

EU Radio Equipment Directive (RED) Certification and Testing



In the last decade more and more products, from doorbells to refrigerators, have become 'smart'. Mostly via wireless data communication these products communicate with each other or over the internet. Each product placed on the European market that contains some sort of wireless connectivity or (already certified) radio component must comply with the Radio Equipment Directive (2014/53/EU) (RED). Kiwa can test and certify radio products against the RED and enable quick EU market access.

Certain standards can be utilized to prove compliance to these articles. Some of these standards are already harmonized whereas others are not. If a standard is harmonized manufacturers can, if they have the proper equipment and knowledge, test and declare compliance themselves. If a standard is not harmonized, testing and certification needs to be done by a Notified Body (NB) such as Kiwa.

RED testing

Kiwa is equipped with start-of-the-art facilities to test the electrical safety, electromagnetic compatibility (EMC) and wireless data communication aspects of a wide range of electronic devices. With multiple Kiwa labs in Europe, we are able to perform a wide scale of test according to many different standards. We always try to find the best possible test slots for your project(s), this so you can strive to a fast market access. All our projects are guided by a project manager specifically assigned to your project.

RED certification

In order to show compliance with the essential requirements of the RED, you can test your product against both harmonized and non-harmonized standards. All harmonized standards are adopted in the [OJEU](#). If the standard which is suitable for your product is not adopted in the OJ, you have to have your product reviewed and certified by an accredited RED Notified Body. When you apply for RED certification a Notified body will check your technical construction file and test reports, documentation such as manuals and drawings and your declaration of conformity. If it is all in line with the directive the Notified Body will be able to issue a RED

**Wireless, IT and Telecom
Nederland**
nl.office@telefication.com
+31 (0)88 998 36 39

certificate.

Added value

Having an RED certificate shows that an independent third party has checked your product on different critical safety aspects. Having proof of this in the form of an official certificate can be a great added value and commercial benefit for your product.

RED categories

Generally, a product must show presumption of conformity with the applicable standards as mentioned in the directive that suit the product best. We can roughly determine four categories that a product must meet:

Article 3.1a Health and Safety

This is applicable to both animals and humans. Think of EMF, SAR, RoHS2 etc. Regarding safety: even if a product is battery powered, the safety requirements still have to be met. The Low Voltage Directive, 2014/35/EU, is applicable from voltage of up to 50 VAC or 75 VDC that can be considered touch-safe. If the Radio Equipment Directive is applicable this threshold is lowered to 0V.

Health:

EMF: EN 62311, EN 62479

Simple conformity assessment for low-power electronic and electrical equipment to an exposure limit relevant to electromagnetic fields;

SAR testing (Specific absorption rate)

Specific Absorption Rate (SAR) is the extend to which radio frequency energy is absorbed by the user's or bystander's body or head. SAR testing applies to radio devices that are intended for use closer than 20 cm to the human head or body.

Safety:

Below you find some examples of common standards for which we offer test and certification services. Please feel free to contact us if the standard you are looking for is not listed.

IEC/EN 62368-1

A product safety standard, applicable to the safety of electrical and electronic equipment within the field of audio, video, information and communication technology;

IEC/EN 60335-1 / IEC/EN 60335-2-X (accredited for multiple standards)

A product safety standard for household and similar electrical appliances;

IEC/EN 61010-1

A product safety standard electrical equipment for measurement, control and laboratory

Battery testing

Testing of batteries or battery cells according to IEC 62311 or UN 38.3. [More information \(German\)](#).

IEC/EN 60529 IP

Testing for ingress protection against water and dust. [More information](#).

**Wireless, IT and Telecom
Nederland**

nl.office@telefication.com
+31 (0)88 998 36 39

Article 3.1b EMC

EMC or electromagnetic compatibility means that a product may not interfere with any other equipment. This article is to ensure that electromagnetic emissions from equipment are limited in order to ensure that, when used as intended, such equipment does not disturb radio and telecommunication, as well as other equipment. It also governs the immunity of such equipment to interference and seeks to ensure that this equipment is not disturbed by radio emissions, when used as intended.

Below you find some examples of common standards for which we offer test and certification services. Please feel free to contact us if the standard you are looking for is not listed.

EN 301 489-1 / EN 301489-X (accredited for multiple standards)

EMC standard specifically for radio products.

EN 55014-1 and -2

EMC standards for household or residential products. Both emission and immunity.

EN 55032/EN 55035

EMC standards for multimedia equipment. Specifically used for non-radio equipment.

Article 3.2 RF spectrum use or efficient use of the spectrum

A product that emits RF energy must do so in the most efficient way and within the limits of the applicable RF standard (depending on the type of radio).

RF spectrum use

RF standards for the testing of different wireless communication technologies:

EN 300 220 – LoRa/ 868 MHz

EN 300 328 – Bluetooth 2,4GHz, WiFi 2.4 GHz

EN 301 893 - WiFi 5GHz high performance LAN.

EN 301 511 - 2G, 3G

EN 301 908-1 – 3G, 4G (LTE, NB IoT)

EN 303 413 – GPS

EN 300 330 – NFC / RFID

Article 3.3 d, e and f Cybersecurity (mandatory from 1 Augustus 2024)

Radio equipment within certain categories or classes must be constructed in a way that it complies with the following essential requirements:

(d) Radio equipment does not harm the network or its functioning nor misuse network resources, thereby causing an unacceptable degradation of service;

(e) Radio equipment incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected;

(f) Radio equipment supports certain features ensuring protection from fraud.

[Delegated Regulation RED compliance cybersecurity IoT products published in OJEU](#)

Cyber security standards

ETSI EN 303 645

Wireless, IT and Telecom Nederland

nl.office@telefication.com

+31 (0)88 998 36 39



Cyber security standard to ensure a baseline level of cyber security for consumer electronics. Read more on ETSI EN 303 645.

IEC 62443-4-2

Cyber security standard for industrial automation and control systems (IACS) - Part 4-2: Specific technical security requirements for IACS components. Read more on IEC 62443.

**Wireless, IT and Telecom
Nederland**

nl.office@telefication.com

+31 (0)88 998 36 39

