

Issy les Moulineaux, 12th of January 2015

The French HD Forum would like to thank the RSPG for the opportunity to comment on its draft opinion on a long term strategy for the UHF band.

The HD Forum applauds the decision of the RSPG to follow the recommendation of the Lamy's report and encourages its application to the French Market.

UHF band is the core frequency band for digital television services and for PMSE. The HD Forum welcomes the RSPG recognition of the importance of the DTT platform and of the need to provide certainty for investments in broadcasting infrastructures.

In France, terrestrial television has already released the 800 MHz band. Noting the fact that the next ITU WRC 2015 will confirm co-primary allocation of the 700 MHz band in Region 1, the HD Forum requires from the European Commission to guarantee that DTT will have access to the entire spectrum below 700 MHz (i.e. 470-694 MHz) until at least 2030. **This should lead to an EU position against a co-primary mobile allocation in this band at the next ITU WRC-15.**

Furthermore, the HD Forum would like to insist on the following points:

1 – Transition to new technologies

The re-allocation of the 700 MHz band will often require a transition to new broadcast technologies in order to safeguard both DTT contents and the possibility to evolve towards improved formats (HD or UHD).

Nevertheless, whilst the HD Forum agrees with the RPSG about national measures to introduce new technologies, it would be essential to follow the guidance of the Lamy's report for this particular point:

“Review and put in place any necessary legislation and regulation, including legal framework:

- Such potential legal framework must be synchronized with service launches and be adaptable to technology choices of a given country on a country by country basis;*
- Such potential legal framework would ensure that consumer equipment available on the market is future proof from a given point in time and that legacy equipment cannot be sold;*
- Such measures are best decided on a consensus basis within a platform gathering relevant stakeholders including the consumer electronics industry ”.*

The HD Forum recommends that “national measures” are implemented following these guidelines and would like to share the following analysis:

- The natural replacement cycle of TV sets is between 7 and 10 years;
 - Broadcasters cannot afford to switch over before a sufficient penetration is reached, nor can they afford to have excessively long simulcast periods;

- The natural renewal cycle timeline of equipment is too long compared to standards and technology evolutions¹. Without attractive services, technologies are obsolete before they have reached sufficient penetration;
- In order to succeed, technology migrations need to synchronize the launch of new value-added services for the consumers and the integration of new technologies in equipment. Such a migration needs to be driven by a large consensus between the different stakeholders of the DTT platform, in order to ensure a sufficient positive momentum towards consumers.

For instance, the initial success of MPEG-4 in France was triggered by its use in SD pay-TV channels, and later confirmed by the launch of several HD services which had the obligation to broadcast HD native content, thus giving consumers a clear motivation to upgrade their reception equipment in order to receive these HD services:

- 05/2008: authorization by CSA of 4 FTA HD services + 1 pay HDTV;
- 08/2008: law on MPEG-4 integration into HD DTT receivers scheduled for 12/2008;
- 10/2008: launch of 4 FTA HD services² + 1 pay HDTV;
- 12/2008: mandate Integration of MPEG-4 in HD enters into forces (one month after service launch);
- 2012 : introduction of 6 additional FTA HD services;
- 2012 : by law, all TV receivers and associated devices must have built-in MPEG4 HD decoder.

- In France, the HD Forum –founded in 2004- is a key discussion partner in DTT matters, since its 40 members represent the entire audio-visual value-chain: broadcasters, operators, service providers, manufacturers and professional associations. The list of HD Forum members is attached to this contribution.

2 – PMSE

The essential role of PMSE in audio-visual productions (SAP/SAB), cultural, on-stage and entertainment events is widely recognized and PMSE equipment needs to be granted throughout Europe good conditions of use and sufficient frequencies in order to insure quality audio coverage of all kinds of events.

¹ As an indication, technology cycles of codecs and transmission systems in DVB are in the order of 10 years each but shifted of 5 years to one-another, so that - when combined- key parameters change in fact every 5 years.

² French HD services were associated with obligation to air native HD content

The loss of the 800 MHz band has already impacted PMSE severely, especially in the production of big events (for example Tour de France or the 14th of July parade³), which often need between 250 and 600 audio and video wireless links. In these specific cases the allocation of extra frequencies outside the UHF band is today granted on a spot basis by ANFR.

The impact of the loss of the 700 MHz band is going to be even greater. Uses of PMSE in the 700 MHz band are estimated by various sources to represent 25%-35% of all PMSE UHF spectrum uses. The reallocation of the 700 MHz band to WBB and the consequent frequency and multiplex re-planning will leave an estimated 170 MHz of white spaces for use in the UHF broadcasting band by PMSE.

Following a study presented by APWPT to the CEPT ECC FM51, roughly 50 PMSE channels can be fitted in 170 MHz of white spaces, which corresponds to a medium-sized event. This means clearly that any event using more than 50 wireless links will be at danger after the reallocation of the 700 MHz band.

To ensure proper work of PMSE equipment after the 700 MHz band reallocation, several key points need to be considered:

- Preservation of the UHF broadcast band's white spaces for use by PMSE (note that this spectrum portion is irreplaceable for body-worn equipment);
- Allocation of the 700 MHz duplex gap and guard band to the use of PMSE: this would enable to continue using the existing equipment, avoiding extra costs for production companies;
- Identification of new harmonized spectrum in the range from 1200 to 1600 MHz (UK is also evaluating spectrum ranging from 960-1164 MHz, which could be equally taken into consideration);
- Ensure PMSE protection and interference-free operation;
- PMSE need long-term access to allocated spectrum: minimum 15 years;
- Financial support of equipment changes imposed to all industry actors following the frequency re-farming;
- Financial support for manufacturers' R&D, in order to promote more efficient spectrum use thanks to digital technologies. As a matter of fact, today's digital algorithms do not enable use of wireless microphones in live productions due to a sound latency superior to 3 msec.

The HD Forum invites relevant governmental bodies to investigate measures (e.g. financial) together with users and PMSE manufacturers in order to identify additional frequency bands for PMSE and ease the migration towards more spectrum-efficient equipment.

³ A detail of PMSE frequencies needed in several productions can be found in the white book "Reallocation of the 700 MHz band: consequences for cultural and news productions", co-written by the HD Forum

3 – DTT services protection

The HD Forum agrees with RSPG that there should be no disruption to DTT services. We would like to highlight the following points.

- Before completion of the 700 MHz release, IRD shall continue to receive DTT signals up to 790 MHz;
- Receivers are deemed to have an improved immunity to LTE700 and LTE800 with the RED entering into force in 2017. All receivers put on the market after this date will be compliant to these new immunity standards;
- Taking into consideration the replacement cycle of IRDs (especially of IDTVs), administrations cannot rely on the RED improvements only, but also need to put in place mitigation techniques (e.g. filters) similar to the ones put in place during LTE800 deployments.

Finally, the HD Forum would like to point out that some cable systems transport DVB-T signals in frequencies above 694 MHz and even above 790 MHz.

Given the fact that DTT receivers manufacturers will limit the tuning range of their equipment to the 470–694 MHz band after 700 MHz band release (which is already encouraged by some administrations), and as the band 694 – 790 MHz is deemed to be free from DTT transmissions, a solution needs to be found to ensure continuity of services also after the 700 MHz release.

4 – Convergence

HD Forum agrees that convergence between linear and non-linear services, for mobile or fixed reception at the platform level is not necessary and is not expected in the near future.

DTT platforms already enable convergence with broadband platforms, where they are available. Connected TV services provide hybrid solutions which are becoming increasingly popular thanks to innovations on the DTT platform (e.g. HbbTV).

As far as service convergence between WBB and DTT is concerned, the HD Forum wishes to suggest the possibility of integrating DTT tuners into mobile devices. This approach would ensure service convergence without requiring additional capacity for WBB networks.

5 – PPDR

The HD Forum regrets the lack of visibility concerning PPDR applications which may be operated within the 694–703 MHz band.

All efforts and measures to ensure coexistence between LTE and DTT, which are already challenging as such to all parties, would be lost if an additional interferer is introduced which may become the dominant interferer with DTT.

The HD Forum is very concerned about plans of introduction of PPDR in the gap and requests that –if PPDR is envisaged in this gap – mitigation techniques are put in place by the government to protect DTT accordingly. Moreover, administrations cannot merely rely on new immunity standards to grant DTT protection because of the long renewal cycles of devices.

HD FORUM

LA TÉLÉVISION CHANGE DE DIMENSION

Annex:

HD Forum Members:



Invited members:

