

Wi-Fi Alliance® Response to UK Ofcom Consultation “Statement on improving spectrum access for consumers in the 5 GHz band and Notice of proposal to make Wireless Telegraphy Exemption Regulations 2017 (Consultation on Regulations and proposed technical parameters)”

Wi-Fi Alliance Introduction

Wi-Fi Alliance is a global, non-profit industry association of over 700 leading companies from dozens of countries devoted to connecting everyone and everything everywhere. With technology development, market building, and regulatory programs, Wi-Fi Alliance has enabled widespread adoption of Wi-Fi worldwide, certifying thousands of Wi-Fi products each year. The mission of Wi-Fi Alliance is to provide a highly effective collaboration forum for Wi-Fi matters, grow the Wi-Fi industry, lead industry growth with new technology specifications and programs, support industry-agreed standards, and deliver greater product connectivity through interoperability, testing, and certification.

Wi-Fi Alliance has participated in past efforts to expand the spectrum resources available for unlicensed operations, including opening up portions of the 5 GHz band for unlicensed devices.

Studies conducted by Cisco¹ show that Wi-Fi continues to be one of the fastest growing elements of the wireless market: in 2015, global Wi-Fi traffic was 55.2% of Internet traffic, and it will be 59.1% of total Internet traffic in 2020, meaning that, with increases in total Internet traffic, in three years Wi-Fi networks will be carrying three times as much content as they were in 2015.

To support this massive increase in use of Wi-Fi capacity will require more spectrum and greater use of spectrum already available for Wi-Fi operations. Wi-Fi Alliance² own research indicates that countries will need to find between 500 MHz and 1 GHz of new spectrum for RLANs by 2025 in order to keep up with growing demand for, and increased use of, these networks.

In addition to being restricted by congestion, the 2.4 GHz band is not capable of supporting ultra-high-speed Internet applications because of its limited bandwidth. RLANs now require more contiguous spectrum in the form of wider channels in order to take full advantage of technologies that can support higher data speeds and more resilient connections. The latest Wi-Fi technology, known as 802.11ac, is designed to operate in the 5 GHz band with gigabit speeds and it is already beginning to dominate the wireless connectivity market.

Modifying the rules governing the 5725-5850 MHz (5.8 GHz) band would help address these limitations of the 2.4 GHz band by making available another 125 MHz of contiguous spectrum – enabling the use of new 80 and 160 MHz wide channels. This would significantly increase the amount of usable spectrum helping to alleviate the looming performance and congestion challenges, and helping carriers to reliably deliver gigabit speeds.

¹ Cisco, *VNI Complete Forecast Highlights Tool*, [Cisco VNI Forecast Highlights](#)

² Wi-Fi Alliance, *Spectrum Needs Study, Final Report*, February 2017 [WFA Spectrum Needs Study](#)

Question 1: Do you have any comments on the drafting of the Proposed Regulations?

Wi-Fi Alliance Response to Question 1

General Opening Comments

On 9th March 2017, UK Ofcom issued a consultation titled “Statement on improving spectrum access for consumers in the 5 GHz band and Notice of proposal to make Wireless Telegraphy Exemption Regulations 2017 (Consultation on Regulations and proposed technical parameters)” seeking input on the 5725-5850 MHz (5.8 GHz) band. Wi-Fi Alliance applauds UK Ofcom’s efforts to make the 5725-5850 MHz (5.8 GHz) band available for RLAN devices. We believe this is a significant step to address the growing demand for spectrum to assist meet the current and future data demands which need to be carried over wireless networks. This increased requirement for Wi-Fi capacity will require access to additional new spectrum. As previously mentioned, Wi-Fi Alliance own research indicates that countries will need to find between 500 MHz and 1 GHz of new spectrum for RLANs by 2025 in order to keep up with growing demand for, and increased use of, these networks.

Wi-Fi Alliance supports Ofcom authorising use of 5725-5850 MHz (5.8 GHz) band in the UK under the Wireless Telegraphy Act 2006 on a license exempt general authorisation basis.

Wi-Fi Alliance welcomes Ofcom implementing the flexibility explicitly provided in EC Decision 2006/771/EC relating to the harmonisation of the 5725-5850 MHz (5.8 GHz) band for use by short-range devices (SRDs) in particular Article 2 of this Decision which gives Member States the right to allow the use of the frequencies under less restrictive conditions. We address “Radiated Power Limit”, among other technical parameters in our response to Question 2.

While stressing the importance of enabling access to the 5725-5850 MHz (5.8 GHz) band Wi-Fi Alliance believes that with 500 MHz to 1 GHz of new spectrum needed for RLANs by 2025, Ofcom should continue to show leadership by also enabling RLANs access to the 5925-6425 MHz band, in support of the ECC tasking WG FM to study the technical and regulatory feasibility of harmonised introduction of low power wireless access systems (including RLAN) in the band 5925-6425 MHz.

Wi-Fi Alliance believes Ofcom should also continue to pursue access to the 5850-5925 MHz band to accommodate RLAN use under the existing primary mobile service allocation. We believe that there is no need to progress this band within the ITU under WRC-19 Agenda Item 1.16. Wi-Fi Alliance would support a “no change” method to satisfy Agenda Item 1.16 for this band.

Question 2: Do you have any comments on the proposed technical parameters?

Wi-Fi Alliance Response to Question 2

Transmit Power (EIRP)

Wi-Fi Alliance notes Ofcom's intent to limit the Radiated Power in the 5725-5850 MHz (5.8 GHz) band to reduce probability of undue interference but we recommend that the possibility to consider a higher EIRP, either now or at some point in the future, is not precluded.

Wi-Fi Alliance notes that for Broadband Fixed Wireless Access (BFWA) in the 5725-5850 MHz (5.8 GHz) band, the Radiated Power is 4W EIRP. Maybe a similar regulatory framework incorporating DFS/TPC could be considered to allow RLAN outdoor use (see next point on Dynamic Frequency Selection (DFS)).

Dynamic Frequency Selection (DFS)

Wi-Fi Alliance notes devices operating in the US in the 5725-5850 MHz (5.8 GHz) band do not require Dynamic Frequency Selection (DFS), whereas in Europe, all Broadband Fixed Wireless Access devices communicating between two fixed locations are required to employ DFS.

Wi-Fi Alliance further notes that Ofcom is proposing to preclude Fixed Outdoor use in the 5725-5850 MHz (5.8 GHz) thereby limiting risk of interference to radars. We understand that mobile and nomadic use is not precluded.

Wi-Fi Alliance agrees that Ofcom should take "a cautious approach to sharing with radars" we welcome Ofcom undertaking further review of the 5725-5850 MHz (5.8 GHz) band noting the Ofcom statement "we believe that the use of radars in 5.8 GHz might be fairly light in the UK". Wi-Fi Alliance is of the view that alternatives to DFS should be considered to enable certain use cases at some point in the future.

European (ETSI) Standards

Wi-Fi Alliance sees merits in building upon the already established ETSI harmonised standards in particular EN 301 893 "5 GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU" to assist gain access to the 5725-5850 MHz (5.8 GHz) band. We believe that including this band within EN 301 893 could be simply handled via a revision to this standard.