



Vodafone response to
consultation:
Fees for Spectrum Access 28 GHz
Licences
Notice of Proposed Regulations



1 Introduction

Vodafone welcomes the opportunity to comment upon the proposed Annual Licence Fees for spectrum in the 28GHz band. We have a long-standing position that the pricing of spectrum should be on an equitable basis, to prevent arbitrage of spectrum usage if the charges for individual bands are set on a different basis. Therefore, Vodafone believes that Ofcom has taken the correct approach. We do, however, have comments on certain aspects on the detail of Ofcom's analysis.

2. Basis of assessing the annual licence fee

Ofcom considered three options for setting annual licence fees for 28GHz spectrum, namely setting fees on a stand-alone assessment of the opportunity cost of the 28GHz spectrum, setting fees based upon the current fees in comparable bands, and setting fees on these current rates but modified to reflect the preliminary work on revising said fees. Vodafone agrees that the third of these options reflects the most pragmatic approach:

- with the licence fees due to be payable in only a couple of months' time, it would not be practicable to carry out a standalone analysis (nor would it be an effective use of anyone's time), and
- using the licence fees charged for fixed links today would be an imprudent regulatory approach as it would be clear that 28GHz licence holders would be overcharged, and Ofcom has a duty to be conservative in its application of regulation.

Setting the annual licence fee based upon comparator bands that are determined on an Administered Incentive Pricing (AIP) basis is logical when considered from two aspects:

- 1 If the spectrum had not been block licensed on a geographically-exclusive basis, the likely usage of these bands would have been for individually-licensed fixed links. As such, the opportunity cost of the block licences is the cumulative individual licence fees.
- 2 The licence holders should be rewarded (or penalised) based upon their efficiency of usage. If individual link licensing density is taken as a benchmark, a block licensee that achieves greater density will be rewarded if they achieve greater density (by paying a net lower fee than they would have done under the individual link licensing counterfactual), or conversely penalised if they don't achieve that benchmark. Note that this will also encourage Ofcom's policy goals of greater



spectrum utilisation via sharing, because an inefficient licensee will be incentivised to make their spectrum available for sharing in order to increase the density of utilisation.

On the whole, the above two aspects can be considered to be flip sides of the same coin.

3. Detail of analysis

General approach and choice of re-use factor

Vodafone agrees with the broad approach of taking the 26GHz band as the nearest comparator band, and examining the number of links used within that band. We also agree that *prima facie* a re-use factor of 400 is prudent, representing the half-way position between current utilisation and Plum's view of future utilisation (and being comparable with that achieved in 15GHz, 23GHz and 38GHz). However, a re-use factor of 400 is only prudent when assessed on a national scale.

Where Vodafone differs from Ofcom's analysis is in the application of the approach to what are regional licences. In examining the supplemental data provided by Ofcom, it is clear that the analysis took all of the links in the 26GHz band, and apportioned these into the regions that apply to 28GHz licences; our working assumption is that the 400 re-use factor was similarly assessed by looking first at the expected national usage of 26GHz. But this is not a reasonable approach to take for 28GHz – the nature of regional licences means that it isn't feasible to reach the efficiency of a national licensing regime.

For example, in the hypothetical scenario that Vodafone had a national licence and wished to deploy a link with ends in Merseyside and Cheshire, we could do so. However, with the structure of the regional licences for 28GHz, we are unable to do this even though we hold licences for both areas because in Merseyside we are licensed only to use the frequencies 28.0525-28.1645GHz and in Cheshire 28.1925-28.3045GHz. The only way such a link could be provided would be to implement a sharing agreement with other licensees - in this case Telefonica - and as Ofcom has identified in its recent sharing consultation, the transaction cost of implementing the necessary infrastructure to ensure there are no conflicts can outstrip the benefit. Therefore, for that hypothetical link, notwithstanding our regional 28GHz licences, the most efficient approach is to default to using an individually licensed link in a similar band.

The link density achievable by regional licences is hence lower than that of a national one. This is no fault of the individual licence holders, rather an inherent feature of the licensing scheme adopted by Ofcom. Therefore, it would seem highly unfair to impose higher licence fees to reflect that inherent inefficiency, when the inefficiency is no fault of the licensee. Taking the second of the two aspects we introduced in



Section Two, a regional licence holder would struggle, even with best endeavours and acting efficiently, to hit the link density suggested as being efficient according to examination of the 26GHz band concluding a re-use factor of 400. There could thus be a perverse incentive to use individual links in preference and return the block licence to Ofcom.

To correct this distortion, it is necessary for the analysis to only look at links in the 26GHz band which fall within individual regions used in the 28GHz band when setting the re-use factor. However, we do acknowledge that with 5675 transmitters identified in the UK, this could prove an onerous task given the timescales involved. A simpler analysis could be to take the average path length, and exclude any transmitters that are within (say) 50% of that distance from the edge of the regions in which they lie. Or, more pragmatically, Ofcom could consider that 20% of links are likely to be inter-region, hence exclude these from the analysis (i.e. resulting in a re-use factor of 320).

Relationship with individually licensed fixed link AIP review

Ofcom is currently reviewing the level of AIPs applicable to individually licensed fixed links, and it is important that this activity is completed on its own merits, with Ofcom's discretion not being fettered by any short term decisions that need to be made about the 28GHz band.

It is difficult to predict the outcome of the ongoing analysis of AIP for individually licensed fixed links. Vodafone has submitted evidence to Ofcom that suggests that some bands may not be sufficiently congested to justify the application of AIP, and alternative evidence on the costs incurred where there is congestion and an applicant is prevented from using their preferred band (i.e. the opportunity cost used in the AIP calculation). This evidence, coupled with Plum's conclusions that prices should fall in the 30MHz+ band, imply that the comparator 26MHz band may see a considerable reduction in annual licence fees when the parallel AIP work concludes. However, it is difficult to predict with any certainty quite how deep these fee reductions will be, therefore the application of a 50% discount in the 28GHz calculation appears realistic.

Obviously, should the AIP activity reduce in a greater reduction, Vodafone expects the 28GHz annual licence fee levels to be revisited and welcome Ofcom's intention to do so set out in para 5.19. Absent a reduction, licensees that have in good faith deployed links in the 28GHz band would be stranded, paying an effectively higher AIP than if they'd opted for individually licensed links. There are two possible reactions to this – either the licensee would migrate their links to individually licensed ones (hence leading to inefficient usage of spectrum overall, as this would represent arbitrage of spectrum pricing with 28GHz being vacated), or they would consider the transaction cost of doing so to be excessive (hence be punished for Ofcom's inaction in



aligning the rates). Neither is desirable. This is not an abstract analysis: mobile operators are currently investing £billions in achieving coverage targets agreed with Government and Ofcom, and the bulk of that rollout will occur in the period before the matter of fixed link AIPs are resolved.

The other question, though, is what would occur if the fixed link AIP analysis were to result in a reduction of less than 50% in similar bands to 28GHz. Should the 28GHz annual licence fee then be increased?

Vodafone would argue strongly that this scenario should not result in 28GHz fees increasing. Ofcom has a duty to be conservative in the application of regulation, and a duty to provide stakeholders with regulatory certainty. Were there to be a risk of the price of 28GHz annual licence fees increasing, this would create regulatory uncertainty at the very time when mobile operators are seeking to roll out their networks. The licence commitments taken on by mobile operators mean that we would have little choice but to deploy based upon the best information we have (which is to sweat the asset of our 28GHz licences where possible), but if the pricing of 28GHz then increased, this could prove to be a poor decision. In line with providing certainty, Vodafone therefore believes that any subsequent licence fee revision can only be downwards in order to correct future arbitrage opportunities.

4. Conclusions

Vodafone agrees with the general approach adopted by Ofcom. However, by including links that would span two regions within the calculation, Ofcom is *de facto* punishing 28GHz licence-holders for the inefficiency of the licensing regime, rather than for their own inefficiency. We therefore urge Ofcom to consider the options set out in this response.

We look forward to cooperating with Ofcom on the future of individually licensed fixed links, and should these result in a greater reduction than the estimates used in the consultation, to this rippling through to 28GHz fees.