Ericsson response to OFCOM consultation

Improving spectrum access for Wi-Fi Spectrum use in the 5 and 6 GHz bands

Ericsson welcomes the opportunity to respond to the OFCOM consultation, improving spectrum access for WiFi spectrum use in the 5 and 6 GHz bands.

In summary Ericsson believes it is critical that OFCOM adopts a technology neutral approach to these spectrum bands. Ericsson supports OFCOM's proposal to treat 6GHz as an innovation band. Therefore, 6GHz should not automatically inherit the conditions associated with 5GHz. To enable innovation, it is essential to embrace a greenfield approach to the licence conditions.

Our general guidance is it may be appropriate to wait for CEPT testing on 6GHz to conclude before finalizing the conditions.

It is important to ensure that the definition of indoor does not limit potential use cases by being too restrictive.

Ericsson response to the questions raised in the consultation:

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?

Ericsson would like to clarify that all RLAN technologies have open access to the 5925-6425 MHz for licensed -exempt use, not only WiFi. The consultation heading implies a WiFi only approach.

We believe that, in line with the CEPT developments in relation with the band 5925-6425 MHz, this should be allocated on a technology neutral basis. In addition, it is of extreme importance to acknowledge this band as a green field which will allow for innovation and not as an extension of the 5GHz band. As an example, the band channelization should not follow the WiFi channel plans (as in chapter 4, Figure 4.1), but instead allow for a more efficient and innovative use of spectrum by allowing for any channel multiple of 20 MHz.

We note that the consideration for IMT (International Mobile Telecommunications) identification at WRC-23 in the range 6425-7125 MHz is mentioned in Note 10. We would like to recommend UK not to extend the unlicensed usage to this range. We believe that the range 6425-7125 MHz is indeed an extraordinary mid-band opportunity that allows for wide channels and would thus be of great value to ensure the full success of 5G [reference 1] also in the future.

Indeed, the early adopters of 5G, for example South Korea, employing attractive data plans as well as innovative mobile apps and content, have pushed up monthly mobile data usage considerably, reaching 25GB per month last August. This trend is expected to continue, and it is also expected that off-loading by license-exempt (e.g. WiFi/NR-U) will be less common.

[reference1]:
https://www.analysysmason.com/contentassets/4dfde367f7cc45728d7686db865094ca/analysys_mason_6ghz_opportunity_imt_white_paper_jan2020.pdf

Question 2: Do you have any comments on our technical analysis of coexistence in the 5925-6425 MHz band?

As per our view, incumbents (especially Fixed Service) need to be protected before considering the allocation of this band to the RLANs. The general authorization of RLANs especially in the highly populated and dense urban areas can create harmful interference to the FS links, like also shown in the CEPT studies. The number of simultaneously transmitting RLAN devices contribute to the aggregated interference and therefore parameters considered in the study to calculate this number are of utmost importance. One such parameter, Market Adoption Factor (6 GHz Capable Devices), of 32% seems to be a relaxed value which decreases the number of simultaneously transmitting RLAN devices quite significantly (Table A7.6). In ECC report 302, this factor is the projection for year 2025 but doesn't say anything about the years beyond that. The protection of FS needs to be considered beyond 2025 also and thus we request OFCOM to reconsider this factor.

When looking at the studies performed by CEPT, we first emphasize that CEPT considered lower indoor power in the studies (I.e. 200mW instead of 250mW). Even with this assumption, one of its studies in ECC Report 302 (section 6.3.3.2) concluded that long-term criterion is respected in all the cases, however, with some instances the aggregated interference exceeded beyond the threshold, for up to 10% of the time and another study (section 6.4.4.2) concluded that the short-term criterion may not be met. This has led CEPT to study short-term interference, which is now called, Draft ECC Report 316. One of the studies in this report, currently under public consultation, concludes that if the percentage of outdoor VLP client devices goes beyond 4% of the total RLAN devices, the short-term criterion will be violated.

We also would like to highlight the importance of the short-term interference in case of Fixed Service protection, which can cause errors in the received signal even in the unfaded conditions.

For general authorization (licensed-exempt usage) in the frequency range 5925-6425 MHz, we believe that it is of extreme importance to set appropriate harmonized technical requirements from the beginning, as highlighted in OFCOM's consultation on 6GHz (section 1.8). Thus, the difference in max EIRP levels suggested by CEPT and OFCOM may be one of the areas to investigate.

For all these reasons, we request OFCOM to follow and wait for CEPT developments to decide the final EIRP limits as well as potential mitigation techniques for the Fixed Service.

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?

We are neutral on this question at this point but note the difficulty for an administration to control the indoor usage and welcome proposals from OFCOM on how to control this usage and not interfere incumbents.

Question 4: Do you have any comments on other options that may be available for Wi-Fi and RLANs within the 5150-5250 MHz band?

No Comment to add on this question.

About Ericsson.

Ericsson is one of the leading providers of Information and Communication Technology (ICT) enabling communications service providers to capture the full value of connectivity. The company's portfolio spans Networks, Digital Services, Managed Services, and Emerging Business and is designed to help our customers go digital, increase efficiency and find new revenue streams. Ericsson's investments in innovation have delivered the benefits of telephony and mobile broadband to billions of people around the world. The Ericsson stock is listed on Nasdaq Stockholm and on Nasdaq New York.
www.ericsson.com

Ericsson has been connecting the UK for more than 120 years. We manage mobile networks for over 90 million UK subscribers and create game-changing technology for customers and industry partners. With more than 3000 staff at seven office locations, we are leading in 5G and IoT technology and unleashing a new wave of innovation across the UK. https://www.ericsson.com/en/about-us/company-facts/ericsson-worldwide/united-kingdom

FOLLOW US:

www.twitter.com/ericsson
www.facebook.com/ericsson
www.linkedin.com/company/ericsson
www.youtube.com/ericsson

For further conversations or questions, please contact:

[✂]

Tel: [✂]

[✂]