



Defragmentation of spectrum holdings in the 3.4 - 3.8 GHz band

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Contents

| | |
|--|----------|
| Executive Summary | 3 |
| 1 Introduction | 4 |
| 2 Restricting assignment position of winners of a small package | 4 |
| 3 Inclusion of optional negotiation phase | 5 |
| 3.1 Unanimous agreement negotiations | 5 |
| 3.2 Partial agreement negotiations | 5 |
| 3.3 Timescales | 6 |
| 4 Other points | 6 |
| 4.1 Facilitating negotiations and compliance with auction rules | 6 |

Executive Summary

1. BT¹ welcomes this consultation on how the assignment stage of the 3.6 - 3.8 GHz auction can be organised to help facilitate defragmentation of the wider 3.4 - 3.8 GHz band. The new proposals go some way towards addressing concerns that we and others had raised in responses to Ofcom's previous consultation and we appreciate the work Ofcom has done in response to these concerns.
2. Ofcom's proposals would enhance the prospects of achieving partial or complete defragmentation of the 3.4 - 3.8 GHz band, with very limited potential downsides, and we therefore support them. We consider the short extension to the duration of the auction and potential limitations to assignment locations are of minor consequence when considered against the significant performance and efficiency gains that would arise from potential wider band defragmentation, to the ultimate benefit of UK consumers.
3. BT agrees that a winner of a small package of spectrum should as a default only be assigned at the edge of the 3.6 - 3.8 GHz band, and preferably limited to the top of the band. This would enhance the possibility that winners of larger blocks can reach agreement to do post auction trades aimed at defragmenting the wider 3.4 - 3.8 GHz band. However, we propose that the threshold for such small packages should be "20 MHz or less" rather than "less than 20 MHz", particularly if Ofcom were to use 10 MHz lot sizes as BT/EE proposed instead of a 5 MHz lot size.² We consider 20 MHz to be a more relevant threshold than 15 MHz, because 20 MHz is more likely to be a winning auction outcome than 15 MHz given that it is highly unlikely that other bidders will seek multiples of 5 MHz rather than 10 MHz.
4. BT also agrees with Ofcom's proposal to allow a negotiation period, after auction winners are decided, to agree assignment positions within the 3.6 - 3.8 GHz band. The relative position of spectrum winners within the 3.6-3.8 GHz band could be an important precursor to potential post auction spectrum trades across the wider 3.4 - 3.8 GHz band. The assignment outcome is therefore an important enabler for potential defragmentation of the wider band.
5. BT agrees that the negotiations between the 3.6 - 3.8 GHz spectrum winners should aim first to reach unanimous agreement between them on their assignment positions within the 3.6 - 3.8 GHz band. However, if this cannot be achieved, it is important that Ofcom includes the further option of exploring whether partial agreement between a subset (or subsets) of winners can be achieved.
6. Given the complexity of the potential options and consideration of likely internal company Governance processes, we suggest that up to 4 weeks be allowed for the negotiations on assignment positions to be concluded.

¹ BT including its subsidiary mobile operator EE Limited

² If Ofcom were to use 10 MHz lot sizes instead of a 5 MHz lot size, then a bidder who is intent on impeding agreements by others may be more likely to bid for 20 MHz since it cannot bid for 15 MHz. This is particularly likely if the bidder feels it requires a block of at least 15 MHz in order to impede agreements by others.

1 Introduction

The outcome of the assignment round of the 3.6 - 3.8 GHz³ auction could have an important bearing on whether spectrum trades are possible to achieve defragmentation of the wider 3.4 - 3.8 GHz frequency band. Defragmentation is important for society given the general consensus that optimal deployment of 5G will be best achieved through large contiguous spectrum blocks. We therefore welcome Ofcom's consultation on this matter and the two proposals that Ofcom has made as to how this could be facilitated.

In **section 2** we have provided our views on the proposal to constrain winners of a small spectrum package to the top or bottom of the 3.6 - 3.8 GHz band. In **section 3** we provide our views on the proposed inclusion of an optional negotiation phase to seek unanimous or partial agreement between operators on assignments. Finally, in **section 4** we discuss some further points that we believe it would be helpful for Ofcom to consider.

2 Restricting assignment position of winners of a small package

We support Ofcom's proposal to restrict the assignment round options available to winners of a small spectrum package to the edge of the 3.6 - 3.8 GHz band. It helps to address the risk of strategic bidding by H3G and it improves the likelihood of trades across the wider 3.4 - 3.8 GHz between winners of larger blocks.

Ofcom proposes that packages of "less than 20 MHz" be restricted to assignment bids for slots at the top or bottom of the band.⁴ We propose that "less than 20 MHz" is changed to "20 MHz or less" as 20 MHz is a more suitable threshold above which spectrum would be likely to be relevant to trades rather than present an obstacle or strategic opportunity to prevent trades to achieve contiguity. A 20 MHz package is also more likely to be a winning auction outcome than 15 MHz, given that it is highly unlikely that other bidders will seek multiples of 5 MHz rather than 10 MHz. Our proposed threshold is even more important if Ofcom were to adopt our suggestion made in response to the earlier consultation to use 10 MHz rather than 5 MHz sized lots in the 3.6 - 3.8 GHz band, since bidders who are intent on impeding agreements by others may be more likely to bid for 20 MHz if they cannot bid for 15 MHz⁵.

To maximise the potential for trading large spectrum packages, including with the operator assigned immediately below the band to be auctioned, we think that Ofcom should go further and restrict winners of small spectrum packages exclusively to the top of the 3.6 - 3.8 GHz band (rather than the top or the bottom). This would ensure that winners of small spectrum packages can't restrict the trading of large spectrum packages by positioning themselves immediately above UK Broadband's existing 3580 - 3680 MHz block.

³ We follow Ofcom's convention in referring to 3.6 - 3.8 GHz throughout the document, but the actual frequencies are 3.680 – 3.800 GHz.

⁴ Ofcom refers to "less than 20 MHz" throughout its consultation, except for in the final sentence of paragraph 2.55 where Ofcom writes "20 MHz or less" (which we assume was unintentional given the inconsistency with the rest of the consultation).

⁵ Particularly if they feel they might require a block of at least 15 MHz in order to make less spectrum available to rivals and thereby impede agreements.

We note that, whilst very unlikely, it would in theory be possible to have more than one winner of a small package so the auction rules would need in this case to ensure such packages are located either at, or as near as possible to, the top of the band.

3 Inclusion of optional negotiation phase

The inclusion of an optional negotiation phase could lead to a range of possible agreement types between winners, including (but not limited to): (i) trading of existing spectrum holdings in the 3.4 - 3.6 GHz band contingent on 3.6 - 3.8 GHz assignment outcomes; (ii) agreements to be contiguous with specific bidder(s) in the 3.6 - 3.8 GHz band; (iii) agreements to be in a specific order with respect to contiguous bidders in the 3.6 - 3.8 GHz band; and (iv) agreements to hold specific frequencies in the 3.6 - 3.8 GHz band (if unanimous agreement were reached). This non-exhaustive list highlights the need to carefully design the negotiation phase if it is to truly enable defragmentation of the 3.4 - 3.8 GHz band.

3.1 Unanimous agreement negotiations

We think the ideal outcome would be if Ofcom were to *ensure* all holders of spectrum across the entire 3.4 - 3.8 GHz band were assigned contiguous spectrum and those assignments reflected existing investments.

Notwithstanding this, BT agrees that a negotiated assignment outcome unanimously agreed between the auction winners (thereby rendering assignment bids obsolete) would be a good outcome and should be pursued as a second best option if Ofcom is unable or unwilling to ensure that the first best outcome is achieved.

We support Ofcom's suggestion⁶ that winners of small packages, who would only be eligible to place assignment bids for assignment options at the edge of the band in accordance with Ofcom's first proposal, should not be able to veto an agreement between the other winners. If Ofcom were not to proceed with its partial agreement sub-option, we would therefore agree with Ofcom's suggestion to amend its unanimous agreement sub-option such that if all winners other than those on small packages can agree on their relative assignment positions, this should be deemed as unanimous agreement and those on small packages would be positioned at the top of the band based on their assignment bids. This would reduce the possibility of strategic behaviour designed to deny rivals the opportunity of trading fairly to achieve contiguity, with associated benefits for customers.

3.2 Partial agreement negotiations

Given the potential challenges of reaching unanimous agreement, BT considers it essential that Ofcom also includes the sub-option to pursue partial agreements if unanimous agreement cannot be achieved. Such agreements would still potentially deliver substantial benefits and the availability of this sub-option may even increase incentives to reach unanimous agreement.

In the spirit of reaching agreement, we don't think winners of small packages should be able to obstruct defragmentation for other bidders. We therefore agree with Ofcom's proposals at paragraph 2.55 of the consultation concerning the assignment of winners of small packages which are not part of a partial agreement.

⁶ In paragraph 2.44 of the Consultation

It is also possible that even though unanimous agreement is not reached in the initial period set aside for that purpose, such agreement is reached in the additional period allowed for the partial agreement negotiation. In this scenario the rules should provide that such agreement is accepted and assignment bids are not used.

Overall, we think the inclusion of a negotiation phase permitting partial agreement could be crucially important to achieving defragmentation which will ultimately benefit consumers.

We think Ofcom also needs to consider the possible scenario of in practice two (and in theory more) groups of winners forming assignment agreements among themselves. In this instance Ofcom will need to determine rules for how it will determine where those groups are assigned within the spectrum band notwithstanding its current proposal to set the assignment bids of all such bidders to zero.

Others may also express concerns about zeroing the assignment bids of those winners that are party to a partial agreement. One possible solution to both this and the previous issue could be for Ofcom to give all assignment stage bidders the option of either (i) maintaining the assignment bids they originally submitted before the negotiation phase; or (ii) zeroing their assignment bids. This choice could also potentially be offered on a bid-by-bid basis. For the avoidance of doubt however, we would not consider such an amendment to be essential for moving ahead with the partial agreement negotiation phase as Ofcom has outlined.

3.3 Timescales

If winners who are also licensees in 3.4 - 3.6 GHz were to have a chance of coming to an agreement, this would likely also entail swaps including existing spectrum in the 3.4 - 3.6 GHz band. Complex arrangements, potentially including contracts, would need to be agreed between the parties, governing both the new spectrum and the existing spectrum being traded. Large value transactions might need to be contemplated that may not be fully predictable in advance of the auction and therefore introduce internal company governance issues to resolve. It would seem challenging to complete all of this in 2 - 3 weeks.

We therefore propose a slightly longer period is allowed for the negotiation phase. We propose that 3 weeks rather than 2 weeks is allowed to seek unanimous agreement with a further week, if necessary, to explore partial agreements, meaning a negotiation period of a maximum of 4 weeks in total.

4 Other points

4.1 Facilitating negotiations and compliance with auction rules

Although not explicit in the consultation, it is implied that commercial arrangements (i.e. inter-company payments) might be contemplated in respect of agreeing the assignment locations in the 3.6 - 3.8 GHz band as well as contemplation of commercial terms for any post-auction trades of the new spectrum licences and/or other existing licences. It would be important that the auction rules are clear as to what information can and cannot be exchanged during the "negotiation phase" after the conventional assignment bids are submitted and prior to the conclusion of the auction.

We note that Ofcom does not feel it should itself organise discussions between operators during the negotiation phase but acknowledges that a third party might be appointed to undertake such a role

on behalf of the auction winners. We agree that such a role is likely to be necessary and would request that the auction rules clearly recognise and allow such a role.

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