Consultation response form

Your response

Question	Your response
Question 1: Do you have any comments on our proposals to gather additional antenna parameters, and would you prefer Ofcom to specify a small number of antenna pattern 'envelopes' or for users to provide details of the specific antenna parameters in use for	*Confidential? – N* techUK members welcome Ofcom's proposals to include accurate antenna radiation patterns in the coordination calculations. Ofcom should capture additional antenna parameters, to maximise spectrum efficiency, in line with the

Ofcom to assess? Please provide reasons for your views.	approach outlined in para. 3.17(b) of the consultation. This information should lead to more accurate interference predictions and enable more systems to share the band and achieve more efficient use of the spectrum. Some techUK members insist that users should be required to submit detailed antenna information or to confirm that one of Ofcom's existing antenna patterns is applicable. Additional information on peak gain and any down tilt should also be provided. Other members are not convinced that the wide variety of existing antenna patterns could be approximated to 4 or 5 standard patterns as proposed in 3.17(a). The antenna types and characteristics are part of any design and would be straightforward to include in a shared access licence application.
Question 2: Do you have comments on the suggested approach to enable user-led coordination in certain circumstances?	*Confidential? – N* techUK members welcome Ofcom's proposal to allow user-led coordination agreements. Members agree that stakeholders should be able to override Ofcom's rejection of an application if there is agreement from all potential sharers. However, some members would enjoy more flexibility to exceed power and height limits if sharers agree.
Question 3: Do you have any comments on our proposal to increase the power level of our Low Power product by 3dBm in the 3.8-4.2 GHz band?	*Confidential? – N* techUK members support Ofcom's proposal. The power increase will enable better coverage and be more compatible with available equipment. Members agree that the Low Power (LP) 3.8-4.2 GHz power level should be increased, however some members encourage harmonisation with the CBRS level which is effectively 6 dB higher than the proposed Ofcom EIRP limit. It is noteworthy the low number of LP 3.8-4.2 GHz shared access licences (SALs) existing currently. Our members feel the low power level for the LP 3.8-4.2 GHz product is a barrier to commercially viable deployments and should be increased significantly.

	Ofcom is proposing to leave MP power limits unchanged. techUK members argue that Ofcom should be less prescriptive about power limits in rural areas with low spectrum scarcity, focussing more on the interference impact. This would help reduce infrastructure costs.
Question 4 Do you have any comments on our proposal to remove the requirement for licensees holding a Low Power 3.8-4.2 GHz licence to keep a record of the address at which mobile terminals connected to an indoor base station will be used?	*Confidential? – N* techUK members would support removal of any unnecessary restrictions that would limit the business case for the use of the shared access spectrum. The proposed change to the record keeping requirements would open up new applications, including possible expansion of the neutral host business case. techUK members agree with the proposed lifting of this requirement for indoor base stations, however some members think it should also be lifted for outdoor base stations. This view considers neutral host (NH) as one of the prime use cases for the LP 3.8-4.2 GHz product. Use of LP 3.8-4.2 GHz shared access licences for NH outdoors would enable spectrum and infrastructure sharing; however, this requires lifting of the restriction on mobile terminals for outdoor base stations.
Question 5: Do you agree with our proposals to assume synchronisation between users, and coordinate base station to terminal instead of base station to base station in the 3.8-4.2GHz band? If no, please explain how other measures could increase sharing of the band.	*Confidential? – N* techUK members support the assumption of synchronised networks for the purposes of coordination, but question how this works in relation to existing system deployments where users would expect to be protected from interference. Since Ofcom proposes not to mandate a frame structure, some techUK members believe Ofcom should collect frame structure details as part of the licence application process, and publish this with the other licence data, to enable others to make better-informed decisions about their own designs and applications and further improve spectrum efficiency.
Question 6. Please indicate whether you support our preferred option of coordination at -88 dBm/20 MHz (based on I/N of + 3dB, at	*Confidential? – N*

1.5m) or a more conservative alternative of -91 dBm/20 MHz (based on I/N of 0dB at 3m), with reasons for your view.	techUK members do not have evidence to support any specific value. Nevertheless, some members would support Ofcom's preferred coordination with option A.
Question 7: Do you agree with our proposals for an increase in BEL in 3.8-4.2GHz? If no, are there alternatives which you consider could better achieve similar results?	*Confidential? – N* techUK members support Ofcom's proposed BEL assumptions.
Question 8: Do you agree with our proposal that adjacent band protection for Shared Access users is in future limited to considering only the first 5 MHz above and below UK Broadband assignments?	*Confidential? – N* techUK members support Ofcom's proposal.
Question 9: Do you agree with our assessment that, in circumstances where localised shortages of spectrum have occurred, pricing can be used to influence requested spectrum amounts?	*Confidential? – N* techUK members are concerned that the proposed incentive-based fees, particularly for medium power in urban areas, will adversely affect the viability of existing projects and may weaken the business cases for future deployments. Given the light use of the shared access spectrum at present and the significant improvements to the coordination process that Ofcom proposes, which will allow far higher density of deployments to be achieved and should considerably reduce the risk of congestion occurring, introduction of incentive pricing seems unnecessary and premature. techUK members suggest revisiting this question in 2 years' time. Other members agree that spectrum pricing could be used to influence spectrum requests. This should however be cost neutral overall and include reductions for areas where there is low spectrum demand, such as on large areas of private land (e.g. airports), where spectrum pricing can be a barrier to innovation.
Question 10: Do you agree that we should take measures to reflect the impact of bandwidth, power levels and urban/rural location in our pricing approach for the 3.8-4.2 GHz band? Do you think there are other factors we should be taking into account?	*Confidential? – N* techUK members agree that if incentive pricing was applied in the future, then bandwidth and power would be important parameters as well as location. Given the low use of the shared access spectrum and uncertain growth trajectory, introducing incentive pricing is not supported at this time. If fees are introduced in the future a phase-in period for existing deployments would be appropriate and the

	fees should be discounted for certain scenarios, such as where there are many co-channel transmitters of a single licensee in the same area. Pricing should depend on bandwidth, power levels and urban/rural location, as these factors affect the availability of spectrum for others. Ofcom could also consider the sterilisation effect in their pricing. techUK members are pleased to see that Ofcom proposes to take account of the clustering of sites, as the high cost of licences can be a barrier to deployment of private 5G (p5G). Similarly, Ofcom should take account of antenna characteristics in their pricing, as these parameters affect the sterilisation area. Ofcom ought not to create additional pricing for indoor MP use. Within this context, Ofcom's fees should take account of the sterilisation effect and assume an updated BEL figure for indoor deployments. In the consultation, Ofcom also considers how to take account of geographical demand, but it is the opinion of techUK membership that Ofcom should seek alternatives to the current urban/rural distinction. Therefore, Ofcom pricing (and decisions on exceptions) should take account of the sterilisation effect of an application, via the "premise sterilisation number" used in section 6 of the consultation document.
Question 11: How do you consider the illustrative prices would impact your spectrum requirements and future deployment plans in the 3.8-4.2 GHz band? Please provide evidence in support of your view.	*Confidential? – N* Some techUK members argue that the proposed doubling of the fees for 100 MHz bandwidth rural medium power (MP) would be an unnecessary additional barrier to p5G deployment unless there is a need to mitigate spectrum demand in specific areas. Similarly, the doubling of fees for a 100 MHz urban LP licence may be a potential barrier to the deployment of new services. The very low number of 3.8-4.2 GHz SALs in urban areas currently indicate that Ofcom should maintain the current urban LP pricing, increasing it only in cases where intervention is needed.

	Furthermore, Ofcom should take account of EIRP in their full urban MP pricing proposals. This product has an EIRP limit which is 18 dB above the current LP limit, however users may only need an uplift of a few dB and should be incentivised to use no more power than required.
Question 12: Do you have any comments on our proposals to clarify the circumstances in which exceptions are available, the tests we will apply, and how this supports user flexibility outside our overarching rules?	*Confidential? – N* techUK members support Ofcom's objective to simplify the exceptions process and make it more transparent. As well as requests for MP licences in urban areas and for exceeding the maximum antenna height, Ofcom should consider requests to exceed the MP limit in rural areas. Increasing base station power would help to reduce the cost of deploying p5G networks over large areas, with the application of the premise sterilisation threshold. Ofcom should also consider the availability of other spectrum in the 3.8-4.2 GHz band when making its coordination decision.
Question 13: Do you agree with our overall approach based around refining our existing coordination framework for Shared Access, whilst monitoring future opportunities for more user led and outcomes led coordination where evidence suggests it would be of benefit?	*Confidential? – N* techUK members believe Ofcom should use an interference impact approach when assessing requests for large user-defined areas, giving applicants greater flexibility in their designs, including use of EIRPs and antenna heights which exceed the current limits for the MP product.
Question 14: Do you agree with our assessment of the potential impact on specific groups of persons?	No answer submitted.
Question 15: Do you agree with our assessment of the potential impact of our proposal on the Welsh language? Do you think our proposal could be formulated or revised to ensure, or increase, positive effects, or reduce/eliminate any negative effects, on opportunities to use the Welsh language and treating the Welsh language no less favourably than English?	No answer submitted.
Question 16: Do you have any other comments on the proposals set out in this document?	*Confidential? – N* techUK members welcome Ofcom's proposals to enhance spectrum access and improve the

	authorisation experience for users, including online applications and spectrum availability maps. Also welcomed are the updates to Ofcom's propagation clutter model.

Please complete this form in full and return to sharedaccessresponses@ofcom.org.uk.