

Wireless Regulatory Updates USA & Canada, European Union

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Wireless Regulatory Process US/CAN/Europe



Modules

Radio Device



**US-FCC
Canada-ISED**

“Single Modular”
Certified Radio Module

FCC KDB 996369 D04
Module Integration Guide

*Module remains a
certified device,
Host product is a digital
device / unintentional
radiator*

*Module
regulatory
concept*

*Module
integration into
Host*

EU, UK, EFTA

Module is
Radio Equipment

RE-D Guide
ETSI EG 203 367
REDCA TGN 01

*Combined radio module
+ host becomes new
radio equipment*

*Integrated radio+host
must meet all RE-D
essential requirements*

**US-FCC
Canada-ISED**

Certification

*Compliance
regulatory
concept*

EU, UK, EFTA

Manufacturer Self
Declaration
Or
Type Certification



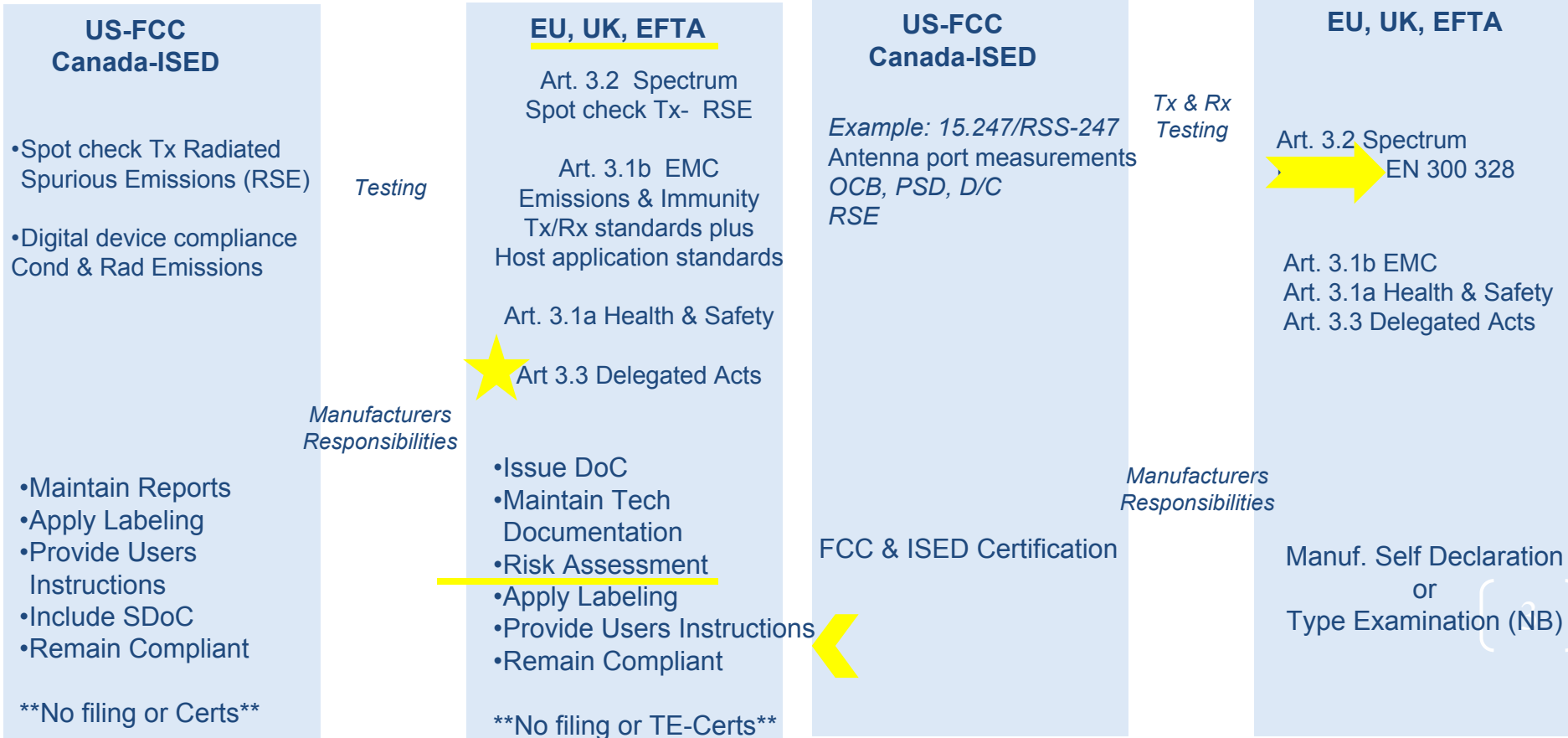
RE-D { 2

Wireless Regulatory Process NA & Europe



Modules

Radio Device



Key Takeaways

Topics for this Presentation

- 1) Modules
- 2) Brexit
- 3) EN 60950 & EN 300 328 V2.2.2
- 4) Risk Assessment
- 5) Article 3.3 “Delegated Acts”
- 6) ADCO Market Surveillance Campaign
- 7) 6GHz WiFi
- 8) Q & A

(1) Modules



FCC [KDB 996369](#) D04 Module Integration Guide v02

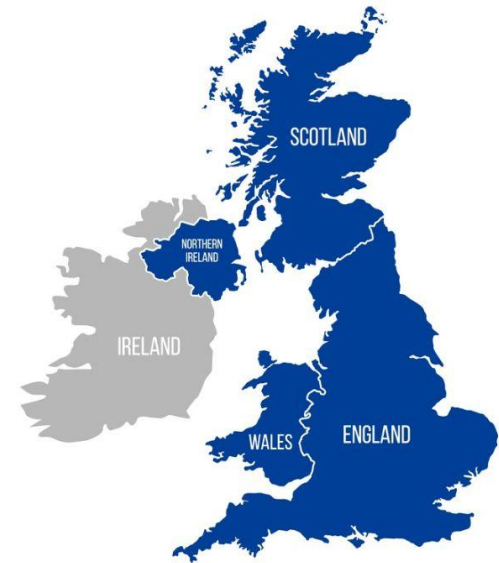
Integrator responsibilities:

- ✓ Single vs. Limited modular certified
- ✓ Confirm module is suitable for the application (<20cm?>)
- ✓ Co-located Antennas & Simultaneous Transmission
- No application/certification for single modular integration.
- SDoC for digital host with integrated radio (although you could certify the system)
- FCC15B conducted & radiated emissions
- Spot check Tx (Upper range of measurement is 5x highest frequency)
- Test & maintain results, label device, users instructions, remain compliant

Radio Equipment Directive

- A radio “module” integrated into a host creates a new radio device within scope of RE-D
- Must comply with Safety, EMC, Spectrum, Delegated Acts.
- Guidance Documents
- [ETSI EG 203 367](#), [ETSI EN 303 446-1](#) [ETSI EN 303 446-2](#), [TGN 01](#) [TGN 31](#)
- Get the Spectrum Test Report from the Radio OEM!

(2) Brexit



For Manufacturers

- New UK Rules Jan 1, 2021
- Regulations- Radio ([SI 2017/1206](#))
- Regulations- EMC ([SI 2016/1091](#))

- Standards = Same OJEU HS's, ETSI standards, etc. [[See UK Designated Standards](#)]

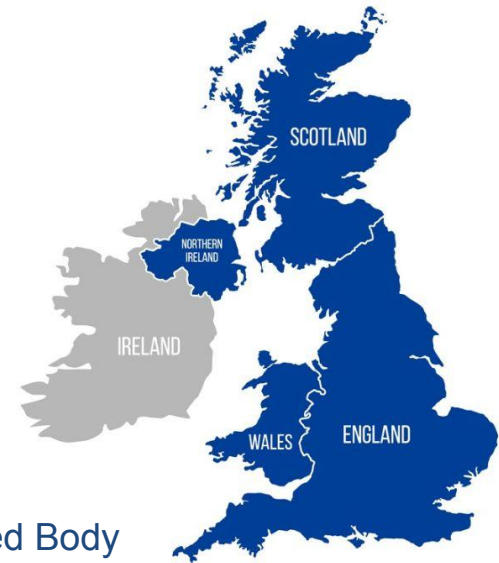
- UK DoC = Shall List UK Regulations and Designated Standards.
- Same format at EU CE Mark DoC

- Markings = CE (or UKCA) until Jan 1 2022.... UKCA after Jan 1 2022.
- Markings (Northern Ireland) = Must apply CE marking.

- Representatives = If a rep is used for the UK, must be UK based.

(2) Brexit

UK
CA



For Conformity Assessment Bodies

- US-EU Notified Bodies being recognized by UK as UK Approved Body
- Does your product have a (EU) Type Examination Certificate by a (EU) Notified Body?
- Will need to have the TEC issued for the UK Approved Body.

(3) EN 60950-1 & “V2.2.2” of EN 300 328

EN 60950 no longer presumption of conformity after Dec 20, 2020.

- **EN 62328-1:2014** generally considered replacement for EN 60950 (most wireless Tx/Rx).
- Other safety standards may apply, ie. EN 60601-1-1, EN 61010.
- Check the scope of the standard to make sure it's suitable for your application.
- IEC 60950 may still be suited for some global markets

Side note...

- ISO 17025 Accredited Test Labs
 - Recommended, but not mandatory for CE
- CB Scheme Report and CB Certificate for Safety
 - Becoming a more common requirement for global acceptance



EN 300 328 “V2.2.2” Only 2.2.2 version after Aug 2021

- Check your current reports
- Check “Module” report for compliance
- Generally changes require retesting of Receiver Blocking

(4) Risk Assessments

- Manufacturer is obliged to perform a Risk Assessment (R.A.)
 - For Radio Equipment Directive (RE-D)
 - For EMC Directive (EMC-D)
- There is not a structured R.A format dictated by EU regulations
- R.A. scope is limited to essential requirements listed in directive.
 - Radio Equipment Article 3.1a (safety), 3.1b (EMC), 3.2 (Spectrum), 3.3 Del-Acts
- Address all risks to non-compliance within scope of RE-D (or EMC-D)
 - Generally assessed through harmonized standards
 - Consider end use of product and if HS cover all risks.
 - Temperature effects on performance?
 - Children, unskilled users, other user types?
 - What receivers could likely be used in close proximity or nearby?
- REDCA.eu
 - [TGN 30](#) on Risk Assessments *(being revised to improve guidance)*

Radio Equipment Directive 2014/53/EU

DIRECTIVE 2014/53/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 April 2014

on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC

(Text with EEA relevance)

Article 3

Essential requirements

1. Radio equipment shall be constructed so as to ensure:

(a) 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;

(b) an adequate level of **electromagnetic compatibility** as set out in **Directive 2014/30/EU**.

2. Radio equipment shall be so constructed that it both effectively uses and supports the efficient use of radio **spectrum** in order to avoid harmful interference.

3. 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.

Electrical Safety
& Health (LVD)

EMC

Spectrum Compliance

Delegated Acts

(5) Article 3.3 “Delegated Acts”

3. Radio equipment within certain categories or classes shall be so constructed that it complies with the following essential requirements:

- (a) interworks with accessories, in particular with common chargers;
- (b) interworks via networks with other radio equipment;
- (c) can be connected to interfaces of the appropriate type throughout the Union;
- (d) does not harm the network or its functioning nor misuse network resources, thereby causing an unacceptable degradation of service;**
- (e) incorporates safeguards to ensure that the personal data and privacy of the user and of the subscriber are protected;**
- (f) supports certain features ensuring protection from fraud;**
- (g) supports certain features ensuring access to emergency services;
- (h) supports certain features in order to facilitate its use by users with a disability;
- (i) 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.**

Internet connected devices



Any radio equipment “Toys” and “Wearables”



Internet connected capable of transferring money



SDRs,
Radio Functions,
Enabling Bands

Next Steps

1. [Impact Assessments](#) (Done)
2. Determine Scope of DA & Exclusions
3. Date of Applicability **(March 2021)**
4. Parliament & Council Review (3-6 months)
5. Standardization Request to Develop HS

(6) ADCO Findings

Administrative
Cooperation
Groups (AdCos)

ADCO Objective is Market Surveillance

Ex. [EMC ADCO](#)

Findings:

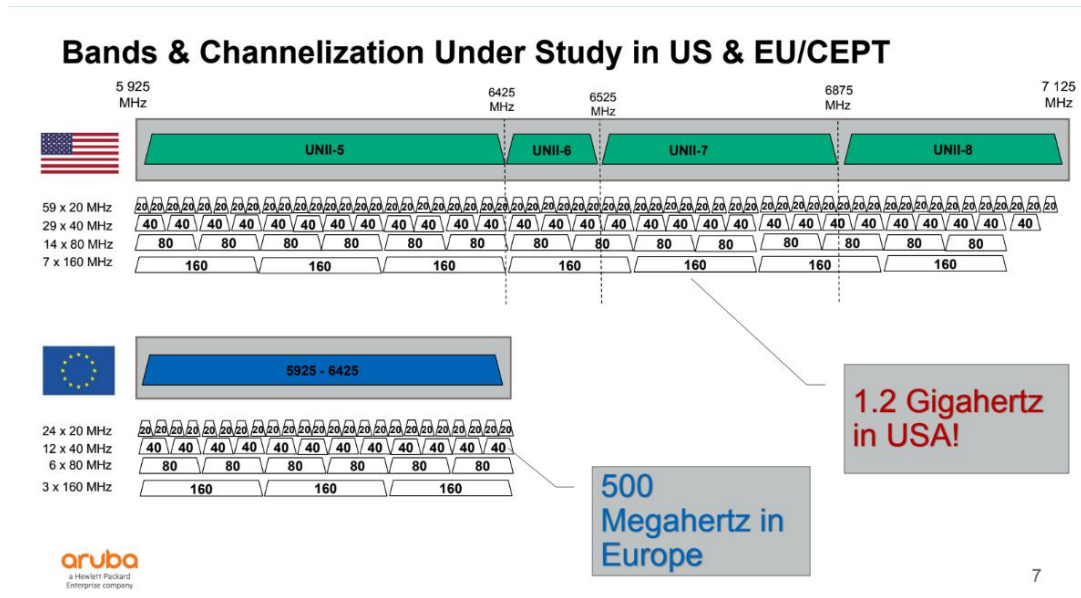
1. 5GHz WiFi “DFS non-compliance”
2. Not Properly Identifying Radio Equipment
 - Manufacturer name & contact on the device
 - DoC supplied with the device, or link to online site
 - If manufacturer is outside the EU then provide name of importer, distributor.
3. Future plans for 5GHz WiFi and automotive related Tx/Rx

See [ADCO “Obligations”](#) guidance on the REDCA.eu

Also, [ADCO List of National Language Requirements](#).

(7) Wi-Fi 6

- FCC U-NII Bands 5, 6, 7, 8
 - Phase 1 Indoor Devices Only
 - Phase 2 Standard Devices with Automated Frequency Coordination (AFC)
 - FCC 15E Sec 15.407
- EU Wireless LAN 5925-6425
 - EN 303 687 not yet released (*published in OJEU ~ 3-2022*)



[REFERENCE] Aruba Networks Presentation slide from CWNP WiFi Trek 2018

Recommended Docs & Sites

North America

FCC OET Knowledge Database

- KDB 996369 D04 Module Integration
- KDB 896810 D01/D02 Supplier DoC
- KDB 784748 D01/D02 Labeling
- KDB 447498 D01 RF Exposure
- KDB 178919 D01 Permissive Changes

FCC OET [Equipment Authorization Search](#)

ICES-003	(digital devices)
RSS-GEN	(Tx requirements)
RSP-100	(Tx requirements)
RSS-1XX/2XX	
RSS-102	RF Exposure

European Union

ETSI [Work Programme](#) *[latest HS]*

ETSI.org

ETSI EG 203 367 *(module integration)*

ETSI EG 303 446-X *(module integration)*

[REDCA.eu](#)

TGN 01 *(module integration)*

TGN 20 *(SAR guidance)*

TGN 30 *(risk assessment)*

“Guide To”... Radio, EMC, LVD

[ERC 70-03](#) *(harmonized spectrum)*

[ADCO Language](#)

[ADCO Obligations](#)

[www.gov.uk](#)

Guidance Using the UKCA marking

Updates from TCB Council and REDCA Meetings

- TCB Council www.tcbCouncil.org/
 - Telecommunications Certification Body
 - Workshops April & October
 - Membership open to all

- REDCA www.redca.eu/
 - Radio Equipment Directive Compliance Association
 - Workshops April & October (generally around TCB Council dates)
 - Membership open to all
 - Link to REDCA.eu for guidance documents

In Summary

1. Modules
2. Brexit
3. EN 60950 & EN 300 328
4. Risk Assessment
5. Article 3.3 “Delegated Acts”
6. ADCO Market Surveillance.
7. 6GHz WiFi
8. Time for Q & A

Guidance documents provide details
Start applying UKCA mark (NB TECs ??)
Review report & DoC status
Keep your RA up to date
Stay tuned for regulations coming.
Review your device markings & docs.
Coming in 2021/2022
Time for questions??

Thank you for attending & St. Pat's Day !

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