



Ofcom Call for Input: Licence exempt spectrum use in the 2400 MHz band

British Sky Broadcasting Limited ('Sky') Response

Summary

1. Sky welcomes the opportunity to respond to Ofcom's call for inputs ahead of the release of the 2300 MHz band by the Ministry of Defence (MoD) for civil use.
2. Sky is a significant 2.4GHz spectrum user. We use 2.4GHz spectrum to connect our customers to our Sky routers in-home and through The Cloud public Wi-Fi network. Sky continues to see extensive growth in the use of Wi-Fi, both in-home and outside the home and we confidently expect Wi-Fi to continue to be the dominant platform for data delivery in the foreseeable future.
3. Sky strongly supports Ofcom's moves to ensure more efficient use of spectrum. We also support the international move to make more spectrum available for data usage, and in particular licence exempt spectrum which we see as adding considerable value to consumers.
4. Sky therefore broadly supports the move to free up the MoD spectrum. However, we do have some concerns over the release of the 2350-2390MHz band, where any coexistence issues could significantly reduce the benefits that are derived from the use of the 2.4GHz licence exempt spectrum, whether for Wi-Fi or other uses.
5. Similarly, Sky is concerned about the impact of the release on the current PMSE applications (primarily wireless cameras) in adjacent bands as there is still uncertainty over the extent of reallocation and sharing with the MOD, which may significantly affect the bandwidth available for PMSE usage.
6. Sky welcomes the opportunity to work with Ofcom to explore these potential interference concerns in an attempt to minimise the impact of the proposed changes on existing users.

Licence exempt Wi-Fi delivers a significant economic benefit to the UK

7. Wi-Fi is an essential component of the mobile data ecosystem. In the UK, Wi-Fi carries around 70% of smartphone data traffic, with many MNOs now either pushing data traffic onto third party Wi-Fi networks or deploying their own Wi-Fi networks¹. Analysys

¹ See the report by Richard Thanki "*The Economic Significance of Licence- Exempt Spectrum to the Future of the Internet*" (June 2012).

Mason estimate that the proportion of data traffic attributable to Wi-Fi on connected mid-screens is around 80%².

8. There is a general consensus that there will be significant future growth in mobile data consumption, and that Wi-Fi will play a crucial role in meeting this increase in demand. Ofcom itself has predicted that half of the expected explosion in mobile data capacity³ will be met by offloading data onto fixed networks, including via Wi-Fi.
9. The recent sale of spectrum for advanced 4G services and network construction plans will drive the sale of 4G enabled devices, but we do not currently foresee that they will overtake Wi-Fi enabled devices. We believe Wi-Fi will continue to be attractive to consumers as an extremely cost effective, high capacity data service.
10. Furthermore, Wi-Fi is a significant wireless technology in itself, not merely an additional method to connect cellular devices. Many tablets do not have cellular capabilities, with some estimates suggesting that up to 90% of those sold are Wi-Fi-only devices⁴.
11. Sky uses the 2.4 GHz band for both in-home and enterprise Wi-Fi. Our 4.4 million broadband subscribers extensively use Sky's wireless routers to access the internet via portable devices. And as a Wi-Fi hot-spot service provider via The Cloud, Sky is acutely aware of the importance of Wi-Fi in catering for consumers' mobile data demands out-of-home.
12. Wi-Fi therefore delivers significant benefits to UK consumers – benefits which are likely to increase rapidly over time. Appropriate steps should be taken to secure these benefits in the light of the MoD release and the increased use of spectrum more generally.
13. Ofcom's reports note that domestic and enterprise Wi-Fi are wide scale applications, and suggest that these have 'already [been] identified for further study'. We would urge Ofcom to present details of their proposed work on Wi-Fi coexistence as soon as possible, and to engage with industry at the earliest opportunity ahead of the proposed consultation on this issue later this year.

The MoD spectrum release programme should also take account of the impact on PMSE use

14. The current 2350-2390MHz band is adjacent to bands that are extensively used for PMSE activities (primarily wireless cameras). Release of this spectrum for civil use will result in the potential loss of further channels for these wireless links in the UK. Given the shortage of spectrum available for this application as well as the impact of other spectrum band releases, this will make it increasingly difficult for PMSE to support the required level of coverage for future events.

² Analysys Mason webinar: *'Too little traffic: strategies for MNOs in developed economies facing weakening mobile data demand'*, October 2012.

³ Estimated at an 80-300 fold increase by 2030 – see Ofcom, 'Securing long term benefits from scarce spectrum resources', 2012.

⁴ US Wireless Market Update 2011, Chetan Sharma, <http://www.chetansharma.com/USmarketupdate2011.htm>

15. In the apparent absence of alternative spectrum, Sky would welcome an opportunity to discuss these concerns in greater detail with Ofcom.

Sky

June 2013