

Supporting innovation in the 100 - 200 GHz range

- **Proposals to increase access to Extremely High Frequency (EHF) spectrum**

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1. Executive Summary

- 1.1. BT welcomes Ofcom's proposals to make spectrum available in the 100 – 200 GHz range for new services and applications. The three specific frequency bands that Ofcom proposes to make available (116 – 122 GHz, 174.8 – 182 GHz and 185 - 190 GHz) are not currently of specific interest to us. However, we recognise that their availability may have a positive effect on development of new technologies that can exploit the 100 – 200 GHz frequency range.
- 1.2. Our own priority is to gain access to the 92 - 114.5 GHz and 130-174.8 GHz bands for fixed wireless services. These bands have been studied within an ETSI Task Force where BT has been actively involved in the studies and we see good potential of these bands to be used in future mobile networks as the technology is standardised and becomes available at the suitable price points. We therefore welcome Ofcom's acknowledgement within the consultation document of the industry interest in these other bands and the indication of Ofcom's ongoing consideration of these within its Ofcom's work programme.

2. Introduction

- 2.1. BT supports the potential for innovation by exploitation of bands above about 100GHz and has been involved with other industry players looking at the use of such frequencies for wireless backhaul within the European Telecommunications Standards Institute (ETSI) and other collaborative research. This consultation is therefore of interest to us and we are pleased to provide our response.
- 2.2. We set out our views and evidence in response to each of the five consultation questions in section 3 below.

3. Response to consultation questions

Question 1: Do you have any comments on our analysis of the current use of spectrum bands in the frequency range 100-200 GHz, or the potential future use of these frequencies? Do you have any comments on current or future use of the specific bands 116-122 GHz, 174.8-182 GHz and 185-190 GHz?

3.1. We have no comments on the three specific bands that Ofcom proposes to now make available, although we are generally supportive of the proposal and note that it may facilitate development of technologies for these as well as other parts of the 100 – 200 GHz range.

Question 2: Are there any further bands above 100 GHz which you think Ofcom should consider making available on a technology and service neutral basis? Which benefits might be realised from enabling access to further bands?

3.2. As we said in response to Ofcom's fixed wireless access strategy consultation in February 2018, BT/EE is interested in utilising W band (92 – 115 GHz) and D band (130 – 175 GHz) within our future mobile network architecture as the very wide bandwidths available and propagation characteristics of these bands appear suitable for this purpose. BT/EE continues to encourage Ofcom to develop a suitable authorisation regime for W-band and D-band given the essential role these bands could play to realise truly dense and heterogeneous mobile networks within the 5G vision.

3.3. We propose that W-band is authorised using an online system that confirms licences immediately they are applied for. This would facilitate rapid deployment of large numbers of base stations if required in future.

3.4. We propose that a substantial portion of the D band spectrum should be block allocated to UK national mobile operators for self-management of their assigned blocks (should they request it). This should be feasible given the very large available bandwidth. It could help kick-start the use of this spectrum as it would support operators in their development of innovative solutions and would allow them to manage interference while rapidly deploying mobile network infrastructure without the need to request individual licences

Question 3: Do you have any comments on the approach we have used to assess the potential effect of our proposals on EESS?

3.5. We have no comments.

Question 4: Do you have any comments on our proposals to authorise devices to operate on a licence-exempt basis in the 116-122 GHz, 174.8-182 GHz and 185-190 GHz bands?

3.6. We support Ofcom's proposal.

Question 5: Do you have any comments on our proposal to create a 'Spectrum Access: EHF' licence to authorise increased power use in the 116-122 GHz, 174.8-182 GHz and 185-190 GHz bands?

3.7. We support Ofcom's proposal.