



Ofcom Consultation: Mobile Data Strategy

Response of Wi-Fi Alliance

Wi-Fi Alliance is pleased to provide here our response to the Ofcom Consultation entitled “Mobile data strategy”.

About Wi-Fi Alliance

Wi-Fi Alliance is a global, non-profit industry association of more than 600 leading companies devoted to seamless interoperability. With technology development, market building, and regulatory programs, Wi-Fi Alliance has enabled widespread adoption of Wi-Fi worldwide, certifying more than 3,600 new products last year alone. 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 testing and certification.

General Response

Wi-Fi is a critical component of the mobile wireless ecosystem, and the use of Wi-Fi technology in a variety of sectors has improved businesses and provided added convenience and connectivity for consumers. Today, consumers can access Wi-Fi networks with a wide variety of Wi-Fi enabled devices, such as wireless handsets, notebook and netbook computers, tablets, portable electronic games, media players, e-readers, televisions, and cameras. Further, Wi-Fi hotspots have proliferated in public spaces, including restaurants, convention centers, parks and airplanes, just to name a few. Without Wi-Fi, the value of fixed broadband would be lower because consumers and businesses would not benefit from ubiquitous and simultaneous access throughout a home or office.^{1/}

Additionally, Wi-Fi technology has positively affected consumers and businesses beyond the scope of phones, personal computers and consumer electronics by reaching a variety of new sectors, including health and fitness, automotive, and smart energy.^{2/} For example, Wi-Fi use in

^{1/} See Richard Thanki, *The Economic Significance of License-Exempt Spectrum to the Future of the Internet*, at 32-37 (June 2012) (“Thanki Report”).

^{2/} Wi-Fi Alliance, 2012 Annual Report, available at <http://www.wi-fi.org/about/organization> (“2012 Wi-Fi Alliance Report”).

automobiles is on the rise, with primary uses including network-connected navigation, vehicle analytics and safety features, Internet-based radio, and wireless connections for Internet audio/video download and streaming.^{3/} Wi-Fi technology is likewise serving an important public role in the medical field, with new technologies including vital sign monitoring devices that can monitor adult and pediatric patients with one portable, compact device.^{4/}

As a result of its varied uses and deployment, Wi-Fi has become a significant economic engine. Since 2001, Wi-Fi device shipments have experienced double-digit yearly growth, and today, one in six people around the world use Wi-Fi at home, at work, and on the move.^{5/} Last year, Wi-Fi carried 69 percent of total traffic generated by smartphones and tablets and was responsible for carrying 57 percent of total traffic for personal computers and laptops. According to one study, this level of connectivity has resulted in a total economic gain for all households of around \$52 to \$99 billion annually.^{6/}

In crafting its mobile demand strategy, therefore, Ofcom should:

- Prioritize (1) opening up 5350-5470 MHz and 5725-5925 MHz for licence-exempt use, indoor and outdoor, (2) ensuring sufficient usable spectrum is available for license-exempt use in the UHF White Spaces, and (3) enabling license-exempt use in the 3.6-3.8 GHz bands;
- Foster a thriving ecosystem of license-exempt devices, services, and applications by allocating sufficient spectrum for licence-exempt access both above and below 1 GHz and establishing technical rules that foster innovation and investment; and
- Pursue dynamic spectrum sharing as a way of improving spectrum utilization.

1. Ofcom should prioritize enabling licence-exempt access to the 5 GHz band, UHF TV White Spaces, and the 3 GHz bands.

Wi-Fi's success derives in part from its global reach, as access to a worldwide market drives down the prices for all users. As such, Wi-Fi Alliance seeks harmonized access to bands across the world. In particular, the 802.11ac standard depends on access to the 5 GHz spectrum. 802.11ac is ready for deployment, and it requires wide channels to drive high speeds. Therefore, opening up 5350-5470 MHz and 5725-5925 MHz for licence-exempt use across jurisdictions, both indoors and outdoors, is Wi-Fi Alliance's first priority. Wi-Fi Alliance encourages Ofcom to work with all stakeholders in preparation for the 2015 World Radio Conference to enable licence-exempt access across the entire 5 GHz band. In addition, the recently completed 802.11af standard is designed to utilize the UHF TV White Spaces spectrum. This technology is also ready to deploy and generally requires a minimum of 4 channels (or 32 MHz) available in both urban and non-urban geographies to support commercial investments. Therefore, Ofcom

^{3/} Jim Lansford, Automotive Applications for Unlicensed Spectrum (July 2012).

^{4/} See generally Wi-Fi Alliance, Certified Products, Medical/Fitness Device, http://certifications.wifi.org/search_products.php?search=1&lang=en&filter_category_id=46&listmode=1

^{5/} See 2012 Wi-Fi Alliance Report.

^{6/} See Thanki Report.

should also prioritize completing regulatory work to enable use of the UHF TV White Spaces. Finally, as the evolution to small cell deployments expands, enabling license-exempt use in the 3.6-3.8G Hz bands will be an important catalyst to the success of those deployments.

2. Overall, Ofcom should allocate sufficient spectrum for licence-exempt use both above and below 1 GHz and prioritize policies that support a thriving ecosystem of licence-exempt devices, services, and applications.

Access to licence-exempt spectrum fosters widespread contributions to innovation and fast-paced investment in emerging technologies. For example, Wi-Fi technology initially provided an innovative way of using the 2.4 GHz spectrum, and it is now an increasingly ubiquitous means of connecting to the Internet. Like other license-exempt uses, Wi-Fi also complements licensed use. As Ofcom has recognized, the use of small cells and Wi-Fi for carrying mobile offload will play an increasingly important role in meeting spectrum demands of the future. The Wi-Fi experience also makes clear that greater availability of licence-exempt spectrum increases demand for and the utility of licensed spectrum, as each distinct type of connectivity feeds demand for additional bandwidth overall. However, licence-exempt uses can flourish only if Ofcom allocates sufficient spectrum for those uses and establishes technical rules that support industry investments in licence-exempt technologies. For example, power levels must be high enough to support real-world uses; mask requirements should track the current technological developments; and rules should permit both indoor and outdoor use. Therefore, in crafting its overall mobile data strategy, Ofcom should prioritize enabling licence-exempt access to spectrum for mobile broadband at a variety of different frequency ranges (e.g., below 1 GHz, between 1 and 5 GHz, and above 5 GHz).

3. Ofcom should adopt spectrum-sharing policies as a part of its strategy for meeting increased demand.

Wi-Fi Alliance also encourages Ofcom to pursue spectrum sharing as a critical component of its overall strategy for meeting the U.K.'s growing mobile data needs. Sharing improves spectrum utilization, allowing users to make the most of a finite resource. Particularly as demand for spectrum continues to increase, Ofcom should not allow spectrum to lie fallow when it could be put to use through dynamic sharing techniques. Spectrum sharing also puts additional spectrum to use quickly by allowing incumbents to remain in place and eliminating or minimizing auction times. And spectrum sharing works: Wi-Fi Alliance members have been working with database developers and others to support Wi-Fi technologies that operate over dynamically shared spectrum. It will take a variety of tools to meet the exponentially growing demand for data, and Ofcom should recognize spectrum sharing as one of those tools.

Over the last decade or more, Wi-Fi use has emerged as a key way of meeting the U.K.'s broadband needs. Wi-Fi Alliance encourages Ofcom to foster the continued growth of innovative broadband technologies by enabling robust access to licence-exempt spectrum.

Respectfully submitted

WI-FI ALLIANCE

A handwritten signature in black ink, appearing to read 'Edgar Figueroa', written over a horizontal line.

Edgar Figueroa
President and CEO
10900-B Stonelake Blvd., Suite 126
Austin, Texas 78759
+1-512-498-9434
efigueroa@wi-fi.org

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