



Consultation: Supporting Increased Use of Shared Spectrum

Cellnex UK Response

February 2024



Overview of Cellnex UK

Cellnex Group

This response is submitted by Cellnex UK ([link](#)), part of Cellnex Group ([link](#)) which:

- Supports over 420 million mobile connections across Europe
- Operates >70,000 mobile sites today, which will grow to >130,000 by 2030
- Is Europe's leading neutral host mobile infrastructure provider, covering 12 countries: Austria, Denmark, France, Ireland, Italy, Netherlands, Poland, Portugal, Spain, Sweden, Switzerland and the UK
- Provides mobile infrastructure services, private and mission-critical networks, distributed antenna systems and small cells, and smart/IoT and innovative services
- Operates sixteen mission critical networks in Spain for emergency bodies to ensure public safety
- Has deployed forty private networks across Europe for enterprise applications
- Had an annual turnover of €3.5bn in 2022
- Is listed on the main sustainability indices, and evaluated by highly reputable international analysts such as CDP, Sustainalytics, FTSE4Good, MSCI and Standard Ethics

Where possible, we have sought to provide international examples from the wider Cellnex Group in our response.

Cellnex UK

We are the trusted partner of all the major UK mobile network operators, hundreds of private businesses, the emergency services, as well as the UK Government, specifically Cellnex UK:

- Is the UK's leading independent wireless connectivity infrastructure company
- Operates >9,000 mobile sites today, which will grow to >13,000 by 2031
- Has deployed over 1,000 small cells to date
- Is a provider of private networks in campus and indoor environments
- Is an indoor mobile coverage provider, most notably in the Etihad stadium in Manchester
- Is deploying contiguous mobile coverage and capacity along the 81km Brighton to London Mainline and three major stations
- Has won three DCMS 5G competitions, working collaboratively with universities and start-ups to deliver 5G innovation
- Office presence across four major UK locations – Reading, Manchester, Scotland and Leamington Spa
- Has invested £6.1bn in the UK since 2016

Basis of Response

We have reviewed and commented on this consultation on the basis of Cellnex UK as a provider of Private Networks, noting that during 2024 this business line will transfer to Boldyn Networks, see [here](#).

1. Do you have any comments on our proposals to gather additional antenna parameters, and would you prefer Ofcom to specify a small number of antenna pattern ‘envelopes’ or for users to provide details of the specific antenna parameters in use for Ofcom to assess? Please provide reasons for your views.

Cellnex UK would prefer the option to specify the specific antenna parameters it intends to use for a deployment when making an application to (i) maximise the chance of a successful application and (ii) provide accurate information for further applications by ourselves or future users.

However we can see for other users having generic options to select from would be useful to quickly confirm availability of spectrum early on in a deployment process. In some case Cellnex UK might also use this option during the early stages of solution design and initial viability checks.

As a result we believe both options should be available to applicants.

2. Do you have comments on the suggested approach to enable user-led coordination in certain circumstances?

As per our previous consultation response Cellnex is supportive of steps to increase user-led coordination and remove time consuming iteration which involves resource constrained groups within Ofcom.

The proposal in the current consultation are welcomed, on the basis the further guidance will detail a requirement for licenced parties to cooperate with others seeking information and work in a timely manner to determine if an agreement can be reached.

We acknowledge Ofcom’s position regarding our request for ‘certified-providers’ and current challenges, but would encourage Ofcom to review this position as usage of the bands increase and in turn market participant knowledge increases.

However given the current status of band usage and level of market maturity we are supportive of Ofcom implementing the current proposed changes and look forward to seeing the further guidance.

3. Do you have any comments on our proposal to increase the power level of our Low Power product by 3dBm in the 3.8-4.2 GHz band?

Cellnex UK is supportive of this change in the context of the totality of changes that Ofcom is proposing to make at this time.

4. Do you have any comments on our proposal to remove the requirement for licensees holding a Low Power 3.8-4.2 GHz licence to keep a record of the address at which mobile terminals connected to an indoor base station will be used?

Cellnex UK does not have any comments to make on this proposal.

5. Do you agree with our proposals to assume synchronisation between users, and coordinate base station to terminal instead of base station to base station in the 3.8-4.2GHz band? If no, please explain how other measures could increase sharing of the band.

Cellnex UK is accepting of this proposal on the basis that there is no requirement by default to implement synchronisation; we also continue to believe a frame structure should not be mandated for the reasons Ofcom has outlined and detailed in our previous consultation response.

6. Please indicate whether you support our preferred option of coordination at -88 dBm/20 MHz (based on I/N of + 3dB, at 1.5m) or a more conservative alternative of -91 dBm/20 MHz (based on I/N of 0dB at 3m), with reasons for your view.

Cellnex UK is supportive of coordination being based on -88 dBm/20 MHz on the basis that Ofcom's assumptions regarding adaptive modulation and coding appear to be reasonable, reflects market consensus and achieves the policy objective of increasing the supply of spectrum in a controlled manner.

7. Do you agree with our proposals for an increase in BEL in 3.8-4.2GHz? If no, are there alternatives which you consider could better achieve similar results?

Cellnex UK agrees with the proposed increase from 12 dBm to 14 dBm given the change in construction techniques and importance of accounting for this given increasing usage of this band.

We note this level could be considered conservative for newer building types but we recognise Ofcom has to strike a balance and align activity around a generic value for widescale use across a wider number of building types.

8. Do you agree with our proposal that adjacent band protection for Shared Access users is in future limited to considering only the first 5 MHz above and below UK Broadband assignments?

Cellnex UK is supportive of this change and alignment to the approach taken below the 3.8 GHz boundary.

9. Do you agree with our assessment that, in circumstances where localised shortages of spectrum have occurred, pricing can be used to influence requested spectrum amounts?

Cellnex UK agrees that pricing can be used to influence requested spectrum amounts.

As noted in our previous consultation response a private network deployment and associated equipment and operational transformation is a significant long term investment for organisations. As a result applicants need certainty the solution can grow over time to meet evolving needs, hence most have a requirement to secure sufficient spectrum for medium term developments.

If pricing is taken to an extreme value, as potentially is the case for medium power in urban areas (see our response to Question 11) only projects with business cases which deliver extraordinary positive financial returns would be able to afford spectrum, hence it would influence behaviour and potentially whether projects remain viable. We do not believe the latter is Ofcom's intent, as a result setting prices at the correct level is extremely important.

The alternative to using price to control demand would be for Ofcom to request evidence of need for spectrum quantity both at the point of application in the foreseeable future. Whilst in theory this approach has a lot of merit in practice it could add delay to the process and would require significant rules and/or guidance to ensure fairness and cross comparison.

Hence on balance using price in a careful and considered manner as the influencing factor is probably the least worst option.

10. Do you agree that we should take measures to reflect the impact of bandwidth, power levels and urban/rural location in our pricing approach for the 3.8-4.2 GHz band? Do you think there are other factors we should be taking into account?

Cellnex agrees power and location parameters that should be utilised. In our opinion the only other interesting parameter where a lack of spectrum exists and as a result there is a choice between applications would be use case/economic impact assessment. However we recognise this would be nearly impossible to ascertain in a fair and consistent manner across different applications and applicants.

11. How do you consider the illustrative prices would impact your spectrum requirements and future deployment plans in the 3.8-4.2 GHz band? Please provide evidence in support of your view.

As noted in our response to Question 9 we agree pricing can be utilised in circumstances where localised shortages of spectrum have occurred or may occur; however the illustrative fees seem to take this view to an extreme.

Application of the illustrated fees without significant downward revision via factors outlined in 5.37 (notably regarding site clustering) would challenge the economic viability of deploying the type of private networks we have seen demand for to date.

In outdoor campus environments, which has been the predominant customer requirement we have been asked to address, there is a need for high bandwidths (i.e. 80 MHz+) to accommodate current and visible future use cases along with medium power level to avoid excessive and uneconomic site/base station counts. The current illustrative fee at c.11x and 15.5x current fees for high bandwidths would see total operating costs increase dramatically and in most cases spectrum becoming the single biggest line item of operational expenditure; as illustrated in the worked example below.

As a result we believe Ofcom should consult further with industry regarding the impact of these illustrative fees by assessing them against a number of real life business cases. In addition Ofcom needs to clarify the process for application of the additional factors and quantum of reduction to fees this would achieve.

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12. Do you have any comments on our proposals to clarify the circumstances in which exceptions are available, the tests we will apply, and how this supports user flexibility outside our overarching rules?

Cellnex UK remains supportive of the exceptions process and ensuring it is efficient and fit for purpose, it is encouraging the Ofcom continues to undertake work on this.

We note the proposal regarding the number of premises sterilised, this seems quite a crude measure as it does not take into account the type of premises which might be sterilised and whether they have any propensity to utilise the spectrum. As a result it could lead to a situation where an exception is not granted, due to low spectrum availability, when in reality no other usage is likely other than that applied for by the exceptions process; ironically leading to accidental sterilisation via non-use.

13. Do you agree with our overall approach based around refining our existing coordination framework for Shared Access, whilst monitoring future opportunities for more user led and outcomes led coordination where evidence suggests it would be of benefit?

As noted in our previous answers Cellnex UK is in broad agreement with Ofcom's approach with the exception of the level of fees for medium power in urban areas.

We also agree that Ofcom's approach should be continually monitored, and where appropriate further revised as use cases evolve and overall usage of the spectrum bands increase.

14. Do you agree with our assessment of the potential impact on specific groups of persons?

Cellnex UK does not have any comments to make regarding Ofcom's assessment.

15. Do you agree with our assessment of the potential impact of our proposal on the Welsh language? Do you think our proposal could be formulated or revised to ensure, or increase, positive effects, or reduce/eliminate any negative effects, on opportunities to use the Welsh language and treating the Welsh language no less favourably than English?

Cellnex UK does not have any comments to make regarding Ofcom's assessment.

16. Do you have any other comments on the proposals set out in this document?

Cellnex UK does not have any further comments to make regarding this consultation.