DRAFT RSPG Opinion on spectrum related aspects for next-generation wireless systems (5G) – SVN Comments

1 Background and scope of work

An opinion1 was sought in order to build on RSPG's efforts and contribute actively to the development of Europe's spectrum policy strategy regarding 5G.

In developing the strategic roadmap towards 5G for Europe the RSPG was requested to:
 Assess the spectrum related aspects for 5G in the long term, starting from the point of view of specific goals. (Such as how to ensure that the benefits of 5G-based services are available to all European citizens).
 Consider aspects related to system architecture (such as wireless network densification, network resilience and convergence), technology enablers and the variety of services and invite 5G-PPP to present the status of its work.
 Identify and analyse spectrum related challenges such as: spectrum sharing, usage and licence conditions, rural areas, policy implementation, incentive regulation, the principle of technology and service neutrality and the reuse of already harmonised spectrum to support the transition towards 5G.
 Assess appropriate frequency bands for 5G, in particular additional bands above 6 GHz.

However, the RSPG resolved to deliver this early opinion as a first stage in order to give guidance and an early input to other associated European activities, such as the development of the European Commission 5G Action Plan and industry more generally to enable the early development of 5G in Europe. This opinion will be followed by a subsequent detailed opinion addressing the above requests.
The RSPG strategic roadmap towards 5G for Europe aims to facilitate the launch of 5G on a large scale by 2020, thereby ensuring that the benefits of 5G-based services are available to all European citizens. The vision being that 5G will drive industrial and societal transformation and economic growth in Europe from 2020 and beyond.
It is expected that the first major commercial deployment will be based on lower frequencies. One of the reasons is the possibility to reach rapidly a sufficient coverage for addressing enhanced broadband communications and, above all, machine type communications market, which may require ubiquitous coverage, low latency and low complexity.
The implementation of frequency bands above 24 GHz remains needed to ensure all the performance targets of 5G, for example multi gigabit per second data rates.

2 The opinion of the RSPG on the strategic roadmap towards 5G for Europe

This roadmap has been developed to facilitate the launch of 5G on a large scale in Europe by 2020. The goal is that the benefits of 5G-based services are available to all European citizens in a timely manner, driving industrial and societal transformation and economic growth in Europe from 2020 and beyond.

1. The RSPG considers the 3400-3800 MHz band to be the primary band suitable for the introduction of 5G use in Europe even before 2020, noting that this band is already harmonised for mobile networks, and consists of up to 400 MHz of continuous spectrum enabling wide channel bandwidth. This band has the possibility to put Europe at the forefront of the 5G deployment.

Opinion of SVN administration is, that 800 MHz spectrum will be needed for implementation of 5G. Therefore SVN suggests to release as well spectrum from 3800 – 4200 MHz. C band is not used very intensively by FSS service in Europe and the LSA concept could be used to ensure real 5G deployment. We propose 2 step approach: to assign already harmonized band 3400 – 3800 MHz as soon as possible. Regarding this band we see issue, that frequency band 3400 – 3410 MHz is NATO band and is as well band for Radio Amateurs. Slovenia would like to have opinion of European Commission how to proceed with this sub-band.
The band 3800 – 4200 MHz could be assigned for IMT between 2020 and 2023. Slovenia would like that band to be designated for IMT at WRC-19, with transition period for assigning this band between 2 and 5 years.

2. The RSPG is of the opinion 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.

SVN administration fully supports this proposal, but in our opinion as well upper 600 MHz band in accordance with GE06 should made be possible to use as SDL to deliver broadband in remote rural areas and for indoor coverage and as well to test broadcasting over LTE and 5G.

3. The RSPG considers that there will be a need to ensure that technical and regulatory conditions for all bands already harmonised for mobile networks are fit for 5G use.

4. The RSPG stresses that there are many frequency bands above 24 GHz which are of potential interest for 5G in Europe:
 To give sufficient guidance to industry, the RSPG will aim to identify at the earliest opportunity a suitable band to be made available in Europe . In order to do this RSPG members will prioritize the necessary work to assess what would be involved in enabling access to each candidate band in their country.
 In this regard the RSPG believes that global harmonisation will be essential for developing 5G.
 The RSPG will define the timeline for availability of other bands taking into account sharing and transition challenges, for example for mobile access and fixed services (including backhauling).

SVN administration fully supports these proposals.

5. The RSPG believes that considerations of bands above 6 GHz for 5G shall be limited to the bands listed by WRC-15 in order to strengthen the global harmonisation opportunities. This work should focus on the frequency bands proposed by Europe, in particular the bands 24.5-27.5 GHz, 31.8-33.4 GHz and 40.5-43.5 GHz. The RSPG intends to identify which one of these could be harmonised in Europe for early implementation.

SVN administration fully supports this proposal. Nevertheless, Slovenia is of the opinion, that due to economy of scale it might be worth reconsidering to implement 28 GHz band after FSS licenses in this band will expire and study as well other WRC-19 proposed IMT bands.

6. The RSPG will keep under review whether there is any requirement for European harmonisation measures in bands above 24 GHz before WRC-19.

SVN administration does not share this view. Slovenia is of the opinion, that it is worth considering and taking into account all proposed bands for WRC-19 for IMT, especially due to fact, that these bands are used for fixed service for P-P connections of mobile infrastructure and could be used by mobile operators either as 5G – IMT bans and/or Fixes service band. For 5G implementation (Industry 4.0, IoT, smart traffic, smart cities, 24/7 broadband connectivity, e-health, e-learning, …) it is crucial to have devices available in due time and at affordable price. For this goal global harmonization and economy of scale is crucial. Why should Europe have more expensive equipment as Asia – Pacific Region or America? For economic growth and social inclusion Europe should take into account as well which usage of spectrum brings highest economic value and try to allocate spectrum for scientific and satellite usage in frequency bands which are not candidate bands in other ITU regions for IMT. Therefore Slovenia is of the opinion, that it is better to study all proposed WRC-19 bands:

- 24.5-27.5 GHz,
- 31.8-33.4 GHz,
- 37-40.5 GHz
- 40.5-43.5 GHz
- 45.5-47 GHz,
- 47-47.2 GHz,
- 47.2-50.2,
- 50.4-52.6 GHz,
- 66-76 GHz,
- 81-86 GHz.

Study of all these bands in Europe will help CEPT at WRC-19 to be prepared for different negotiations. It is better to propose more bands, not to be the Region with the least amount of new harmonized IMT spectrum.

7. The RSPG will prepare a supplementary opinion elaborating on the implementation of this opinion taking also into account the wider RSPG work programme, in particular the working groups on IoT and ITS.

SVN administration fully supports this proposal.