

Comments

on the Radio Spectrum Policy Group Draft Opinion on Streamlining the regulatory environment for the use of spectrum

1. Summary

- In general, ARD and ZDF support the general view of the RSPG that there is need to improve the interaction between different bodies involved in the regulatory environment for use of spectrum.
- Any request for new spectrum issued with an ETSI System Reference Document (SRDoc) should be carefully assessed by the ECC addressing the following aspects:
 - whether the potential application replaces or duplicates other applications
 - the potential impact on existing spectrum users in terms of resources and interference
 - the efficiency of the proposed standard
 - the impact of a possible deviation from the proposed standard, including any different usage conditions
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- There is also a “Wireless Applications Efficiency Dividend” which will partly compensate the demand of spectrum of wireless applications.
- The role of the ETSI for establishing sharing conditions should be limited to the proposition. ARD and ZDF share the view of the RSPG that any authorization is considered as irreversible. In this light, ECC should take its full responsibility in sufficiently assess and define technical conditions on sharing spectrum, while taking into account the views of all spectrum users in full transparency.
- Block Edge Masks (BEM) are not sufficient to ensure compatibility, the time structure of the signals have to be taken into account.
- The choice of receiver parameters for compatibility studies should take into account the reality of the market, not only the current standard.
- The European Commission and the administrations should ensure transparency and guarantee the possibility of public consultations.
- The substitutability of applications should be submitted to the condition that it does not put additional constraints on the other spectrum users.



- The handling of cases of unacceptable interference should not only be limited to the classical "complaints" scenario, but the interference case could also be established by an independent group of experts.
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2. Detailed Comments on the RSPG Draft Opinion

In general, ARD and ZDF support the general view of the RSPG that there is need to improve the interaction between different bodies involved in the regulatory environment for use of spectrum. In particular, ARD and ZDF would like to comment on the following items:

Any request for new spectrum issued with an ETSI System Reference Document (SRDoc) should be carefully assessed by the ECC addressing the following aspects:

- **whether the potential application replaces or duplicates other applications**
- **the potential impact on existing spectrum users in terms of resources and interference**
- **the efficiency of the proposed standard**
- **the impact of a possible deviation from the proposed standard, including any different usage conditions**

a) Considering that the major part of the new applications issued with SRDoc causes somewhat interference to other users and that spectrum is a scarce resource, any insufficient assessment would

- impact on the existing applications in terms of interference and resources
- jeopardize the introduction of future applications which may be more beneficial for the society access the spectrum than applications served after the "first referenced first served principle"

Therefore, it is essential that any request for new spectrum issued with an ETSI System Reference Document (SRDoc) should be sufficiently assessed by the ECC. The following aspects should be addressed:

- whether the potential application replaces or duplicates other applications,
- the potential impact on existing spectrum users in terms of resources and interference
- the efficiency of the proposed standard
- the impact of a possible deviation from the proposed standard, including any different usage conditions

ARD and ZDF would like to illustrate the above with three examples:

- Recently, a system reference document for Public Safety Services has been addressed to the ECC with a request of spectrum in the band 470 – 862 MHz. The document is among others ignoring the spectrum resources needs for digital broadcasting and SAP/SAB services and the difficulty to harmonize a second sub band. This document cannot be in any way a basis for allocating additional spectrum for public safety services and is purely device manufacturer driven. This example shows that ECC plays an essential role in assessing sufficiently the possible impact of spectrum usage of new applications.



- For indoor broadband wireless access application, there is a large overlap between W-LAN and UMTS (e. g. with femtocells). It would be therefore erroneous to consider the spectrum needs twice for both systems because they are standardized, since they cover the same application and mainly under same conditions.
- If additional spectrum would have been provided for the introduction of digital terrestrial television, given that a standard is available, the analogue digital transition would have last much longer, to the disadvantage of the society.

More generally, the allocations should not be driven by the existence of a system Reference Document but by the need and the intention to introduce such applications.

b) An almost "automatic" access to spectrum for applications with a System Reference Document implies the risk that the spectrum management in CEPT-countries is biased to the favour of some powerful device manufacturers well represented in the ETSI. However, the CEPT spectrum management should take into account all spectrum users properly, including broadcasting applications. In this context, ARD and ZDF would like to return to mind that the in the actual stage only two ETSI members are broadcasters with very limited voting rights.

c) Regarding *"5.16 The RSPG considers that solutions should be identified in order to provide means for notified bodies to determine if any deviation from Harmonised Standard would impact the sharing conditions, in particular by ensuring closer relationship with CEPT/ETSI to give guidance where necessary to notified bodies. This could also be considered in the context of the revision of the R&TTE directive."*

ARD and ZDF welcome this proposal and think that these studies should be included in ECC reports together with the prior assessment of the impact on other spectrum users. Indeed, there is always a risk that standards are not perfectly met when new applications are introduced in a given spectrum band.

Additionally, some devices which assume particular technical conditions may be used intentionally or unintentionally in other conditions. For example, FM micro transmitters do not always detect FM radio channels in use. Some devices allow also the connection of external antennas, which allow for much higher level (more than 30 dB) of interference than initially intended with the general authorization.

There is also a "Wireless Applications Efficiency Dividend" which will partly compensate the demand of spectrum

"5.6 The RSPG notes that the development of wireless applications will increase the demand and therefore the requirement for regulators to review new and innovative method of sharing between applications. However, the possibility to introduce new innovative applications and to increase spectrum sharing relies on the confidence of all spectrum users that the conditions and parameters required to ensure compatibility will be effectively considered, met and enforced."

Any existing wireless application is meant to evolve in the next years to higher spectrum efficiency due to progress in compression, coding and multiple access technology, which will decrease the spectrum usage, although it is clear that the number of applications and devices will increase in the next years. This can be seen as a "Wireless Application Efficiency Dividend" in analogy to the broadcasting "Digital Dividend". Therefore, for the sake of consistency, the same principles regarding spectrum demand as for the "broadcasting digital dividend" have to be applied to the "Wireless Applications Efficiency Dividend".



Moreover, providing additional spectrum for new digital applications meant to replace applications using older (analogue) technologies can be seen as a hurdle for faster introducing newer spectrum efficient technologies. In other words, the reuse of resources for new applications replacing others leads sometimes to higher overall benefits than systematically providing additional spectrum for new technologies.

The role of the ETSI for establishing sharing conditions should be limited to the proposition. ARD and ZDF share the view of the RSPG that any authorization is considered as irreversible. In this light, ECC should take its full responsibility in sufficiently assessing and defining technical conditions on sharing spectrum, while taking into account the views of all spectrum users in full transparency.

a) ARD and ZDF share the opinion of the RSPG *"that modifying technical conditions is less clear"*, which makes any authorization as irreversible, while at the same time the sharing studies are conducted under very reduced timescales which inevitably leads to omissions and simplification of interfering models which do not necessarily ensure protection of other spectrum users. We therefore urge the European Commission to issue mandates with more reasonable timescales.

b) ARD and ZDF welcome *"5.5 The RSPG considers that the requirements and views of all stakeholders should be taken into account in a fair and transparent manner through a regulatory process involving both spectrum management and standardisation activities."*

In order to improve the transparency, ARD and ZDF would like to propose the following:

- The ECC should be the body which establishes the sharing conditions for the reasons given above on representatives. That does not prevent ETSI to submit proposals for sharing techniques.
- A simple "yes/no" decision for authorizing a standard with a simple transmit power limit is not sufficient for the ECC. It should be also possible for the ECC to authorize certain standards under conditions of amendments to a standard. Hence, the ECC is not confronted to the situation where it refuses access to spectrum to a standard although it could provide a solution for granting access to spectrum while avoiding unacceptable interference.
- It is important that all views of all stakeholders are sufficiently reflected. One way to improve this is to enhance the CEPT reports to an annex where the different stakeholders can express their position, like it can be found in CEPT Briefs for World Radio Conferences. In that sense, there is no loss of information.
- ECC should conduct its study in full independence from any external body like the European Commission. [We do not see the need for the European Commission to take influence in draft reports, since it has the possibility to comment and take its own decision when the reports are finalized]. The European Commission should also ensure that any issued mandates are sufficiently open to allow for possible different conclusions.
- Technical sharing criteria for avoiding unacceptable interference should be clearly separated from the decided sharing criteria which may be weighted with additional considerations (economical and political).

c) Regarding *"5.10 The RSPG recommends that in order to ensure transparency and consistency in spectrum management decisions, the Commission Decision should normally not be adopted before the final adoption of CEPT report after the public consultation process."*, ARD and ZDF would like to emphasize that CEPT should ensure that any CEPT report –without exception– should be



submitted to public consultation. Indeed, recently the reports on the digital dividend were decided not to be submitted to public consultation with no particular reason.

Block Edge Masks (BEM) are not sufficient to ensure compatibility, the time structure of the signals has to be taken into account

ARD and ZDF would like to stress the fact that compatibility and sharing is not only determined by Block Edge Masks but also on the time structure of the signal. This can easily be demonstrated by considering the different input documents to ECC-TG4 and SE-42: For instance, a UMTS signal with Traffic Power Control requires much higher protection ratios than a UMTS signal without Traffic Power Control although they fit under the same BEM. Depending on the signal time structure, different protection ratios are needed.

The choice of receiver parameters for compatibility studies should take into account the reality of the market

Although ARD and ZDF generally agree with the idea that *"there is a need to continuously review the use of spectrum. The conditions for the use of spectrum should provide sufficient certainty to the market and spectrum stakeholders. However, they should also adapt to the evolution of radio systems characteristics and sharing situation."*, ARD and ZDF would like to draw attention to the fact that the existing receiver market has to be taken into account, independently from the characteristics of current standard versions. It is often the case that some receiver parameters are not specified in ETSI standards, as they were not felt necessary at the time of introduction. If the ETSI complete them with additional parameters, that doesn't mean that suddenly all equipment available in the market is compliant with the new standards. In other words, it is still necessary to consider the parameters corresponding to the reality of market which are compliant with the old specifications.

For instance, in the case of DVB-T receivers, the adjacent channel protection immunity and the "saturation"¹ immunity have not been specified. In the case of introduction of mobile services in the band 790 – 862 MHz, these adjacent band immunity characteristics are now relevant. The broadcast community drew several times attention to this issue, and to the lack of specification, which means that comprehensive measurements are necessary before any serious conclusion can be drawn about the adjacent band compatibility.

More generally, tightening receiver characteristics should not be misused to improve sharing situations "artificially" and facilitate the introduction of other spectrum users, although the real sharing situation corresponding to the reality of spectrum usage leads to critical interference situations.

In this context, the RSPG Opinion *"5.11 Receiver parameters are important for spectrum management and for facilitating the introduction of new applications in spectrum. Therefore, the RSPG considers that the receiver parameters should be defined by ETSI in the harmonised and/or product standard for all equipment and be used consistently by CEPT in sharing studies as part of the assumptions for the intended use of the band."* should also take into account superseded standards. If some characteristics are not specified (e. g. adjacent channel protection for DVB-T-receivers), characteristics (measurement) taking into account the reality of the market should be the basis, including *"badly designed receivers"* compliant with the relevant standard at that date. Alternatively, the regulators could think about opening funds to replace *"badly designed*

¹ When a mobile station operates in the same building, even with a guard band of several MHz, the receiver is saturated by the high level received power from the mobile stations and no reception is possible anymore



receivers". In any case, such initiatives should be transparent and cost neutral for the citizens.

The substitutability of applications should be submitted to the condition that it does not put additional constraints on the other existing and future spectrum users

The opinion "5.13 The RSPG considers that when a certain frequency band is designated for a specific application, this should not prevent the same frequency band to be designated later for another application", should be submitted to the condition that it doesn't put additional constraints on the other existing and future spectrum users in terms of available resources and interference. The overall interference is not only characterized by Block Edge Masks (see above) but also by the time structure of the signals and the location and density of devices of the "substitute" application.

The handling of cases of unacceptable interference should not only be limited to the classical "complaints" scenario, but the interference case could be established by an independent group of experts

"5.15 The RSPG recommends that solutions or procedures be identified to increase confidence that the safeguard clause of the R&TTE Directive would be applied effectively in cases of interference situations that need to be addressed urgently. It is also recommended in the context of the revision of the R&TTE Directive to include a provision for a Member State to apply for an enforcement measure to remove equipment from the whole of the EU market if necessary due to national services experiencing harmful interference from equipment operating under general authorisation."

In the context of digitization of wireless transmissions and an increasing number of spectrum users, a European citizen is not able anymore to assess the reason for a bad reception or identify the source of interference. Therefore, the non-existence of complaints to the national regulation authority is far from the fact that no unacceptable interference occurs, where in reality the interference impact has dramatic consequences in terms of attractiveness of the applications or threaten entire business models.

Consequently, the only criterion "a sufficient number of cases of complaints to the regulator" is not sufficient to establish a case of unacceptable interference. It should be possible to demonstrate the interference case in laboratory with field trials and technical characteristics. For that purpose, the role of TCAM could be reinforced. In any case the examination of such demonstrations should be done in full transparency involving all stakeholders. For that purpose, independent technical experts agreed by all parties should establish the case.

Once the case of interference has been established,

- a financial mechanism should be found to compensate the interference and the consequences of it
- the devices should be removed from the market
- amendments or the withdrawal of the standard should be worked on



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