



TDF answer to the public consultation on the Draft RSPG Opinion on a long-term strategy on the future use of the UHF band (470-694 MHz) in the European Union

TDF¹ welcomes the opportunity to comment on the Draft RSPG opinion on a long-term strategy on the future use of the UHF band (470-790MHz) in the European Union.

Because the UHF Band is the core band for the DTT and is intensively used in Europe without distinction of the 700 MHz band and the 470-694 MHz sub band, TDF commends the choice of the RSPG to address the European strategy for the UHF in one single opinion.

TDF also commends the approach followed by the RSPG including the questionnaire, the summary results of which are based on a very representative array of RSPG Member States and Observer States. It is noteworthy that the results of the questionnaire echo and reinforce the findings of the High Level Group chaired by Pascal Lamy on the long term role of the DTT in the European audiovisual model and the future coexistence of DTT with other platforms.

The summary of the questionnaire also indicates that the vast majority of RSPG Member States are considering the possible release of the 700 MHz in order to provide wireless broadband services, while designing at the same time an appropriate frame to facilitate the transition and allow the DTT platform to evolve.

This frame for evolution of the DTT must absolutely take into account the generalization of HD quality delivery and the rapidly growing commercial success of UHD TV sets in Europe. A long term strategy must anticipate the rapid demand on DTT networks that will emerge from these standards. Therefore TDF welcomes the support of the RSPG to the introduction of new standards such as DVB-T2 and HEVC and invites the RSPG and national policy makers to integrate UHD delivery via DTT as a policy objective in preparation of the next Radio Spectrum Policy Program.

DTT is the leading delivery platform in Europe. Circa 250 Million DTT users and the whole terrestrial broadcasting sector are likely to be significantly impacted by the policy choices adopted in Europe. TDF therefore believes that any balanced approach for a successful European wide evolution in the UHF Band must respect two necessary conditions: a long term guarantee for the future of DTT in the 470-694 MHz band and a careful transition plan for the release of the 700 MHz band alongside the guidelines agreed in the Lamy report transition roadmap.

The first necessary condition, long term certainty for DTT regarding the entire spectrum below 700 MHz, is also a prerequisite for securing the investments to be made in broadcasting infrastructure and systems.

TDF therefore agrees with the recommendation by the RSPG “that the frequency band 470-694 MHz shall remain available for DTT in the foreseeable future, i.e. 2030”. But in order to sustain investment, 2030 should not be in any way understood as a possible end of DTT, nor signalled as such, all the more as it was recently demonstrated that no credible alternative system is available or in a committed development roadmap, as demonstrated in ECC 224 report and in the Plum study on Broadband-Broadcast convergence. Therefore TDF suggests a slightly different **wording page 27**: “for DTT in the foreseeable future, i.e.

¹ TDF group description is available at <http://www.tdf-group.com/masteren/>

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beyond 2030", thus echoing to the policy recommendation that the band remains used for audiovisual content distribution "for the long term, even beyond 2030".

Furthermore, regarding the recommendation on flexibility proposal, TDF strongly supports the condition mentioned by the RSPG "provided that such use is compatible with the broadcasting needs in the relevant Member State and does not create a constraint on the operations of DTT in this band, including for neighbouring countries". The flexibility proposal should in no way undermine the DTT services. Compatibility between services is likely to be much more difficult to achieve than when operating at different bands which is already a challenge (i.e. the difficulties encountered with LTE 800 or foreseen with LTE 700 as emphasized in the EU Workshop on service coexistence in December 2014). Adapted notch filters rejecting unwanted SDL signal from each channel base station download transmission would be required to protect DTT reception, which is not a practical solution.

The second necessary condition is a realistic transition plan for the release of the 700 MHz which would allow the DTT platform to evolve without penalizing the broadcasting sector and the users. TDF would like to emphasize the following points in the RSPG area of expertise:

Frequency coordination is a key element, rightly emphasized in the RSPG opinion. Based on previous experience, TDF would like to stress the need to have sufficient time for the international coordination of the new DTT plan. The energy and time put in that process is necessary to find solutions for optimized DTT capacity (number of DTT networks). Moreover it will avoid problems and therefore reduce delays in the networks deployment later on.

Protection of DTT from services introduced in the 700 MHz is also a major issue. Noting that the RSPG recognizes that the implementation of broadband PPDR is a national issue, TDF would nonetheless point out that the current hypothesis used for the compatibility with the PPDR700 (which might use the channel just above the 694MHz) may differ significantly from reality². TDF therefore asks for an attentive approach on this point and is expecting the completion of SE7/FM49 studies and so that any national implementation does not cause additional interference to DTT due to wrong estimation in the link budget of the compatibility studies.

Similarly, measurement results carried out within CEPT PTD/PT1 also showed that DVB-T receivers were more sensitive to LTE UE discontinuous transmission than DVB-T2 receivers (in-block power of UE). The deployment of LTE networks in the 700 MHz band while DVB-T networks are still in operation will also cause additional interference to DTT reception. TDF asks for the launch of a study on the impact of the discontinuous transmission of UE on DVB-T reception.

Finally, on the receiver side, TDF supports the idea and takes part in the ETSI TG17 group in charge of the development of new DTT receiver standards, but also reminds that same receivers are also used on cable networks which may continue to use the 700MHz band as they still use the 800MHz; moreover the main issue in France was due to the overloading effect on amplified antennas which will continue to occur with the 700MHz LTE transmission even if the wider frequency separation will help.

² The Mobile EIRP used for the compatibility study is the same as the classical mobile devices in the rest of the 700MHz band. Those characteristics imply a network with a density which is the density of MNO networks, far from the cost of the current security networks; On the out of band emissions, a separation of 9 MHz between mobile and broadcast channels was assumed for compatibility study therefore the usage of PPDR UE below 703MHz may cause additional interference (the subject is still in discussion in CEPT SE7 and FM49)