

Embedded Radio Systems

Nowadays a high number of implementations from nearly any industry and any thinkable application area is equipped with additional radio modules. Most of the integrated radio modules (GSM/UMTS, LTE, 5 G, WLAN/Wi-Fi, Bluetooth®, SRD, RFID and many more) have already been prequalified. Manufacturers of such embedded systems are often confronted with the question whether it is necessary to retest the complete system including the radio module and how the product can be released to the international market.



WHY FURTHER TESTS?

Usually, original host applications have been tested according to their specific product standards like, for example, Electromagnetic Compatibility or Electrical Safety. In many cases the radio module to be integrated has also already been pretested according to the required EMC, Safety or Health standards.

Changed limits, severity levels or frequency ranges for the complete system

By integrating a radio module into a host a new radio system evolves which has never been approved according to the requirements for radio systems so far. As a result the complete system must be reviewed as a new single product. Potentially, this new product might have to fulfill additional requirements such as extended frequency ranges or higher severity levels to be applied to the complete system.

Different antenna, shielding or layout

Even if you change the shielding or the layout of the radio module or the host it might be necessary to pass additional component tests to ensure the conformity of your product. If, for example the antenna differs from the one which has been used during the module's prequalification, retesting of the final product is obligatory.

OUR SERVICE PORTFOLIO

Radio

Laboratory for Conformity testing or In Development Testing for any known radio application

- GSM (EN 301 511)
- W-CDMA (EN 301 908-1)
- 5G (EN 301 908-25)
- WLAN (EN 300 328)
- Bluetooth® (EN 300 328)
- RFID (EN 302 291/ EN 300 330)
- SRD (EN 300 220/ EN 300 440)
- and others

Measurements according to international standards for Europe, USA, Canada or Japan.

Electromagnetic Compatibility (EMC)

Emission and immunity measurements with specific adapted test sample monitoring for radio devices according to EN 301 489-xx and for information technology devices (EN55022, EN55025).

Electrical Safety

Accredited test lab according to IEC/EN 62368-1 for Audio/video, information and communication technology equipment (transition period for IEC/EN 60950 and 60065 until 06/2019), IEC/EN 60601 (Safety for medical electrical equipment), IEC/EN 61010 (Safety for electrical equipment in lab use) and IEC/EN 62133 (Safety requirements for batteries).

In addition, cetecom advanced is the right partner for CB and NRTL certification.

Health/SAR

Depending on the application or intended use we can offer SAR measurements or EMF calculations to proof the compliance to current Health standards.

Environmental Simulation

Mechanical vibrations, climatic impact and IP (internal protection) class, a.o.

Essential Requirements for Radio Equipment Directive (RED – 2014/53/EU)

With the end of the transition period manufacturers, importers, distributors and authorized representatives have to show compliance toward the new RED for radio products starting June 13th, 2017. Do not hesitate to contact **cetecom advanced's** experts for the new RED. We will be glad to answer your question.

International Type Approval (ITA)

For the international market approval of products with radio technologies, different specifications apply depending on the target country. There is no single certification program that allows manufacturers to approve a product worldwide. Let us help with our approval services and the project handling with the responsible authorities worldwide.