

TECHNOLOGY FACT SHEET

PREPARATIONS FOR WRC-15 SUPPORT DTT

CONTEXT

Terrestrial television is the most widely-used platform for television viewing across Europe, with 250 million Europeans receiving television via the digital terrestrial television (DTT) broadcasting platforms. As such, terrestrial broadcasting is a pillar of the European cultural and creative sector, which represents 6.8% of European GDP (€860 billion) and 6.5% of European employment (approximately 14 million people).

DTT goes hand-in-hand with the free-to-air television model, which gives viewers subscription-free access to public service and commercial channels. In turn, the possibility for viewers to watch programmes for free promotes the creation of content. Free-to-air TV also underpins social cohesion, ensuring that reliable news and some major events for society are available to all.

Decisions made at WRC-15 regarding the allocation of spectrum frequencies could significantly impact the future of terrestrial TV in Europe. However, the preparatory work conducted in Europe and in the ITU concludes that there is no case for making additional allocations to the Mobile Service in the frequency bands used for broadcasting. This fact sheet summarises the results of that work.

WRC-15 AGENDA ITEMS

Within the scope of Agenda Item 1.1, the Conference will identify additional spectrum bands for mobile broadband services. One of the candidate bands is 470–694 MHz, which is currently used for terrestrial TV. All the studies that have been done (see below) show that there is no need to allocate this band for mobile in Region 1, and if a mobile allocation were to be introduced in this frequency band, it would significantly limit any future development of the terrestrial TV platform. Specifically, they find that:

- Spectrum demand by broadcasters is expected to increase as linear TV viewing will remain dominant and new services (e.g. migration from SDTV to HDTV and, in future, UHD TV) will be introduced;
- Frequencies below 700 MHz band should remain allocated to DTT for the foreseeable future;
- There is no economic case for either a converged platform or an IMT identification in the 470-694 MHz band.

Therefore, National Administrations should take a position against a mobile allocation in the band 470-694 MHz.

Another candidate band is from 3.4 to 4.2 GHz (the C band). The situation here is also crucial – the lower half of this (3.4-3.8 GHz) has been identified at a European level for mobile, and some existing users have already vacated it due to increased interference. It is likely that some or all of this will be allocated to mobile at WRC-15 and arrangements for the protection of existing services will be important. The upper half of the band (3.8-4.2 GHz) contains many important broadcaster services, including satellite distribution and contribution around the world. This is where users of the lower half of the band have relocated. Because of that, this band must be retained for its existing satellite use, and allocation to mobile should be opposed.

Agenda Item 1.2 will confirm the arrangements made at WRC-12 for the use of the 700 MHz band by mobile. It is important for DTT that administrations agree that the lower edge of this band be set at 694 MHz, and that suitable provisions are made for access to alternative spectrum by the services ancillary to broadcasting (such as radio microphones and audio links) that share the DTT band.

WRC-15 will also set the agenda for the next WRC, expected in 2019. The EBU supports the European Common Position on agenda items for WRC-19. In particular we welcome the recognition that frequency bands considered for allocation to IMT at WRC-15 should not be reconsidered at WRC-19. We also support the exclusion of satellite broadcasting bands from the list of frequency bands to be considered for mobile broadband.

SUMMARY OF STUDIES

During the past three years, a number of reports have been published that support the use of 470-694 MHz band for digital terrestrial television (DTT) in the foreseeable future.

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- 1. European Commission (EC) High Level Group** – The chairman’s report on the use of the UHF band 470-694 MHz that noted that linear TV viewing will remain dominant for the foreseeable future, and that mobile standards are not currently capable of supporting broadcasting to mass audiences on big screens. The report recommends that **there should not be a co-primary allocation below 700 MHz band (i.e. 470-694 MHz) until 2030**. A review of the market situation should take place in 2025.
- 2. RSPG UHF Opinion** – The Radio Spectrum Policy Group (RSPG) has formulated an opinion on the future use of the UHF band (470-790 MHz) in the European Union. The opinion proposes that **frequencies below 700 MHz band shall remain available for DTT “for the foreseeable future”, i.e. until 2030**. It also shows that Member States would have the flexibility to use frequencies below 700 MHz for mobile broadband downlinks by ensuring their compatibility with broadcasting, for example through GE06 mask concept.
- 3. RSPG WRC-15 Opinion** – The RSPG has also published an opinion to assist in developing a set of common policy objectives on all agenda items that are to be discussed at WRC-15. With respect to agenda item 1.1 it recommends that EU Member States should **“support no change to allocations in the band 470–694 MHz”**.
- 4. Spectrum Inventory** – The EC has undertaken a review of spectrum usage and reported that spectrum demand by both the broadcasters and mobile operators is expected to increase in the short, medium and long term, and that the level of under-utilised spectrum for mobile broadband is still significant (c. 30%). Consequently, it believes that there is currently **no need to for additional spectrum harmonisation** beyond the 1200 MHz target identified in the last Radio Spectrum Policy Programme (RSPP) in the range of 400 MHz – 6GHz for licensed wireless broadband.
- 5. Broadcast/broadband convergence study** – The EC commissioned a study looking at the developments in the delivery of audio-visual and internet services over the next 15 years and the cost/benefits of a wireless converged platform. The main findings are: that **the economic case for a converged platform is not as yet made** due to big uncertainties in the value of sub-700 MHz spectrum and the impact on DTT of IPTV.
- 6. ECC Report 224** – ECC Report 224 on a “Long term vision for the UHF broadcasting band” was published in 2014. The Report is the result of a study on the future use of UHF frequencies, with a focus on the 470-694 MHz band. The report highlighted the **important role of the DTT platform** that provides free-to-air access to TV services and is essential for Public Service Broadcasting.
- 7. ITU-R Sharing Studies** – The results of the technical sharing studies conducted in preparation for WRC-15 show that, if one country wants to use the UHF band for broadcasting and a neighboring country wants to deploy IMT networks in the same band, **sharing will be very difficult**.
- 8. ITU-R Spectrum Requirements Studies** – The results of the ITU-R questionnaire show that a majority of countries that responded in ITU Region 1 (including Europe, Africa and parts of Asia) indicated a future spectrum requirement of **at least 224 MHz of UHF spectrum for DTT**.
- 9. Aetha study** – A consortium of broadcast-based companies, including the EBU, published a cost-benefit analysis of a possible clearing of the band 470-694 MHz for mobile broadband use. The report notes that based on the most aggressive mobile traffic forecast, the costs of clearing DTT from the spectrum (€38.5 billion) would outweigh the benefits by a factor of almost four, and that **the economic benefits for the EU are maximised if the 470–694MHz band continues to be used for DTT over the next 15 years**.

REFERENCED PUBLICATIONS

- [Pascal Lamy's Report on the future use of the UHF band](#)
- [RSPG Opinion on a long term strategy on the future use of the UHF band in the EU](#)
- [RSPG Opinion on common policy objectives for WRC-15](#)
- [Commission Report COM\(2014\)536 on the Radio Spectrum Inventory](#)
- [Plum Study on broadcast-broadband convergence and its impact on spectrum and network use](#)
- [ECC Report 224 Long Term Vision for the UHF broadcasting band](#)
- [ITU-R Report BT.2337](#)
- [ITU-R Report BT.2302](#)
- [Aetha's Report on the Future use of the 470 -694MHz band](#)