

Question	Your response
<p>Question 1: Do you agree with our proposed technical changes to the licence?</p>	<p>Confidential? N</p> <p>This consultation is about a proposal to allow for the deployment of FWA network using 5G technology. The 3.9 GHz band under consideration happens to be within the 3.8-4.2 GHz band. The consultation document highlights how the UK shared access framework on 3.8-4.2 GHz is aimed at opening the band to similar applications as what H3G is planning to do, i.e. local area network with deployment of MNO base stations. However, it is difficult to understand how such deployment would be compatible, not only with existing usage of the band by FS and FSS, but also with lower power private networks.</p> <p>Indeed, when it comes to the technical conditions requested and those proposed to be granted by OFCOM to H3G, there are large differences with the power levels today granted to H3G. This is clear in Table 2 presenting the maximum power levels:</p> <ul style="list-style-type: none"> • For non-AAS the maximum EIRP is proposed to be 60dBm/5MHz = 73dBm/100MHz. For AAS, a gain of 21 dB is assumed to derive the equivalent TRP of 39dBm/5MHz. This is similar - if not higher - to the commercial 5G power levels studied at ITU under WRC23 AI 1.2 and 1.3 in C-band (71dBm/100MHz as per characteristics of BS in table 6-1 of Annex 4.4 to 5D/716 for the 3-6 GHz band). GSOA has serious concerns with these power levels which already led to the migration of FSS from 3.4-3.8 GHz to 3.8-4.2 GHz across Europe. • These proposed in-band levels for both AAS and non AAS are also 24 dB higher than the current medium power for local area networks specified in the UK sharing access framework in 3.8-4.2 GHz. The consultation paper emphasizes how well the H3G 3.9 GHz applications would fit in the current 3.8-4.2 GHz framework, however with such difference in power levels, GSOA cannot conceive that this new usage of H3G of 5G mobile services would actually fit. • GSOA also wonders what was the basis for the 21 dB antenna gain to derive the AAS BS EIRP limit from the non-AAS BS limit? <p>We further note that the levels of out-of-band emission in Table 3 are quite high especially for the permissive</p>

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	<p>mask. The value for non-AAS for the first 5MHz offset is Min (PMax – 40, 21) dBm/5MHz. We notice that the OOBE are at the same level as the in-band level for the low power BS in the 3.8-4.2 GHz UK shared access framework. This seems quite illogical to us.</p> <p>GSOA therefore has several concerns with the proposed power levels to be granted to H3G to deploy 5G technology, as these power levels are similar to commercial 5G levels used in 3.4-3.8 GHz where sharing with other services has proven impossible. H3G would seem to therefore obtain prime access to a band where 5G applications similar to those in 3.4-3.8 GHz band are implementable. This would give an unfair advantage to H3G compared to all other systems and applications that would rely on the UK shared access framework on 3.8-4.2 GHz.</p>
<p>Question 2: Do you agree with our assessment of the impacts of our proposed technical changes to the licence?</p>	<p>Confidential? N</p> <p>OFCOM concludes that there will be no impact with these changes as the levels now allowed for H3G are sensibly the same as the new ones. We note that none of the 26,000 assignments from H3G have ever been deployed, as per para. 2.10. If such is the case, there is no actual experience of the interference potential from H3G deployments in the band.</p> <p>As noted in our reply in question 1, the power levels proposed are similar to what is used today by commercial 5G in the band 3.4-3.8 GHz. Multiple studies have demonstrated that sharing between FS and FSS with 5G applications at these power levels (as indicated in Table 2) is not feasible nor practicable. Studies have demonstrated the need for large separation distances in the order of tens of km. With the 26,000 assignments at nearly 9,000 locations in the UK, GSOA feels there is a large risk of interference into the incumbent FS and FSS: especially if separation distances are reduced, it will limit opportunities for FSS users to access spectrum. In addition, these assignments would prevent any other applications including low and medium local area networks which the band 3.8-4.2 GHz is precisely intended to also enable, therefore limiting opportunities for other usage of this spectrum.</p>

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	<p>GSOA completely agrees with section 3.18, whereby “Any existing H3G assignments that fail the re-coordination would need to be removed”.</p> <p>GSOA would like to take the opportunity to kindly remind that the 3.8-4.2 GHz band is crucial for FSS due to its unique characteristics, including wide geographic coverage over continents and resistance to rain fade. Several FSS services had to migrate into this band from 3.4-3.8 GHz where coexistence with 5G was simply not viable. This band is essential for services provided to inter-tropical regions, and many earth stations are located in Europe for inter-continental communications. Applications include connectivity for enterprises and public institutions, mobile backhauling, and video contribution and distribution. Various international broadcasters use the 3.8-4.2 GHz band for FSS downlinking of content from Europe to other regions. The successful operation of this system depends on interference-free reception of the downlink signal. Large dish earth stations also need to receive beacon signals transmitted from the satellite for tracking purposes. Additionally, many video contribution links from other regions are received in Europe using the 3.8-4.2 GHz band before being distributed.</p>
<p>Question 3: Do you agree with our proposal to introduce a use clause, including the specific timeframes proposed?</p>	<p>Confidential? N</p> <p>GSOA would like to seek clarification as to how the 3.5 years were decided upon. It seems an important amount of time to determine which assignments are being planned for use. Is our understanding correct that during this period of time, other usage for areas around the current 26,000 assignment will not be possible during 3.5 years?</p>
<p>Question 4: Do you agree with our assessment of the impacts of our proposed use clause?</p>	<p>Confidential? N</p> <p>We believe that a use clause makes sense to avoid having assignments sterilizing a zone from potential other services. We however still like to seek clarification as to how the 3.5 + 1.5 years’ timeframe was developed.</p>

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<p>Question 5: Do you have any other comments on our proposed use clause?</p>	<p>Confidential? – Y / N</p>
<p>Question 6: Do you agree with our proposal to update coordination with Shared Access users to assume synchronisation?</p>	<p>Confidential? N</p> <p>GSOA also contributed to the Jan 2024 consultation which provided some updates on the UK sharing framework in 3.8-4.2 GHz, including the assumption of synchronisation between local area BS networks.</p> <p>We’re assuming synchronisation in the coordination procedure would increase uncertainty to users operating in unsynchronized manner, as a requirement for synchronization may be enforced during the license duration. Although a similar approach may have worked in the 26 GHz band, propagation characteristics as well as the level of demand are different in C-band. An example of BBC using “medium power” 5G private networks for King Charles coronation in London was provided by the BBC in CEPT (ECC PT1 CG4G(24)002) with specific uplink to downlink ratios for PMSE applications. This confirms that without mandating synchronisation from the outset, it is impossible to guarantee that two neighbouring private networks will be synchronised, hence increasing the interference risks.</p> <p>Overall, an approach that is presuming synchronization and mandating a specific frame structure favours traditional players such as mobile network operators, thereby defeating the original purpose of localized, versatile and innovative use of this band. GSOA therefore seeks clarity on how this synchronisation assumption is to be managed by private network operators in practice.</p>
<p>Question 7: Do you agree with our proposal to remove adjacent channel protections of H3G assignments from Shared Access users?</p>	<p>Confidential? N</p> <p>The levels in out-of-band from H3G remain high (see comments on OOBE in question 1). For example, the levels 5MHz away are as high as for the low power local area networks.</p> <p>There is therefore a need to ensure there would be no impact on adjacent band shared users, given this relatively high OOBE.</p>

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<p>Question 8: Do you have any comments on our impact assessment (to the extent not covered by previous questions)?</p>	<p>Confidential? – Y / N</p>
<p>Question 9: Do you have any comments on our Equality impact assessment?</p>	<p>Confidential? – Y / N</p>
<p>Question 10: Do you have any comments on our Welsh Language impact assessment?</p>	<p>Confidential? – Y / N</p>
<p>Question 11: Do you have any other comments on our proposals?</p>	<p>Confidential? N</p> <p>This consultation focused mainly on reducing constraints for private network applications. The coordination process for sharing between private network is proposed to be more flexible and less conservative. GSOA is however worried about what those modifications would imply with regards to safeguarding both current and future use of the 3.8-4.2 GHz for FSS services. GSOA would like to ensure that OFCOM maintains the necessary protection, and existing and future satellite earth stations are not subject to undue interference as a result of the changes that H3G has requested.</p>