

Orange response to: Award of available spectrum:10 GHz, 28 GHz, 32 GHz and 40GHz

Executive summary

Orange welcomes the opportunity to respond to Ofcom's proposals on the award of available spectrum at 10 GHz, 28 GHz, 32 GHz and 40 GHz.

Ofcom proposes, subject to the outcome of the current consultation, to hold an auction in 2007 for the award of UK wireless telegraphy licences to use the spectrum bands 10 GHz, 28 GHz and 32 GHz.

The key elements of the proposed spectrum packaging and licensees' rights and obligations for the spectrum to be auctioned are as follows:

- twelve licences will be offered. Most will have UK coverage - one in the 10 GHz band, two in 28 GHz, and six in 32 GHz. [three in 28 GHz will have varying degrees of geographical coverage];
- the licences will have an indefinite term with a minimum period of fifteen years (during which time Ofcom's powers to revoke will be limited);
- licences will be tradable;
- licences will be technology and application neutral, and
- all licences will be awarded through a single simultaneous multiple round auction with a reserve price of £50,000 set for each licence

In general, Orange is supportive of Ofcom's proposals as they will enable a greater range of potential uses, particularly in the 28GHz spectrum. However, Orange urges Ofcom to consider the proposed auction lots and design with care to ensure that there any aggregation risk to bidders is minimised as far as possible.

Finally, any objective test developed by Ofcom to delay the release of spectrum to the market must be applied consistently across the industry.

Question 1:

Do stakeholders agree with the proposals for the award of licences in the 10 GHz, 28 GHz and 32 GHz bands in 2007?

Answer 1:

10 GHz

There is a total of 2x100 MHz of spectrum available in the 10 GHz band. Ofcom is proposing to offer this as a single UK lot. In arriving at this proposal Ofcom considered two options: offering two separate 100 MHz lots (option A) or a single paired 100 MHz lot (option B):

1. Option A has been considered because of the interest shown in the spectrum by the PMSE community.
2. Option B, a single paired (2x100 MHz) lot would reduce the aggregation risk for potential bidders interested in FWA and backhaul applications, which on the evidence of Ofcom's market assessment are among the more likely uses for the spectrum.

Orange supports option A as this enables a greater range of potential uses for this spectrum besides conventional FWA and backhaul. The proposed division into unpaired 100MHz lots also maximises availability.

28 GHz - nationwide

The spectrum available for auction in this band consists of two UK paired spectrum lots of 2x112 MHz, as well as a number of regional licences which were not sold in a previous auction. Since the consultants found that there was considerably more interest in UK licences than regional licences and for paired than unpaired spectrum Ofcom has considered the relative merits of options which reflect this demand.

The spectrum available for auction on a UK basis in this band consists of two UK blocks, each of 2x112 MHz. However, it would be possible to offer one of the blocks as two unpaired lots. This would give two options to consider:

1. Option 1: three UK lots, consisting of a paired lot of 2x112 MHz and two unpaired lots each of 112 MHz;
2. Option 2: two UK lots, consisting of two paired lots each of 2x112 MHz.

Orange supports option 2 as we believe that the likely use of this spectrum will be either paired BFWA or fixed links and enabling this option would minimise aggregation risk.

28 GHz - regional

There are 27 existing regional licences available within three separate spectrum packages of 2x112 MHz. The consultants found limited interest in these licences, with greater preference shown for UK-wide licences. As a result Ofcom has considered ways in which the lots could be packaged to encourage more interest. This gives rise to three possible options for packaging the spectrum:

1. Option 1: 27 regional paired lots of 2x112 MHz;
2. Option 2: two geographically limited paired lots of 2x112 MHz and one regional lot of 2x112 MHz;
3. Option 3: three geographically limited paired lots of 2x112 MHz.

Options 2 and 3 have been devised such that the regional blocks have been aggregated to form two or three sub-UK licences. This is expected to be of more interest to potential bidders than 27 regional lots, since they would be able to acquire licences covering more useful geographic areas than under Option 1.

Orange supports Ofcom's preferred Option 3. We believe that the lack of interest demonstrated in this spectrum in the past has been partly due to aggregation issues surrounding the division into multiple regional lots.

32GHz

Ofcom is proposing to merge the upper portion of this band, currently available for fixed link assignments, with the rest of the band. Taking account of the central guard band of 56 MHz, this would enable Ofcom to package 2x756 MHz into appropriate UK lots. Three options have been considered for packaging:

1. Option 1: a single UK paired lot of 2x756 MHz;
2. Option 2: a single UK paired lot of 2x252 MHz and four UK paired lots of 2x126 MHz;

3. Option 3: six UK paired lots of 2x126 MHz.

Ofcom believes that Option 1 is not a viable option given that the package available is likely to be significantly larger than any potential bidder requires for their applications and would likely result in some unsatisfied demand and would be economically inefficient.

Options 2 and 3 have been considered as viable in terms of attracting interest from potential bidders. However, Option 3 is considered more appropriate for a number of reasons. First, by offering similarly sized packages of spectrum to those available in the other bands bidders are more likely to view the packages as substitutable. This is likely to benefit the auction outcome if there is excess demand for some bands/packages since potential bidders will have other options available to them.

Option 2 has the benefit of satisfying demand for larger licences. One potential bidder expressed interest in this to the consultants. Although a bidder could acquire more than one 2x126 MHz lot to satisfy its requirements it could face an aggregation risk in the auction: by bidding on separate lots it would face a risk of not acquiring as much spectrum as it needed. However, Ofcom believes that interest has been shown in larger packages mainly to cover the possibility of future business growth and with it growth in spectrum requirements, rather than because of complementarity (e.g. two contiguous lots being more valuable than the combined value of each on its own).

In addition, by offering a number of smaller lots, Ofcom avoids the situation where bidders are forced to acquire larger blocks of spectrum than they require for their applications. Consequently, Ofcom believes that Option 3 is the most appropriate option.

As proposed in option 2, Orange believes that one lot of paired 2x252 MHz spectrum should be offered to avoid aggregation risk. This would enable complementary gains to cover for future business growth regarding equipment sub-banding requirements and inter block adjacent channel considerations. The elimination of this aggregation risk would enhance the attractiveness of the spectrum for operators who wish to acquire a larger block than 2x126 MHz, as proposed in option 3.

Orange supports the retention of the upper third of the spectrum for individually licensed fixed links.

Therefore, Orange's preferred structure of the award is:

- 1 licence of 2x252MHz on a service and technology neutral basis
- 2 licences of 2x126 MHz on a service and technology neutral basis
- 2 licences of 2x252 MHz retained for individually licensed point to point links

Question 2:

Do stakeholders agree with the proposal to include in the award of the 32 GHz band that portion of the band that has been open since 2003 for point-to-point applications?

Answer 2:

The spectrum available for award is 31.815-33.383 GHz. In February 2003 the band was planned for the introduction of fixed services in a phased manner, with the first

step being opening part of it for point-to-point applications. This was the upper third of the two sub-bands (32.319-32.571 GHz paired with 33.131-33.383 GHz). The remaining two-thirds were held back for future possibilities and the SFR: IP proposed to award one or more UK licences in this spectrum.

In the three years since the upper third has been available for individual point-to-point applications there has been very limited interest and there are no live assignments in the band. Ofcom proposes to close this part of the band for individual fixed link assignments and to offer the whole band for award.

In the ITU Radio Regulations this band is allocated on a primary basis to the fixed service and radionavigation service. Parts of the band are also allocated on a primary basis to space services and inter-satellite services. This is also the case in the European Common Allocation Table. There are guard bands at each end of the band, to protect adjacent users – closed circuit television (CCTV) below 31.8 GHz and radiolocation above 33.4 GHz.

Orange believes that, to date, uncertainty over the future of the band will have negatively influenced decisions regarding investment in individual point to point links in this spectrum. Whilst some operators will secure spectrum as part of an auction process, others will continue to require onward access to individually licensed point to point links. Orange therefore supports the retention of 32.319-32.571 GHz paired with 33.131-33.383 GHz for individually licensed point to point links.

Question 3:

Do stakeholders agree with the proposals to defer the release of the 40 GHz band and review the position in two years' time?

Answer 3:

The consultants found no evidence of demand to acquire spectrum in the 40 GHz band at this time, nor any evidence of commercially available equipment. This suggests that if the band were released in the near future there is unlikely to be any demand for licences.

Ofcom has therefore considered whether to proceed with the release of the band. One of Ofcom's spectrum management objectives is to allow, wherever possible, spectrum to be managed by the market and wherever spectrum is not already in use in the market Ofcom aims to release it as soon as reasonably practicable.

Ofcom has considered the other options for the band, apart from holding an auction:

- *Licence exemption:* this could stimulate innovation and the development of new services but there is no indication of demand for licence exempt use of the band, either in the UK or across Europe.
- *License on a first come first served basis:* this could be under a full licensing or light licensing regime, with spectrum awarded on demand and co-ordination of use either by Ofcom or by users themselves.
- *Award temporary trial licences:* Ofcom has considered the desirability of awarding pioneer licences to encourage experimental use of the spectrum, providing licensees with the possibility of permanent licences where they had identified viable uses.

The available evidence suggests that the band is unlikely to be used for some time, whether on a licensed or licence exempt basis. In the light of the considerations

summarised above, Ofcom proposes to defer release of the band and to review the position within two years, in the light of market and technology developments.

Orange is supportive of Ofcom's proposal to defer release of this spectrum and review at a later date. However, Orange strongly believes that Ofcom must be clearly state its objective test for deferring release of spectrum so that it can be applied consistently across all spectrum allocations.

Question 4:

Do stakeholders have any other comments on the contents of this document?

Answer 4:

Orange is concerned that there seems to be a lack of visibility regarding dispute resolution and auction rules. These need to be clarified as part of future consultation on the auction design for the award of the spectrum.

As referred to in the consultation document, licences at 28GHz were awarded at auction some years ago. Ofcom needs to offer clarity regarding the ability of these licensees to refarm their spectrum to new uses, if they wish, and then to apply the refarming rules consistently across all sectors.

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