

techUK's response to Ofcom's 'Improving spectrum access for Wi-Fi – spectrum use in the 5 and 6 GHz bands' consultation

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About techUK

techUK represents the companies and technologies that are defining today the world that we will live in tomorrow. The tech industry is creating jobs and growth across the UK. More than 850 companies are members of techUK. Collectively they employ more than 700,000 people, about half of all tech sector jobs in the UK. These companies range from leading FTSE 100 companies to new innovative start-ups. The majority of our members are small and medium sized businesses.

Your response

Question	Your response
Question 1: Do you have any comments on our proposal to open access to the 5925-6425 MHz band for licence-exempt Wi-Fi use?	<p>techUK supports Ofcom being an “early adopter” and possibly being the first CEPT member state to open 5925-6425 MHz for operational use for WAS/RLAN. This is in light of the following -</p> <ol style="list-style-type: none">1) Data traffic over licence-exempt spectrum continues to grow;2) Since 2003 there has been no new mid-band spectrum for WAS/RLAN;3) New mid-band spectrum for licence-exempt is needed based on data traffic growth and new use cases. <p>Availability of new allocations of wide and contiguous mid-band spectrum at 5925-6425 MHz is critical to meet the immediate needs for licence-exempt WAS/RLAN technologies, including Wi-Fi (Wi-Fi 6E) and 5G NR-U. The proximity to the existing 5 GHz licence exempt bands means that 6 GHz chipsets and RF front-end modules will be quickly available, and recent announcements indicate availability mid-2020.¹</p> <p>In the short-term, access to the 5925-6425 MHz band will enable WAS/RLAN technologies to continue delivering positive experiences for the most bandwidth-intensive applications. Indeed, the 5925-6425 MHz band represents new “greenfield” spectrum that will allow for innovation in high performance WAS/RLAN. Regulations for this band should be specified with this in mind.</p> <p>With the proposed availability of 5925-6425 MHz in the UK, 5G NR-U will utilise channel bandwidths in multiples of 20 MHz and additionally it will be able to use carrier aggregation, while Wi-Fi 6E will also utilize up to 6 additional 80 MHz channels or 3 additional 160 MHz channels, with both technologies supporting applications such as high-definition video streaming, augmented and virtual reality. Wi-Fi 6E and 5G NR-U devices will leverage these wider channels, lower latency and additional capacity to deliver greater network performance and support more users at once, even in very dense and congested environments.</p> <p>Ofcom’s leadership in opening the 5925-6425 MHz band for licence-exempt use will directly and rapidly benefit citizen/consumers in the UK by allowing the use of wider channel bandwidths for WAS/RLANs in their homes, offices, and public spaces – keeping pace with</p>

¹ [Broadcom Press Release](#) and [Celeno Press Release](#)

Question	Your response
	<p>the higher capacities being offered from next generation services in both the fixed and mobile broadband markets. Enterprise applications such as warehouse management and some factory automation use cases will benefit from the larger number of available channels and the lower latencies offered by Wi-Fi 6E and 5G NR-U in the 5925-6425 MHz “greenfield” band.</p>
<p>Question 2: Do you have any comments on our technical analysis of coexistence in the 5925-6425 MHz band?</p>	<p>With regards to Communication Based Train Control (CBTC) systems operating at 5.9 GHz (while noting there are no UK deployments), coexistence protection requirements in CEPT for 5.9 GHz CBTC have currently centred on the use of bands up to 5945 MHz. Given the extremely limited roll out of CBTC across the CEPT region, techUK believes the use of the CBTC up to 5935 MHz will not be uniform. If the UK does not plan to utilize the CBTC band above 5925 MHz, it is free to create its own rule for the 5925-5945 MHz spectrum. In addition, examination of the receiver performance of CBTC systems (from ECC Report 302 and CEPT Report 71) shows significant scope for improvement when compared to similar (i.e. IEEE 802.11 based) Wi-Fi receiver performance. If the UK has plans to utilize CBTC above 5925 MHz, then guardband requirements imposed on WAS/RLAN in 5925-6425 MHz should be minimised to maximise usable spectrum for WAS/RLAN, although we agree that co-existence should be ensured.</p> <p>techUK urges Ofcom to ensure protection of the Fixed Service when specifying the licence exemption regulations in the 5925-6425 MHz band.</p>
<p>Question 3: Do you agree with our proposal to remove DFS requirements for indoor Wi-Fi up to 200mW from the 5725-5850 MHz band?</p>	<p>techUK agrees with Ofcom’s proposal to remove the DFS requirements for indoor devices. Noting the Czech Republic is also considering similar relaxation, techUK encourages both Ofcom and CTU (Czech Telecommunications Office) to work together on a common approach for indoor usage as this will further help drive the equipment eco-system.</p>
<p>Question 4: Do you have any comments on other options that may be available for Wi-Fi and RLANs within the 5 GHz band?</p>	<p>techUK supports Ofcom undertaking further work on how low power outdoor use, including in trains and automobiles, could be implemented in the UK following the changes to the ITU Radio Regulations for WAS/RLAN use of the 5150-5250 MHz band as agreed at WRC-19.</p>