



## **Radio Equipment Directive (RED) 2014/53/EU and Updates from the October 2014 TCB Workshop**

**Presented by  
Vina Kerai BSc Eng (Hons) CEng, MIET**

**Senior Regulatory Compliance Engineer**

**TÜV SÜD America  
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# TÜV SÜD in numbers: Robust Growth above Industry Average



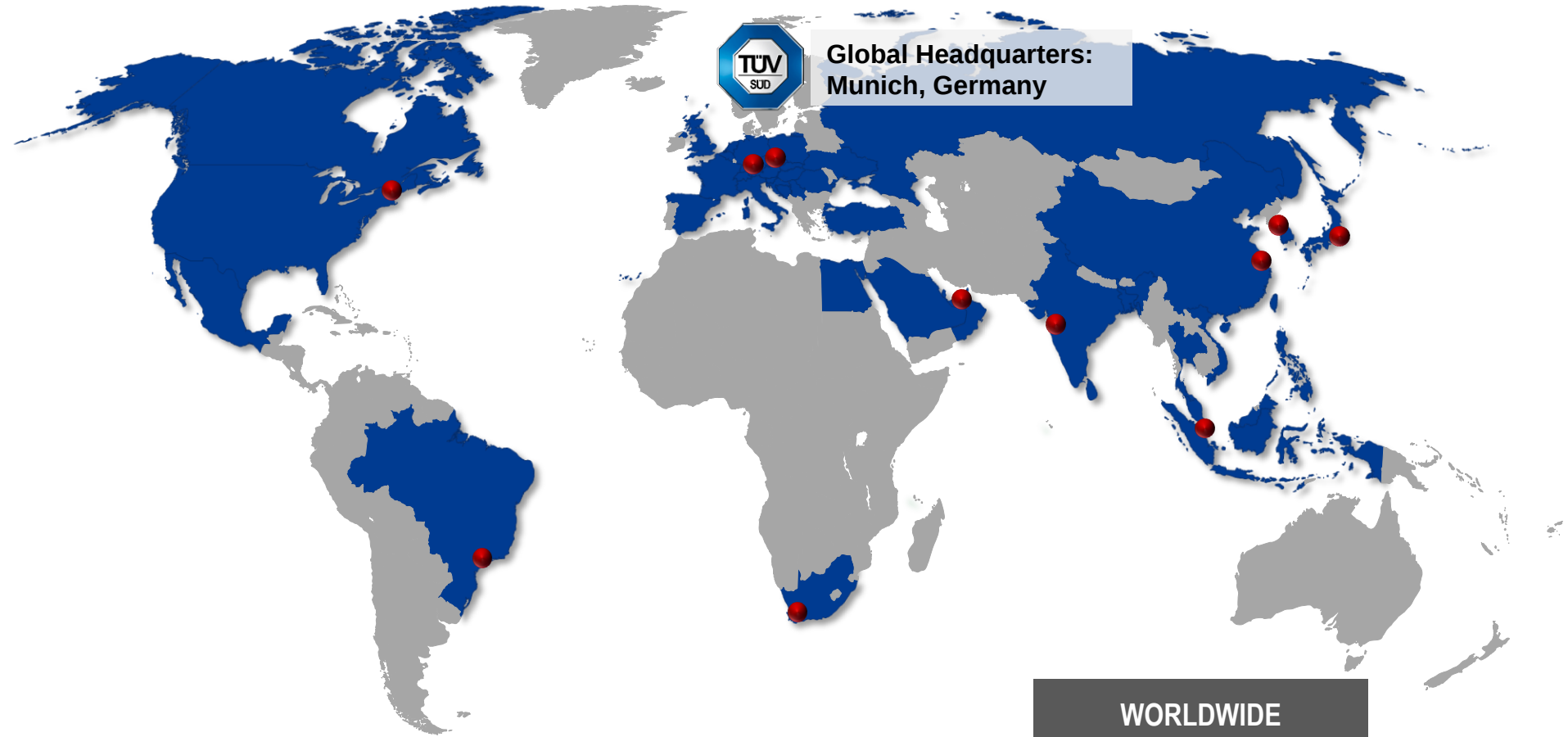
|        |                                      |
|--------|--------------------------------------|
| 1      | One-stop technical solution provider |
| 150    | years of experience                  |
| 800    | locations worldwide                  |
| 2,000  | million Euro in sales revenue 2013   |
| 20,200 | employees worldwide                  |



# Global expertise. Local experience. Leader in compliance.



**Global Headquarters:  
Munich, Germany**



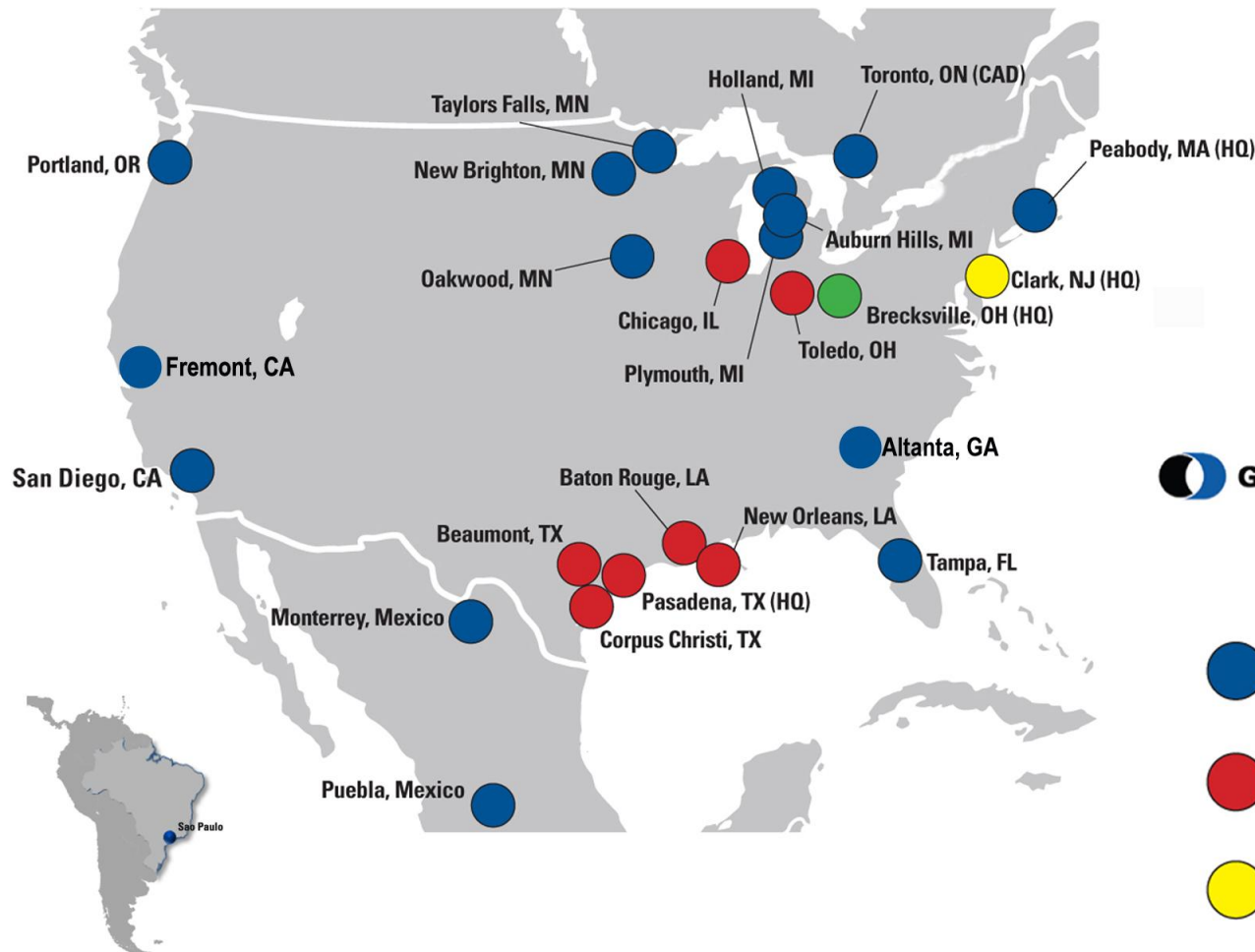
**Legend:**

-  Countries with TÜV SÜD offices
-  Regional headquarters

**WORLDWIDE**

**Euro 2 billion  
20,200+ employees**

# TÜV SÜD America Locations



 **Global Risk Consultants®**

 **ARISE®**

 TÜV SÜD America,  
Mexico, Canada, Brazil

 PetroChem  
Pasadena, TX (HQ)

 Global Risk Consultants  
Clark, NJ (HQ)

 ARISE Inc.  
Brecksville, OH (HQ)

# Some Key Countries Serviced by TÜV SÜD America Inc.



## Americas

- U.S.
- Canada
- Mexico
- Argentina
- Brazil
- All Central America
- All other South America



## Europe

- European Union
- Nordic Countries
- Eastern Europe
- CIS Countries



## Asia/Pacific

- China
- Taiwan
- Hong Kong
- Japan
- Korea
- Singapore
- Malaysia
- Thailand
- India
- Australia/New Zealand



## Middle East and Africa

- Saudi Arabia
- Israel
- South Africa
- Many others



## Testing

Physical, mechanical, environmental, electrical safety, electromagnetic compatibility, radio testing, flow systems and meter calibration.



## Certification

Product and management system certification.



## Inspection

Product, system, machinery, building, plant and infrastructure inspection.



## Consulting

Safety, quality, risk, environmental protection, regulatory advice, flow measurements, fluid mechanics and fluid properties.



## Training

Training in work safety, technical skills, knowledge transfer systems, management systems and executive programs.

# TÜV SÜD America/BABT Radio Certification: How Can We Help?



## 1. Product Certification – reviewing the technical file containing the test data and device related exhibits, and carrying out the Certification/Approval/Grant for FCC, Industry Canada, Japan, R&TTE Directives:-

| ORIGINAL APPROVAL - REQUIRED EXHIBITS                                    | FCC                                                   | Industry Canada                                       | R&TTE                  | Japan                                                                                       |
|--------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------|
| Exhibit 1: Label/Label Location                                          | Y                                                     |                                                       |                        |                                                                                             |
| Exhibit 2: Attestation Letter (if applicable)                            | O                                                     | O                                                     | O                      | O                                                                                           |
| Exhibit 3: External Photos                                               | Y                                                     |                                                       |                        |                                                                                             |
| Exhibit 4: Block Diagram                                                 | Y (for FCC, only Part 15 devices require)             |                                                       |                        |                                                                                             |
| Exhibit 5: Schematics                                                    | Y (for FCC, unintentional radiators do not require)   |                                                       |                        |                                                                                             |
| Exhibit 6: Test Reports                                                  | Y (Radio/Emissions)                                   | Y (Radio/Emissions)                                   | Y (Radio, EMC, Safety) | Y (Radio)                                                                                   |
| Exhibit 7: Test Set-Up Photos                                            | Y                                                     |                                                       |                        |                                                                                             |
| Exhibit 8: User Manual                                                   | Y                                                     |                                                       |                        |                                                                                             |
| Exhibit 9: Internal Photos                                               | Y                                                     |                                                       |                        |                                                                                             |
| Exhibit 10: Parts List (except FCC Part 15)                              | Y (except FCC Part 15)                                |                                                       | Y                      | Y                                                                                           |
| Exhibit 10: Tune Up                                                      | Y (Licensed devices or devices requiring SAR testing) | Y (Licensed devices or devices requiring SAR testing) |                        |                                                                                             |
| Exhibit 11: RF Exposure Report / SAR Report / SAR exemption Report       | Y (except unintentional radiators)                    | Y (except unintentional radiators)                    | Y                      | Y (except unintentional radiators or where output power is less than 20mW or handheld only) |
| Exhibit 12: Operational Description and Antenna Details                  | Y                                                     |                                                       |                        |                                                                                             |
| Exhibit 13: Cover Letters - Commonly applicable:- Confidentiality Letter | Y                                                     | Y                                                     |                        |                                                                                             |
| Agent Authorisation Letter                                               | Y                                                     | Y                                                     |                        |                                                                                             |
| Modular Approval Request letter/checklist                                | Y                                                     | Y                                                     |                        |                                                                                             |
| Canada: RSS-102 Annex A Cover Sheet + RSS-102 Annex B/C Declaration      |                                                       | Y                                                     |                        |                                                                                             |
| Test Report Cover Sheet, Canadian Rep Letter                             |                                                       | Y                                                     |                        |                                                                                             |
| R&TTE: Declaration of Conformity draft (if available)                    |                                                       |                                                       | Y                      |                                                                                             |
| Japan: ISO9001 certificate or on-going conformity compliance plan        |                                                       |                                                       |                        | Y                                                                                           |
| RTTE/Japan: Hardware/Software version information                        |                                                       |                                                       | Y                      | Y                                                                                           |

## 2. **Advanced Technology and Spectrum related** - working with the manufacturer and the regulatory authority for requirements or advanced guidance on device/technologies not yet defined:-

- Permission to use non-standard or specific test/compliance guidance
- Waivers of rules/requirements

## 3. **Knowledge Services:**

- Offering Training
- Pre-certification advisory support
- Technical updates



## 4. Regulatory and Technical Guidance Support for Manufacturers, Project and Engineering Managers as well as Test Laboratories:-

- Recommending Compliance Strategy & appropriate Standards prior and during the product development phase
  - especially critical for new product types/form factors/technologies or where requirements are unclear
- Radio, EMC, SAR/RF Exposure compliance matters, determination of required testing including guidance on test reductions and guidance on simultaneous transmission
- Confirming requirements for modified devices (changes to approved devices)
- Labelling and User Manual – regulatory statements/warnings

## 5. Technical Construction File (TCF) Compilation - carried out by trained TÜV SÜD America specialist personnel

### What are the benefits for the Manufacturer :

- ❖ Less requests from TCB for missing exhibits or corrections to exhibits
- ❖ Less time spent after original submission having to gather required information and liaising with different parties to source required information
- ❖ Less changes and costs in their production certification
- ❖ Quicker time to market for the product

## New Radio Equipment Directive (RED) 2014/53/EU

### Updates from the October 2014 TCB Workshop:-

#### FCC Updates

- Administrative
- Electronic Labeling (FCC/IC)
- RF Lighting (FCC/IC)
- UNII, DFS, Software Configurations

#### Industry Canada Updates

- Administrative
- Wireless Chargers (WPT devices)
- Standards
- Certification Rules

#### Japan Updates

- Technical Updates: SAR, Modules
- Labelling
- Market Surveillance





America

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Add value.



# European Union

## Highlights of the New Radio Equipment Directive (RED) 2014/53/EU

- The new [Radio Equipment Directive \(RED\)](#) 2014/53/EU, replacing the Radio Equipment and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC, has been published in the Official Journal of the European Union on 22 May 2014
- All items of equipment within its scope placed on the European Market for the first time must follow one of the RED Conformity Assessment Procedures
- In order to be legally used in the European market equipment must comply with the requirements of the Directive when first used
- The new Radio Equipment Directive cannot be used until it has been transposed into National Law.

- The RE Directive enters into force 20 days after publication and shall be transposed and become applicable from 13 June 2016:-
  - The obligation is on Member States to adopt and publish in national law by 12 June 2016; and **apply the RED from 13 June 2016**
  - The R&TTE Directive 1999/5/EC is repealed from 13 June 2016
  - Products previously assessed and with a Declaration of Conformity against R&TTE Directive 99/5/EC issued before 13 June 2016 may continue to be placed on the market **until 13 June 2017 (provided there are no design changes)**

***RED cannot be applied until  
13 June 2016!***



- General principles for product compliance in the RED are very similar to the R&TTE Directive:
  - **Compliance with a set of essential requirements (no changes here)**
    - Article 3.1(a) Health and Safety
    - Article 3.1(b) EMC
    - Article 3.2 Radio
    - Article 3.3 additional requirements when invoked by the European Commission
  - Harmonised standards provide a presumption of conformity with the essential requirements
  - Conformity assessment procedures:
    - Internal Production Control
    - Assessment of technical documentation by a Notified Body (Type Examination)
    - Full Quality Assurance Approval
  - Use of Notified Body is mandatory where no Article 3.2 [radio] or Article 3.3 [additional requirements] Harmonised Standard exists
- However **there are some major changes for manufacturers**, auth. Reps, imports & distributors, NBs and MSAs!

- Radio receivers must achieve a minimum level of performance to contribute to an efficient use of radio spectrum (includes broadcast radio and TV receivers)
- Fixed line terminal equipment is outside the scope of the RED
- Clear obligations for manufacturers, importers and distributors
- Strengthened market surveillance, e.g., the traceability obligations of manufacturers, importers and distributors
- Notified Body Opinion of Annex IV of R&TTE Directive replaced by Type Examination procedure
  - where modifications to products which affect compliance must be agreed by the Notified Body
- Product registration scheme for types of radio equipment within categories affected by low levels of compliance (determined by European Commission)
- Notified Body Report - to accompany the Notified Body Type Examination Certificate, the Notified Body will be required to supply a report to explain and justify the issuing of the certificate

- Deletion of notification procedure for radio equipment using non-harmonised frequency bands
- Deletion of “alert” mark
- No requirement for CE marking in user documentation
- Deletion of the R&TTE Directive Annex III procedure
- Explicit requirements for combinations of radio equipment and software
- Technical documentation must include confirmation of operation in at least one Member State without infringing requirements on the use of radio spectrum
- Cannot use the EMC Directive or LVD conformity assessment procedures, the RED only refers to the EMC Directive and LVD to state the essential EMC and Health & Safety requirements

- Sample testing of products by manufacturer / importer to protect the health and safety of end users; plus register of complaints and recalls
- Electronic CE marking not permitted but is included for review by Commission
- Notified Body identification number must not be used in the CE marking on products which followed the Type Examination procedure
- CE + NB number product marking only for Annex IV FQA
- NB number must be used in DoC where Type Examination or FQA procedure is followed
- User information for radio transmitters should include:
  - frequency band(s) in which the radio equipment operates;
  - maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates

- Interworking with accessories such as common chargers can be invoked under Article 3.3a and Article 47e if decided by the European Commission
- Directive codifies requirements for common or universal chargers
  - For example, mobile phones, tablets, cameras, music players , etc (small portable radio equipment).
  - Desire is to reduce impact to the environment and inconvenience to consumers
  - Presently, common/universal chargers are optional under industry MOUs

## Scope of RED

- Products which fit within the following definitions (and are not excluded by Article 1 – see later) are subject to the RED:
  - 'radio equipment' means 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
  - '**radio communication**' means communication by means of radio waves
  - '**radiodetermination**' means the determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to those parameters, by means of the propagation properties of radio waves
  - 'radio waves' means electromagnetic waves of frequencies **lower than 3000 GHz**, propagated in space without artificial guide

Note: equipment which makes use of radio waves without radio communication or radiodetermination is outside of the scope of the RED, e.g. microwave ovens

## Scope of RED

- All radio receivers, including broadcast radio and TV receivers, (apart from those excluded by Article 1) are within the scope of the RED. Justification provided by the European Parliament's Committee on the Internal Market and Consumer Protection:
  - considering that radio spectrum is a finite resource, it is important to guarantee its efficient usage, therefore the equipment capable of receiving radio waves should fall under the scope of proposed Directive.
- Telecommunications Terminal Equipment (TTE), i.e. fixed line terminal equipment, is outside the scope of the RED and, as a result, is within the scope of the EMC Directive and LVD
  - New RED makes the safety requirement for animals more clearer for everyone
    - the protection of health and safety of persons and of domestic animals and the protection of property, including the objectives with respect to safety requirements set out in Directive 2014/35/EU, but with no voltage limit applying;

- “radio equipment exclusively used for activities concerning public security, defence, State security, including the economic well-being of the State in the case of activities pertaining to State security matters, and the activities of the State in the area of criminal law”
- Radio equipment used by radio amateurs within the meaning of Article 1, definition 56, of the International Telecommunications Union (ITU) Radio Regulations, unless the equipment is made available on the market.
  - The following shall be regarded as not being made available on the market:
    - (a) radio kits for assembly and use by radio amateurs;
    - (b) radio equipment modified by and for the use of radio amateurs;
    - (c) equipment constructed by individual radio amateurs for experimental and scientific purposes related to amateur radio.
- Marine equipment falling within the scope of Council Directive 96/98/EC
- Airborne products, parts and appliances falling within the scope of Article 3 of Regulation (EC) No 216/2008 of the European Parliament and of the Council
- Custom-built evaluation kits destined for professionals to be used solely at research and development facilities for such purposes

# Examples of Equipment Types included in the RED

|                                                                          |                                                               |
|--------------------------------------------------------------------------|---------------------------------------------------------------|
| Airborne products, parts and appliances not excluded by Annex I.3 of RED | Industrial, Scientific, and Medical within scope of directive |
| Broadcast radio and TV receivers                                         | Citizens Band radio                                           |
| Broadcast transmitters                                                   | Distress/Position Indicating Beacon                           |
| Cordless Telephone                                                       | Fixed Wireless Access                                         |
| Fixed Link                                                               | Maritime (for Non-SOLAS vessels)                              |
| Base Station for Mobile Network                                          | Paging (Radio Messaging)                                      |
| Mobile (Cellular) Telephone Handset                                      | Radar                                                         |
| Private/Professional Mobile Radio                                        | Radio Local Area Network                                      |
| Radio Frequency Identification (RFID)                                    | Short Range Device (SRD)                                      |
| Satellite Earth Station (Fixed / Mobile)                                 | Ultra Wideband                                                |
| Wireless Microphone                                                      | GPS Receivers                                                 |

*ISM equipment which does not intentionally emit and/or receive radio waves for the purpose of radio communication and/or radiodetermination is outside of the scope of the Radio equipment directive. Examples of such excluded devices include:*

RF paint dryers, RF jewellery cleaners, microwave ovens, and MRI equipment.

# RED Essential Requirements

The technical requirement is that equipment within the scope of the Directive must comply with the “Essential Requirements”

Definition of “Essential Requirements” is given in Article 3 of the Directive:

| Essential Requirements                                                                                                                                                                                                                                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>3.1(a)</b><br><b>Health and safety of persons and of domestic animals and the protection of property</b> , including the <i>objectives</i> with respect to safety requirements set out in LVD, <b>but with no voltage limit applying</b><br><i>* Includes all hazards, such as SAR/RF exposure and Acoustic Shock as appropriate</i> | <b>3.1(b)</b><br><b>EMC</b><br>An adequate level of electromagnetic compatibility as set out in EMC Directive | <b>3.2</b><br><b>Effective use and support the efficient use of radio spectrum in order to avoid harmful interference</b><br><br><i>.....Will there be a limitation on number of items put into service? such as a sunset date?</i><br><i>Maybe Maximum penetration rate? or maximum number of items of radio equipment in each EU member state or throughout the Union?....tbd by the Commission</i> | <b>3.3</b><br>Additional requirements where decided by European Commission: |

Note: TUV SUD would have concerns certifying products that risk the health & safety of any animal, not just domesticated animals.

- Radio equipment within certain categories or classes shall be so constructed that it complies with the following essential requirements:
  - (a) radio equipment interworks with accessories, in particular with common chargers
  - (b) radio equipment interworks via networks with other radio equipment;
  - (c) radio equipment can be connected to interfaces of the appropriate type throughout the Union
  - (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
  - (g) radio equipment supports certain features ensuring access to emergency services
  - (h) radio equipment supports certain features in order to facilitate its use by users with a disability
  - (i) radio equipment supports certain features in order to ensure that software can only be loaded into the radio equipment where the compliance of the combination of the radio equipment and software has been demonstrated
- The Commission can determine which categories or classes of radio equipment are covered by each of the requirements set out in points (a) to (i)

# Combinations of Radio Equipment and Software (Article 4)

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- Manufacturers shall provide the Member States and the Commission with information on the compliance of **intended combinations of radio equipment and software** with the essential requirements.
  - Such information shall result from a conformity assessment, and shall be given in the form of a statement of compliance which includes the elements set out in Annex VI (the DoC).
  - Depending on the specific combinations of radio equipment and software, **the information shall precisely identify the radio equipment and the software which have been assessed, and it shall be continuously updated.**
- The Commission can determine which categories or classes of radio equipment are covered by this requirement.
- The Commission can outline the operational rules for making the information on compliance available for the categories and classes specified.

- **From 12 June 2018, manufacturers must register radio equipment types within categories of radio equipment affected by a low level of compliance with the essential requirements within a central system before being placed on the market**
- Manufacturers shall provide some, or where justified all, elements of the technical documentation listed in points (a), (d), (e), (f), (g), (h) and (i) of Annex V.
- The Commission can determine which categories of radio equipment are covered by this requirement; and which technical documentation must be provided
- **The Commission will specify the operational rules for registration and the operational rules for affixing the registration number on radio equipment for the categories specified**
- The Commission will make available a central system allowing manufacturers to register the required information with appropriate control of access to confidential information

# At trade fairs, exhibitions and similar events (Article 9)

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- Radio equipment which does not comply with this Directive may be displayed, provided that a visible sign clearly indicates that such radio equipment may not be made available on the market or put into service until it has been brought into conformity with this Directive
- Demonstration of radio equipment may only take place provided that adequate measures, as prescribed by Member States, have been taken to avoid harmful interference, electromagnetic disturbances and risk to the health or safety of persons or of domestic animals or to property

- Article 16 of the RED
- Use of appropriate harmonised standard(s) referenced in the Official Journal of the European Communities gives an automatic presumption of conformity with the particular essential requirements of the Directive for which it has been listed, providing legal protection for the manufacturer

Definition of Essential Requirements



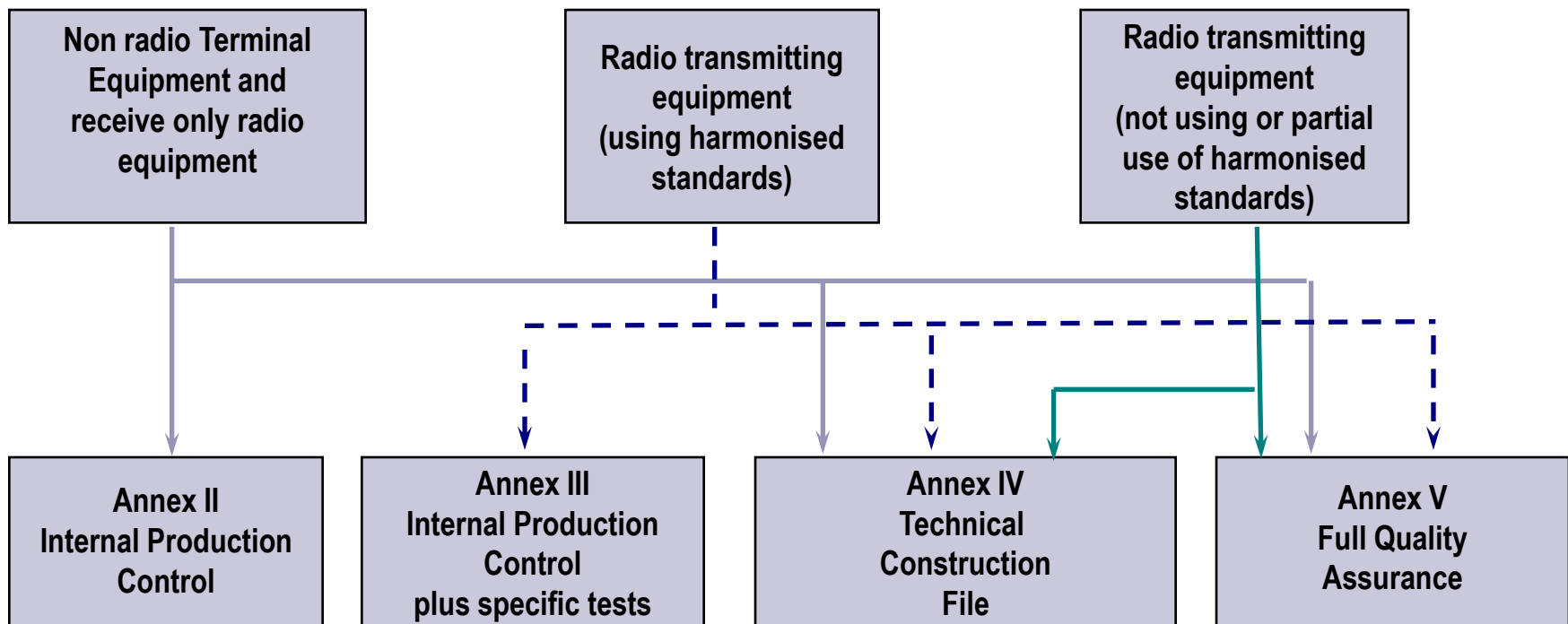
Conformity Assessment Procedure based on compliance with Essential Requirements

**Compliance is against Essential Requirements, not standards.** However, compliance with appropriate “Harmonised Standards” gives an automatic presumption of conformity with the appropriate Essential Requirements. There does not need to be a “Harmonised Standard” to apply one of the Conformity Assessment Procedures. The Essential Requirements apply even in the absence of harmonised standards.

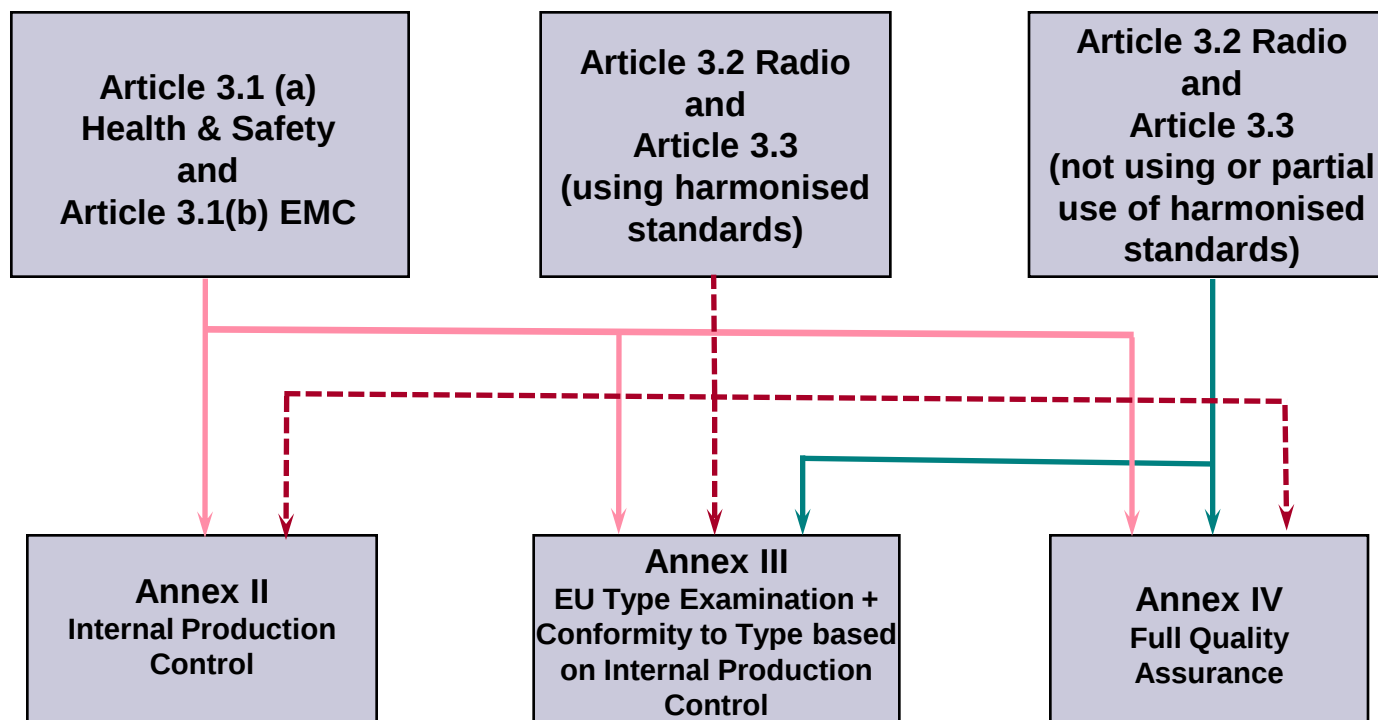
- The manufacturer shall perform a conformity assessment of the radio equipment with a view to meeting the essential requirements
- Conformity assessment shall take into account **all intended operating conditions** and, for the Article 3(1)(a) essential requirement **(Health & Safety)**, the assessment shall also take into account the reasonably foreseeable conditions.
- Where the radio equipment is capable of taking different configurations, the conformity assessment shall confirm whether the radio equipment meets the essential requirements in all possible configurations.

# Conformity Assessment Procedures (Article 10 R&TTE Directive)

## Current R&TTE Directive Procedure:



# RED Conformity Assessment Procedures (Article 17)



## Radio Equipment Directive

- Market surveillance remains a national responsibility
- Market surveillance procedure for dealing with risk to Health & Safety and non-compliance with the essential requirements in Article 40, 41 and 42
- Article 43 requires the relevant economic operator to correct:
  - Non-compliant or no CE marking
  - Non-compliant or no notified Body identification number when Annex IV FQA is used
  - Non-compliant or no DoC
  - Technical documentation not available or not complete
  - Absent, false or incomplete type name, batch/serial number, manufacturer or importer name
  - Intended use information, DoC or usage restrictions not supplied with radio equipment
  - Identification of economic operators not supplied
  - Non-compliance with the registration procedure where required
- Persistent non-compliance with Article 43 can result in market withdrawal or recall

- Manufacturers (both inside and outside Europe) – Article 10
- Authorised Representative (in Europe) – Article 11
- Importers (in Europe) – Article 12
- Distributors (in Europe) – Article 13

# Manufacturers' Responsibilities (1)

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- Design and manufacturer product to meet the Essential Requirements of RED
- Ensure that radio equipment can be operated in at least one member state without infringing applicable requirements on use of radio spectrum
- Establish compliance through test (and justification) and compilation of compliance documentation and carry out the relevant Conformity Assessment Procedure
- Write Declaration of Conformity and apply CE mark
- Retain compliance documentation for at least 10 years after the last item of the apparatus has been manufactured
- Define the manufacturing process to ensure all individual items of the product comply with the RED – changes in product design and harmonised standards should be taken into account
- When deemed appropriate to protect Health & safety of end users, carry out sample testing; investigate and keep a register of complaints of non-conforming radio equipment and radio equipment recalls; and keep distributors informed
- Make compliance documentation available to surveillance authorities on request in a language easily understood by that authority

# Manufacturers' Responsibilities (2)

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- Radio equipment bears type, batch/serial number; or because of size or nature of radio equipment, on packaging or documentation
- **Manufacturer's name and postal address; or because of size or nature of radio equipment, on packaging or documentation. Single point address required**
- Radio equipment to be accompanied by instructions and safety information which can be easily understood by consumers and other end-users
- Instructions shall include the information required to use radio equipment in accordance with its intended use. Such information shall include, where applicable, a description of accessories and components, **including software**, which allow the radio equipment to operate as intended. Such instructions and safety information, as well as any labelling, shall be clear, understandable and intelligible.
- **Information shall also be included for transmitting radio equipment:**
  - frequency band(s) in which the radio equipment operates;
  - maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates

- Each item of radio equipment to be accompanied by a copy of the DoC or by a simplified DoC. Where a simplified DoC is provided, it shall contain the **exact internet address** where the full EU declaration of conformity can be obtained.
- For restrictions on putting into service or of requirements for authorisation of use (licensing), information on the packaging shall allow the identification of the Member States or the geographical area within a Member State where restrictions on putting into service or requirements for authorisation of use exist. Such information shall be included in the user instructions
- **If a manufacturers believes that radio equipment is not in conformity with the RED shall immediately take the corrective measures necessary to bring that radio equipment into conformity, to withdraw it or recall it, if appropriate. Where the radio equipment presents a risk, manufacturers shall immediately inform the competent national authorities of the Member States in which they made the radio equipment available on the market to that effect, giving details, in particular, of the non-compliance, of any corrective measures taken and of the results**

- A manufacturer may, by a **written mandate**, appoint an authorised representative.
- The manufacturer's obligations to design and manufacturer product to meet the Essential Requirements of RED and the obligation to draw up technical documentation shall not form part of the authorised representative's mandate.
- An authorised representative shall perform the tasks specified in the mandate received from the manufacturer. **The mandate shall allow the authorised representative to do at least the following:**
  - keep the EU declaration of conformity and the technical documentation at the disposal of national market surveillance authorities for 10 years after the radio equipment has been placed on the market
  - further to a reasoned request from a competent national authority, provide that authority with all the information and documentation necessary to demonstrate the conformity of radio equipment
  - cooperate with the competent national authorities, at their request, on any action taken to eliminate the risks posed by radio equipment covered by the authorised representative's mandate.

- Importers shall place only compliant radio equipment on the market
- Before placing radio equipment on the market importers shall ensure that the appropriate conformity assessment procedure has been carried out by the manufacturer and that the radio equipment is so constructed that it can be operated in at least one Member State without infringing applicable requirements on the use of radio spectrum. They shall ensure that the manufacturer has drawn up the technical documentation, that the radio equipment bears the CE marking and is accompanied by the appropriate information and documents, and that the manufacturer has complied with the requirements set out in Article 10(6) (type, batch/serial number) and 10(7) (manufacturer's name and single point postal address)
- Indicate on the radio equipment their name, registered trade name or registered trade mark and the postal address at which they can be contacted or, where that is not possible, on its packaging or in a document accompanying the radio equipment. This includes cases where the size of radio equipment does not allow it, or where importers would have to open the packaging in order to indicate their name and address on the radio equipment.

- Importers shall ensure that the radio equipment is accompanied by instructions and safety information in a language which can be easily understood by consumers and other end-users, as determined by the Member State concerned
- Importers shall ensure that, while radio equipment is under their responsibility, its storage or transport conditions do not jeopardise its compliance with the essential requirements
- When deemed appropriate to protect the health and safety of end-users; carry out sample testing; investigate, and keep a register of complaints of non-conforming radio equipment and radio equipment recalls; and keep distributors informed

# Importers' Responsibilities (3)

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- Importers who believe that radio equipment which they have placed on the market is not in conformity with the RED shall follow the procedure of Article 12(7)
- For 10 years after the radio equipment has been placed on the market, keep a copy of the DoC and ensure that the technical documentation can be made available to authorities upon request
- Importers shall, further to a reasoned request from a competent national authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of radio equipment in a language which can be easily understood by that authority. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by radio equipment which they have placed on the market
- Persons purchasing products over the internet from manufacturers outside Europe assume the responsibility of the importer

- Distributors shall act with due care in relation to the requirements of the RED
- Verify that the radio equipment bears the CE marking, that it is accompanied by the required documentation and instructions and safety information in a language which can be easily understood by consumers and other end-users in the Member State in which the radio equipment is to be made available on the market, and that the manufacturer and the importer have complied with the requirements set out in Article 10(2) and (6) to (10) and Article 12(3) respectively.
- If a distributor believes that radio equipment is not in conformity with the essential requirements, he shall not make the radio equipment available on the market until it has been brought into conformity. Furthermore, where the radio equipment presents a risk, the distributor shall inform the manufacturer or the importer to that effect as well as the market surveillance authorities
- Ensure that storage or transport conditions do not jeopardise its compliance with the essential requirements

- Distributors who believe that radio equipment they have supplied is not in conformity with the RED shall follow the procedure of Article 13(4)
- Distributors shall, further to a reasoned request from a competent national authority, provide it with all the information and documentation in paper or electronic form necessary to demonstrate the conformity of radio equipment. They shall cooperate with that authority, at its request, on any action taken to eliminate the risks posed by radio equipment which they have made available on the market.

- An importer or distributor shall be considered a manufacturer for the purposes of this Directive and he shall be subject to the obligations of the manufacturer under Article 10, where he places radio equipment on the market under his name or trade mark or modifies radio equipment already placed on the market in such a way that compliance with this Directive may be affected

Note: this means that if an importer or distributor markets a product under their own name or brand then they assume the responsibilities of the manufacturer, e.g. a chain store importing equipment and selling it under their own name or brand

# Identification of Economic Operators (Article 15)

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- Economic operators shall, on request, identify the following to the market surveillance authorities:
  - any economic operator who has supplied them with radio equipment;
  - any economic operator to whom they have supplied radio equipment.
- Economic operators shall be able to present this information for 10 years after they have been supplied with the radio equipment and for 10 years after they have supplied the radio equipment.

- Annex II – Internal Production Control – no Notified Body involvement, a self declaration procedure
- Annex III – EU Type Examination and Conformity to Type based on Internal Production Control - Notified Body involvement to assess the technical documentation
- Annex IV – Full Quality Assurance - Notified Body involvement to assess design, manufacturing, inspection and test processes

- Prepare the technical documentation in accordance with Article 21
- The manufacturer must take all measures necessary so that the manufacturing process and its monitoring ensure compliance with the technical documentation and with the essential requirements of the RED
- Affix CE marking to each item of radio equipment that satisfies the applicable requirements of this Directive.
- Draw up a written declaration of conformity (DoC) for each radio equipment type and keep it together with the technical documentation at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market.
- A copy of the DoC available to the relevant authorities upon request
- The manufacturer's obligations for CE marking and the DoC may be fulfilled by his authorised representative, on his behalf and under his responsibility, provided that they are specified in the mandate.

# Annex III – EU Type Examination and Conformity to Type based on Internal Production Control (1)

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- Prepare the technical documentation in accordance with Article 21
- Manufacturer submits application to a single notified body of his choice
- The notified body examines the technical documentation and supporting evidence to assess compliance with the RED. If compliant, issues an EU “Type Examination Certificate” (changed from “Notified Body opinion”)
- The notified body must maintain its technical knowledge to be able to determine that a certified type may no longer comply with the applicable requirements of the Directive, and determine whether such changes require further investigation. If so, the notified body must inform the manufacturer
- The manufacturer must inform the notified body of all modifications to the product that may affect compliance with the essential requirements or the conditions for validity of the Type Examination certificate
- The manufacturer must keep a copy of the EU-type examination certificate, its annexes and additions together with the technical documentation at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market.

# Annex III – EU Type Examination and Conformity to Type based on Internal Production Control (2)

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- The manufacturer must take all measures necessary so that the manufacturing process and its monitoring ensure compliance of the manufactured radio equipment with the with the approved type described in the EU-type examination certificate and with the requirements of the RED
- Affix CE marking to each item of radio equipment that satisfies the applicable requirements of the RED
- Draw up a written declaration of conformity (DoC) for each radio equipment type and keep it together with the technical documentation at the disposal of the national authorities for 10 years after the radio equipment has been placed on the market.
- A copy of the DoC must be available to the relevant authorities upon request
- The manufacturer's obligations for CE marking and the DoC may be fulfilled by his authorised representative, on his behalf and under his responsibility, provided that they are specified in the mandate.

- FQA Approval is an approval of the manufacturer's processes which permits the application of the CE mark to products within the scope of the FQA
- Manufacturer submits an FQA application to a single notified body of his choice which includes **a sample set of technical documentation for each product type**
- The quality system must ensure compliance of the radio equipment with the requirements of the Directive
- Manufacturer requirements:
  - must operate approved processes for design, manufacture and final testing
  - the processes must ensure compliance of the products
  - lodge an application for the assessment of his quality system with NB
  - must allow NB access to audit design, manufacture, inspection, test and storage areas and provide necessary information on the quality system records
- Quality systems based upon ISO9000 and test facilities operating to ISO17025 inherently meet many but not necessarily all of the requirements for FQA Approval under the Directive
- The notified body assesses the quality system by periodic audits to determine whether it satisfies the requirements of Annex IV of the Directive

- Shall contain all relevant data or details of the means used by the manufacturer to ensure that radio equipment complies with the essential requirements
- Technical documentation shall be drawn up before radio equipment is placed on the market and **shall be continuously updated**.
- Technical documentation and correspondence relating to any EU-type examination procedure shall be drawn up in an official language of the Member State in which the notified body is established or in a language acceptable to that body.
- Where the technical documentation does not comply, **the market surveillance authority may ask the manufacturer or the importer to have a test performed by a body acceptable to the market surveillance authority at the expense of the manufacturer or the importer** within a specified period in order to verify compliance with the essential requirements

Note: continuously updated – as a minimum, we would expect technical documentation to be updated when the product or standard has changed

- A general description of the radio equipment including: photographs or illustrations, versions of software or firmware affecting compliance with essential requirements, user information and installation instructions
- Conceptual design and manufacturing drawings and schemes of components, sub-assemblies, circuits and other relevant similar elements
- Descriptions and explanations necessary for the understanding of those drawings and schemes and the operation of the radio equipment
- List of OJ listed harmonised standards used, and, where harmonised standards have not been applied, the solutions used to meet essential requirements
- DoC
- Where Annex III has been applied, a copy of the EU-type examination certificate
- Results of design calculations, examinations carried out
- Test reports
- An explanation of operation in at least one Member State without infringing requirements on the use of radio spectrum and of the inclusion or not of information on the packaging

# EU Declaration of Conformity (DoC) (Article 18)

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- DoC states that compliance with the essential requirements has been demonstrated
- Have the structure set out in Annex VI
- **Be continuously updated**
- Translated into the language or languages required by the Member State in which the radio equipment is placed or made available on the market.
- Where radio equipment is subject to more than one Union act requiring an EU declaration of conformity, a **single EU declaration of conformity** shall be drawn up in respect of all such Union acts
  - **In order to reduce the administrative burden on economic operators, that single EU declaration of conformity may be a dossier made up of relevant individual declarations of conformity. (Recital 42)**
  - **So if necessary, can be multiple pages**

- Radio equipment (product, type, batch or serial number):
- Name and address of the manufacturer or his authorised representative:
- Declaration of conformity is issued under the sole responsibility of manufacturer.
- Object of the declaration (identification of the radio equipment allowing traceability; it **may include a colour image** of sufficient clarity for identification)
- Object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
  - Radio Equipment Directive 2014/.../EU
  - **Other Union harmonisation legislation where applicable**
- References to the relevant harmonised standards and versions used or references to the other technical specifications to which conformity is declared.
- Where applicable, the notified body ... (name, number) ... performed ... (description of intervention) ... and issued the EU-type examination certificate:  
...
- Description of accessories and components, **including software**, which allow the radio equipment to operate as intended and covered by the DoC

- Where a simplified DoC is provided it shall be provided as follows:
  - Hereby, [Name of manufacturer] declares that the radio equipment type [designation of type of radio equipment] is in compliance with Directive 2014/.../EU\*.
  - The full text of the EU declaration of conformity is available at the following internet address
- **Be continuously updated**
- Translated into the language or languages required by the Member State in which the radio equipment is placed or made available on the market

Note: The single simplified DoC option would not be available where declarations against other directives are required

- General principles of Article 30 of Regulation 765/2008 apply:
    - affixed only by the manufacturer or his authorised representative.
    - affixed only to products to which its affixing is provided for by specific Community harmonisation legislation, and shall not be affixed to any other product.
    - by affixing, the manufacturer indicates that he takes responsibility for the conformity of the product with all applicable Community legislation that require CE marking
    - CE marking shall be the only marking which attests the conformity of the product with the applicable requirements of the relevant Community harmonisation legislation providing for its affixing
    - Affixing markings, signs or inscriptions which are likely to mislead 3rd regarding the meaning or form of the CE marking are prohibited. Any other marking may be affixed to the product provided that the visibility, legibility and meaning of the CE marking is not thereby impaired
- CE – On account of the nature of radio equipment, the height of the CE marking affixed to radio equipment may be lower than 5 mm, provided that it remains visible and legible

- Affixed visibly, legibly and indelibly to the radio equipment or to its data plate, unless that is not possible or not warranted on account of the nature of radio equipment. It shall also be affixed visibly and legibly to the packaging.
- Affixed before the radio equipment is placed on the market.
- Followed by the identification number of the notified body where the conformity assessment procedure set out in Annex IV (FQA) is applied.
- Identification number of the notified body shall have the same height as the CE marking.
- Identification number of the notified body shall be affixed by the notified body itself or, under its instructions, by the manufacturer or his authorised representative.
- Member States shall build upon existing mechanisms to ensure correct application of the regime governing the CE marking and shall take appropriate action in the event of improper use of that marking.

- European Commission and many MSAs have not been in favour of electronic labelling
- New text outlines that the commission shall review and report by 12 June 2018 and every 5 yrs thereafter on the regulatory framework to be developed in order to achieve the following:
  - where radio equipment is fitted with an integral screen, the Commission should examine, as part of a review of the operation of this Directive, the feasibility of replacing the requirements for affixing:
    - the manufacturer's name, registered trade name or registered trade mark
    - a single point or postal address at which they can be contacted
    - CE marking and DoC
  - with either a function whereby such information is automatically displayed upon starting up the radio equipment, or a function allowing the end-user to select the display of the relevant information.
  - As part of that examination of feasibility, where radio equipment fitted with an integral screen operates from an integral battery which does not hold an initial charge, the Commission should also consider the use of removable transparent integral screen covering labels which would display the same information

# Electronic Labelling – Not Currently Permitted

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- Product must be marked with the type and batch and/or serial numbers and by the name of the manufacturer or the person responsible for placing the apparatus on the market.
- This can be anywhere on the product case (or in its battery compartment).
- The marking should be easily readable and indelible; and should be visible without the use of a tool.
- Marking does not necessarily have to be on a label; it can be molded into the case.

# Penalties for Infringements by Economic Operators (Article 46)

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- Member States shall lay down rules on penalties applicable to infringements by economic operators of the provisions of national law adopted pursuant to this Directive and shall take all measures necessary to ensure that they are enforced. Such rules may include criminal penalties for serious infringements
- The penalties provided for shall be effective, proportionate and dissuasive

Note: for products made available in several Member States, each Member State is entitled to enforce the RED using its own penalties

- RED  
[http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL\\_2014\\_153\\_R\\_0002&from=EN%20](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2014_153_R_0002&from=EN%20)
- Blue Guide 2014  
<http://www.ec.europa.eu/DocsRoom/documents/4942/attachments/1/translations/en/renditions/pdf>
- R&TTE CA  
[www.rtteca.com](http://www.rtteca.com) —→ *Future Website:* [www.redca.eu](http://www.redca.eu)
- R&TTE Official Journal of the European Union (OJEU)  
[http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/rtte/index\\_en.htm](http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/rtte/index_en.htm)

Future site of the RED Official Journal of the European Union (OJEU) is TBD



America

Choose certainty.  
Add value.

# United States of America

## Federal Communications Commission (FCC) Updates

- **Operational Description Exhibits**
  - Part 15 and 18 applications require a statement describing how the device operates
  - Applications for software defined radios and U-NII devices in the 5.15-5.35 GHz and the 5.47-5.85 GHz bands must include a high level operational description of the control software and security procedures, respectively.
  - Most operational description exhibits are not adequate.
    - Sufficient detail must be provided to clearly explain device operation.
    - The high level operational description must be complete and thoroughly explain the control software and/or security procedures
- FCC is going to scrutinize the Operational Description Exhibit during application audits.

- **User's Manual Exhibits**

- Applications are expected to include the final user's manual that is supplied with the device.
- Draft copies of manuals must be superseded and replaced with final version.
- Applications for devices that require professional installation must include an installer's manual with clear, detailed, instructions on the operating and installation requirements
  - Grant comments must note professional installation requirement and identify any related limitations on the grant

- **SAR Exemption Exhibit**

- Devices claiming SAR exemption based upon KDB guidance must include exhibit justifying exemption

## TCB Procedure

[388624](#) Section 2.962, TCB Procedure, Permit But Ask

## RF Exposure

[357746](#) Radio Frequency Exposure - MPE; SAR

[447498](#) Mobile and Portable Device, RF Exposure, Equipment

[617965](#) Part 95 MedRadio, Human Torso Simulator, Tissue-

[941225](#) SAR Test Procedures, 3G Devices, 2.5G,

[248227](#) 802.11, SAR, Sections 2.1093, 15.247, 15E, 90Y

## UNII

- [178919](#) Section 2.1043, Permissive Changes
- [442812](#) 2.944, Software Defined Radio Application Guide
- [443999](#) 15E, Dynamic Frequency Selection, DFS, DFS Approval
- [594280](#) Section 15.202 Software Configuration Control, Country Code
- [594340](#) Part 15E. Section 15.407, FCC 06-96, DFS, Special Operational
- [644545](#) 15.247, 15.407, IEEE Std 802.11ac
- [789033](#) Part 15, Subpart E, Test Procedures
- [848637](#) UNII Client Device without Radar Detection, DFS Test Report,
- [905462](#) Section 15.401 UNII / DFS Test Procedures
- [926956](#) Permissive changes to UNII devices

## **e-labeling**

[784748](#) Part 15, Part 18, Labeling Guidelines, Labeling, Information

## **Signal Booster**

[935210](#) 20.21; 90.219; 22; 24; 27; 90; signal booster; amplifier

## **Administration**

[204515](#) Grantee Code, Modification and Transfer of Control

[980285](#) OET Fee Schedule; Section 1.103; Equipment Authorization Fee

[249634](#) Change in identification of equipment. §2.933 (New)

## **General**

[634817](#) 2.102, Frequency Range, Certification

[890966](#) Level Probing Radar, LPR, Tank Level Probing Radar, TLPR

[937606](#) Test Site Requirements for Part 15 and 18 Devices < 30 MHz

[971168](#) Measurement fundamental licensed devices with bandwidths > 1

# FCC Administrative Updates (**Expired KDB Publications**)

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## RF Exposure

- 523966 Radio Frequency (RF) Exposure SAR
- 857364 Cellular/PCS Handset SAR, RF Exposure
- 767150 RF exposure for Bluetooth Modules, Personal Digital Assistant
- 759878 What are the health risks from a fixed site radio frequency
- 741229 RF exposure, SAR, fire fighting service camera, changing antenna
- 628258 RF exposure of transmitters in laptops Local Area Network, LAN
- 214295 Specific Absorption Ratio (SAR) for Devices That Hang from the

## UNII

- 898477 Unlicensed National Information Infrastructure (UNII) rules for Administration

## Administrative

- 925609 Transfer of control, change of manufacturer
- 310200 Application Status [Administrative Procedure]

## General

- 141765 Miscellaneous Wireless Communication Radio Services, emission
- 230398 Spread Spectrum, Part 15 DSS Repeater
- 260953 Shielding requirement for modular device
- 331361 Certification for a licensed transmitter
- 133857 Section 15.204, Amplifier, Antennas, Repeater
- 625728 Stand Alone Module; shielding; Part
- 351887 Source-based time averaging as applied to duty factor

## FCC Exclusion List

- **All items on the FCC TCB exclusion list were moved to the FCC Permit But ask List (effective April 10, 2014)**
  - **All devices can now be authorised by a TCB** either through normal procedures, or if included on the PBA List, then through TCB PBA Procedures (e.g. DFS Master devices – these are now PBA and are authorised by TCBs).
  - The TCB exclusion list remains active for possible items in the future.

**FCC Pre-approval testing** will still be required for the following three categories (unless waived by the FCC through confirmation in a KDB inquiry):

- Unlicensed National Information Infrastructure (U-NII) devices with Dynamic Frequency Selection (DFS) capability (Part 15 Subpart E), including client devices operating in the DFS bands that have radar detection capability.
- Television Band Devices (TVBD) (Part 15 Subpart H).
- Ultra-wideband (UWB) devices operating under Part 15 Subpart F).

## PBA List Updates

- Added all exclusion list items
- Added Fixed devices intended to operate outdoors in the U-NII-1 band (May 16, 2014)

## Removed from PBA list:

- Implanted transmitters with maximum total available output power < 1.0 mW
- Doppler radars operating in the 24.05 GHz to 24.25 GHz frequency band or 70 GHz (Part 90F)
- CMRS industrial boosters (class B2I)
- When Rel 8 LTE devices cannot satisfy the conditions required in KDB 941225

## PBA Procedure (KDB 388624) – Has 3 Classes:-

1. Devices **requiring FCC approval of procedures** prior to PBA
  - Primarily cases where the FCC must make the determination on compliance with FCC Rules.
  - FCC review of must be complete before submittal of PBA
  - Guidance from Pre-PBA KDB must be included in the 731 filing. KDB guidance should be placed in Operational Description exhibit if confidentiality is desired
2. Devices for which a **sample must be submitted** to the Lab for testing as part of PBA process
  - Samples must be submitted for independent FCC testing
  - Samples are only to be submitted upon request
  - Lab may waive sample submittal at its discretion
3. Devices subject to **FCC review** prior to approval by a TCB
  - Processed under current PBA procedures
  - No changes to those procedures

- FCC and IC have common requirements for labeling at the time of importation/marketing/sales:-
  - In order for a device to qualify for e-labeling the device must have an **integral (non-removable) display screen** that can present the required labeling information electronically in lieu of a physical label or nameplate.

## **Less obvious products which will also benefit:**

- Routers: requires PC with display to configure router
- Wearable device without display: E-labeling allowed if smartphone/tablet/PC app is required for normal operation (e-label info queried by app)
- Wireless USB dongle which requires connection to device with display and necessary software is provided to query/display e-label info

- FCC and IC e-labelling requirements:-
  - Products utilizing e-labels are required to have a physical label on the product packaging at the time of importation, marketing and sales.
  - For devices imported in bulk (not packaged individually), a removable adhesive label or, for devices in protective bags, a label on the bags is acceptable to meet this requirement.
  - Any removable label used shall survive normal shipping and handling and must only be removed by the customer after purchase. For devices already imported in individual packages ready for sale, the information may alternatively be provided on the package.
  - Under the new regulations, users must be able to access the e-label without having to go through more than three steps in the device menu and without using any special access codes or accessories.
  - E-labeling info must always be stored electronically in the certified device itself (never in an associated device or coded in an app installed elsewhere)
  - Certified modules must still have a physical label (unless the module has its own display)
  - Certification applications must provide clear guidance on how the e-label info is accessed.

- FCC and IC e-labelling information shall include:-
  - The IC certification number for radio equipment, registration number for terminal equipment, and model identification number.
  - The FCC ID and/or the DoC logo (if applicable); and
  - Any other information required by specific requirements to be provided on the surface of the product unless such information is permitted to be included in the User's manual or other packaging inserts

- There is further guidance relating to user access, security, programming and regulatory information and module guidance in the following:-
  - FCC published [KDB 784748 D02 e labelling v01](#) on July 11, 2014.
  - Industry Canada released [Notice 2014-DRS1003](#) on October 3, 2014.
- Industry Canada will release a revised RSP-100 issue 10 which will include the e-labeling option. RSP-100 issue 10 will also include the labeling information (moved the information on labeling from RSS-Gen to RSP-100).
- 
- Note: RSP-100 Issue 11, which should come out in March or April 2015, will include major changes in product identification required, where IC will require manufacturers to specify the product marketing name (PMN) and Hardware Version Identification Number (HVIN) instead of the Model Number.

- E-labeling is not just for devices obtaining certification now.

**Previously certified devices** can also benefit from e-labeling.

- FCC is requesting that any products already approved, and wish to change the labeling to e-labelling, then the manufacturer needs to file a **Class 2 Permissive Change** filing.
- Industry Canada are not requiring a reassessment application to be submitted.

Other countries that also allow E-labelling includes Australia, Japan, the United Arab Emirates and Costa Rica.

# FCC RF Lighting Devices – Test Requirements Updated

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- Lighting technology is rapidly changing.
- LED lighting will become a very large replacement technology as common general service incandescent lamps are phased out in the U.S. due to EISA 2007 implementation by the U.S. Department of Energy.
- The FCC has observed recent instances of harmful interference caused by certain lighting products such as fluorescent and LED lighting that are not compliance with the FCC emissions limits. The FCC Enforcement Bureau is investigating these.
- The FCC and Industry Canada recommends the use of accredited test laboratories to ensure that testing is carried out to the FCC and Industry Canada requirements and in accordance to these new procedures.
- On 27<sup>th</sup> August 2014, the FCC published a Draft OET Laboratory Publication, **KDB 640677 D01**, entitled *RF Lighting Products Must Meet All FCC Standards to Mitigate potential Harmful Interference to Radio Services*
- This new publication clarifies the requirements for lighting devices subject to Part 15 or Part 18 rules.

## *FCC Part 18 Rule Changes (as a result of Draft KDB 640677 D01)*

- For lighting devices such as ballasts used for fluorescent lamps, and self-ballasted lamps powered from an RF source, the Part 18 rules specify AC power line conducted emissions limits below 30 MHz and radiated emissions limits above 30 MHz.  
(See Rule Parts 18.307(c) and 18.305(c), respectively).
- Draft publication clarifies that lighting devices, including those devices operating less than 1.705 MHz are required to comply with the radiated emissions limits, and **radiated measurements must be performed up to 1000 MHz** to demonstrate compliance.
- KDB 640677 D01 outlines the following requirements for Part 18 Lighting devices:
  - AC Power Line Conducted Emission Limits: Rule Part 18.307(c), for all equipment (i.e., consumer or non-consumer equipment).
  - Radiated Emission Limits: Rule Part 18.305(c). **Radiated emission measurements are to be performed from 30 MHz to 1000 MHz.**
  - Equipment Authorization Procedure: The “Verification” equipment authorization procedure is used for non-consumer equipment; and the “Declaration of Conformity” (DoC) or “Certification” equipment authorization procedure is used for consumer equipment.

## *FCC Part 15 Rule Changes (as a result of Draft KDB 640677 D01)*

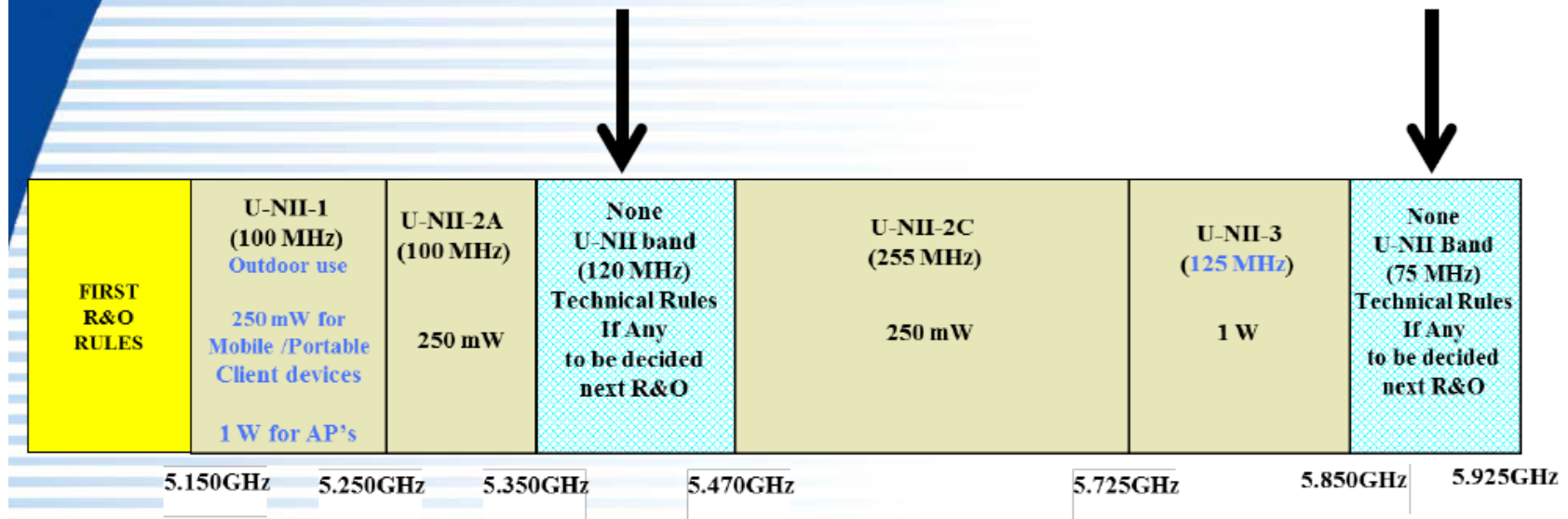
- For lighting devices which power the bulb or tube with direct current (DC) or alternating current (AC) below 9kHz and utilize switching power supply technology such as an LED lighting device powered by a DC voltage from a switching power supply, the Part 15 rules specify both AC power line conducted emissions limits  
(See FCC rule parts 15.107 and 15.109).
- Draft publication clarifies that LED lighting devices, are required to comply with the radiated emissions limits, and **radiated measurements must be performed up to 1000 MHz** to demonstrate compliance.
- KDB 640677 D01 outlines the following requirements for Part 15 Lighting devices:
  - AC Power Line Conducted Emission Limits: Rule Part 15.107(a) for Class B (residential) devices or Rule Part 15.107(b) for Class A (commercial) devices, as appropriate.
  - Radiated Emission Limits: Rule Part 15.109(a) for Class B (residential) devices or Rule Part 15.109(b) for Class A (commercial), as appropriate. Radiated emission measurements are to be performed from 30 MHz to 1000 MHz.
  - Equipment Authorization Procedure: The “Verification” equipment authorization procedure is used for both Class A and Class B devices.

## ICES-005 (Issue 4) - *Radio Frequency Lighting Devices* (Currently under revision)

- Industry Canada is proposing the following:
  - to adopt the current IEC CISPR 15 standard, Edition 8, published in May 2013, entitled:  
*Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment.*
  - to extend the frequency range of the radiated emission limits of this CISPR 15, Edition 8 up to 1 GHz. Specifically, the current radiated emission limit applicable at 300 MHz in CISPR 15 would also apply in the 300 MHz – 1GHz frequency range.
  - to update the scope of Industry Canada's ICES-005 to reflect the scope of the CISPR 15 standard. Hence, a wider range of lighting equipment such as dimmers which are currently not encompassed by ICES-005 (i.e. RFLDs) would be included in the upcoming version of ICES-005.
- Interim guidelines expected to be released in November 2014

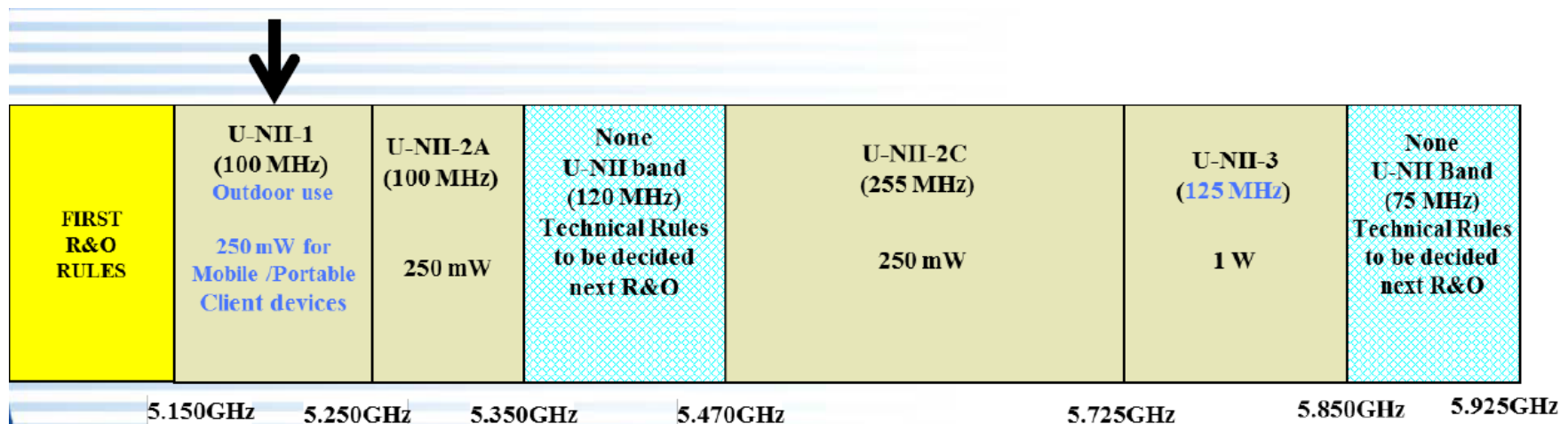
- On May 1<sup>st</sup>, 2014, the UNII Rules from FCC First Report & Order 14-30 were published in the Federal Register. <http://www.fcc.gov/document/5-ghz-u-nii-ro>
- New rules to increase the Security of devices and enhancing the existing spectrum by increasing power and permitting outdoor and pt-to-pt use in the U-NII-1 band and by adding 25 megahertz to the U-NII-3 band (was 15.247 DTS – now 15.407 NII)
- Includes a Transition Period for Manufacturers to comply with the new rules.
- **Proposed New Bands—U-NII-2B and 4 Bands (R&O 9-10)**

## ● Deferring action on these bands



## • U-NII 1

- Conducted Power: 50 mW → 250 mW for client device, 1W for master device
- Conducted PSD: 4 dBm/MHz → 11 dBm/MHz for client device, 17dBm/MHz for master device
- Up to 6 dBi antenna allowed without power reduction for all devices except fixed point-to-point
- Up to 23 dBi antenna allowed without power reduction for fixed point-to-point
- Max EIRP: 200 mW → 1W for client device, 4W for master device, 200W for fixed pt-to-pt
- Operation: Indoor only → Indoor/Outdoor





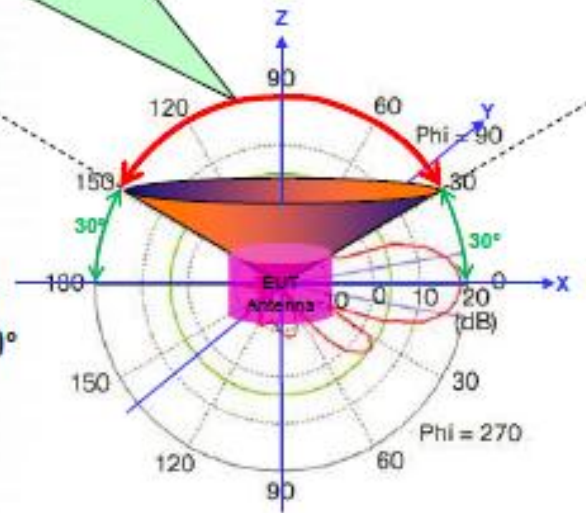
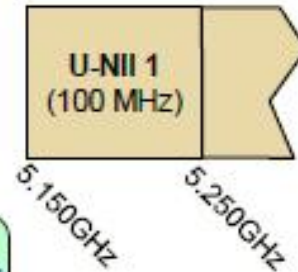
## U-NII 1

Additional rule for Access Point  
operating as outdoor P-t-MP

“At any elevation angle  $> 30^\circ$  from horizon,  
max EIRP must be  $\leq 125$  mW”

- For fixed infrastructure, not  
electrical or mechanical  
steerable beam antenna

- If elevation radiation pattern is available,  
submit (1) all information of antenna  
pattern, (2) mounting elevation angle and  
(3) calculation showing that any beam  $> 30^\circ$   
elevation angle will have EIRP  $\leq 125$  mW
- If elevation plane radiation pattern is not  
available... (more on next slides)



October 21-23, 2014

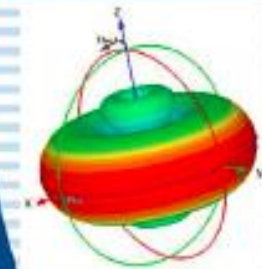
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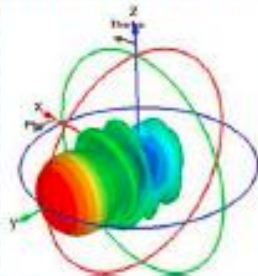


## U-NII 1 (cont'd) Measurement of emission at elevation angle higher than $30^\circ$ from horizon

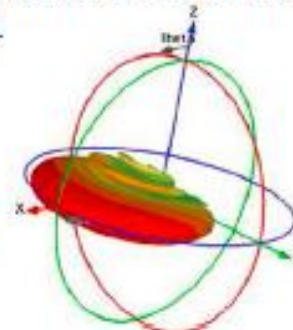
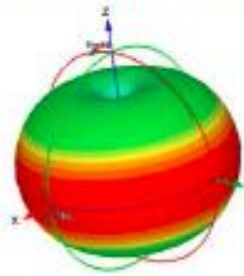
- For fixed infrastructure, not electrical or mechanical steerable beam antenna (cont'd)
  - If elevation plane radiation pattern is not available, but the antenna type is known as (1) having symmetrical elevation pattern referenced at main beam **and** (2) all lobes on the main beam elevation plan have highest gains, then measurement is required
    - Transform elevation angle measurement into azimuth angle measurement with consideration of intended mounting elevation angle (see KDB 789033 D02, section II.H.1.b) for detailed measurement procedures)
    - Calculate EIRP of the beam that has maximum gain between  $30^\circ$  and  $90^\circ$  elevation angle and compare to the limit of 125 mW.



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## U-NII 1 (cont'd)

- 
- Figure 10: 3D visualization of the brain surface with the topographic map of the 'a' component of the N100m magnetic field. The color scale ranges from -10.0 (blue) to 10.0 (red).

```

Key:          = 10000000
Character set: = 128,256,512,1024,2048,4096
Phone Area:   = 100,200,300,400,500,600,700,800,900
Component:    = 100
District:     = 100,200,300,400,500,600,700,800,900
TV component: = 100
Web: prefix:  = 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F
Edu: prefix:  = 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F
Fax:          = 1,2,3,4,5,6,7,8,9

```

TCB Workshop

6



## U-NII 1 (cont'd) Waiver of Section 15.407(a)(1)(i)

- Waiver for fixed outdoor devices without meeting the new antenna requirement can be requested under following circumstances
  - ☐ Waiver is issued to operators who have devices already deployed in U-NII 3 band, not manufacturers
  - ☐ TX power in U-NII 1 band must be < 250 mW
  - ☐ Manufacturer must obtain approval from the operator to submit for a permissive change



- **Reminder:** AP devices operating outdoor in the U-NII 1 band under 15.407(a)(1)(i) are subject to PBA!

- U-NII 2A & U-NII 2C

- No Change:

- Power : 250 mW
- Conducted PSD: 11 dBm/MHz for client device
- Max EIRP: 1W for client device
- DFS Detection Thresholds still:-
  - -64 dBm for  $200 \text{ mW} \leq \text{Operating EIRP} \leq 1 \text{ W}$
  - -62 dBm for Operating EIRP < 200 mW

- **Operation in TDWR band (5.6-5.65 GHz) – Now Allowed IF device meets the new DFS test procedure**

- **DFS Detection Bandwidth** increased: 80% → 100%



## Interference Avoidance & Mitigation

- Requires security features to prevent reprogramming.
  - No change to U-NII by unauthorized parties ( country code, frequency range, modulation type, maximum output power).
- Explicitly requires U-NII-2 equipment to operate with the DFS on.
- Sensing requirements.
  - Changes from 80% to 100% of emissions bandwidth
- Removes the restriction for certification in the U-NII-2C band under the interim certification procedures.
  - Manufacturers have the option of using the new rule to or the interim procedures for up to twelve months.
- 50 MHz of spectrum is available for U-NII use again.

## Dynamic Frequency Selection (DFS)

- Sensing
  - » Sensing requirements 100% of emissions bandwidth
- Adjacent channel sensing NOT required
- Relaxed sensing threshold (-62 dBm)
  - » Permit when EIRP < 200 mW and
  - » PSD < 10 dBm/ MHz
- New Bin 1 radar waveforms (Test A, Test B, total of 30 trials required with 60% detection)
- Eliminates uniform channel spreading requirement
- Does not require demonstration of channel loading with MPEG test file

## 5.8-GHz 15.247 DTS Merges Into U-NII-3

- Extend the U-NII-3 band by 25 MHz to match 15.247 band.
- 1watt limit with 6 dBi antenna and no bandwidth dependence.
- Minimum 500 kHz 6 dB bandwidth.
- Fixed point-to-point allowed without reduction to power or PSD for high gain systems.
- PSD limit = 30 dBm / 500 kHz (reference bandwidth)
- Keeps 15.407 Unwanted emissions limit (Below -17 dBm/MHz within 10 MHz of band edge, below -27 dBm/MHz beyond 10 MHz of the band edge. 15.209 general emission limits below 1 GHz.)
- Measurement bandwidth can be 300 kHz
- Removes 5.8 GHz DTS from 15.247 (Frequency hopping remains) [Effective After 12 months]

## Transition Periods

- **Grandfathering-** Existing devices will be grandfathered for the life of the equipment. Applies to devices which are operating in field, do not cause interference, and are not modified.
- **12 month transition** – applications for certification of U-NII devices must meet the new and modified rules after 12 months.
- **24 month transition** – the manufacture, marketing, sale and importation of non-compliant devices must cease after 2 years.
- **Class II permissive change** – allowed for old equipment for up to 2 years under the old rules.
- **Class II permissive change** – allowed indefinitely if such changes would result in compliance with the new or modified rules.

## Revised U-NII Rules in FCC 14-30 required updating several KDB Guidance documents

- **KDB 905462 – Procedures for DFS Compliance**
  - New test patterns, Loading requirements, Sensing threshold requirements, Test configurations
  - Test mode requirements (currently in KDB 594340)
  - The NTIA site that hosts the files to generate the **new radar 5 GHz test waveforms for FCC** test and certifications is now updated with the correct Matlab versions. The NTIA link is: <http://ntiacsd.ntia.doc.gov/dfs/>. Also, the NTIA link is in footnote 4 of this KDB.
- **KDB 848637 – Procedures for U-NII-2A,C Client Devices** - Consider consolidating two KDBs, Update guidance for ad hoc and peer-peer modes
  - Review procedures for devices which are initially approved as clients and then approved as master
- **KDB 789033 – U-NII Device EMC Test Procedures** - update to reflect new bands and emission levels
  - Review for consistency with the rules, Power requirements for new U-NII-1 outdoor emission standards
- **KDB 594280 – Software Configuration Guide Security requirements for all U-NII devices**
  - Guidance for peer-peer communications in all U-NII bands , Client and Master Security requirements
- **KDB 178919 – Permissive Change Procedures**
  - Updated guidance on transition rules and permissive change options during different periods (date of effective rules, + one year, + two year, beyond)
- **KDB 388624 – Permit-but-ask List** - List of devices requiring FCC review
- **KDB 634817 – Grant Listing Guidance** on listing bands for different configurations and transitions

- Customers have until June 2, 2016 to comply with the new rules, but for new products, they will normally be seeking compliance with the latest rules (from now).
- The new UNII test procedures are in [KDB 789033 D02v01](#) for UNII testing (which we would reference in the test report if applied).
- New devices approved under the New rules effective from June 2, 2014 must apply all the appropriate test procedures:-
  - UNII Test procedure: [789033 D02 General UNII Test Procedures New Rules v01](#)
  - All requirements outlined in **Section B** of [KDB 905462](#).  
Section A is for old rules
- Also, in terms of Exhibit requirements, we would need to see software security information as discussed in [KDB Publication 594280 D02](#) – U-NII Device Security v01 (See Section II and Section III). This also applies to applications for permissive change of previously approved devices seeking to use the provisions in the new rules.

- The following information should be included in certification applications for the UNII operation (please see attachment relating to UNII Client device - **KDB New UNII Rules.pdf**):-
  - (4) A Statement of Conformity for the Client in Non-Associated mode is required. The application must include a Cover Letter exhibit stating that the client software and associated drivers will not initiate any transmission on DFS frequencies without initiation by a master. This includes restriction on transmissions for beacons and support for ad-hoc peer-to-peer modes.
  - (5) A channel/frequency plan for the device showing the channels that have active scanning or passive scanning. Active scanning is where the device can transmit a probe (beacon) and passive scanning is where the device can listen only without probes.
  - (6) For client devices that have software configuration control to operate in different modes (active scanning in some and passive scanning in others) or in different bands (devices with multiple equipment classes or those that operate on non-DFS frequencies), or modular devices that configure the modes of operations through software; the applicant must provide a software and operations description that discuss how the software and / or hardware is implemented to ensure that proper operations modes cannot be modified by an end user or an installer.  
- Also, need to include an attestation that the device complies with the requirements for software configuration control as discussed in [KDB 594280 D02 U-NII Device Security v01](#) (Please provide information requested in Section II , and if applicable, Section III)

- Signal Booster – Recon and FNPRM (Compliance Test Procedures)
- Hearing Aid Compatibility (VoLTE and Voice over Wi-Fi as CMRS)
- Changes to MBAN Rules by Order on Reconsideration
- Level Probing Radar (Measurement Procedure – Section 15.256) KDB 890966
- SAR Testing – 802.11 draft update and SAR measurement methodology and systems
- DFS New Rules – KDB Publication 905462 D02
- Clients without Radar Detection - KDB Publication 905462 D03



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# Canada

## Industry Canada (IC) Updates

- A section on disclosure of information will be in issue 10 of RSP-100 (soon to be released)
- The following exhibit types qualify for confidential treatment:
  - block diagrams
  - operational description
  - parts lists and tune-up information
  - SDR software and security information
  - schematic diagrams
- IC does not publish any documents submitted by applicants
- Non-confidential documents may however be released if there is a request from the Access to Information and Privacy (ATIP) Office

# New Standard released for Wireless Chargers (WPT devices)

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- On 4<sup>th</sup> September 2014, Industry Canada published Radio Standards Specification ([RSS\) 216, Issue 1](#), *Wireless Power Transfer Devices (Wireless Chargers)*.
- RSS-216 sets out the minimum requirements for a wireless charger with power management and/or control capabilities, which either requires certification or is exempt from certification.
- There are two equipment classifications which your equipment can fall into:
  - Category 1 equipment – where we (CB) would issue a technical acceptance certificate (TAC)
  - Category 2 equipment - where the equipment would be considered exempt from certification

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# RSS-216 Wireless Chargers – Category 2 device

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- A wireless power transfer device with power management and/or control capabilities, is considered a Category 2 device (exempt from certification) **if it meets all of the following requirements:**
  - wireless power transfer frequency is below 1 MHz;
  - output power from each primary coil is less than 5 Watts;
  - the wireless power transfer system includes only a single primary coil and a single secondary coil;
  - the device to be charged is inserted in or placed in direct contact with the transmitter of the wireless power transfer device;
  - the coupling surface area of the wireless power transfer device is between 60-400 cm<sup>2</sup>; and
  - the total leakage fields from all simultaneous transmitting coils are demonstrated to be less than 30% of the applicable Health Canada's Safety Code 6 limits for uncontrolled environments as set forth in RSS-102 at 10 cm from the wireless power transfer system. The total leakage fields shall be calculated or measured based on actual clients, which would provide worst case conditions.
- If the above requirements are met, then Section 4 of RSS-216 would apply and and Radio testing would be required and the device would be exempt from RSS-102 RF Exposure requirements, and would need to comply with Health Canada Safety Code 6

# RSS-216 Wireless Chargers – Category 1 device

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- A wireless power transfer device with power management and/or control capabilities, that does not meet the Category 2 device criteria, would be considered a Category 1 device (certification required).
- Section 3 of RSS-216 would apply and Radio testing would be required as well as RF exposure evaluation such as field strength measurements in accordance to RSS-102.

- RSS-216, Issue 1 outlines the following requirements for both Category I and Category II wireless power transfer equipment:-
  - Technical Requirements and Measurement Methods
  - AC Power Line Conducted Emission Limits
  - Field Strength Limits
  - Radio Frequency (RF) Exposure Compliance
  - Equipment Labels

# RSP-100 Issue 10 (Radio Equipment Certification Procedure)

## – Status Update

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- RSP-100 issue 10 release is imminent – Release in November
- Most changes in RSP-100 were reviewed last year
- Publication was delayed due to interdependency with RSS-GEN and waiting for E-labeling decision
- Noteworthy modifications in RSP-100 issue 10:
  - Clarification of REL listing requirement
  - Move labeling requirements from RSS-GEN to RSP-100
  - Addition of E-labeling option
  - Disclosure of information (confidentiality)
  - Move Modular Approval requirements from RSS-GEN to RSP-100

## DC-01 — Procedure for Declaration of Conformity and Registration of Terminal Equipment

- DC-01 issue 5 is expected to be published in November to reflect E-labeling adoption
- Major changes in procedures will be implemented in RSP-100 Issue 11 and DC-01 issue 6
- The publication of the procedures will be synchronized with the date of the new IC filing system going live (as a CB we use the system to upload your applications)
  - As IC are modernizing their system, they will shutdown their E-filing system and the new “Spectra system” for 1-2 weeks, during which time we will not be able to upload projects to the IC filing system, however we will continue to carry out certification and issue Type Approval Certificates. Once the Spectra system goes live, we will upload applications in the order in which we certified them.
  - New target date for the Spectra system launch is March-April 2015

## Newly Published

October 2014:

- **RSS-199 (Issue 2)** – Broadband Radio Service (BRS) Equipment Operating in the Band 2500-2690 MHz

September 2014:

- **RSS-216 (Issue 1)** – Wireless Power Transfer Devices (Wireless Chargers)
- **RSS-111 (Issue 5)** – Broadband Public Safety Equipment Operating in the Band 4940-4990 MHz

April 2014:

- **RSS-195 (Issue 2)** – Wireless Communications Service Equipment Operating in the Bands 2305-2320 MHz and 2345-2360 MHz

March 2014:

- **RSS-287 (Issue 2)** – Emergency Position Indicating Radio Beacons (EPIRB), Emergency Locator Transmitters (ELT), Personal Locator Beacons (PLB), and Maritime Survivor Locator Devices (MSLD)

## Soon to be Published (based on the Electronic Labeling allowance)

- RSS-GEN (Issue 4) – **NEW!** --- General Requirements and Information for the Certification of Radio Apparatus [ labeling requirements transferred to RSP-100 ]
- RSP-100 (Issue 10) – **NEW!** --- Radio Equipment Certification Procedure [ new e-labeling option included in labeling requirements ]
- ICES-001 (Issue 4) – Industrial, Scientific and Medical (ISM) RF Generators
- ICES-002 (Issue 6) –Spark Ignition Systems and Other Devices Equipped with Internal Combustion Engines
- ICES-002 (Issue 5) –Vehicles, Boats and Other Devices Propelled by an Internal Combustion Engine, Electrical Means or Both
- ICES-003 (Issue 5) –Information Technology Equipment (ITE) — Limits & Methods of Measurement
- ICES-006 (Issue 2) – AC Wire Carrier Current Devices (Unintentional Radiators)
- RSS-310 (Issue 3) –License-exempt Radio Apparatus All Frequency Bands: Category II Equipment
- DC-01 (Issue 5) – Procedure for Declaration of Conformity and Registration of Terminal Equipment

## Soon to be Published

- RSS-102 (Issue 5) – RF Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)
- RSS-119 (Issue 12) – Equipment Operating in the Land Mobile and Fixed Service in the Frequency Range 27.41-960 MHz
- RSS-211 (Issue 1) - Level Probing Radar Devices (LPR) (contains RSS-210 Annex 11)
- RSS-213 (Issue 3) – 2 GHz Licence-exempt Personal Communications Service Devices (LE-PCS)
- RSS-222 (Issue 1) – White Space Devices
- RSS-210 (CB Notice) – certification requirement for LE low power apparatus such as wireless cameras, wireless microphones (to be added in next issue of RSS-210)
- RSS-123 (Issue 3) – Licensed Low-Power Radio Apparatus
- RSS-251 (Issue 1) – Field Disturbance Sensors in the 46.7-46.9 GHz (Vehicular Radar) and 76-77GHz (Vehicular and Fixed Radar) Bands (contains RSS-210 Annex 13)

## Revisions in Progress

- **RSS-102 (Issue 5)** – RF Exposure Compliance of Radiocommunication Apparatus (All Bands)
- RSS-131 (Issue 3) – Zone Enhancers for the Land Mobile Service
  - review the zone enhancers specifications and measurement methods provided to harmonize with recent FCC rules
  - currently under TCBC consultative review
- RSS-139 (Issue 3) – Advanced Wireless Service Equipment Operating in the Bands 1710-1780 MHz and 2110-2180 MHz
  - extend frequency band from 1710-1755 to 1780 MHz and 2110-2155 to 2180 MHz
- RSS-220 (Issue 2) – Device using Ultra-wideband (UWB) Technology
  - - under internal review

## New RSS Standard in Development:

- **RSS-247 (Issue 1)** – Digital Transmission Systems (DTS) & Frequency Hopping Spread Spectrum Systems (FHSS) – Limits and Methods of Measurement
  - under internal discussion
  - impacts RSS-210 Annex 8 & 9

## New ICES in Development:

- **ICES-008 (Issue 1)** – Cable Distribution Systems
  - to provide technical requirements to cable network operators to avoid the creation of harmful interference produced by their network, i.e. outdoor cable distribution wires on pole possibly acting as a radiating antenna.



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# Japan

## Japan MIC Radio Approval Updates

- **Technical Updates:**
  - **Body SAR:** Category 2  
([Established in August, 2013 and implemented in April of 2014](#))
    - regulations came into force on April 1st 2014
  - **Revision of UWB radio system:** Category 1  
([Established in December, 2013 and implemented in January of 2013](#))
    - Ministerial Ordinance No. 122 of 25 December 2013.
  - **LTE-Advanced:** Category 2  
([Established in December, 2013 and implemented in January of 2014](#))

## **Devices used in portable configuration (within 20cm of user):-**

- There are Head and Body SAR requirements if the device output is greater than 20mW and is one of these device types:
  - Broadband Wireless Access (BWA) equipment (WiMAX land mobile or Next gen PHS land mobile station) see Article 2 paragraph 1 item 51 and 54.
  - Satellite Cellular Phone
  - Mobile phone
- Japan rules require that if the device is one of the above types and also contains **another specific radio, built into the same case**, then the other specific radio would need to be considered for SAR testing as well (multiple transmitters!)
  - **Specific radios, subject to SAR testing, if included in BWA / Sat / Mobile case:-**
    - Radio stations of low-power data-based communication systems (2.4GHz)
    - Radio stations of low-power data-based communication systems (5GHz)
    - PHS / Digital cordless phone

Note: these three categories are excluded if they are not secondary tx's (i.e. they are “stand-alone”)

## Devices used in portable configuration for Hand-held use:-

- The current MIC policy in relation to RF Exposure requirements for devices which are only used in the hand, and do not support near-body usage.
  - If it is hand-held and can be operated within 20cm in **front of the face** and the average output power is greater than 20mW, then It can be tested for SAR in accordance to the ARIB STD-T56 standard (follows mainly IEC 62209-1 standard).
  - If it is **not** used within 20cm of the face, and is **hand-held use only** (no front of face or near-body usage) then, IEC 62209-1/2 is **not applicable (no body/hand SAR required)** for:

“the human body temporal region of the head and **both hands**. (frequency range from 30 MHz to 6 GHz)”
- So if it operates above 20mW and is used more than 20cm from persons, they can carry out calculations per ARIB STD-38. The limits are outlined similar as the FCC,
  - STD-38: on Page 53 (Table 2a for occupational exposure) and on Page 55 (Table 3a for general population exposure).
  - [OET65](#): On Page 52 (Table A for occupational exposure) and on Page 52 (Table B for general population exposure).

## **Radio Modules:-**

- Radio modules, such as USB sticks, which have their own enclosure, a defined integral antenna position and a well defined connector can be evaluated for Body SAR as a “module”
- Radio modules which are intended to be integrated in a host equipment cannot be evaluated for Body SAR but it can be certified as a “radio module”. The evaluation for Body SAR needs to be carried out on the combined equipment of host and radio module
- A manufacturer of devices which contain certified radio modules must submit an application to a certification body in order to obtain a certificate which covers the Body SAR regulation for the complete device
- In such a case the certification body is allowed to omit part of the assessment (since the radio modules have been previously certified for the “radio part”) and only assess compliance with the Body SAR regulation
- Point of attention: “Each registered certification body decides whether it will omit some parts of the examination, what parts to omit, and so on.”

# Japan – Integrating Approved Modules (Host Labelling Rule)



- MIC do not currently have a formalised modular approval route, however Japan do recognise certified transmitter radios. **Conformity mark must be attached to the radio module.**
- On September 1, 2014 the MIC Radio Law – Article 38-7 (Mark) came into force:
  - “The registered certification body shall, upon giving the technical regulations conformity certification pertaining to its registration, affix a mark indicating technical regulations conformity certification to the specified radio equipment pursuant to the provisions of the applicable MIC ordinance.”
  - “Manufacturer who installed certified radio module with a conformity mark to products be able to attach same conformity mark as the module to products.”
- Hosts must indicate the presence of the radio modules by listing the Technical Regulation  
Conformity mark on the host**



R → radio certification (T is for terminal equipment)

203 → TUV SUD BABT is the Certification Body

JNXXXX → We (TUV SUD BABT) allocate your product a unique number

- MIC updated the general conformity mark rules to require a 3mm or more in diameter size for the Conformity mark instead of 5mm.
- When a certified radio module is incorporated into a product, where the module/antenna is unchanged, then the labelling requirements above, and any verification testing as appropriate must be carried out. The Radio ordinance includes requirements for receiver spurious emissions, which some manufacturers may elect to have assessed.

## MIC Radio and Telecoms Terminal Equipment (TTE) Market Surveillance

- MIC carries out market surveillance every year
- MIC purchases samples of Radio and TTE equipment as they are available on the market
- Labeling of Radio and TTE equipment is examined
- Conformity to technical standards is examined (e.g. testing for radio param – emissions/power/freq)
- In cases where non-compliances are found, MIC requests the vendor or dealer to take corrective actions (penalties could be revocation of certification, prohibit suppliers from affixing Conformity Mark, removal of products off the market to prevent disturbance or harm caused by non-compliance equipment)
- MIC will publish notices in cases where non-compliances have been found
- Surveillance for each calendar year is completed by March.

### **Examples of found non-compliances are:**

- Undocumented changes in certified equipment
- Labeling not correct
- Not complying with the technical requirements (antenna power/spurious emissions too high)
- Non-compliances on samples audited in 2013 were around 5%

Manufacturers must ensure they document their changes for their certified equipment, and must ensure that the technical and administrative Japan radio requirements are met for equipment including any modified equipment.

## Japan Spectrum Charts – as of April 2014

- Please see the following page for the spectrum use/allocation information:  
<http://www.tele.soumu.go.jp/e/adm/freq/search/myuse/0002/index.htm?print>
  - [Below 3000kHz](#) (52KB)
  - [3000kHz - 30000kHz](#) (86KB)
  - [30MHz - 335.4MHz](#) (123KB)
  - [335.4MHz - 960MHz](#) (109KB)
  - [960MHz - 3000MHz](#) (71KB)
  - [3000MHz - 10000MHz](#) (77KB)
  - [Above 10GHz](#) (138KB)
  - [Batch Download](#) (235KB)
- Major uses are shown when a frequency band is used for multiple purposes.
- Even when there is no indication of use in a frequency band, the band may still be used by a relatively small number of individual radio stations such as experimental stations.
- Frequency bands where uses are shown on a white background indicates that there are no specific assignments, while certain uses are designated or planned in Radio Regulations or Frequency Assignment Plan.

# The TÜV SÜD America Advantage



# Thank You! – Questions?

## TÜV SÜD America

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Vina Kerai (VKerai@tuvam.com)

Tel: 1-858-678-1422