Your response

Question	Your response
Question 1: Hybrid sharing could mean that the upper 6 GHz band will be used for mobile outdoors and Wi-Fi indoors. What are your views on the priorities for each of these two services, assuming that suitable coexistence mechanisms are developed?	*Is this response confidential? – N* The BBC is of the view that FTTH rollout and further uptake of 4k streaming is likely to substantially increase traffic on in-home networks, and that ensuring optimal delivery of the high quality personalised IP-based media experiences in the home increasingly expected by audience should be a priority when assessing the future use of this band. Given the dominance of Wi-Fi for in-home network applications, we therefore believe that priority should be given to in-home Wi-Fi networks, including access to the sufficient Wi-Fi 6e band (5925 – 7125MHz). If a suitable coexistence mechanism can be found Mobile may be able to be used where it will not adversely impact Wi-Fi use.
Question 2(a): Hybrid sharing could mean that the upper 6 GHz ban will be used for mobile in some locations, and Wi-Fi in others. We would like feedback on the priorities for each of these two services, assuming that suitable coexistence mechanisms are developed. From the point of view of mobile, is the upper 6 GHz band most useful to provide outdoor coverage, or indoor coverage? Is it most useful in urban areas, or in those base stations that are currently carrying more traffic, or some other split?	*Is this response confidential? – N* Due to the characteristics of this frequency range, this band is most appropriate for indoor and / or short range coverage. Higher power outdoor use is likely to restrict indoor use. The demand for additional spectrum for either mobile or Wi-Fi is likely to be in more urban areas. The BBC thinks that this band is more suited to Wi-Fi for the reasons outlined in the following questions.
Question 2(b): Similarly, what are the priorities from the point of view of Wi-Fi deployments?	*Is this response confidential? – N* The BBC is of the view that the user demand for a personised media experience delivered in HD and UHD will place increased demands on Wi-Fi for in home connectivity. It is likely that individuals in a household will all be streaming

	separate content and, in houses of multiple occupancy or dense housing such as flats the existing Wi-Fi allocations and deployments will not offer sufficient quantity or quality of connectivity. We therefore need to ensure that sufficient new Wi-Fi spectrum is available in residential areas.
Question 3: What are your views on a modified AFC or SAS-type approach to enable hybrid sharing? What additional work do you think would be required?	*Is this response confidential? – N* The BBC believes a database approach such as AFC or SAS is the only practical way to achieve hybrid sharing of this band. Broad international agreement would be needed for the development and deployment of such a database, including agreement around funding. Without broader international agreement uptake of such a system seems unlikely.
Question 4: How could existing access protocols and sensing mechanisms be leveraged (i.e., those in Wi-Fi or 5G NR-U) to enable hybrid sharing?	*Is this response confidential? – N* The BBC does not believe that sensing mechanisms such as ACS, currently deployed in Wi-Fi routers will be sufficient to enable sharing of the 6GHz band. Straw poll scans of Wi-Fi deployments in the 5GHz band show many routers operating in the lower portion of the band with little use of the upper parts of the band. The net result of this is a poor experience for users due to interference and unused channels. Given that the sensing mechanisms do not seem to work between different Wi-Fi deployments it seems improbable that any future sensing mechanism would be developed that would work well between Mobile and Wi-Fi.
Question 5: What mechanisms could potentially enable device-to-device connectivity?	No comment.
Question 6: If hybrid sharing is eventually adopted, and requires licensed mobile to operate at medium power, in what way would mobile networks use the upper 6 GHz band?	*Is this response confidential? – N* It is unclear how mobile deployments at any realistic operating power levels could be made without restricting the use of indoor Wi-Fi.
Question 7: How would you suggest that the mechanisms presented here can be used, enhanced, or combined to enable hybrid	*Is this response confidential? – N* The BBC is sceptical that hybrid sharing is achievable with either database or sensing

sharing or are there any other mechanisms that would be suitable that we have not addressed?	mechanisms. Previous work under the UHF TVWS initiative did not support the case for sensing.
Question 8(a): Assuming the future of the band includes indoor use for Wi-Fi and outdoors use for mobile: How could this be achieved without creating or suffering interference?	*Is this response confidential? – N* The BBC is sceptical that hybrid sharing is achievable without either creating or suffering interference.
Question 8(b): Could there be a combination of technical adjustments such as power limits and other mechanisms (including databases or sensing mechanisms)?	*No*
Question 9(a): We are interested in input about the importance of the upper 6 GHz band for its incumbent users, and on the potential impact of hybrid sharing of the band. What evidence do you have on whether incumbents are likely to coexist with hybrid sharing of the band with mobile and Wi-Fi? Are there unique advantages of the upper 6 GHz band for these uses?	*Is this response confidential? – N* There is incumbent use by the BBC and other programme makers within the range 7110 MHz to 7125 MHz for wireless cameras, which overlaps the upper 6GHz band. A recent example of the use if this band was at the Eurovision Song Contest in Liverpool where substantial use was made of the 7GHz band for wireless cameras in the venue including channels centred on 7115 and 7125MHz. Any attempt to use the upper 6GHz band for Wi-Fi or Mobile will result in the loss of 3 wireless camera channels. Ofcom will need to ensure that this spectrum is replaced in a suitable adjacent band.
Question 9(b): What are your views on the initial analysis we have conducted around hybrid sharing and coexistence with incumbents?	No comment.
Question 9(c): For any incumbent uses that you view as unlikely to be able to coexist, what alternatives are there? What are the barriers that might prevent those alternatives?	*Is this response confidential? – N* Ofcom needs to ensure that sufficient additional spectrum is made available in adjacent bands to replace the spectrum currently used by PMSE.
Question 10: Do you have any other thoughts that you would like to share about hybrid sharing in the upper 6 GHz band, or about hybrid sharing more generally and its potential for applications in other bands?	*Is this response confidential? – N* The BBC is sceptical that hybrid sharing as described by Ofcom in this consultation can work. Sharing can work where there is a hierarchy that is respected between services and the geographic and frequency separation is actively managed. Attempts to automate

	such management have so far been unsuccessful.
Question 11: Do you have any other comments to make on these proposals or on the future use of the upper 6 GHz band?	*Is this response confidential? – N* As audiences move from traditional linear broadcast platforms to a more personalised content consumption model the demand for indoor / in-home internet connectivity will increase. For this reason the BBC believes the priority for the use of the upper 6GHz band is as additional spectrum for Wi-Fi alone.

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