



NON-CONFIDENTIAL  
Vodafone Response to  
Ofcom consultation:  
Increasing use of the 27.5 – 30GHz  
band



# 1. Introduction

Vodafone welcomes the opportunity to respond to Ofcom's consultation of the 27.5 – 30GHz band. We are supportive of driving further usage, and of facilitating the increasingly active satellite gateway market. However, we believe that the proposals set out in the consultation go about things in the wrong way, and amount to a wholly disproportionate premature revocation of spectrum rights: rights that licensees have acquired via the market mechanisms that both Ofcom and Government have placed faith in for decades. We are surprised that Ofcom has moved to formal consultation without first engaging informally with the incumbent licensees to get a full picture of the current leasing market.

## 2. Answers to Questions

### Section Four – Enabling satellite gateways across the whole 28GHz band

**Question 1:** Do you agree with our analysis of the case for regulatory intervention and our proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways? If not, please provide reasons/evidence for your response.

**Question 2:** If we decide to proceed with this proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways, do you agree with our proposal not to adjust Spectrum Access licence fees to reflect locations where we authorise future satellite gateways? If not, please provide reasons/evidence for your response.

**Question 3:** Do you have any further views / comments on our proposal to license satellite gateways to access 28 GHz spectrum in portions of the band not currently available for satellite gateways?

### Licensing in locations/frequencies included in an existing Spectrum Access Licence

Vodafone has been and continues to be an active participant in leasing of our frequencies, creating a market-based approach to spectrum access. ✂ We have had approaches from other prospective users over the years: any lack of progress has been due to intensive usage by Vodafone of the band necessitating the clearance of too many links to facilitate a lease, and we have never got to the point of proposing a price that would be deemed unacceptable by the prospective leaser.

As we intensively use our 28GHz holdings for mobile mast backhaul, overwhelmingly it is necessary to migrate existing links to other bands when facilitating a lease. ✂

We can appreciate that other incumbent licensees may not have been so forward looking, but that is hardly a reason to punish Vodafone by regulatory intervention that cuts across commercial agreements that have been negotiated in good faith. ✂

All for spectrum which we had purchased at market rate and for which we are now paying an AIP-based fee, both of which based on universal availability.



✂ – why would a satellite user go to the trouble of commercially negotiating a lease from an incumbent, when they can instead pay a peppercorn fee to Ofcom?

✂. In any case, it would also still deprive Vodafone (and other incumbent licensees) of a revenue stream which they could reasonably expect, given that we are paying a market price to hold the incumbent licence.

The situation is even more stark when it is considered that Ofcom proposes issuing Satellite Access Licences for a location, unless the incumbent Spectrum Access Licensee can demonstrate that the spectrum will be used within one year. This effectively means that if Vodafone does not use spectrum within the next year at a given location, we may forfeit the rights to use it. For areas where we have not yet deployed, this can only be regarded as effectively licence revocation at that location, as we would no longer be permitted to use the frequencies licensed to us at will, which runs completely counter to the long-established principle of providing at least five years' notice of the loss of spectrum rights.

This potentially has significant ramifications for Vodafone's mobile operations. Contrary to the implication at para 4.13 of the consultation that the rural location of gateways means there are unlikely to be too many clashes, Vodafone's usage of 28GHz is to serve most sites that cannot readily be connected by fibre, which correlates to rural areas. Our usage of 28GHz is not static, but instead involves a constant churn on links. ✂

Should the proposals progress, when assessing whether an incumbent licensee has plans to use spectrum in an area, Ofcom must use the 5-year horizon that (until this consultation) we believed represented the period that we had certainty of access to 28GHz spectrum, rather than 12 months as suggested in the consultation. In the alternative, if a 12-month horizon is to be used, then Satellite Access Licences must be issued on an annually renewable basis, in order that if the Spectrum Access Licensee wishes to exercise their right to deploy in the area in the future, they are at liberty to do so.

We also note that the process as planned puts the onus on Ofcom and the satellite provider to determine that operations will not interfere with incumbent usage. This means that it is Ofcom that will determine the exclusion / coordination zone rather than the incumbent Spectrum Access licensee. But a fundamental construct of block allocation spectrum licences is that management of the spectrum lies with the licensee. It is for Vodafone to determine safe re-use parameters for our licensed spectrum, based on intimate knowledge of the applications utilising the links (and, ultimately, for Vodafone to face the regulatory and public opinion consequences should we err and thus risk operation of safety-of-life services). ✂. The proposals set out in the document would strip licensees of control of their own spectrum by making Ofcom the arbiter: we cannot agree that this is the correct approach.

We are also uncomfortable with the proposed process for agreeing Satellite Access Licences, which would see the application published and a request for comments from stakeholders. Firstly, without more detail, this implies proactive monitoring is required by incumbent licensees, when compared, for example, with the Local Access Licensing regime where the incumbent is contacted directly/confidentially by Ofcom and asked to confirm if they consent to granting a licence. We are foremost a mobile network operator, and we



do not believe it is our role to actively monitor requests for satellite licences. Secondly, public consultation of this form risks confidential information about the connectivity of our mast sites being in the public domain (i.e. that they are backhauled using link with a specific frequency band traversing a given location). More thought needs to be given to this aspect.

Given Vodafone has been a willing participant in the leasing market, we can only conclude that if Ofcom has evidence that satellite gateway providers cannot access spectrum, other Spectrum Access Licensees have not been so cooperative – potentially that they have either refused to lease, or have sought to extract ransom pricing. We sympathise with the spectrum gateway providers if this is the case, but that is hardly a reason for Ofcom to punish Vodafone via withdrawing spectrum rights that we have paid and continue to pay for. We believe that the consultation proposals cannot be considered proportionate to the perceived issue, and would therefore suggest Ofcom might consider:

1. Spectrum Access Licences be varied, so that rather than it being a possibility to lease spectrum, it becomes an obligation to negotiate with potential spectrum tenants (subject to evidence of serious demand). We are open to an obligation that any consequent leases be on fair and reasonable terms, so long as any associated guidance references commercial norms rather than any form of cost-orientation.
2. Alternatively, the licences could be left unamended, but Ofcom could communicate to Spectrum Access Licence holders that should there be any evidence of refusal to negotiate leases in good faith, then the alternative of implementing the proposed Satellite Access Licences narrowly within the frequencies governed by their licence remains open (i.e. if a Spectrum Access Licence holder is seen to be negotiating leases in good faith, then no Spectrum Access Licence applications would be considered for their frequencies).

Ofcom's standard benchmark for regulatory intervention is evidence of market failure. Of the suggestions above, we believe that (2) is in best alignment, because there is no evidence of market failure with respect to Vodafone's frequencies – indeed there is ample evidence of a well-functioning market – so no justification for regulatory intervention. Intervention should be targeted where failure has been observed (and, for the avoidance of doubt, administrative inconvenience in satellite providers needing to negotiate with incumbent spectrum licensees does not constitute a market failure).

Vodafone is not fundamentally opposed to the direct granting of spectrum licences to satellite gateway providers in the 28GHz band. We acknowledge that there are disadvantages to the current approach of Ofcom licensing us, and our then issuing a lease to 3<sup>rd</sup> party gateway providers, not least that we need to contractually back-end all the licence provisions into the lease agreement, and are then at least partially responsible for ensuring compliance. This places an element of due diligence on us to establish the reliability of satellite operators, which is outside Vodafone's core competence. We can therefore see some merit in there being a regime of Ofcom issuing Satellite Access Licences, but only if:

- a) such licences are only issued with the express consent of the incumbent licensee (potentially with backstops for this not to be unreasonably withheld),



- b) it is for the incumbent licensee to determine the size of area where they would coordinate their usage, and
- c) the regime did not preclude incumbents charging a commercially-based fee for providing ongoing approval (in effect a lease fee).
  - a. Adopting this approach would mean that there is no need to vary the Spectrum Access Licence fees, as the commercial fee would reflect the loss of utility experienced by the incumbent.
  - b. We are ambivalent about the charging regime used by Ofcom for the Satellite Access Licence itself, but we believe it should be sufficiently high to prevent frivolous applications.

Anything less than these conditions is a gross withdrawal of spectrum rights that were awarded by auction and continue to be subject to AIP-based fees.

**Licensing in locations not included in an existing Spectrum Access Licences (i.e. frequencies 28.1925-28.3045 in London, Northern Ireland)**

Firstly, we must highlight that there is an apparent disconnect between Ofcom's observation at para 4.13 that satellite gateways will be located in rural areas, and a proposal to allow award of (for now, at administrative cost pricing!) Satellite Access Licences in Region A, i.e. Greater London.

More widely, we are somewhat perplexed by how we have arrived at this situation. As shown in Figure 4 of the consultation, Vodafone does not currently have a 28GHz licence in London or Northern Ireland. We have historically sought to acquire these final pieces of the jigsaw to achieve national coverage, but not been successful. We were therefore surprised that Arqiva returned its holdings to Ofcom, rather than first seeking to determine whether any third parties would be interested in acquiring the rights. This represents an absolute failure of the secondary spectrum trading market: although Ofcom has pointed to Arqiva returning the spectrum as demonstrating the efficacy of spectrum Annual Licence Fees (ALFs), it perhaps provides evidence of them **not** having the desired effect because the frequencies are currently lying unlicensed with Ofcom, which clearly cannot represent the most efficient usage of spectrum. We believe Ofcom should examine what incentivised Arqiva to return the spectrum rather than seeking to trade the rights to a higher value user.

Although ~~we~~ we are concerned that in the case of London, issuing Satellite Access Licences may easily contaminate the band and render it useless for other (potentially higher value) uses.



### Section Five – Enabling further use of the returned 28GHz spectrum on a shared basis

**Question 4:** Have we correctly identified the possible uses of the returned spectrum? If not, what other potential uses should we consider?

We believe that Ofcom has potentially missed an option of adopting a technology-neutral / application-agnostic approach of letting the market decide the optimal usage via auctioning the spectrum. With this approach, there would be no need for Ofcom to identify possible uses of the spectrum – that would be a market function. However, we concede that the most effective usage of the returned national spectrum is likely that it is used by multiple parties and applications, which is not readily expressed via market mechanisms. We therefore agree that Ofcom is correct to take a more managed approach in this instance.

**Question 5:** As a satellite operator, are you currently constrained by the amount of spectrum available in the 28 GHz uplink and 18 GHz downlink to provide your planned and or existing satellite services to UK consumers and citizens? If so, please explain.

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**Question 6:** Do you agree with our initial view that alternative use of the returned spectrum would be an allocation decision for either point-to-point fixed links or land-based satellite terminal use because it is unlikely both services can share and auctioning the spectrum is unlikely to secure optimal use? If not, please provide evidence to support your response.

We agree with Ofcom's conclusions.

**Question 7:** Do you agree with our proposal to make 112 MHz at 28.8365 – 28.9485 GHz available for land-based satellite terminal use, 2 x 112 MHz for point-to-point fixed links at 27.9405 - 28.0525 GHz and 28.9485 - 29.0605 GHz and defer allocating the remaining 112 MHz of spectrum? If not, what alternative suggestions do you have?

We agree with Ofcom's analysis that Option 1 presents the likely best outcome.



The revocation of licensing for fixed links in the 26GHz band presents a quandary for incumbent users of the band. It is therefore eminently sensible for Ofcom to make alternate fixed link bands available at the earliest possible opportunity, and this in turn will facilitate more ready take-up of mm-wave spectrum for mobile (since there will be less need to coordinate with incumbent fixed links in the 26GHz band). We believe that 2x112MHz represents a reasonable quantity for this application: 2x112MHz may not be sufficient to meet demand in all cases, but it would be difficult to justify more spectrum than this, simply to cover those exceptional cases.

We are sympathetic to demands for the provision of spectrum for satellite terminals. However, at this stage we believe it would be disproportionate to allocate the entirety of [2x] 224MHz of prime spectrum for this application. As such, we believe that Ofcom's compromise to allow 112MHz of spectrum is a pragmatic outcome.

**Question 8:** Do you agree with our assessment of how the returned spectrum may be authorised for fixed links and GSO and NGSO land-based satellite terminals? If not, please provide evidence to support your response.

We agree the proposals for both sub-bands:

1. For satellite user terminals, we see no reason to diverge from the existing ESN licensing framework, and
2. For point-to-point links, given there will be a variety of users, Ofcom-managed authorisation on a first-come-first-served basis is appropriate. We are comfortable with the existing fee algorithm being adopted.

**Question 9:** Do you have a view on demand for point-to-point fixed links in Northern Ireland and London in the frequency range 28.1925 – 28.3045 GHz paired with 29.2005 – 29.3125 GHz and our proposed approach that, if we were to decide to make this spectrum available for fixed links, would be to authorise this as Ofcom managed spectrum licensed on a first come first served basis?

For the avoidance of doubt, our understanding is that the combined effect of Ofcom's proposals would be that in London and Northern Ireland, the relevant frequencies would be available for Satellite Access Licences (i.e. for satellite gateways) and for Ofcom-managed fixed links, on a first-come-first-served basis.

For Northern Ireland, we are fully supportive of the proposal. For London, whilst supporting the fixed-link aspect, per our response to the Section Four questions, we do not think it is appropriate to cater for the deployment of satellite gateways in Greater London.



**Question 10:** Do you have further views / comments that you wish to make in respect of this consultation?

Nothing additional to add.

Vodafone UK

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