To:

National IT and Telecom Agency
Ministry of Science
Technology and Innovation

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Auction of frequencies in the frequency bands 2010-2025MHz and 2500-2690MHz

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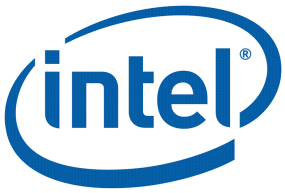
Following the announcement made by the Minister for Science, Technology and Innovation to proceed with an Auction of Licences in the frequency bands 2010-2025MHz (the "2010MHz Band") and 2500-2690MHz (the "2.5GHz Band") scheduled to take place in the first quarter of 2010. Intel welcomes the opportunity to provide views on several of the points raised in the consultation document. Intel also notes and supports the proposed action to auction on a nationwide service and technology-neutral basis. We do however have concerns with how the spectrum is to be packaged and offered during the award process.



Intel has provided the following comments based on "consultation document" dated 17 July and issued by the National IT and Telecom Agency.

Ref: 1.2 Technology to be deployed and coverage requirements

Intel notes that the band is to be awarded on a technology and service neutral basis and in line with the EC Decision 2008/477/EC. However whilst the spectrum award is intended to reflect a neutral position we note that the treatment of the blocks as either FDD or TDD suggests otherwise.

The auction design is very similar to what was developed for the UK 2.6 GHz auction. The difference between the two auction designs appears to be that Denmark has categorized (pre-determined) the paired and unpaired spectrum. This does not enable a market based process to establish the demand and supply of unpaired spectrum. The fact that the auction design is very similar to the UK design suggests that a more market based approach could be achieved with minimal change. We would urge the ITST to reconsider and enable a more market based approach to their auction process.

Addressing the current proposal in more detail we note that treatment of the blocks intended specifically for TDD technology suggests an imposed guard band at the cost of the TDD licensee.

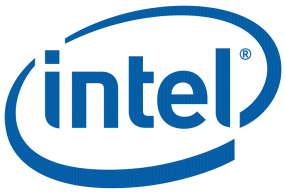
The EC Decision under whereas 8 explains the usage of a guard band.

To achieve compatibility a separation of 5 MHz is needed between the edges of spectrum blocks used for nrestricted TDD (time division duplex) and FDD operation (frequency division duplex) or in the case of two unsynchronised networks operating in TDD mode. Such separation should be achieved by either leaving these 5 MHz blocks unused as guard blocks; or through usage that complies with parameters of the restricted BEM when adjacent to an FDD (uplink) or between two TDD blocks; or through usage that complies with parameters of either restricted or unrestricted BEMs when adjacent to an FDD (downlink) block. Any usage of a 5 MHz guard block is subject to an increased risk of interference.

Intel does not agree that the onus for the necessary separation between an FDD and TDD block should be the sole responsibility of the TDD licensee(s). In keeping with the spirit of the intent of the EC Decision for technology and service neutrality the necessary separation distance and responsibility thereof should be applied equally between all licensees affected.

In order to optimise the spectrum usage for all licensees concerned Intel recommends that the so called restricted blocks are auctioned separately (category D). This would enable the bidders to choose whether they wish to bid and deploy in the restricted blocks respecting the power limits in line with the EC Decision. If no bids are received then the restricted blocks would remain unused and be considered as guard bands.

Intel notes that the current proposal to remove C10 from the auction partially addresses our concern. However it is not understood why C1 is offered within the spectrum auction process as this block would also be subject to restricted usage? C1 and C10 should be treated the same and Intel recommends that these blocks are offered through the auction process as a new category as suggested above and allow the market to decide their demand and subsequent value.



The unequal treatment is further exacerbated by the intent to charge an annual licence fee for the restricted blocks. The annual licence fee charge appears to take no account of the restricted usage of the blocks and therefore a similar fee per MHz is proposed and is equal to the fees proposed for the unrestricted blocks. In any case Intel does not agree with an annual fee and we have raised this issue in more detail in our next response.

Ref: 1.4 Other Licence terms

Ref: Other Licence terms are described in Section 3 of the draft Information Memorandum.The Licences will be valid for 20 years from the date of issue. Upon expiry, the Licences will lapse without further notice and without an option for extension.

Intel supports the proposal to award the licences for a period of 20 years. However Intel has concerns with the proposal to see the lapse of the licences without an option for extension. This would have a negatively profound effect on the investment opportunities associated with the development of networks offering the range of services envisaged. There should be a legitimate expectation of renewal to provide operators with incentives to make and maintain long term network investments.

Ref: Finally, Licensees will also be required to pay annual charges to the Agency for the use of frequencies.

Intel is concerned that additional fees would unnecessarily burden the operator. Fees have the added liability of creating uncertainty and can be particularly burdensome if increased later. Intel believes that the development of a network should be the primary objective for both the operator and regulator to enable the successful deployment of mobile broadband services for the benefit of the Danish citizen.

Ref: 3.2.4 Restrictions due to international coordination

With regards to the use of the band plan referenced in ECC Decision (05)05 and applicable for only UMTS usage. Intel would seek clarification on the statement made regarding Germany and the suggestion that Germany will be using the same band plan in their spectrum award. It is Intel's understanding from the latest publicly available material that Germany will not impose a paired vs. unpaired arrangement. In other words the licensee can deploy a TDD technology in the paired spectrum. This would negate the argument that the same band plan must be used for the purposes of International co-ordination.

On the issue of co-ordination the WiMAX Forum commissioned an independent report to study the affects of deploying across borders using different technologies and more specifically different duplex arrangements. The conclusion of that report suggests similar field strength limits can be applied and therefore this is not a reason for restricting freedom of usage across the International borders and more specifically to impose a band plan developed with one technology in mind (UMTS).

Ref: Eligibility Cap

The proposal to limit the amount of spectrum that each bidder can bid may impact the business case of some operators, specifically a new market entrant wishing to deploy a true mobile broadband network offering data rich services. Intel notes that the current operators have spectrum holdings ranging from 35 MHz to 105 MHz in the GSM/UMTS bands.

Intel believes spectrum caps should only be applied where there are (anti) competitive concerns. This should not have a negative impact on a new market entrant who should have the opportunity to bid for a total spectrum holding similar to the incumbent operators post the 2.6 GHz auction. Limiting TDD use to the centre gap could raise competitive considerations. A more flexible approach as suggested earlier would reduce the opportunity for anti competitive behaviour.