



## Harmonised EMC standards and the RED

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Let me summarise the reactions of many to the new Radio Equipment Directive...

- Nothing has changed. ***Business as usual.***
- This is unreasonable. It cannot be so. Let us ignore it. We can put a note in the OJ. Let us pretend nothing has changed. ***Business as usual.***



- Supporting the efficient use of spectrum is a new concept in Article 3.2.
- To support the efficient use of spectrum the requirements setting exclusion bands in radio-frequency immunity testing need to be revised and rationalised for many types of receivers.



- The specification of exclusion bands impacts receiver performance and should be coordinated with Article 3.2 requirements.
- The historical justifications for present exclusion bands are no longer valid.
- ERMEMC is already underway developing a methodology to rationalise the treatment of exclusion bands.





There are three important legal aspects under the R&TTE Directive which relate to combined equipment:

- Article 2 (c) states that “radio equipment means a product, **or relevant component thereof,....**”
- Article 10.2 allows compliance to be shown using the procedures of the LVD and EMCD.
- Article 18.1 allows standards listed under the LVD and EMCD to show compliance with the R&TTED.
- ***None of the above are available with the RED.***

- The legal basis for what is done today under the R&TTE Directive for combined radio and non-radio equipment **is not available** with the Radio Equipment Directive.
- A note in the OJ standards listing under the RED would undermine the procedures of the Standardisation Regulation 1025/2012.



- Harmonised standards listed in the OJ under the Low-voltage and EMC Directives cannot be used to show conformity with Articles 3.1a and 3.1b of the RE Directive.
- Only harmonised standards listed in the OJ under the RE Directive can be used to show conformity with this Directive.



## Article 3.1 of the RE Directive



- The essential requirements in Article 3.1 state that:
  - (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,





# New definition of radio equipment



- The important legal aspects which relate to combined equipment under the Radio Equipment Directive are:
- Article 1 (1) states '**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".



## Definition applied to combined equipment



- This definition of radio equipment does not allow the option of treating inbuilt radio functionality separately from the main equipment.
- The product cannot be separated into parts to which different Directives apply.
- The presence of an inbuilt radio module or component makes the whole product radio equipment. Combined equipment is radio equipment.



# Implement radio using external plug-ins



- One suggested solution for manufacturers opposed to meeting radio requirements is to implement radio functionality using external plug-in units, e.g. USB dongles.
- Historically WiFi was made available in laptops and home electronics this way. However, consumer demands drove the trend to implementing WiFi on internal boards.
- Be aware, the inevitable accidental mixing of dongles in with the clothes for washing will drive integral solutions for washing machines!
- Then there is this little matter, if dongles operate in a range of bands above 1 GHz why should the washer not be immune at these frequencies?



- The optimum way of meeting the challenges with the new definition of radio equipment is to solve any problems in standardization.
- And this is not a major task.
- ERMEMC has considered a number of possible solutions...





Essentially three options:

1. Introduce radio requirements into existing CENELEC non-radio standards.
2. Introduce non-radio requirements into existing ETSI radio standards.
3. Develop limited set of new combined equipment standards which refer to existing CENELEC non-radio standards and ETSI radio standards and which resolve conflicting requirements on common interfaces.



- Radio technology is developing and changing at great speed. We see accelerating changes in spectrum use. This is facilitated by new technologies, including cognitive radio and dynamic spectrum access and soon 5G. The implementation of radio in new areas can be described as explosive.
- Non-radio technologies are relatively stable.



## The compelling argument...



- From a technology perspective it is clear that the determining expertise needed to develop combined equipment standards is radio expertise.
- Furthermore, as the harmonised standards needed are for the Radio Equipment Directive such standards fall formally within the sphere of ETSI.



ERMEMC proposes developing:

- a new and limited set of harmonised standards for combined equipment intended to be listed in the OJ under the Radio Equipment Directive.





Such new standards would:

- Refer to existing radio EMC standards for radio related requirements.
- Refer to existing non-radio EMC standards for the other relevant requirements.
- Solve the problems on common interfaces or ports where different requirements are set in the radio and non-radio standards by specifying which requirements apply.



This proposal has the following advantages:

- There is no need to revise existing radio and non-radio standards.
- The requirements are stated by dated references to other standards as is already done in EMC radio standards for emission or in EMC standards generally for measurement methods in basic standards.



- Which requirements apply on common interfaces, for example enclosures and mains, are clarified.
- How exclusion bands are dealt during radio-frequency testing with is clarified.
- This introduces legal clarity as to what exactly applies for combined equipment, something we do not have today.



## Known objections to this proposal



- *“The proposal would require excessive updating of the new combined standards...”*
- **Not true.** The rate of updating is neutral and not different for any of the three options considered.
- In fact for the proposed option, the reverse is true. This is shown by the fact that the first edition of EN 55032 was never referenced in ETSI standards. The reference to EN 55022 was maintained. There was no automatic or forced updating.

