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**UK Broadband's response to Ofcom's Review of the Spectrum Management approach in the 71-76 GHz and 81-86 GHz bands**

**Introduction**

UK Broadband welcomes the opportunity to respond to this consultation. However, we have serious concerns about Ofcom's proposed approach as we believe that Ofcom's proposal to split the band will 1) impact current users of the band 2) adversely impact applications currently being developed restricting their ability to be used in the UK and 3) limit R&D which promises to deliver future applications that will enable new services to be delivered to consumers.

We therefore urge Ofcom to reconsider and to maintain the self-coordinated licensing approach across the whole of each band.

**Question 1:**
**Do you have any additional information to provide to that presented in this Consultation that you believe Ofcom should consider? If so please provide clearly evidenced views. Are there any other issues that you believe Ofcom should have considered?**

As in other areas of communications, the increasing demand for bandwidth is impacting the applications that are using these spectrum bands and those that are likely to use these bands in the future. Currently enterprises and local government organisations are using the bands to provide high-speed point to point applications, such as cost effective CCTV networks. Since the city riots of 2011, this spectrum has increasingly been used to provide resilient infrastructure that will prevent the sort of communications breakdown that occurred when the ground-based fibre networks were damaged by fires in those riots. Local authorities nowadays require high capacity 'networks in the ground' and 'networks in the air'.

The applications currently being utilised will require even higher speeds in the future. Equipment has been developed that allows throughput of multiple Gbps and we expect the market for these high-speed services to grow. UK Broadband has conducted bench tests on equipment in this band from several equipment suppliers with throughputs of between 2.5 to 4.5Gbps. Whilst this equipment currently uses bandwidths of approximately 4500 MHz we expect it to become more efficient overtime. However, the channel size will not be as low as the bandwidth segments currently being proposed by Ofcom.

Segmenting these bands would, ultimately, limit the throughput available to the users in the U.K. While the R&D would continue, other countries and not the U.K. would benefit from the services available. We believe that the current flexible and light-touch approach should be maintained so that continued innovation in spectrum use is encouraged.

One use to which we are considering putting this bandwidth is the extension of the base station CPRI interface via a microwave link. (Today, CPRI is only possible across fibre.) Using a wireless extension of the base station/radio head CPRI interface would allow flexibility in deploying 4G radio heads remotely from the base station. For example, having the main part of the base station on one building with a radio head deployed remotely on another building, thus delivering services to consumers more cost effectively than can be delivered with today's technology. The CPRI interface has a data rate of 2.6 Gbps and this currently requires significantly more bandwidth than would be available if the band is split as currently proposed.

**Question 2:**
**a)Do you agree with our proposals to offer a mixed solution that allows stakeholders to choose between the currently available self-coordinated authorisation approach and a new Ofcom coordinated approach for the band?**

No, we do not agree. We think that this would be a step backwards and would stifle innovation. We don't believe that such a move is necessary and ultimately users would suffer rather than benefit from this.

We believe that Ofcom's main concern is the potential impact of interference as greater usage is made of the band and an increasing number of links are deployed in geographical areas. UK Broadband's experience from current deployments and from engineering testing (that both UKB and others have done) indicates that links would have to be closer together than would be observed in any practical deployment situations for this to be a problem. The future new high-speed uses of this band are likely to be over relatively short distances and interference is unlikely to be a concern in practice.

**b) Do you agree with the segmented band plan with the split of 2 x 2 GHz and 2 x 2.5 GHz for Ofcom coordinated and self-coordinated approaches respectively?**

No, we do not agree because this size of band is not sufficiently large for the devices that have recently been developed and are continuing to be developed. The CPRI link application mentioned above requires a larger channel size.

Current usage of the band by Enterprise and Local Authority customers has been made on the assumption of a reasonable period of time over which to absorb the installation costs and over which to allow for depreciation of the equipment. In many cases the investment has been made on the basis that it would be possible to enhance the capacity in future if and when required. Ofcom's proposal could adversely impact current users if it necessitates a change of frequency (and indeed some of the existing equipment is not able to do this easily) or if users are not able to enhance the bandwidth they currently utilise as they had expected.

**c) Is the guard band size of 250 MHz considered appropriate between the two approaches?**

We do not think that a guard band of this size is required or indeed relevant because our testing shows that interference is unlikely to be a problem.

**Question 3:**

a) **For the Ofcom coordinated part of the band, do you agree with the proposal to make available channels of 500 MHz and 250 MHz (with smaller channels being made available when the standards are completed) and to make these channels available in up to 1 GHz bandwidth in the first instance?**

No. As stated above, the services we would like to deploy using this spectrum require much larger channel sizes.

**b) Is there a requirement for channel sizes greater than 500 MHz in the coordinated block? Please submit evidence to support your view.**

Yes – see above.

**Question 4:**

a) **Are there any aspects of the current self-coordinated licensing and link registration process that could benefit from improvements? Please provide specific information and reasons for how your suggestions would improve the process.**

UK Broadband does not believe that the current self-coordinated licensing and link registration process requires much improvement.

**b) Should Ofcom consider mandating the CEPT channel plan, ECC/REC/(05)07 for the self-coordinated block? Explain clearly the reasons to support your view.**

**c) Are the technical parameters shown on the register sufficient to enable self-coordination? Should Ofcom consider presenting additional parameters on the register? If so, which parameters and why?**

UK Broadband
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