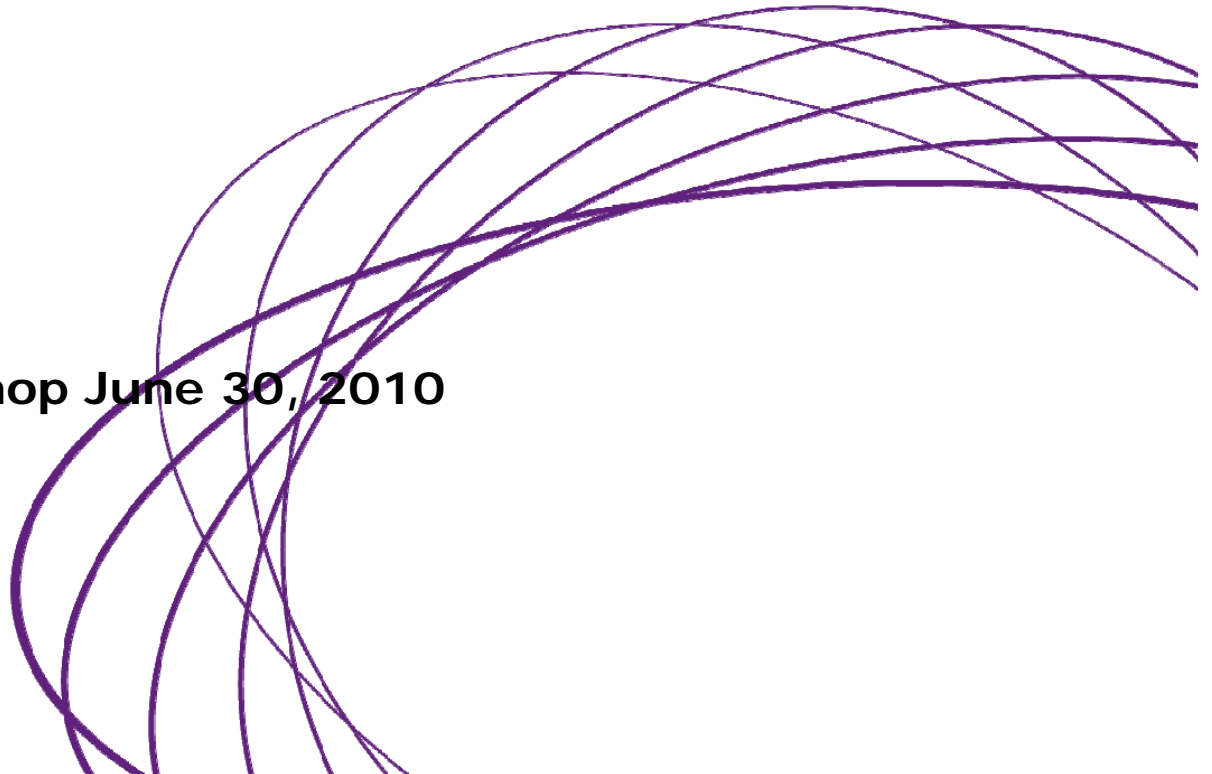


Report from the CENELEC/ETSI JWG on the digital dividend

Commission Workshop June 30, 2010



Deliverables

There are two deliverables:

- The concise Technical Report. This was agreed unanimously by the JWG.
- The very comprehensive Technical Report which goes into great detail and which is still being developed and improved.

Separate issues covered:

- Define the changed electromagnetic environment for the 800 MHz band
- Indicate appropriate revisions for the relevant standards by defining test levels and test methods
- Identify any need for new standards, e.g. for classification of customer cables
- Identify mitigation measures in networks during the transition period
- Identify problem areas in the transition

The changing electromagnetic environment

- The electromagnetic environment stemming from the present terrestrial delivery platform produces ambient field strengths typically much lower than 1 V/m in the frequency range 470 – 862 MHz
- The new deployment scenario for the frequency range 790 – 862 MHz will typically produce ambient field strengths up to 3 V/m

Timescales

In order to conform with the timescales of the Commission for the implementation of ECNs the standardisation bodies need to prepare and revise standards within 12 months to allow industry to have clear guidelines for achieving compatibility

Revision of harmonised standards

- Customer equipment containing UHF tuners was identified as most susceptible
- EN 55020 covers such equipment. The scope *may* however need clarification
- The appropriate test level is 1 V/m for the tuned channel immunity tests
- The appropriate level is 3 V/m for immunity testing on other than the tuned channel
- The above imply that receiver parameters need revision

Revision of basic standards

- We do not presently know if the current test method according to EN 61000-4-3 will adequately simulate the new conditions
- Further investigations are needed to evaluate the need for a new test method to simulate the interference characteristics of LTE and other broadband radio systems
- The situation is complicated as the spectrum decision is technology neutral
- And there are no 800 MHz terminals available yet to assess the measurement method(s)

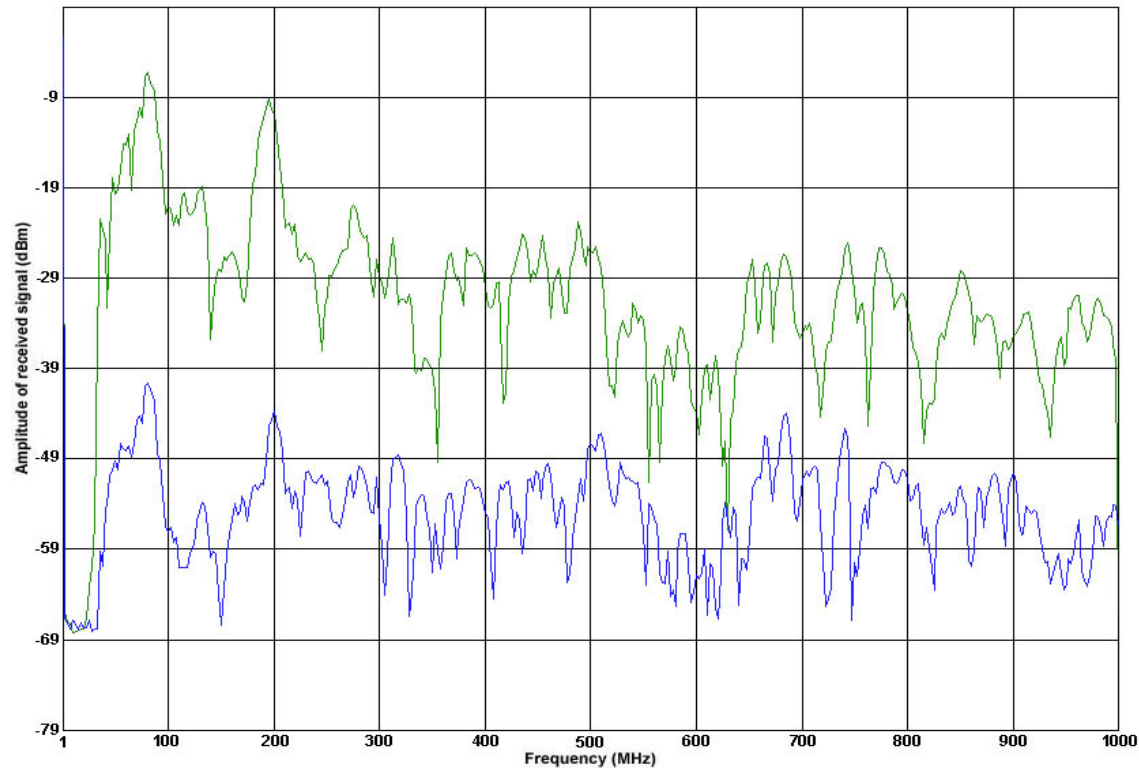
Network standards

- Standards for coaxial networks need to be revised to take into account the new electromagnetic environment
- The sector experts working in this area are best equipped to decide where revisions are needed
- *The cable tv industry needs to evaluate where future standardisation should take place*

Standards for customer cables

- It is clear that high quality customer cables, including connectors, will be a major component in reducing interference risks
- A standard classifying such cables and connectors needs to be developed
- Measurement methods for cables at frequencies up to 1 GHz need to be appraised
- How to label customer cables is an issue needing resolution
- We note that such cables are apparently not covered by any Directive

Customer cable characteristics



**Plot of coaxial cables with the most and least effective shielding
Connectors show a further 10 dB variation**

Antenna and amplifier standards

Bandwidth requirements need to be revised and standardised for:

- terrestrial reception antennas,
- head end amplifiers
- and distribution amplifiers

We are aware that it may be difficult to effectively communicate with the industry segment for the above products

Specific problem areas

- Loop-through or pass-through functionality has been identified as a source of problems in terms of interference potential
- A number of short range devices, wireless headphones, baby alarms, wireless microphones and in-ear monitoring operating in the adjacent 863 – 865 MHz band are affected by both ECN base stations and terminal units
- Wireless microphones currently in use in the 790 – 862 MHz band will become unusable

Managing the transition

- It is important that procedures are put in place to manage the transition from today's legacy equipment towards equipment with enhanced immunity that will appear on the market next year
- Consumers will need to be informed of the possibility of interference arising as the ECN networks are deployed and on the importance of the use of correct in-home cabling to minimise interference

Further standardisation activity

- CENELEC TC 210 will meet in August to approve the deliverables from the JWG
- A coordination meeting between CENELEC and ETSI is needed to deal with cooperation and allocation issues. Decisions need to be made as to which committees do what and in what time frames.
- There may well be a two stage revision of some harmonised standards due to uncertainty regarding the final measurement method

JWG

- It seems prudent to hold the JWG active for some time yet. Specific future work needs to be agreed by CENELEC and ETSI
- There are a number of ongoing processes by the different stakeholders based on the JWG work and these will not wait until formal revisions have been made to standards

Market surveillance

Given the current uncertain nature of the specification of the measurement method needed

- and the need to pragmatically agree to a preliminary measurement method
- and the lack of calibration criteria

It is appropriate that there is a relaxed market surveillance in this area until a final measurement method is agreed

Longer term concerns

- Consideration of further reallocations of spectrum in the 470 – 790 MHz band should take into account the impact on the wide base of installed customer equipment.
- Fragmenting the band rather than reducing to a smaller consolidated band may be asking for more trouble than it is worth.

Recognition

- I thank all those who participated in the work of the JWG and who worked hard for a positive result
- I thank the CENELEC and ETSI Secretariats who gave great support to our activity
- I thank the Commission for the active support which at times was indispensable
- Denial

