

# BBC response to Ofcom's Call for Input: UK preparations for the World Radiocommunication Conference 2023 (WRC-23)

September 2022

## Executive summary

1. The BBC is a broadcaster with global reach. We reach over 90% of UK adults each week and nearly 500m people across the world.<sup>1</sup> Spectrum is a key element underpinning our content production and distribution at home and internationally: for example, we use it for broadcasting TV and audio content in the UK and abroad; and for programme-making equipment such as wireless microphones; radio cars; and satellite links for World Service distribution. As such we have an interest in a wide range of spectrum topics, some of which are covered by WRC-23 Agenda Items. We have therefore commented on those, but our principal focus is on Agenda Item 1.5.
2. Millions of people in the UK and around the world rely on the UHF (ultra-high frequency) spectrum band to access our TV and radio content via DTT (digital terrestrial television). A change in the allocation of UHF spectrum at WRC-23 could have profoundly damaging consequences for both the UK's public service broadcasting and free-to-air TV channels more broadly, impacting millions of households across the UK.
3. A No Change position at WRC is the only way for the UK to retain control of its TV ecosystem and distribution approach, which will allow us to carefully time and manage the DTT to IP (Internet Protocol) switchover process for the benefit of audiences, including some of the most disadvantaged or vulnerable groups, for the creative sector, and ultimately the UK as a whole. We believe that a decision to allocate this spectrum should be deferred to a future WRC.
4. DTT is the backbone of the BBC's universal offering, used by 16m homes.<sup>2</sup> As the Government has noted, audiences from DTT-only households are typically older and from lower socio-economic backgrounds.<sup>3</sup> In particular, broadcast TV remains popular with older audiences, with over-65s watching nearly 6 hours of TV every day.<sup>3</sup>
5. While there have been arguments that co-primary allocation will lead to greater flexibility for countries, in practice this is likely to be illusory. No country can act completely unilaterally with regard to spectrum use. DTT and mobile services

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cannot coexist in the same radio frequencies, and it appears likely that many EU Member States will wish to deploy mobile broadband in the band, supported by the European

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<sup>1</sup> BBC [Annual Report](#) 2021/22.

<sup>2</sup> All household use numbers are taken from BARB Establishment Survey averages Q2 2021-Q1 2022. <sup>3</sup> DCMS, [Consultation outcome: Consultation on the renewal of DTT multiplex licences expiring in 2022 and 2026](#) (2021).

<sup>3</sup> Ofcom, [Media Nations](#) 2022.

Commission. While DTT broadcast in particular often crosses national borders, UK audiences could also experience interference from European mobile systems. Equally, as Ofcom notes, due to DTT's large footprint, interference from the UK's use of the band for DTT could limit the potential of some neighbouring countries to deploy mobile broadband. The consequence of this interference in the UK will be that we are de facto forced to use UHF spectrum for mobile – in line with some of our neighbours – to prevent interference for both UK audiences and European mobile users.

6. Only a No Change position will guarantee UK control and the government's commitment to enabling the renewal of digital terrestrial television (DTT) licences in the UK until 2034.
7. An additional key use of the UHF spectrum band is for programme-making tools used for our content production, from everyday news and current affairs programmes, to weekly live music performance and TV entertainment shows like Strictly Come Dancing, to one-off special events of significance to the nation. No satisfactory alternative to this spectrum for programme-making currently exists.
8. We should endeavour to ensure that the UK's voice is influential in WRC-23 discussions – actively representing the interests of UK audiences and consumers. Given the importance of this issue, the BBC believes that the UK should use its global standing to engage constructively and proactively with our international partners and increase support for beneficial positions at WRC-23, in particular on Agenda Item 1.5 where some administrations appear to be considering an allocation to mobile. In light of this deeply concerning development, the UK must be robust in its support for an outcome which maintains DTT in the UK while it is still needed for universal free-to-air TV.
9. Another important point for the BBC is Agenda Item 9.1 topic c, to study Broadband Fixed Wireless Access applications that use International mobile telecommunications (IMT) technology, in fixed service bands. The BBC supports the work that Ofcom has been leading within CEPT PTA and also agrees that UK should support a No Change European Common Position, given the risk to satellite spectrum which the BBC relies on for programme distribution to UK and international audiences.

## **Introduction**

10. The BBC welcomes the opportunity to respond to Ofcom's call for inputs on 'UK preparations for the World Radiocommunications Conference 2023 (WRC-23)'. This WRC is a pivotal moment, which will bring together a wide range of experts from around the world to set the framework for how spectrum is used for the next few years. We welcome Ofcom's clear explanations of the ITU (International Telecommunications Union), WRC-23, and the issues at hand in the Call for Input.
11. The BBC has worked closely with successive UK regulators and governments for many decades to try to achieve outcomes that are optimal for our audiences, and which include maintaining the UK's world-class public broadcasting sector both at home and

internationally. We have been closely involved in all recent WRCs, and in the current ITU and CEPT (European Conference of Postal and Telecommunications Administrations) preparatory processes.

12. Below we set out a number of considerations in relation to Agenda item 1.5, including evidence that a move away from a 'No Change' position would have serious and detrimental outcomes for UK audiences, and risk the same consequences for our audiences outside the UK too. We would be very happy to discuss the evidence base for this in more detail if it is helpful for Ofcom.

13. We would also welcome clarity about how formal UK positions will emerge, particularly given how influential the UK's voice could be in this debate as noted above, and the serious consequences should Agenda item 1.5 result in a bad outcome. In our response to Question 7 below we note one area where it would be helpful to have clarification on the alignment between DCMS and Ofcom in relation to the position and timing on the UK's commitment to DTT.

14. As well as Question 7, we have also commented on:

- Question 1: Prioritisation of Agenda Items
- Questions 3a and 3c: Agenda Item 1.2 – Potential IMT identification in frequency bands; 3.3-3.4, 3.6-3.8, 6.425-7.025, 7.025-7.125 & 10.0-10.5
- Question 4: Agenda Item 1.3 – Primary allocation for mobile in the band 3600-3800 MHz, in Region 1
- Question 6: Agenda Item 9.1 (Topic c)
- Question 18: Agenda Item 1.9 – Use of digital technologies for commercial aviation safety-of-life applications in existing HF bands
- Question 27: Resolution 655 (WRC-15) – Dissemination of time scales by radiocommunications systems
- Question 29: Agenda Item 8 - Deletion of, or removal of names from, country footnotes
- Question 30: Agenda Item 9.2 – Difficulties or inconsistencies encountered in the application of the Radio Regulations
- Question 32: Agenda Item 10 – Future WRC Agenda Items

15. We note that many agenda items are likely to require significant resource, and it would therefore be beneficial to have transparency on the identity of UK leads for these substantial items.

### **Responses to specific questions**

#### **Question 1:**

**Do you agree with the prioritisation of the agenda items, as shown in Annex 5, and if not why?**

In the main, the BBC agrees with the prioritisation of the agenda items, and notes that Ofcom will keep the prioritisation under review where proposals are made which may require more proactive

involvement. The BBC believes that this is highly likely for both Agenda Items 8 and 10, which are both currently low priority, and urges Ofcom to closely monitor developments during the conference itself, as well as new proposals for both Agenda Items 8 and 10 in case additional resources are required.

#### Question 3a:

Do you agree that the UK interest in the bands 3 600-3 800 MHz and 3 300-3400 MHz in Region 2 (North & South Americas) should be limited to any impacts on UK operational use in those areas?

The BBC believes that a neutral position is the most appropriate to take on a Region 2 issue, unless there are specific issues in the British Overseas Territories in the region.

However, given the global nature of satellite communications, consideration should be broadened beyond UK operational use in those areas, to fully understand any impacts on UK operational use. In addition, the BBC also notes that geographical conditions across Region 2 are very different to those found across the UK and Europe, so while the proposals for IMT may be similar, the impact on incumbent services (for example satellite) may well not be.

#### Question 3c:

What is your view on the use of 6425-7025 & 7025-7125 MHz, and what evidence do you have to support this view? How does that inform your views on a IMT identification in these bands?

Wi-Fi has become the de facto standard for in-home wireless distribution of media and other content. As video systems increasingly evolve towards UHD, and more content is consumed online, the BBC expects the amount of data traffic to be carried on Wi-Fi networks to significantly increase. The BBC believes that it is important to anticipate these changes and to ensure sufficient spectrum is made available in good time. The bands considered in this agenda item are suitable candidates for Wi-Fi expansion, and this use should be considered in preference to an IMT identification.

#### Question 4:

Do you agree that, where no additional technical limitations are placed on mobile services, the UK can support an upgrading of the mobile allocation, in 3600 – 3800 MHz, from secondary to primary?

The BBC notes that the UK has already allocated this spectrum nationally to mobile/IMT without a primary allocation in the Radio Regulations therefore usage of this band for 5G services is not reliant on action at an international level, but that CEPT's preliminary position is to support the upgrading. The BBC understands that there are differing views within Region 1 outside CEPT, particularly in Africa, and suggests this may be one agenda item where there is an opportunity for the UK to build consensus across Region

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The BBC agrees with Ofcom that the scope of this agenda item does not extend to making an IMT identification. Although this was proposed at WRC-19, there was no consensus and, even if some are of the view that this could be considered at WRC-23, it will surely remain a contentious proposal.

#### Question 6:

Do you agree that a formal modification to the Radio Regulations is not needed for fixed service applications that use IMT technologies?

The original related WRC-19 proposal for a full agenda item at WRC-23, carried risk to satellite spectrum which the BBC relies on for programme distribution to UK and international audiences. Although now a topic under Agenda Item 9 covering a very wide range of spectrum bands, the BBC has been monitoring progress closely. The BBC supports the work that Ofcom has been leading within CEPT PTA and also agrees that UK should support a No Change European Common Position.

Disappointingly little progress has been made in the study period in reviewing existing ITU-R documentation, something which the BBC believes is essential as a basis for studies on this topic. The BBC is not persuaded that the proponents have made any arguments which justify any formal modification to the Radio Regulations and agrees with Ofcom that it is more prudent for solutions to be found by amending national regulations rather than seeking to use international regulatory instruments. The BBC agrees with Ofcom that IMT identification in fixed service bands could imply a technology limitation.

#### Question 7:

What are your views on the proposed approach for 470-694 MHz, recognising the national decisions already in place and taken for DTT multiplex licensing in the band, and the additional and supplementary spectrum made available for UK PMSE usage?

#### **Introduction**

WRC-23 Agenda Item 1.5 deals with the future use of the UHF band, specifically 470-694 MHz, in ITU Region 1. This band is critically important for BBC operations in the UK and overseas, and our audiences have a clear interest in the UK safeguarding access to the band. There is an overwhelming UK interest in maintaining sole primary use access in that band to support public service broadcasting and the wider creative industries. We strongly agree with Ofcom's preliminary assessment that 'No Change' meets the UK's national requirements in the band, but there is a need for firmer UK support for No Change – which is the only position that offers certainty for the protection of the UK broadcasting and creative industries.

#### **Context: BBC Use of the Band 470-694 MHz to reach audiences**

The BBC makes use of the band 470-694 MHz in two distinct but symbiotic ways in order to fulfil our mission and provide impartial, high-quality and distinctive output and services to all audiences. Firstly, we use the band for distribution of broadcast television and radio content directly to audiences via digital terrestrial television ('DTT'); and secondly, we make use of the band for critical content production technologies ('PMSE'). The BBC also uses both PMSE and DTT overseas for creation and distribution of content, and although the regulatory regimes under which those systems operate is inevitably different to those in the UK, we believe that Ofcom should take account of this important UK interest when reaching its position on this agenda item.

Each of these uses, and its role in critical BBC operations, is detailed below.

## Digital Terrestrial Television

DTT is the successor technology to analogue television, which was transmitted in the UHF band in the UK from the 1950s. The digital switchover project, which was completed in 2012, increased the number of TV channels available to the UK population from 5 to at least 30 – and, for 90% of the population, to over 100. At the same time, it enabled the release of some UHF spectrum (790-862 MHz) for mobile broadband services (the so-called “digital dividend”). Today, DTT is underpinned by a series of different licensing arrangements – with a number of national and local multiplexes regulated by Ofcom, in addition to one multiplex regulated under the BBC Charter and Agreement.

DTT is currently the backbone of the UK’s Freeview platform, ensuring widespread availability of free-to-air PSB content, including the ability to reach vulnerable audiences. It is used by a majority of UK households, with figures from BARB showing that 58% of UK households use DTT somewhere in the home, including 35% of UK households as their only broadcast TV service.<sup>4</sup> Beyond Freeview, the subscription platforms BT TV and TalkTalk TV are underpinned by linear TV delivered over DTT.

Government has acknowledged that DTT is forecast to have an effective usage until at least the early 2030s.<sup>6</sup> While it remains important for many audiences, it is particularly important for certain important groups: currently, it is available in nearly eight in ten

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households without broadband,<sup>7</sup> noting that digital exclusion is more likely to be faced by those on low incomes, people over 65, and disabled people.<sup>8</sup> The BBC also notes the continued popularity of broadcast TV with older audiences, with over-65s watching nearly 6 hours of TV every day. These households might have a high reliance on DTT due to a range of factors such as digital literacy and skills, or costs. They would be particularly impacted by an unplanned or premature end to DTT, therefore sufficient time, support, and resources to migrate is needed.

Outside the UK, the sub-700 MHz UHF band is vital in enabling the BBC to reach audiences internationally. We hold contractual arrangements with broadcasters in Region 1 (predominantly in Africa) and Asia, which allow BBC News and Current Affairs programmes to reach millions, mainly via terrestrial television.

### Impact of a WRC-23 co-primary decision on DTT

A co-primary decision at WRC-23 risks undermining DTT in the UK at a time when it remains a key distribution platform to reach a large range of audiences, therefore impacting the UK’s public service broadcasting system, with wide-ranging implications.

While – as Ofcom notes – some ‘will likely argue for greater flexibility through the addition of a mobile allocation and possibly IMT identification in the band’, we do not believe that ‘flexibility’ can be accommodated without significantly undermining the UK’s control over its use of DTT for a number of reasons.

- **Signal interference for UK audiences:** No country can act completely unilaterally with regard to spectrum use. We are required to coordinate the use of spectrum with neighbouring

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<sup>4</sup> All household use numbers are taken from BARB Establishment Survey averages Q2 2021-Q1 2022. <sup>6</sup> DCMS [Consultation on the renewal of DTT multiplex licences expiring in 2022 and 2026](#) (2021).

countries to avoid interference. As Ofcom says, DTT and mobile services cannot co-exist in the same radio frequencies in the same geographical area. If the band is co-primary allocated, we believe that many EU Member States, supported by the European Commission, will move to use the UHF spectrum for mobile.

While DTT broadcast in particular has a large footprint and often crosses national borders, UK broadcasters and audiences may nevertheless be negatively impacted by interference from European mobile networks in countries such as France or Ireland. This is due to the way that the GE06 Agreement, which determines how the band is used by broadcasting and other primary services, considers interference from individual mobile base stations. It has no way of taking aggregate interference into account, and therefore may not adequately protect UK DTT broadcasting from mobile interference. This would harm the universal provision of our services to audiences in certain locations, for example coastal areas like Kent, who may experience intermittent interference or total loss of their services. There is precedent for this: for example, following similar

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<sup>7</sup> 79%.

<sup>8</sup> <https://www.local.gov.uk/parliament/briefings-and-responses/tackling-digital-divide-house-commons-4november-2021>

co-primary decisions at WRC-07 and WRC-12, the EU made a harmonised decision to clear other DTT spectrum bands for mobile despite opposition from some countries, with neighbouring non-EU countries then forced to adopt the same position as a technical necessity.

- **Signal interference for EU consumers:** Equally, the UK is likely to come under significant pressure to follow suit, including from our largest neighbours in order to prevent our broadcasts interfering with mobile networks in those countries.
- **An uncertain environment for investment in R&D:** YouGov research shows that Freeview is viewed more positively than Sky, Virgin Media, and BT.<sup>5</sup> However, manufacturers need confidence to invest at scale in the production of DTT equipment. At present they do that and ensure that UK customers can access the benefits of technological development and the full range of DTT services. This was recognised in the broadcasting White Paper,<sup>10</sup> with the government stating that: *'Maintaining investment and confidence in the future of the DTT platform is important, which is why the government has enabled the long term renewal of the licences through to 2034.'* A pre-emptive co-primary decision will introduce uncertainty, and could undermine the necessary investment and confidence, before the UK has decided any timeframe for a full IP switchover and developed a full plan for transition, and before audiences are ready: for example, leading TV receiver manufacturers to reduce investment in R&D in new DTT technologies if there is no certainty in its longevity. An artificially early

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<sup>5</sup> YouGov, [The Most Popular Brands](#) (Q2 2022). Freeview was ranked by 58% of nationally representative GB respondents as popular, compared to Sky (49%), BT (40%), and Virgin Media (37%). <sup>10</sup> See [Up next – the government's vision for the broadcasting sector](#), DCMS, April 2022

decision may therefore impact investment in a popular service which is currently vital, which could harm audiences.

Taken together, the issues arising from a co-primary decision at WRC-23 would impact the UK's control over the timing of our DTT to IP switchover and audiences' ability to manage the migration. Given the complexity of a switchover and the need to bring all audiences with us, a premature or unplanned switchover would be highly detrimental to audiences, PSBs, and the wider creative industries alike.

### **The Future of DTT**

The UK must have control of an eventual switch-off of DTT, based on what is best for audiences and citizens, PSBs, and the UK creative industries as a whole. It is too early now to know when DTT will no longer be needed in the UK, therefore we should not support a decision now which precipitates its premature decline. Full switch-off of all broadcast TV services would require careful planning to protect audiences, including some disadvantaged or vulnerable demographic groups, and the UK's world-leading creative economy.

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We recognise that audience behaviour and content consumption is changing over time, and look forward to engaging with Ofcom and DCMS alongside the rest of the industry, to ensure that we maintain universal access to BBC and other PSB content and services in an era of changing technology.

We welcomed that the Government's recent White Paper<sup>6</sup> on the broadcasting sector confirmed that free-to-air availability of Public Service Broadcasting remains a vital and indispensable means of ensuring free-to-air availability of PSB content:

*"The government's strategic review has been considering whether public service broadcasting remains vital in the modern media age, and if so, how the PSB system should contribute to economic, cultural and democratic life across the UK.*

*In response to the first question, the answer is a resounding yes. Public service broadcasting continues to be associated with a wide range of high quality content that is made available to, and highly valued by, viewers from all backgrounds and in all corners of the UK.*

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*This leads into the second overarching question from the review: what is the purpose of a modern system of public service broadcasting? We believe the answer is simple: to ensure that viewers continue to have access to a wide range of public service content on a free-to-air basis."*

However we have been deeply concerned following recent European conference preparatory group meetings, where the consensus appears to be moving towards an early allocation in the Radio Regulations of the sub-700 MHz band to mobile – by 2027 at the latest. We do not believe the impact of these developments has been fully acknowledged. In particular, we have been concerned by the discrepancy between the welcome flexibility enabled by the Government's extension of

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<sup>6</sup> See [Up next – the government's vision for the broadcasting sector](#), DCMS, April 2022



national DTT licences and recent conversations with Ofcom where it has said that it expects DTT in the UK to run until 2030. Again, we would emphasise that the timing of a UK switch-off of DTT should take into account the interests of UK audiences and should not be pre-empted, given the careful management it would require.

### **Use of UHF for Content Production**

The BBC also uses the band 470-694 MHz for programme-making tools (PMSE) used for content production, from everyday news and current affairs, to weekly TV entertainment shows and one-off special events. More widely, PMSE is also used for live theatre and large music festivals as well as smaller but vital community and cultural events. PMSE underpins the UK’s leading creative industries, which were estimated to contribute £116bn to the UK economy in 2019 – more than the aerospace, automotive, life

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sciences, and oil and gas sectors combined.<sup>7</sup> A co-primary allocation would jeopardise this use of the band.

Like DTT, PMSE now operates within reduced spectrum ranges following the reallocation of the 700 MHz and 80 MHz bands to mobile. Public financial support at the times of those losses allowed the creative industries to replace their now-obsolete equipment with new, more modern equipment operating with higher spectrum efficiency within the reduced spectrum ranges. The creative industries have the highest performance requirements for PMSE, to deliver flawless high quality real-time audio, and while these objectives continue to be met through careful spectrum and event planning by the PMSE industry, this is becoming harder to achieve as demand increases.

Currently, demand for spectrum for PMSE use can normally be met but there are an increasing number of instances for which the available spectrum is barely sufficient, for example at large film and TV production centres which support simultaneous productions at the same location. More ambitious large theatre productions continue to rely on more devices and spectrum, and outdoor music events become larger year on year. Data from Ofcom shows that in the years preceding the Covid pandemic, the number of licences issued for wireless microphone and in-ear monitors increased year-on-year, as did the number of locations at which these equipment were used (see Table). Although these levels will inevitably have dropped during Covid, the BBC fully expects the level to return to pre-pandemic levels, and to continue to increase in coming years.

Licensed wireless microphones and in-ear monitors in 2018 and 2019

	<b>2018</b>	<b>2019</b>
Assignments	213 285	224 801
Locations	6 138	6 304

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<sup>7</sup> DCMS Sector estimates.

(Source: Ofcom licensing data)

The number of licences for audio PMSE issued for the 2022 Glastonbury Festival (a typical large event of national cultural importance) for licensed assignments in the 470-694MHz band are shown below. Accommodating this number of devices in less spectrum would be hugely difficult, if not impossible.

Individual Wireless Microphone, In-Ear and Talkback Assignments in 470-694 at Glastonbury 2022

Date	Assignment total in 470-694 MHz
24 <sup>th</sup> June	561
25 <sup>th</sup> June	642
26 <sup>th</sup> June	572

(Source: Ofcom)

The BBC, alongside the wider creative industries, relies upon continued access to sufficient spectrum for PMSE to support audio content production for its output.

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'Airband' spectrum (960-1164) MHz) that has been made available for UK PMSE has been a welcome addition and there is scope for more general use, but it is already the case that the Airband and UHF bands together are vital to meet the current levels of demand. Any reduction in the availability of 470-694 MHz for PMSE is therefore liable to impact the ambitions of the creative industries at a time when the level of film and TV production is rising worldwide with UK studios at the forefront.

New technologies including 5G and DECT are being explored to provide future solutions for audio content production but so far they are not suitable due to concerns around the quality, latency and reliability, particularly for the highest demand events. The BBC considers the use of these technologies for regular content production to be still some years away, and we believe that they will still require comparable spectrum (i.e. in or around the UHF band to give similar body loss and propagation characteristics) and similar spectrum access arrangements (i.e. dedicated spectrum, or spectrum shared with other users in a stable, predictable way).

In particular, the BBC notes the results of sharing studies conducted in connection with WRC-15 agenda items 1.1 and 1.2<sup>8</sup>, and with WRC-23 agenda item 1.5, which conclude that sharing between PMSE and IMT is very difficult.

Given the need for quick-response deployments for PMSE (for example, in the case of breaking news stories), we do not believe that it will be feasible for the content production industry to share spectrum with the mobile broadband industry.

The long-term stable nature of DTT allows operational use of interleaved spectrum for audio production systems (PMSE), due to the predictable and stable levels of interference from DTT

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<sup>8</sup> ITU-R Report BT.2338-0 "Services ancillary to broadcasting/services ancillary to programme making spectrum use in Region 1 and the implication of a co-primary allocation for the mobile service in the frequency band 694-790 MHz"

Given this, it is our view that it is absolutely necessary to ensure ongoing operations of UK PMSE in the UHF band, and that is best achieved by No Change to the Radio Regulations under agenda item 1.5, including the retention of footnote 5.296.

### **Other Uses of the UHF Band in the UK**

Despite national use of the band by DTT and intensive use by PMSE, there are still parts of the band, in some locations and at some times, that are unused. In the last decade, these have been further shared with “TV White Space” devices. This three-way sharing of spectrum, ensuring required quality for DTT and PMSE, is a uniquely efficient spectrum management technique.

### **The Wider Agenda Item – Review of Spectrum Use and Needs in the Band 470-960 MHz**

The WRC agenda item is predicated on a review of the band 470-960 MHz – the purpose of this being to allow administrations to take into account how efficiently mobile broadband IMT services are using the part of the band above 694 MHz when making

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decisions about whether these services require access to further UHF spectrum. The BBC notes that studies in both the CEPT and ITU have largely ignored the use of the band above 694 MHz, and Ofcom’s Call for Inputs contains no reference to this important part of the agenda item. The BBC notes, however, that the successive allocation of small slices of spectrum to mobile has resulted in a “salami slicing” approach with multiple guard bands and duplex gaps leading to an overall inefficient use of the band 694-960 MHz. Failure by administrations to address this, and to promote the use of the most efficient technologies by mobile operators, has led to an erroneous perception of need for access to lower parts of the UHF band.

Also having received little attention is the status of deployment of mobile services in the 700, 800 and 900 MHz bands. In the UK, deployment of 5G systems in the 700 MHz band has only recently started, and the 900 MHz band is still widely used by 2G (GSM) systems. By the time these bands have fully deployed 5G (and later generation) mobile systems, this will amount to an effective tripling of mobile broadband capacity in the band compared with the beginning of 2021.

Across Region 1, we note that - according to studies into spectrum needs for the Broadcasting service conducted by ITU-R - 92 of 121 administrations in ITU-R Region 1 indicated a need for 224 MHz or more UHF spectrum for broadcasting<sup>9</sup>.

Region 1 Administrations’ Requirements for UHF Spectrum for Broadcasting

	<b>&lt; 224 MHz</b>	<b>224 MHz<sup>15</sup></b>	<b>&gt;224 MHz</b>	<b>Unclear reply</b>
Total Administrations considered	7	85	10	4

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<sup>9</sup> Report ITU-R BT.2302-1 “Spectrum requirements for terrestrial television broadcasting in the UHF frequency band in Region 1 and the Islamic Republic of Iran” (March 2021) <sup>15</sup> 224 MHz is the spectrum available between 470-694 MHz.

*(Source: draft revision of ITU-R Report BT.2302-1<sup>10</sup>)*

In contrast, also according to ITU-R studies in preparation for this agenda item, only 20 Administrations across Region 1 responded to a request for information on future spectrum needs for IMT (mobile broadband) in the band 470-694 MHz. Of those, ten, including the UK, indicated no such requirement, and ten indicated that more spectrum for IMT was required.<sup>11</sup>

In short, there's no proven need for mobile broadband use of the sub-700 MHz UHF band in the UK or indeed across the majority of Region 1, in contrast to the widespread need to maintain the band for broadcasting.

## **Conclusion**

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The UK should actively support a No Change position for Agenda Item 1.5, and should oppose co-primary allocation. It should state this clearly, in the UK and internationally, providing international leadership and clarity to stakeholders. If not, it risks ceding control of the timing of an IP migration and our ability to properly plan for it, to the detriment of audiences, the creative industries, and the nation alike.

### Question 18:

Recognising the recent diminishing industry interest in this item relating to possible modification of the aeronautical HF assignment plan, and the general lack of global interest, do you agree that UK move towards a No Change proposal under this agenda item?

The BBC uses HF broadcast spectrum to provide radio services for audiences around the world. Whilst the proposals under this agenda item are unlikely to put these services at risk, the BBC would support a UK No Change position, especially given the two points made by Ofcom that there has been little progress on this agenda item and that extensive discussion and agreement would still be needed for any transitional plan to enable this digital modernisation.

### Question 27:

Do you agree that the formalised time reference in common global use, is not a matter of spectrum regulation?

The BBC agrees that the formalised time reference is not a matter of spectrum regulation and that any discussions or decisions at WRC-23 under Resolution 655 should recognise the international bodies which do have responsibilities in this area.

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<sup>10</sup> Draft revision of Report ITU-R BT.2302 taking into account updated responses from administrations since publication of BT.2302-1.

<sup>11</sup> Information supplied by Working Party 5D to Task Group 6/1 in 6-1/29 Part 2.

Question 29:

Do you have a view on any of the footnotes to which UK is a party?

Apart from the point made under agenda item 1.5 above regarding No 5.296, the BBC has no points to make on specific footnotes.

We would however repeat the point we have made in previous WRCs: that the scope of agenda item 8 should be strictly limited to the removal of footnotes, or of country names from footnotes. Resolution 26 (WRC-19) "Footnotes to the Table of Frequency Allocations in Article 5 of the Radio Regulations" is clear that new footnotes, or modifications to existing footnotes, should only be considered as part of a WRC agenda item which "explicitly includes the frequency band to which the proposed additional or modified footnote relates". This should preclude member states adding themselves to existing footnotes except in the very limited circumstances in Annex 1 to Resolution 26.

The BBC would propose that the UK continues to support this principle both in preparation for and during WRC-23.

Question 30:

Are you aware of any specific issues, not covered elsewhere in this document, which are likely to be raised in this part of the Director's Report and of which you think Ofcom should be aware?

Sections of the Director's Report regarding the Radio Regulations Board and concerning reports of harmful interference could be of interest to the BBC and to the UK. If this is the case, it may be worth considering whether any comment or action is needed.

Question 32:

What changes to the Radio Regulations have you identified that would benefit from action at a WRC and why? Do you have any proposals regarding UK positions for future WRC agenda items or suggestions for other agenda items, needing changes to the Radio Regulations, that you would wish to see addressed by a future WRC?

The BBC notes that work on new proposals under this agenda item is in the early stages. However, given how much time and resource has been spent in successive WRCs on agenda items seeking ever-more spectrum for IMT, the BBC urges Ofcom to assess any new IMT proposals carefully. Clear evidence needs to be provided to support the claimed needs, and proposals made to study specific bands rather than wide ranges of spectrum. Existing usage should also be taken into account in proposals for specific bands.