

VODAFONE / CK HUTCHISON JOINT VENTURE MERGER INQUIRY

BT's SUPPLEMENTAL SUBMISSION TO THE CMA's ISSUES STATEMENT PUBLISHED 2 MAY 2024

BT provides the following Phase 2 Supplemental Submission, to bring to the CMA's attention Ofcom's consultation "*UK Broadband's application for licence variation and proposals to promote efficient use of 3.9 GHz spectrum*" published on 20 May ('Ofcom's Consultation').¹ If approved (as Ofcom is minded to), the licence variation requested by Three will create additional excess capacity in the 3.5 GHz range (up to 84 MHz spectrum). As a result, the Merged Entity will have even greater spare capacity, and therefore even greater ability to act strategically to deter competition and investment, than was anticipated in BT's previous submissions. Specifically, the additional excess capacity freed up in the 3.5 GHz range would, as a percentage of total industry-wide post-merger capacity, amount to:

- 16%** of all downlink capacity,²
- 18%** of all mid band downlink capacity (i.e. 1800 MHz – 3.5 GHz), and
- 24%** of all 3.5 GHz downlink capacity.

This assumes the Merging Parties would be able to offload all of their FWA traffic onto the 3.9 GHz band.

This licence variation significantly raises the risk of creating additional excess mobile capacity as post Merger the Merging Parties will be able to direct 5G based FWA traffic away from the 3.5 GHz range into 3.9 GHz that can only be used for this purpose.

Three's request for a licence variation in 3.9 GHz is relevant to the CMA's phase 2 inquiry

- Following the publication of Ofcom's Consultation, BT has become aware that in November 2023 Three made a request to Ofcom to vary the technical conditions in its existing licence for the 3.9 GHz (3925 – 4049 MHz) spectrum band to allow 5G-based FWA. As is clear from Three's licence variation request, Three intends to offload existing FWA traffic from its 3.5 GHz band spectrum to the 3.9 GHz band. Three states in its request:
*"3UK needs to offload FWA traffic from its 3.4-3.8GHz to dedicated 3.9 GHz spectrum, leaving 3.4-3.8GHz to serve mobile services and providing new capacity and faster speeds to customers of both services"*³
- If granted, Three's request effectively moves the UK Broadband service in 3.9 GHz from a 4G Long Term Evolution based FWA service to a 5G FWA service. This change benefits the capacity of Three's existing mobile network in 3.5 GHz by enabling Three to offload FWA devices into the currently very lightly used 3.9 GHz band. Three is the only MNO with spectrum holdings in the 3.9 GHz band.

¹ [Consultation: Optimal use of 3.9 GHz spectrum - Ofcom](#)

² To derive excess capacity as a share of the Merging Parties post-merger capacity, we convert the 84 MHz of 3.5 GHz into downlink capacity (ie numerator) and divide by total downlink capacity of the Merging Parties (including the existing 84 MHz of 3.5 GHz in the denominator). Downlink capacity is the product of the number of sites, number of sectors per site and capacity per site (where spectrum efficiency parameters and spectrum holdings are used to derive capacity per site). See also footnote 38 of BT's IS Response. We are happy to provide our detailed calculations on request.

³ [Annex 2 - Licence variation request \(ofcom.org.uk\)](#)



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3. The licence variation will make available an additional **84 MHz** of 3.9 GHz spectrum for 5G FWA services, and consequently clear up to 84MHz of spectrum in 3.5GHz that might otherwise have been used (or is being used) for FWA services.
4. While Ofcom is explicitly not proposing to allow the use of 3.9 GHz for mobile (use would be limited only for FWA) the varied spectrum licence to facilitate 5G technology deployment will increase Three's available 5G spectrum by relieving the 5G mobile bands in the 3.5 GHz range, freeing them for mobile rather than FWA use. It is therefore relevant to the CMA's assessment of the Merger's impact on shares of mobile capacity including potential for highly asymmetric shares giving the Merging Parties the ability and incentive to use or withhold its excess capacity strategically (noting Ofcom explicitly addresses such concerns by setting spectrum caps in relation to mobile spectrum auctions).

VF3 will have even greater excess capacity to withhold / wield strategically to deter competition and investment

5. Three's intention to offload existing FWA traffic from its 3.5 GHz band spectrum to the 3.9 GHz band will create additional excess capacity within their existing "Three" mobile network. Specifically, the additional excess capacity freed up in the 3.5 GHz range would, as a percentage of total industry-wide post-merger capacity amount to:
 - **16%** of all downlink capacity,⁴
 - **18%** of all mid band downlink capacity (i.e. 1800 MHz – 3.5 GHz),⁵
 - **24%** of all 3.5 GHz downlink capacity.⁶
6. This assumes the Merging Parties would be able to offload all of their FWA traffic onto the 3.9 GHz band. This would be in addition to any existing excess capacity elsewhere in the 3.5 GHz range.
7. This will further reduce the cost to VF3 of withholding mid-band spectrum, increasing its ability and incentive to do so. It should be noted that this effect does not depend on whether the variation has been sought specifically in contemplation of the Merger. Even if it were the case that Three may have sought the licence variation absent the Merger, that would not in itself have given rise to a significant capacity asymmetry. Rather, the variation's competitive significance is in the context of the Merger, since it means that the capacity asymmetry resulting from the Merger, and hence the likelihood of the Merging Parties engaging in strategic behaviour post-Merger, is even starker than BT had previously anticipated. See also BT's IS Response, section 2 part 2 including Box 2.2).
8. We expect Three could offload its FWA traffic away from 3.5 GHz to 3.9 GHz relatively quickly and with few barriers. For instance, Three's website confirms that it sells devices (routers), that support 5G FWA at 3.9 GHz allowing for the immediate offloading of FWA traffic away from 3.5 GHz onto 3.9 GHz, i.e. the same router can be switched from 3.5 GHz to 3.9 GHz.⁷ We recognise that Three will have 4G FWA customers and 5G FWA customers that have older devices

⁴ This can be expressed as 26% of the Merging Parties 61% share of total industry downlink capacity (see also Figure 2.2 of BT's IS Response),

⁵ This can be expressed as 30% of the Merging Parties 60% share of industry midband downlink capacity (see also Figure 2.4 of BT's IS Response).

⁶ This can be expressed as 37% of the Merging Parties 67% share of industry 3.5 GHz downlink capacity (see also paragraph 2.12 and Box 2.2 of BT's IS Response).

⁷ [New Three 5G Hub \(NR5103E\) | ISPreview UK Forum; New three 5g Hub Zyxel NR5103E - Three Community - 8452](#). The Zyxel router shown on the Three website supports channel n77 ie 3.9 GHz.

that do not support 3.9 GHz. However, we would still expect the bulk of 5G FWA traffic using currently available routers to be offloaded away from 3.5 GHz quickly as well as offload arising from churn from older 4G/5G FWA routers to newer routers over the short term, i.e. within 2 years.

9. The CMA may wish to investigate the extent of FWA traffic currently carried over the UKBB 3.4 GHz spectrum (using both peak and average traffic measures) to identify the potential additional excess capacity that could be freed up from Three offloading FWA traffic away from 3.5 GHz to 3.9 GHz.
10. We note Three has already demonstrated an ability and incentive to hoard 3.9 GHz spectrum:
 - a. Ofcom says that so far, the 3.9 GHz spectrum has remained unused, and Three is therefore preventing other users from accessing this portion of the 3.8- 4.2 GHz band: “[Three] currently has around 26,000 assignments (at nearly 9000 locations across the UK),”. “These assignments are currently not in use and prevent other users from accessing this spectrum.”⁸
 - b. To account for this, Ofcom wants to introduce a usage requirement that resembles a “use it or lose it” clause.⁹
11. We welcome Ofcom’s proposal to use the 3.9 GHz spectrum more efficiently (and intend to support these measures in our response to Ofcom’s Consultation). However, for the reasons set out above, the change would have the side-effect of exacerbating the competition concerns raised by the Merger, and we would urge the CMA to give careful consideration to this in its assessment of the Merger.

In the future, VF3’s share of mobile capacity will increase significantly if 3.9 GHz is designated for public mobile use

12. We also wish to highlight a longer-term concern that may exacerbate post-merger asymmetric capacity shares. Ofcom is explicitly not proposing to allow the use of 3.9 GHz for mobile (use would be limited only for FWA). However, BT considers that 3.8 - 4.2 GHz (including 3.9 GHz) is functionally equivalent to 3.4 - 3.8 GHz (the 3.5 GHz band) and could be used by MNOs for mobile (absent current technical and licensing restrictions imposed by Ofcom). If Ofcom were to designate 3.8-4.2 GHz for mobile use in future, then Three’s 84 MHz of 3.9 GHz would need to be included within Three’s share of total sub mmWave spectrum holdings (by adding 84 MHz to both the 140 MHz spectrum holdings held by Three pre-Merger, and to the 515 MHz spectrum holdings held by the Merging Parties post-Merger).¹⁰ This would increase VF3’s shares of mobile capacity as follows:¹¹
 - a. Total downlink capacity share increases from **61%** (see Figure 2.2 of BT’s IS Response) **up to 66%**
 - b. Mid band downlink capacity share (now 1800 MHz to 3.9 GHz) – increases from **59.7%** (see Figure 2.4 of BT’s IS Response) **up to 65.9%**
 - c. 3.5 GHz (including 3.9 GHz) downlink capacity share increases **from 67%** (see paragraph 2.12 and box 2.2 of BT’s IS response) **up to 73.4%**

⁸ [Consultation: Optimal use of 3.9 GHz spectrum - Ofcom](#), paragraph 2.10.

⁹ *Ibid*, paragraph 4.9.

¹⁰ To derive the Merging Parties post-merger capacity share if 3.9 GHz is designated for public mobile use, we add the new 84 MHz of 3.9 GHz (converted into a downlink capacity measure) in both the numerator and denominator to the Merging Parties post-merger capacity holdings.

¹¹ There is no change to the Merging Parties share of low band downlink capacity as 3.9 GHz is not a low band frequency.



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Conclusion

13. Three's request for a licence variation in 3.9 GHz is not simply a technical licencing matter for Ofcom. In fact, Ofcom noted there are wider policy and competition issues raised by the request in its consultation document.¹² The licence variation raises further competition concerns in relation to the proposed Merger as it will create additional excess capacity in the 3.5 GHz range that can be used strategically to deter competition and investment. BT considers therefore that this is a matter the CMA should investigate further as part of its Phase 2 assessment of the Merger.

¹² [Consultation: Optimal use of 3.9 GHz spectrum - Ofcom](#)