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7 September 2006

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

Executive Summary

- 10GHz
  T-Mobile agrees with the proposed award of a single national licence.
  T-Mobile has concerns over other users of the band and believes additional information is required on the MOD CDL application and on the amateur earth stations licences.

- 28GHz and 32GHz
  T-Mobile has no specific technical concerns other than the coordination process: T-Mobile believes that for a link between A and B it should be a requirement that A and B transmit in different blocks, i.e. A transmits in Block 1 and B in Block 2.
  T-Mobile is however concerned that new and small operators could be disadvantaged by the auctioning of this spectrum.

- 40GHz
  T-Mobile supports Ofcom's decision to defer the release of this band.

- T-Mobile fully supports Ofcom's decision to award these licences by means of a single simultaneous multiple round auction.

Below are T-Mobile's responses to the questions set out in the consultation.

Question 1 – Do stakeholders agree with the proposals for the award of licences in the 10GHz, 28GHz and 32 GHZ bands in 2007?

10 GHz

T-Mobile agrees with the proposed award of a single national licence. Although it could be argued that the band should be split into two 2x50MHz blocks, the history of take-up of use of this band when split into smaller packages has not been positive. Availability of 2x100MHz should support the economics of investment in large capacity-based stations requiring a number of approximately 28MHz channels to operate as a network.

We have concerns over the other users of the band and in particular the Ministry of Defence (MOD), in the light of the material set out in paragraphs A6.24 and A6.25 of the Consultation. The Monte Carlo analysis of predicted interference levels is reasonably encouraging. However, the specific predicted interference level even at separation distances of up to 100km from the CDL ground station are significant. These levels would impair link fade margins dB for dB for interference level

excess over the receiver sensitivity. At separation distances of up to 10km, the predicted interference levels could well exceed the wanted received level and cause an outage on a link.

T-Mobile believes that more information is required on the MOD CDL application and its likely level of usage because it is has the potential to significantly impair the fixed link performance and therefore the quality of service that can be delivered to end customers.

T-Mobile also has concerns over other identified users of the band. Although we acknowledge that amateur use is on a secondary basis, it is not clear how interference from the amateur service would be controlled. It would seem that emissions from satellites would be difficult to control. Also would amateur earth stations be individually licensed in consultation with the licensee?

In addition to the current situation with other users of the band, it is also not clear what commitment Ofcom would have during the licence term for the auctioned spectrum to protect the licensee from other planned or changed uses, in particular by the MOD.

28 GHz and 32GHz

T-Mobile has no specific issues to raise on the proposed technical information for the 28GHz and 32GHz bands.

We do have concerns regarding the coordination processes: as previously suggested, T-Mobile believes that for a link between A and B it should be a requirement that A and B transmit in different blocks, i.e. A transmits in Block 1 and B in Block 2. If such a rule is not followed, this will only make interference assessment more complex.

Auction design

T-Mobile welcomes Ofcom's decision to use a single simultaneous multiple round auction. We agree that SMRAs are economically more efficient as they allocate the spectrum to those who value it the most. In addition, the transparency requirements proposed by Ofcom make the auction easier for operators to make informed choices and prepare their strategy, in particular by allowing bidders to observe the rivals' behaviour and to refine their valuations. We therefore do not agree with Ofcom that this auction is more complex to run. Ofcom's main concern should be the efficiency of the outcome, not the complexity of the auction. T-Mobile would like Ofcom to consider this transparent and efficient auction format for awards that involve a single spectrum package.

Question 2 – Do stakeholders agree with the proposal to include in the award of the 32GHz band that portion of the band that has been since 2003 for point-to-point applications?

T-Mobile has concerns that by awarding all of the available frequency bands at 10 GHz, 28GHz and 32 GHz it could be the case that spectrum available for individual link assignments becomes scarce in the future. Although it is acknowledged that there is presently generally sufficient spectrum available for individual assignments in bands such as 23, 25 and 38GHz, this could change in the

future and retaining some spectrum, such as one or two 126MHz blocks at 32GHz for this purpose, would seem to be pragmatic.

We do not think that the scarcity issues could be dealt with by a licence condition requiring use of all available frequency bands. It also does not provide access to new or small operators if all links allocated are being used. This would affect the emergence of new technologies and thus the development of the communication industry and the UK economy. T-Mobile does not consider in this instance that reliance on competition law would be flexible or speedy enough to provide a remedy.

Question 3 - Do stakeholders agree with the proposals to defer the release of the 40GHz band and to review the position in two years' time

Yes. A significant amount of available spectrum in similar (albeit slightly more attractive) bands is already included in the planned auction and it seems sensible to hold back on the 40GHz band at present.

Question 4 – Do stakeholders have any other comments on the contents of this document?

Impact Assessment

T-Mobile notes that the Impact Assessment analysis prepared by Ofcom does not include the costs and benefits associated with the decision of whether to award all the spectrum blocks now rather than wait and award them in the future. In particular, in the consultation Ofcom clarifies that the presence of demand for the different bands is the main driver of whether to award the spectrum now or in the future. T-Mobile believes that efficiency considerations should drive this decision too. If spectrum for fixed links becomes scarce in the future, operators might face high costs to secure them, which might impair their ability to deploy adequate backhaul capacity for new network technologies. We would like Ofcom to formally and thoroughly assess the costs and the benefits associated with this issue.

T-Mobile (UK) Limited,
7 September 2006