

Your response

Question	Your response
Question 1: What interest do you have in deploying outdoor or standard power Wi-Fi or other licence exempt RLANs in the Lower 6 GHz band? Please provide details of the types of expected deployments.	No comment
Question 2: Are you interested in providing or developing AFC data-bases for use in the Lower 6 GHz band in the UK?	No comment
Question 3: Do you have any views on the operational considerations of setting up and running AFC databases?	See response to Question 4
Question 4: Do you have any views on how we should manage the approval process for AFC databases and, in particular, whether we should rely on parts of the FCC process rather than requiring the whole process to be re-run in the UK?	My recommendation for Ofcom's approach to AFC (Automated Frequency Coordination) approval and deployment is that it should be re-framed around the long-term strategic value that AFC systems can deliver—not just for WiFi coexistence in the short term, but for future-proof, AI-powered spectrum management across the UK in the long term. 1. AFC is a Strategic Asset, Not Just an Administrative Requirement The core issue is not simply whether the UK should replicate or accept elements of the FCC's approval process. The deeper question is: how can the UK ensure that its spectrum sharing policies create the conditions for long-term investment in advanced AFC data base capabilities at scale? Advanced AFC databases—especially if designed with AI integration in mind—offer far more than interference mitigation. They are foundational enablers for: • Efficient spectrum reuse, • Dynamic, context-aware allocation across mobile and WiFi systems, • Future interference mitigation (even between WiFi hubs), and

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	• Long-term spectrum efficiency aligned with national digital infrastructure goals. As such, investment in sophisticated AFC capability should be a policy goal in itself, not merely a compliance hurdle. 2. Reframing Success: From Short-Term Activation to Long-Term Enablement Section 5.30 of the consultation defines near-term success as realising consumer benefits “by the end of 2025.” While near-term consumer gains are important, prioritising rapid WiFi rollout at the expense of strategic ground-work risks undermining long-term spectrum value. <u>An alternative vision of success</u> would involve: • Deployment of AFC systems designed for future extensibility, • Enabling long-term spectrum coexistence across the full 6 GHz band (not just WiFi low power use), and • Unlocking intelligent, AI-enhanced coordination in future shared bands. This would be a high-leverage investment for the UK—especially as we enter a decade where spectrum scarcity, energy constraints, and national digital resilience will matter more than ever. <i>This will be essential if higher-bandwidth applications—such as immersive or metaverse-type services—emerge at scale.</i> 3. A False Dichotomy: WiFi vs Mobile The consultation document positions WiFi and mobile use as competing interests for the 6 GHz band. In practice, they are deeply interdependent: • Nearly all consumers rely on both WiFi and mobile connectivity, often without distinction. Their interest is that both should work successfully. They would also want to see the price they pay for mobile connectivity not rise due to undue preference for WiFi use leading to undue higher MNO investments in cell splitting being required. • MNOs depend heavily on indoor WiFi to offload mobile data and maintain outside network

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	performance. Thus MNOs have an interest in the success of indoor WiFi. - Two of the UK's largest MNOs are also major fixed broadband access providers and supply WiFi units to their consumers directly. Thus, the real tension is not between "WiFi vs mobile," but between short-term deployment and long-term spectrum governance. Getting AFC data bases right is critical to managing this balance. 4. Why Detect-and-Avoid Fails in High-Density Dual-Use Scenarios Ofcom notes (§5.37) that Wi-Fi's detect-and-avoid mechanisms should prevent interference to mobile services. However, this approach is inherently flawed when applied to two high-density, performance-sensitive technologies sharing the same geography and frequencies. In practice, detect-and-avoid fails for four reasons: Detect-and-avoid breaks down in noisy or weak-signal environments—e.g., indoors where mobile signals are attenuated, and WiFi access points cannot reliably detect them. False negatives occur when WiFi does not detect nearby mobile signals, continuing to transmit and causing interference. False positives suppress WiFi transmissions unnecessarily, reducing consumer quality of service without benefitting mobile users. - Worse, both WiFi and mobile systems may suffer degraded performance simultaneously, with no effective means of coordinating. This dynamic is not just inefficient—it undermines the goals of ubiquitous, reliable connectivity for both services. It also risks consumer frustration if WiFi quality suffers unpredictably. Detect-and-avoid is not suited for this class of spectrum sharing in high density urban locations. It might work for unlicensed–licensed asymmetry with low density (e.g. radar), but not for two co-equal, high-bandwidth contenders. The only viable alternative is coordinated AFC.

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	based spectrum management that enables predictable and fair coexistence. 5. Strategic Context: Who Benefits from WiFi in the UK? The global WiFi ecosystem is largely dominated by suppliers based in the US, China, and Taiwan. Their sense of urgency to see the UK open up a £1 billion market for 6 GHz enabled WiFi is understandable. However, since President Trump’s statement of 2nd April 2025, the global inter-dependency we could all rely upon no longer exists. In this context, <i>it is vital for Ofcom to ensure the UK retains policy control and strategic oversight over the management of its spectrum assets, even in globally standardised domains like WiFi.</i> This reinforces the need for a UK-governed AFC ecosystem—potentially compatible with the FCC approach, <i>but not dependent on it.</i> 6. A Practical Model: Operator-Led AFC with Ofcom Oversight To ensure commercial viability and national alignment, my recommendation is an approach what prioritises investment and specifically: UK MNOs be invited to procure and operate AFC databases (under Ofcom oversight) as their means to acquire mobile use rights in the 6 GHz band. ➤ This ensures strong incentives for clean spectrum use, while aligning AFC deployment with national coverage goals and mobile offload needs. ➤ The WiFi community would benefit from coexistence protections, and ➤ Ofcom would retain regulatory control to ensure fairness, including changing the spectrum sharing priority balance from time to time to reflect marked developments. This approach avoids the pitfalls of expecting third parties to invest in AFC systems without a guaranteed market, while accelerating deployment in a fair and efficient manner. <i>It also avoids adding a new layer of spectrum use charges a third-party AFC system operator would have to levy.</i>

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	7. Laying the Groundwork for AI-Powered Spectrum Sharing Looking ahead, AFC is a stepping stone to next-generation spectrum management: • Intelligent spectrum sensing and adaptive control, • Contextual power management to balance indoor/outdoor use cases, • Seamless spectrum reuse for dense environments (e.g. apartment blocks or urban hubs), • Real-time QoS-aware spectrum decisions tailored to applications. • Pulling the mobile and WiFi worlds together under MNO managed AFC data bases could create a route to the dream of finally getting public mobile coverage inside screened commercial and industrial buildings at low/no cost. By designing the AFC ecosystem with AI extensibility in mind now, the UK can position itself at the forefront of intelligent, efficient, and resilient wireless infrastructure. This is not only valuable for national-level governance but also translates into tangible consumer benefits—such as smoother video calls, lower latency for remote work, and better reliability for smart devices in crowded environments. Conclusion and Recommendation My recommendation is that Ofcom: • Treat AFC not merely as a procedural requirement, but as a strategic infrastructure layer, enabling future spectrum sharing across technologies and bands. • Reframe success to include the deployment of a scalable, intelligent AFC data base framework—not just the activation of WiFi in the upper 6 GHz band. • Consider a model in which MNOs operate AFC databases under Ofcom regulation—ensuring

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	alignment of incentives, coverage priorities, and spectrum hygiene. • Ensure any reliance on the FCC process is conditional on UK strategic autonomy over spectrum policy and future innovation directions. AFC is not just about enabling devices—it’s about enabling smarter, fairer, and future-ready networks. Ofcom’s decisions here will shape the UK’s ability to manage spectrum not just for WiFi, but for the next generation of digital infrastructure.
Question 5: Please provide any other comments on our proposals for extending access to standard power Wi-Fi and outdoor use, including the overall approach, any details on technical parameters and the running of the AFC databases in this band.	No comment
Question 6: Do you have any comments on our proposal to use a “phased” approach, or on the alternative to wait for European harmonisation?	See answer to Question 9
Question 7: Do you have any comments on the above suggestion to manage any “legacy” Wi-Fi devices, or alternative suggestions?	
Question 8: Do you have a view on the amount of spectrum that should be prioritised for Wi-Fi under the prioritised spectrum split option? Please provide evidence for your view.	No comment
Question 9: Do you have any comments on our plan for a “phase 1” when Wi-Fi will be introduced?	Anything piecemeal diminishes the incentive to invest in advanced AFC data bases at scale

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Question 10: One variation on “phase 1” would be to only authorise Wi-Fi in client devices to “seed” the market. Would you have any views on this, or suggestions for other variations?	As per answer to Question 9
Question 11: Do you have any comments on our plan for a “phase 2” when mobile will be introduced?	See response to Question 4
Question 12: Do you have a view on the amount of spectrum that should be prioritised for mobile under the prioritised spectrum split option? Please provide evidence for your view.	The split, specifically in dense urban areas, should include sufficient mobile priority spectrum to provide investment incentives in ALF data bases at scale
Question 13: Do you have any evidence or views about the geographical extent of mobile networks’ likely deployment in Upper 6 GHz?	Ofcom’s work on 26 GHz is relevant here
Question 14: Do you have any comments on our proposed phased approach to authorisation of both Wi-Fi and mobile in the Upper 6 GHz band?	As per answer to Question 9
Question 15: Do you have any comments on our proposal to not include very low power portable devices in the Upper 6 GHz band at this stage, but to keep this under review?	No comment
Question 16: Do you have any comments on our proposal to authorise the use of low-power indoor Wi-Fi access points and client devices to use 6425–7125 MHz?	No comment
Question 17: Do you have any comments on the proposed technical conditions?	No comment

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Question 18: Do you have any comments on the proposed VNS draft?	No comment
Question 19: Do you have any suggestions for an appropriate mechanism for enhanced sensing, or comments on the proposed solution above?	Sense and Avoid is inherently flawed for two high-density, performance-sensitive technologies sharing the same geography and frequencies.
Question 20: Do you agree with our proposal to restrict Wi-Fi from transmitting in the 6650-6675.2 MHz band to protect the radio astronomy service? Please provide any technical evidence to support your view.	No comment
Question 21: Do you agree with our assessment of Wi-Fi coexistence with existing users of the band? If not, please provide details.	No comment
Question 22: Do you have any evidence about the costs to operators of moving fixed links in and around “high density” areas (such as urban centres) to other bands?	No comment
Question 23: Do you have any comments on our initial assessment of our likely approach to coexistence between future mobile use and current users in the Upper 6 GHz band?	See my response to Question 4
Question 24: Do you have any other comments on our policy proposals or any of the issues raised in this document?	In its 2019 spectrum strategy consultation, Ofcom rightly identified the densification of spectrum sharing as critical to the UK’s long-term wireless future. It was a forward-looking and ambitious vision—one that positioned the UK to extract more value from a finite national resource. But it also introduced two significant challenges: growing system complexity and rising implementation

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	costs. Left unaddressed, both will continue to accumulate—ultimately becoming a drag anchor on the fulfilment of the original strategy. The only viable way to resolve this tension is through large-scale investment in advanced AFC databases—built not just for today's interference mitigation, but with the architecture to support AI-powered spectrum management in the future. <i>That is the bigger prize now hanging in the balance in decisions around how sharing in the upper 6 GHz band is governed.</i> What makes the 6 GHz band unique is <i>the alignment of interests between the sharing parties</i>, and—critically—the presence of one of the parties having both the incentive and financial capacity to fund advanced AFC at scale. <i>That combination may not occur again in any future band.</i> The purpose of this submission is modest: to provide Ofcom with a well-reasoned case to pause and reflect at what is a critical strategic decision point. One choice is to go for a short-term consumer win (from some earlier 6 GHz WiFi units in homes) — or the other choice is using the 6 GHz opportunity to leverage a significant strategic investment in advanced AFC databases critical to Ofcom's spectrum sharing densification strategy remaining capable of delivering economic growth in the longer term. <i>It is urgent as the governance of the 6 GHz band is likely to be the last, best chance to get this right.</i>