences of the geographical size, population and amount of equipment used in different countries should be taken into account when making comparisons.

Market Surveillance activities are financed typically either through the state budget or from licensing fees. In some countries type approval fees are mentioned but these will disappear in the future in countries where the R&TTED is implemented. In some CEPT countries it is possible to collect testing costs from the manufacturer if non-compliance is found but this is not the main method of financing any systematic testing activities.

There is a difference in priorities in that some countries (e.g. Germany) concentrate on non-compliance of CE marked products and do extensive testing on a large number of samples, while some other countries (e.g. Finland) concentrate on non-CE marked products (that should be CE marked) for which the proper conformity assessment has not been done at all and which the manufacturer never intended to be placed on the market of the particular country in which they were found. These different approaches will also lead to different testing costs.

In some countries Market Surveillance authorities have some or full EMC and/or radio testing capability while most authorities use commercial accredited testing laboratories and may only have limited pre-testing capabilities.

Legal powers possessed by the Market Surveillance authorities vary greatly between countries but in general these are adequate. These powers include access rights, right to take samples for testing and the right to set sanctions. These powers are not always directly available to the Market Surveillance authorities themselves but can be arranged with assistance from e.g. the police or customs authorities. Some of the sanctions are only available through legal action in court, where the results are unpredictable and may take a considerable time.

Market Surveillance authorities are interested in receiving information on Market Surveillance activities and actions in other countries but there seem to be practical problems in exchanging such information.

3 JUSTIFICATION/OBLIGATIONS TO ORGANISE MARKET SURVEILLANCE FOUND IN NATIONAL OR EU REGULATIONS AND CEPT DECISIONS/RECOMMENDATIONS

The competent authorities have the view that if Market Surveillance does not take place there may be an increased use of non-compliant radio equipment (see section 4.1) and the number of interference cases will rise. The protection of manufacturers and users who act within the legal framework is also important. For this reason national legislation contains requirements, which at least authorise Market Surveillance actions. Several EU regulations like the R&TTE Directive contain clear obligations for it too. Also ERC/DEC/(97)10 assumes that there are Market Surveillance activities.

However this ERC Decision is going to be superseded by the R&TTE Directive in the EU member countries and possibly other countries that implement this Directive. The European Commission has shown increased interest in organising adequate and comparable levels of Market Surveillance in the Member States.

This has been done for sectors of EU regulations, which in the past have only in part covered radio equipment but that will change when the R&TTE Directive is implemented. The Guide to the Implementation of Directives based on “New Approach and Global Approach” contains in Chapter 8 a description of the principles of Market Surveillance. The customs authorities in most countries do not systematically control the import of radio equipment but their involvement needs to be increased in particular to be able to prevent trading by mail or Internet order which could bypass Market Surveillance.

4 DESCRIPTION OF PRACTICAL MARKET SURVEILLANCE ACTIVITIES

4.1 How to select targets for Market Surveillance?

What are the most urgent/serious and dominant market disturbance problems? These problems were not covered by the questionnaire but some information can be found from the work in the EMC Administrative Co-operation although it does not specifically deal with radio frequency issues. Due to differences in national frequency allocations and other circumstances these problems may differ considerably between countries. Limited resources should concentrate on equipment groups that by experience have been found to cause most interference problems. The amount of non-compliant equipment, which is sold across country borders by mail or Internet is increasing greatly but it is difficult to control otherwise than at the delivery point of the product to end-users. Even for more traditional methods of placing on the market it is not enough only to visit the shops. Some part of the non-compliant equipment market is occurring underground and some special products are even intended to be used mainly for illegal purposes.

Two different main cases of non-compliant equipment may be defined:

1. Those that do not fulfil some essential requirements (e.g. electrical safety, EMC or efficient use of the radio frequency spectrum to avoid harmful interference) because of bad design (this is also a failure in conformity assessment).
2. Those that do not fulfil the regulatory requirements for marking, labelling and equipment documentation including User Information and Declaration of Conformity. The following examples of this can be defined where correct User Information is very important:
 - equipment is incompatible with frequency allocations in all European countries but is placed on the market for obvious use in Europe or
 - it is compatible with frequency allocations in some European countries but is incompatible with frequency allocations of some other countries

In both of these examples these limitations for taking into use should be mentioned in the user manual as required by art. 6.3 of the R&TTE Directive and the equipment has also to be notified according to art. 6.4 of the R&TTE Directive to the frequency management authorities of the relevant CEPT countries.

Although in principle all violations have the same legal status, limited Market Surveillance resources should be concentrated on the most serious cases of interference. The priority status of the interfered radio service should be taken into account. Hints from competitors (they are often the best experts) are very useful but must be checked for their correctness. Advertisements can be investigated. Also information about the findings and actions of other CEPT administrations is useful. Some targets could be selected in co-operation on the basis of information from another country.

The legal basis for action in the R&TTE Directive relevant to the examples described under the second case above is not very strong because in principle the Directive contains a basis for restrictions on use of such equipment but not for their

placing on the market and possession. For any restrictions on placing on the market the conditions set out in art. 9.5 of the R&TTE Directive shall be fulfilled. Article 9.5 is specifically written for radio equipment and its interpretation was already explained in item 1.3 of this Report.

4.2 How to behave in Market Surveillance situations?

Not all selling of non-compliant radio equipment occurs knowingly or with the intention to infringe the regulations. It is necessary to first check the situation, which may be easily corrected by giving information and advice. All action should be in proportion to the problem and if the manufacturer appears to be co-operative all unnecessary formal legal action should be avoided. The rights of the Market Surveillance inspector are different in different countries and cannot be easily harmonised. There may be a need for common procedures (Code of Conduct) when visiting dealers asking for certificates, declarations of conformity, name of the manufacturer etc. Depending on national legislation the Market Surveillance inspectors may need the assistance of the police for right of access and for confiscation of equipment. Therefore the local police needs to be contacted before any action in a particular area takes place to ensure their prompt assistance if necessary. When Market Surveillance activity is started in a particular country it may be helpful to have preparatory meetings with the local police or other local enforcement authorities in order to explain to them the purpose of this activity and its legal basis. When the activity becomes established and the police or other authority becomes familiar with this special area such meetings may not be necessary any more for this purpose but may be still useful for the Market Surveillance people to get acquainted with the area well known to the local authorities.

Involving the local newspapers and local radio stations can be used in connection with local Market Surveillance campaigns to make Market Surveillance known to the general public in a positive sense. This does not necessarily incur any costs because the local media sometimes have a shortage of news material. Also it gives the opportunity to provide information in a controlled way to the general public on this issue, thereby increasing consumers' awareness of the matters.

4.3 How to select samples for control measurements?

It is necessary to define how many samples are needed to eliminate single pieces of faulty or misaligned radio equipment and to achieve some statistical confidence. For mass-produced consumer electronics 3 to 5 samples can be considered as the minimum for any statistical analysis but probably tests on only one sample can be used as a basis to inform the manufacturer about the problem and to request more information on the manufacturer's own basis for the Declaration of Conformity.

The samples for testing should be selected by the Market Surveillance Authority itself. In selection of samples a possible correlation between samples of the same equipment type should be avoided by trying to get the samples from different batches of production.

Responses to the questionnaire revealed that the legal basis for taking samples for testing is different in different countries. In some countries this is possible while in other countries the samples must be bought.

4.4 Measurement programme (pre-testing, accredited testing)

The term pre-testing used here means any testing capability the Market Surveillance authority may have available in-house, e.g. in the radio monitoring service, to perform conducted measurements of certain radio parameters like frequency, transmitter power and spurious emissions. Normally this does not include radiation test sites and for legal action the use of test results from an accredited testing laboratory is the safest (but most expensive) way to avoid potential liability for damages caused by decisions on sanctions and restrictions. Also if the manufacturer is co-operative, such results are not needed but it is enough to report the results obtained with ordinary test equipment normally available to monitoring services. The possibilities of charging testing costs to the manufacturer vary with national legislation. In any case, to speed up decisions and to save money, simplified pre-testing on-site or in-house forms the necessary filter. In preparing the test programme one way to decrease costs is to perform the tests which, based on earlier experience, are most likely to show non-compliance first and cease when the first serious non-compliance is found.

Another aspect is that the Market Surveillance Authority should first check that the Manufacturers' Declaration of Conformity is based on a correct harmonised standard or on some other equally acceptable technical basis. If the manufacturer has not applied the Harmonised Standards route but prepared a Technical Construction File, then any further investigation should be based on this File. The investigation should also study whether this route of compliance has been properly used.

4.5 What degree of non-compliance will justify further action?

Due to production tolerances hardly any radio product type fulfils all the technical parameters contained in the regulations/referenced standards for all the samples taken from production unless the manufacturer has 100% production testing. Some individual products may also be faulty and therefore several samples are needed. In CISPR EMC standards it is required that products meet the requirements with some statistically defined confidence. In ETSI standards a shared risk approach is selected. It means that the measurement uncertainty is neither added nor subtracted from the measured value but the measured value is directly compared with the given limit value in the standard. This also means that the test laboratories in their accreditation process have to demonstrate at least their ability to achieve the measurement uncertainty limits given in the relevant standards or to prove that they achieve even better measurement uncertainty. In order to minimise the possible correlation between test results (influence of measurement uncertainties) the various samples (see item 4.3) could be tested by different accredited test laboratories.

Another way of looking at the problem is to decide that no action is taken unless a certain interference or degree of harm has occurred. This may result in a large number of non-compliant equipment being taken into use which has a high level of spurious emission at a particular frequency, that happens to be unused at first.

Later this frequency is assigned to a user and the complaints start to arrive. In many cases it is also difficult to pinpoint the cause of interference without extensive investigations.

4.6 Negotiating with the manufacturer/responsible conformity assessment body

The investigation phase should start with checking first the manufacturer's Declaration of Conformity that also, on the basis of art 6.3 of the R&TTE Directive, should follow the product. The initial own test results are compared with that and the Technical Construction File prepared by the manufacturer, if any.

The reason for any discrepancy should be investigated. In future the R&TTE Directive opens the possibility to declare compliance without using the harmonised standards. In such a case a further investigation should then concentrate on comparing own test results with those of the manufacturer and evaluate the Technical Construction File prepared by the manufacturer and the opinion of the Notified Body on it.

When the R&TTE Directive becomes implemented there is less information available to the Market Surveillance Authorities about equipment on the market because the information collected on the basis of the present type approval regime will gradually become obsolete. On the basis of art. 6.4 of the R&TTE Directive notifications very little information is obtained because this procedure needs to be applied only in those exceptional cases where placing on the market occurs in a country where the use is not allowed because the equipment does not comply with the national frequency usage. This conclusion is based on the following quotation from the minutes of TCAM 3 meeting:

TCAM endorses the following definition of equipment, which needs to be notified under article 6.4 of the Directive:

Notification under Article 6 (4) of directive 99/5/EC is required for equipment covered by the following definition: Radio equipment which uses frequency bands whose use is not harmonised throughout the Community. This is considered to be all radio equipment except those:

- *which do not transmit; or*
- *which can only transmit under the control of a network; or*
- *which use a frequency band which is allocated to the same radio interface in every Member State in the following way:*
 - a) *there is a common frequency allocation; and*
 - b) *within this allocation, the allotment and/or assignment of radio frequencies or radio frequency channels follows a common plan or arrangement; and*
 - c) *the equipment satisfies common parameters (e.g. frequency, power, duty cycle, bandwidth, etc.).*

Notification of radio equipment which uses frequency bands whose use is not harmonised throughout the Community should be made to relevant Member States, i.e. Member States upon whose market it is intended to place the equipment but where the equipment is not complying with the national frequency use.

- end of quotation -

This was the majority view in TCAM but some delegations did not accept the definition of the relevant Member State on the two last lines. This may lead to different national implementation for the scope of notifications and is likely also to confuse the industry.

Therefore the equipment data plate and documentation accompanying it must be used to identify the manufacturer and in relevant cases also the involved Notified Body, which both can then be contacted for additional information.

Negotiation with the manufacturer and the involved Conformity Assessment Body should take place before starting any formal legal action. In case there is reason to doubt the conformity of the product with the declared standards, information about the test results which the manufacturer has used as the technical basis for his declaration can be requested. This doubt can be based on initial pre-testing results and occurred cases of interference. If the legislation leaves room for negotiated voluntary action by the manufacturer to correct the problem and the manufacturer is co-operative, legal action should be avoided because the results of legal action are often unpredictable in complicated technical matters. The possibilities to decide on the use of legal action are also dependent on the role the Market Surveillance authority can have in the court session (a party or only a witness).

4.7 Restrictions with regard to placing on the market/other legal action

The results of an investigation may require decisions on actions for correcting the situation. A common understanding or agreement within CEPT that a certain defined degree of non-compliance with the R&TTE Directive or national regulations should lead to the conclusion that specific action would be desirable. However if the case goes as far as to a court of justice, the results may be unpredictable as mentioned above. The set of restrictions available varies in different countries. Care should be taken that non-compliant products from the market of one country are not transported to another country. However in the case of radio transmitters it is possible that a product variant not compliant with the Radio Interface of one country is compliant with that of another country (see examples under the second cases in chapter 4.1).

4.8 Notification to the European Commission and informing authorities in other CEPT countries

There is a legal obligation in the EU regulated area to notify the Commission (and other Member States) if restrictions for placing on the market are decided upon (required by art. 9.6 of the R&TTE Directive), but this would also be useful in case of manufacturer's voluntary action and within the wider CEPT area. A common understanding or agreement within CEPT on how and to whom information should be given would be desirable. All product specific information has to be treated as confidential and should be available only to Market Surveillance Authorities in other countries and the European Commission.

The manner of co-operation has not yet been established in the radio equipment and telecommunications terminal sector but a similar method as in the EMC and electrical safety sector can be foreseen. In the past the participation in these administrative co-operation groups has been restricted to EEA countries but it would be desirable to extend the participation at least in the Telecommunications sector to cover a wider CEPT membership including, at least, those non-EEA countries that will sooner or later implement the R&TTE Directive.

4.9 Databases containing useful information for Market Surveillance work

There are already a number of databases maintained by the ERO which are useful for Market Surveillance activities. The most important of these is perhaps the one containing information on equipment types placed on the market on the basis of conformity assessment procedures in accordance with ERC/DEC(97)10. There is also a database on national implementation of ERC Decisions and Recommendations. The database on national Enforcement Organisations and Contact Persons is useful for ad hoc contacts and has recently been up-dated.

In some CEPT countries the type approval authorities keep a database on national type approvals of radio and telecommunications terminal equipment. In Austria, Estonia and Finland, at least, this information is publicly available through Internet mainly for consumers but it is used also in Market Surveillance fieldwork.

These databases on type approvals will soon lose their value when the R&TTED becomes implemented and similar databases cannot be created from information gathered through notifications by manufacturers on the basis of art. 6.4 of the RTTE Directive. This is because the manufacturer is only obliged to notify to the authorities of those countries where placing on the market is planned but where the equipment which uses frequency bands whose use is not harmonised throughout the Community and does not comply with the national frequency usage.

During the preparatory studies on the implementation of the R&TTE Directive AHG-A prepared a proposal called Project EINSTEIN that contained elements for the different data exchange needs of the R&TTE Directive.

The European Commission has launched a feasibility study to further investigate such data exchange needs. The results of this study are expected to be available during autumn 2000.

4.10 Action to improve the standards

Some of the findings from Market Surveillance could reveal shortcomings in standards that could lead to revision by the standardisation bodies. In this matter the MoU between the ERC and ETSI could be invoked. It is not however a very fast process and may require considerable evidence of occurred problems. Under the R&TTE Directive the essential requirements can be fulfilled by applying the Harmonised Standards prepared based on a mandate from EC. Articles 5.2-3 and 9.4 of the Directive describe the procedure to initiate the process for amending a harmonised standard.

5 OTHER RELATED MATTERS

5.1 How to avoid potential implementation problems of ERC Recommendations/ Decisions already in their drafting phase?

Sometimes the texts contain compromises that are ambiguous and lead to different interpretations (maybe sometimes this has been the purpose). The scope should be clear. Requirements should not be unrealistic from the implementation point of view.

Some occurred cases of implementation and enforcement problems:

- The transmitter power limit of 2.4 GHz RLANs is defined in terms of EIRP and it must be type approved/declared by manufacturer with a specific antenna to comply with this limit. However the user can easily connect another antenna to achieve a longer range.
- It remains to be seen how the planned restrictions on the use of certain types of HIPERLAN equipment outdoors can be enforced.

5.2 Problems in the availability of information on the implementation of the ERC Decisions/Recommendations

Manufacturers have had problems understanding the difference between commitment and actual implementation when looking at information on the ERO web pages. This problem has now been partly solved by adding in each Decision a note that complete implementation information can be found in the Implementation area of the web pages. Also many CEPT Member Administrations forget to send implementation information to the ERO. Therefore there is still not enough confidence in the accuracy and completeness of the comments regarding reservations on parts of Decisions/-Recommendations or selection of national options therein. Many CEPT countries seem to need a very long time to implement a Decision/Recommendation. On the other hand old Recommendations like T/R 01-04 for Short Range Devices is still the basis of national regulations in some countries even if that Recommendation has been replaced by ERC Recommendation 70-03.

Manufacturers and other CEPT countries seem to have problems knowing exactly when different countries have implemented a Decision/Recommendation. Better procedures are needed to ensure that implementation information of Decisions/Recommendations is always correct as far as national comments/options are concerned. Not understanding this complex situation is a potential source of problems in the market. The great number of ERC Decisions is a result of trying to split the problem in small parts to achieve the widest possible implementation.

This system may be understandable for CEPT administrations but for an outsider (the industry and the users) it is difficult to understand. Maybe one could find a more illustrative ways of describing the restrictions or possibilities to the industry and the users, other than just telling that X country has implemented ERC/DEC Y. With implementation of the R&TTED the industry also needs reliable information about the restrictions to be able to inform the user according to art. 6.3 of the R&TTE Directive.

Even after the implementation of the R&TTE Directive within the EEA countries and later in the candidate EU member countries the frequency allocation and licensing matters will continue to be based on CEPT/ERC Recommendations and Decisions but detailed information on National Radio Interfaces needs to be published. The format of detailed National Frequency Allocation Tables on the web pages of the national administrations has been proposed as a practical way of achieving this. However to do this by 8 April 2000 is becoming a critical factor.

References:

R&TTE Directive 99/05/EC

ERC Recommendations 70-03 and T/R01-04