Joint Market Surveillance Action on Harmonised Products JAHARP2021-06

On Radio Equipment in cars

Layman's report



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List of abbreviations

ADCO	Administrative Cooperation Group
CE	European Conformity (Conformité Européenne)
DG GROW	Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs
DOC	Declaration of Conformity
EEA	European Economic Area
EISMEA	European Innovation Council and SMEs Executive Agency
EU	European Union
GA	Grant Agreement
ICSMS	Information and Communication System for Market Surveillance
MS	Member State
MSA	Market Surveillance Authority
OJ	Official Journal of the European Union
RED	Radio Equipment Directive
REDCA	Radio Equipment Directive Compliance Association

Glossary

AFTERMARKET: The market for the supply of products or services needed for, or in connection with, the use of what is often a relatively longlasting piece of equipment that has already been acquired. This equipment is referred to as the 'primary product' (and hence its market is called 'primary market'). The complementary product(s) (typically spare parts or consumables) and services used in connection with the primary product are referred to as 'secondary products' (and their market is called 'secondary market' or 'aftermarket').

CE MARKING: CE stands for "Conformité Européenne", the French term for "European Conformity". The CE mark means that the manufacturer takes responsibility and declares that a product sold in the European Economic Area (EEA) has been assessed to meet all applicable safety, health, performance, and environmental requirements.

ECONOMIC OPERATOR: the manufacturer, authorised representative, importer, distributor, fulfilment service provider, or any other natural or legal person who is subject to obligations in relation to the manufacture of products, making them available on the market or putting them into service in accordance with the relevant Union legislation. **CONFORMITY ASSESSMENT:** A manufacturer can only place a product on the EU market when it meets all the applicable requirements. The conformity assessment procedure is carried out before the product can be sold.

CORRECTIVE ACTIONS: any action taken by an economic operator to bring any non-compliance to an end where required by a market surveillance authority or on the economic operator's own initiative.

HARMONISED STANDARD: a European standard developed by a recognised European Standardisation Organisation defining the technical specifications used to assess/verify that a product complies with the mandatory requirements.

ICSMS DATABASE: The Information and Communication System on Market Surveillance (ICSMS - webgate.ec.europa.eu/icsms/) is an IT platform set up and managed by the European Commission which enables the exchange of information between EU-27 market surveillance authorities on non-food product inspections and their results. ICSMS has an internal and a public area. Consumers can access ICSMS' public area to check whether a product model has been inspected and if it is compliant. **INSPECTION:** any market surveillance activity aimed at verifying the compliance of products against the requirements and conditions as defined in the legislation and standards.

MARKET SURVEILLANCE: the activities carried out and measures taken by market surveillance authorities to ensure that products comply with the requirements set out in Union legislation.

MARKET SURVEILLANCE AUTHORITY: an authority designated by an EU Member State as responsible for carrying out market surveillance in the territory of that Member State.

MODEL: a version of a product of which all units share the same technical characteristics relevant for the label and the product information sheet and the same model identifier.

NON-COMPLIANCE: any failure to comply with any requirement under the Union legislation.

PRODUCT: a type or sub-type of a product within a product group/class. For example, electric or gas-fuelled local space heaters are sub-types of the local space heaters family product group.

PRODUCT DOCUMENTATION: any type of (mandatory and/or non-mandatory) documentation made available in any form by the manufacturer/supplier of a product model and accompanying that model.

RADIATED POWER: refers to the power emitted by an antenna in a specific direction, which can be calculated using the Effective Radiated Power (ERP) formula involving antenna gain and total transmitted power. It is a crucial factor in determining the power density of an electromagnetic wave transmitted from the antenna.

RADIO EQUIPMENT: an electrical or electronic product, which intentionally emits and/or receives radio waves for the purpose of radio communication and/or radiodetermination, or an electrical or electronic product which must be completed with an accessory, such as antenna, so as to intentionally emit and/or receive radio waves for the purpose of radio communication and/or radiodetermination.

RISK-BASED APPROACH/SAMPLING: the most common approach among market surveillance authorities, used to focus/optimise their limited resources on those products and models considered most likely to pose a risk of noncompliance.

SAFETY GATE: The EU rapid alert system for dangerous non-food products. The Safety Gate

system enables that information on measures taken against non-food dangerous products is circulated quickly among the national authorities responsible for product safety in the Single Market countries.

SAMPLES: Different units of the same model. For example, in order to verify the compliance of a model, market surveillance authorities can test three (3) samples/units belonging to that model in a laboratory (what is known as "triple-testing").

SPURIOUS EMISSIONS: emissions caused by unwanted transmitter effects such as harmonics emissions, parasitic emissions, intermodulation products, and frequency conversion products.

TECHNICAL DOCUMENTATION: mandatory documentation compiled by the manufacturer that enables market surveillance authorities to assess the conformity of a product with the applicable requirements. А technical documentation file contains specific product information including, example. for а description of the product and its intended use, of the results relevant environmental assessment studies carried out by the manufacturer, information and elements of the product design specification relating to environmental design aspects of the product, measurements the results of on the requirements carried out.

VOLUNTARY MEASURE: A corrective action where intervention by the market surveillance authority is not required.

Executive summary

Scope and objectives of JAHARP2021-06

The <u>JAHARP2021-06</u> project on radio equipment in cars was a pan-European Joint Action coordinated by <u>PROSAFE</u> which started in August 2022 and ended in September 2024. It targeted aftermarket radio equipment for domestic motor vehicles and fell within the scope of the Radio Equipment Directive 2014/53/EU¹ (RED).

The Market Surveillance Authorities (MSAs) sampled a total of 50 aftermarket radio equipment products and conducted document checks on the declarations of conformity and the test reports provided by the economic operator. The products were also sent to an accredited laboratory for technical tests, in order to verify their compliance with the requirements in the Directive.

Overall, 60% of the products failed laboratory testing, with the main non-conformities being related to spurious emissions.

The MSAs carried out an assessment of the level of risk created by the non-conformities detected, before deciding on the corrective measures to be taken with respect to non-compliant products, and 10% of the nonconforming products were considered as posing a high risk.

As a consequence to the work conducted under this joint action, **17 products were voluntarily** withdrawn from the market by the responsible EOs.

Geographical scope

Seven (7) Market Surveillance Authorities from the following 7 Countries have participated in this EU Joint Action coordinated by Stichting PROSAFE: Cyprus, Germany, Greece, Latvia, The Netherlands, Romania, and Switzerland (outside of financial scheme, as an observer).

Participating EU Market Surveillance Authorities in JAHARP2021-06





¹ Directive 2014/53/EU of the European Parliament and of the Council of 16 April 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC

Highlights and key results



Figure 1 Highlights and key results of JAHARP2021-06

CAUTION!

These results are based on samples of products collected from the markets in the participating countries by experienced market surveillance inspectors. As in most market surveillance activities, the results represent the targeted efforts that authorities undertook to identify non-compliant products. Because of that, the results of this joint action <u>do not present</u> a statistically valid picture of the situation of the entire market. The samples were tested by an accredited testing laboratory.



Introduction to JAHARP2021-06

The Joint Action JAHARP2021-06 concerned aftermarket radio equipment in cars for domestic motor vehicles. An increasing number of radio modules are now installed in motor vehicles, including radio sensors and radars, as well ITS (intelligent transportation system) parts, eCall (emergency call devices), remote control keys, tyres pressure control devices. When installed in a vehicle, these products not only facilitate and help drive the vehicle, but they also provide safety features such as automatic emergency braking, pedestrian detection, and adaptive cruise control.

These radio modules are in the scope of the RED Directive 2014/53/EU and should fulfil all essential and administrative requirements stated in the Directive and all essential and administrative requirements stated in the relevant regulatory act for the respective vehicle field.

Several risks are associated with non-compliant radio modules, as for example the remote door opening and engine starting keys (vehicle alarm systems) could interfere with the mobile operator network, or radio modules like tyres pressure control devices could operate in a band frequency of 315 MHz, which in EEA/EFTA Countries is reserved exclusively for military use. In addition, after several years of operation, radio modules like sensors installed in the vehicle could become noncompliant and not operate as intended by the manufacturer. In fact, when sensors and systems age, they tend to lose their sensitivity and might not indicate an error to the driver. The correct functionality and detection capability of a vehicle may therefore be at risk, with fatal consequences when small silhouettes such as pedestrians, domestic animals or motorcyclists are not detected, and the intended emergency braking function is not activated.

PROSAFE and the MSAs participating in this Joint Action considered critical to conduct compliance assessments of aftermarket radio equipment in cars for the first time and work towards common and harmonized methodologies for market surveillance in the field.



The 7 participating MSAs shared information on their market surveillance activities concerning aftermarket radio equipment in cars and investigated the market in the EU for these products. They identified the possible sampling criteria to develop initial risk assessment scenarios.

They then agreed on a **Common Code of Practice**, establishing the type and number of aftermarket radio equipment products to be subjected to documentation checks and laboratory testing. They also prepared a **checklist for conformity checks** to use during the assessment.

We then launched a tender procedure and selected a testing laboratory to carry out technical conformity checks.

Tests were conducted according to the relevant standards.

The MSAs then performed an analysis of the results and an **assessment of the risks**, to which **enforcement actions** followed. MSAs informed Economic Operators (EOs) of the results and appropriate measures were taken when applicable.

After the tests, the products have been returned to the responsible EO or disposed of in line with the EU regulations.

Figure 3 Project Timeline

Inspection and test results

The project group identified a wide range of types of radio equipment products present in the single market, among which FM-transmitters, rear view cameras, audio adapters, dashboard cameras, Bluetooth hands free-kits and alarm systems.

Following a risk-based approach in the selection of the products for inspection and testing, the MSAs sampled **50 products** available in their respective national markets for document checks and laboratory testing. The graph below shows the distribution of the different types of products which have been selected.



Documentation Checks

Chapter II of the Radio Equipment Directive 2014/53/EU sets out the obligations of economic operators, among which the obligation to draw the technical documentation and make it available to the market surveillance authorities upon request. The contents of the technical documentation are specified in Annex V.

The participants in the Joint Action performed documentation checks and decided to focus on two kinds of documents included in the technical documentation, particularly the EU Declaration of Conformity (DoC) and the test reports provided by the economic operator, in accordance with the procedures of their respective MSAs.

The requirements for the contents of the EU Declaration of Conformity, as set out in Annex VI of the Directive are listed in the box on the right.

- 1. Radio equipment (product, type, batch or serial number):
- 2. Name and address of the manufacturer or his authorised representative:
- 3. This declaration of conformity is issued under the sole responsibility of the manufacturer.
- 4. Object of the declaration (identification of the radio equipment allowing traceability; it may include a colour image of sufficient clarity where necessary for the identification of the radio equipment):
- 5. The object of the declaration described above is in conformity with the relevant Union harmonisation legislation: Directive 2014/53/EU and Other Union harmonisation legislation where applicable
- 6. References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared. References must be listed with their identification number and version and, where applicable, date of issue:
- 7. Where applicable, the notified body ... (name, number) ... performed ... (description of intervention) ... and issued the EU-type examination certificate: ...
- 8. Where applicable, description of accessories and components, including software, which allow the radio equipment to operate as intended and covered by the EU declaration of conformity:
- 9. Additional information: Signed for and on behalf of: ... (place and date of issue): (name, function) (signature)

The MSAs verified that the DoCs received were in line with the requirements established in the RED, resulting in 31% of them being evaluated as non-compliant. In addition, 20% of the EOs failed to provide the DoC to the market surveillance authorities upon request.

The participating market surveillance authorities also requested copies of test reports from the economic operators. These were evaluated against a number of questions, presented in the figure below.



Figure 4 Questions guiding the evaluation of test reports provided by manufacturers

Overall, 61% of the analysed test reports were noncompliant against the evaluation criteria. The graph below represents the non-compliance levels encountered during the review of the DoCs and the test reports provided by the economic operators.



It is important to note that about a third of the economic operators were unable to provide a copy of the test report upon request to the market surveillance authority. In addition, we observed a lack of traceability of the product sampled and tested in a third of the test reports examined. This was evaluated as a non-compliance.

Laboratory Tests

The 50 aftermarket radio equipment products were also tested by the selected laboratory against the requirements in the Directive and the appropriate Harmonised Standards.

The results of the tests showed a non-compliance rate of 60% of the products, with 30 out of 50 products failing on the spurious emission parameter. In addition, 3 of the products also failed the radiated power test.

The graph below depicts the percentages of observed non-conformities.



Risk Assessment and Follow up measures

The MSAs conducted a thorough risk assessment, the process of which started during the market analysis phase, where initial scenarios were considered. The participating market surveillance officers agreed on a common approach and concluded that the nonconformities relating to aftermarket radio equipment in cars pose societal risks particularly where measurement values above allowable limits may adversely affect state defence or emergency services.

Therefore, the project group assessed as a low/medium risk nonconformities related to radiated power and as a medium/high risk nonconformities related to spurious emissions.

Eight products were evaluated as presenting a high risk. An overview of the risk assessment of the non-conformities identified among the 50 products checked and tested is shown below:



Figure 5 Risk assessment overview for the total of the 50 samples tested



Figure 6 Risk assessment on non-conformities identified in 30 of the 50 tested samples

Following the risk assessment exercise, the MSAs undertook different enforcement actions on the non-compliant products. As a result, **17 products have been voluntarily withdrawn from the market** by the responsible EO.

Conclusions and lessons learnt

Targeting aftermarket radio equipment for the first time has revealed the importance of reviewing the technical documentation to determine how manufacturers interpret the requirements of the Radio Equipment Directive (RED) 2014/53/EU. It is particularly concerning that 20% of the economic operators did not provide a copy of the EU Declaration of Conformity (DoC) upon request, and over a third (33%) did not provide a copy of the test report.

Furthermore, the nonconformity rate for the technical documentation received, as evaluated, was 31% for the EU declaration of conformity documents and 61% for the test reports. While this demonstrates that the review of technical documentation is an efficient method of market surveillance, it is indicative of a broader issue suggesting that economic operators need further awareness of their legal obligations under the RED.

Despite the limited sampling size, we have also identified nonconformities during laboratory testing for 30 (60%) of the 50 sampled products. The nonconformities were recorded for radiated power and spurious emissions testing. Overall, 3 of the nonconforming products (10%) failed both radiated power and spurious emissions testing.

While corrective measures are still ongoing at the time of this report, 17 out of the 30 radio equipment products presenting technical non-conformities have been voluntarily withdrawn from the market by the responsible economic operator.

The results of the joint action have been shared with stakeholders and the EU-27 MSAs have been informed through the <u>ICSMS database</u> and via communication with the Administrative Cooperation Group on Radio Equipment (ADCO RED).

We believe that the outcomes of the inspections and tests undertaken under this project will support the work of other MSAs in future campaigns and Joint Actions in this field.

PROSAFE is coordinating a number of other projects and Joint Actions with the aim of contributing to the implementation of Regulation (EU) 2019/1020, together with other regulations concerning product safety and energy efficiency. We will keep working with market surveillance authorities, consumer and business associations to ensure that products comply with EU Safety and Environmental Regulations.







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