Telia Company

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Telia Company's comments on RSPG draft Opinion on spectrum related aspects for next-generation wireless systems (5G)

Introduction

Telia Company welcomes the opportunity to provide input to the RSPGs draft Opinion on Spectrum related aspects for next-generation wireless systems (5G).[1] Telia Company welcomes the aim of RSPG to facilitate that all European citizens will have access to 5G in a timely manner. RSPG outlines that they have provided input already to the European Commission's 5G action plan as has Telia Company, as an active part of the Industry Manifesto on 5G. Telia Company is of the opinion that this is very important since, although spectrum is an essential component for the success of 5G, it is far from the only issue. If EU wants to facilitate a timely deployment of 5G many different aspects must be dealt with, such as smooth deployment rules (right of way), more flexible consolidation regime within the telecom sector, as well as limiting rules which hampers operators commercial practices and network management. 5G rollout will be a costly affair for operators, considering foreseen high density of base stations in a 5G network, as well as the new radio access layer and other core network upgrades. This cannot be compared with the "easy" upgrade from 3G to 4G but is a much more comprehensive alteration.

Across Europe the current demand for spectrum varies, in the countries that have high mobile data consumption, such as Finland, Sweden and Estonia,[2] there is already a great need for further spectrum in order to handle capacity and congestion in current technologies. With the foreseen increase of data usage across Europe (both with current technologies and 5G), the demand for additional spectrum will be big everywhere. In order to avoid spectrum becoming a great hurdle and bottleneck for mobile usage in EU policy makers must already now safeguard that additional spectrum is available for mobile services.

The myth of a primary band

Telia Company would like to point out that there is not one primary band that is needed for 5G rather there are a need for high, medium and low bands. It is however true that operators are expecting that 5G will first be deployed in higher frequency bands however if other bands are not made available to operators in the short term it will very likely lead to restrains on the 5G development. Operators must also in the future be able to freely utilize spectrum for the technology they see fit. This will be extra important when 2G and 3G networks are phased out.

In the draft report RSPG outlines that the "primary band" suitable for 5G is the 3400-3800 MHz band, as outlined above we believe the notion of a primary band is a limited assumption. Nevertheless Telia Company does support timely allocation of that band however believes that RSPG should consider to

[1] RSPG16-031 FINAL, Brussels, 8th of June 2016.

[2] BEREC International Roaming, Analysis of the impacts of "Roam Like at Home" (RLAH), BoR (14) 209, Annex 2

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expand it – 3400-4200MHz. The reason for this is that larger bandwidth is needed to enable true IMT-2020/5G services in a multi-operator environment.

Relating to timely allocation, Telia Company would like to also emphasize the need for further actions to ensure that Member States make available the currently harmonized mobile bands (such as 700MHz, 2300MHz, and 3400-3800MHz) without delay. Many countries delay the release of bands quite long and especially in lower bands this has negative impacts in neighboring countries.

5G also on below 1 GHz

As outlined above all future and current frequency bands must be fully technology neutral. Therefore it is again worrying to read that RSPGs draft opinion states that *"5G will need to be deployed also in bands already harmonised below 1 GHz, including particularly the 700 MHz band, in order to enable nationwide and indoor 5G coverage".* Firstly Telia Company is of the opinion that the 700MHz band will be needed, especially in markets with high data uptake currently, for capacity in 4G. Secondly, in order to achieve good indoor coverage operators will deploy 5G on bands below 1GHz however what bands may be used should be for operators to decide. In addition Telia Company does not believe it is sufficient to only rely on the 700MHz band in the short to medium term, RSPG should therefore also promote the allocation of the sub-700 MHz band already now. The reason is simple that there is too little spectrum per operator available below 1 GHz, especially since we are of the opinion that we need to use the 700MHz for both 4G and 5G technologies.

Ensuring regulatory conditions for 5G

Telia Company does not fully understand what RSPG mean when they state "*need to ensure that technical and regulatory conditions for all bands already harmonised for mobile networks are fit for 5G use.*" We guess it means that RSPG wishes to ensure that any mobile band can be used also for 5G, i.e. that the existing conditions allow that and if not, the conditions should be updated. In addition to this Telia Company believes that there is a continuous need to provide more foreseeability concerning spectrum allocation. Member States shall in an even more transparent manner than today provide road maps for when allocation of certain bands will take place. Furthermore we believe that if the aim of both the European Commission and RSPG is to enable rules and opinions in order to facilitate that all European citizens will have access to 5G in a timely manner it is essential to also provide policies around allocation costs and yearly fees of spectrum bands, in a manner that is linked to the referred set out vision. Telia Company will be a leader in the deployment of 5G networks and is also a committed supporter to the wider ambition of creating a gigabit society, we foresee an aspiration to put our markets in a leading global position when it comes to digitalization and connectivity. The responsibility for creating European competitiveness also falls on public authorities and to complete our level of aspiration, a well-functioning and sustainable spectrum environment will be a prerequisite. We therefore seek rules which enquires Member States to in a transparent way explain how their allocation rules and all fees related to spectrum concretely will ensure that 5G will be available to all European citizens in a timely manner. The Member States' allocation rules should go through a peer review in order to both ensure sharing of best practices as well as providing additional transparency.

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Bands above 6 GHz and 24 GHz

Considering the limited result from the WRC-2015 we believe the RSPG draft fourth opinion is satisfactory. However we believe it is important that the draft opinion is not limited to the bands listed in the WRC-15 to be studied for WRC-19. Rather RSPG should already now have a long term view for future spectrum bands, including also bands above 6GHz.

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