

RSPG public consultation on the final draft Work Programme for 2020 and beyond

Qualcomm Response

Qualcomm welcomes the opportunity to comment on the proposed Radio Spectrum Policy Group (RSPG) final draft Work Programme for 2020 and beyond and applauds RSPG for the continuous excellence and relevance of its actions. The Opinions of the RSPG have set, thanks to their strategic long-term vision, the basis of spectrum usage harmonization in Europe. Qualcomm looks forward to RSPG future work in shaping the European Union spectrum policy, in its enhanced role under the new regulatory framework. Furthermore, Qualcomm thanks RSPG for the fruitful cooperation between the industry and regulators allowing a better understanding of the challenges and constraints facing the sector. Qualcomm therefore suggests continuing this collaboration for 2020 and beyond.

Spectrum Sharing – pioneer initiatives and bands

Qualcomm does agree with RSPG view that spectrum sharing needs further action, especially with regard to its potential to achieve more efficient use of radio spectrum, and to give incentives for innovation thus Qualcomm encourages the RSPG to study sharing techniques as it considers new bands for flexible use. Vertical sharing techniques can be used to enable sharing between systems that have some form of hierarchy in terms of priority. Such approach which has been standardized in the EU is the Licensed Shared Access (“LSA”) that allows licensed use when and where incumbents are not operating. Horizontal sharing techniques are used today to enable access to spectrum by users who are in the same tier in terms of priority, such as sharing between LTE Unlicensed technologies (LTE-U) and Wi-Fi in the 5 GHz bands. Finally, Qualcomm believes that even greater spectrum utilization can occur when vertical and horizontal sharing techniques are combined and is continuing to explore new techniques to enable fair sharing among radios and tiers. These tools can improve coexistence between systems, increase the utilization of the bands, and benefit all users.

Additional spectrum needs and guidance on the fast rollout of future wireless broadband networks

Qualcomm strongly supports the RSPG’s intention to work on opening additional spectrum bands for future wireless broadband use and investigate further harmonization needs (coverage, capacity and innovation) as well as authorization regimes within the remits of the EECC for successful deployment, taking into account bands identified at WRC-19.

As pointed out by the RSPG, the commercial launch of 5G in Europe has started and it is mostly using one of the three identified pioneering bands for 5G: the 3.4 – 3.8 GHz spectrum. Qualcomm believes that the full potential associated with 5G will be delivered through the combination of Gigabit LTE and 5G NR in all the three pioneer bands: 700 MHz, 3400-3800 MHz and 26 GHz. Considering that to date only UK, Italy and Russia have made available mmWave spectrum, Qualcomm recommends the RSPG, in addition to identify new spectrum for future WBB, to take all the possible actions/measures so that the 26 GHz band is released by the vast majority of CEPT regulators no later than 2020. Releasing spectrum at 26 GHz in 2020 in combination with mid and low bands will enable Europe to take the lead in the development of new services and applications in a number of areas like 5G for enterprises, industrial IOT and fixed wireless access in addition to very high-speed mobile broadband.

GSMA released recently a very informative studyⁱ on 5G mmWave. It concludes that mmWave spectrum will have a significant positive impact on the economy contributing to an increase of \$565 billion in global GDP, producing 25% of the value created by 5G with Europe having the highest percentage of GDP growth attributable to mmWave 5G than any other region (2.9%).

When it comes to authorizations and considering that 5G is a new technology and a new market which requires global scale to gain market lift off during the launch phase, Qualcomm believes that exclusive individual nationwide usage rights are mostly preferred in order to allow carriers to fully optimize spectrum resources both in the construction of their network and in the offering of services to consumers. When considering vertical industries needs, it is important to highlight that network virtualisation in 5G will provide the opportunity for networks to cater for diverse vertical market needs, with different performance requirements, via network slicing. Hence, different types of deployment can be catered for via the same network, without needing to assign specific spectrum for each different use. Flexibility in spectrum use, ability for MNOs to acquire different spectrum amounts, and ability for verticals and/or other sub-national operators to gain access to spectrum (and/or for new business models to emerge) could be aided if 5G licenses allow for spectrum leasing to occur.

At the same time, it would be important to preserve the ability for verticals and/or other sub-national operators to gain access to spectrum in particular in those areas/those cases where Mobile operators do not plan or are not in a position to roll out services. Local licenses could help in such cases. This is being currently pursued in Germany, Sweden and UK regulators in both mid bands and mmWave spectrum.

Finally, Qualcomm sees benefits to RSPG's proposal on high-level workshops but suggests addressing the entire industry – network operators, verticals, manufacturers – to provide opportunities for open discussions and better collaboration while providing RSPG with inputs from all stakeholders.

Role of Radio Spectrum Policy to help combat Climate Change

Qualcomm agrees with the importance of the radio spectrum for the development of the electronic communications and broadband as basis of the digitization of the society and industries, in line with the EU priorities and policies. We equally acknowledge the importance of the climate change topic at European level and the climate-neutral target for Europe is 2050. Qualcomm supports the establishment of RSPG work item focusing on spectrum policy aspects which are closely related to the efforts of ensuring climate neutrality.

“Good offices” to assist in bilateral negotiations between Member States

Cross border coordination influences the release of spectrum in some areas for new services and therefore the roll out of mobile broadband for all European consumers. Qualcomm supports this initiative which will remain crucial as 5G frequency bands are opened across Europe.

Peer review and Member States cooperation on authorisations and awards

Qualcomm supports the implementation of this peer review approach ("Peer review") under the "European Code" adopted in late 2018. In the perspective of efficient frequency band allocations, the peer review is essential in particular to identify the lessons to be drawn from the attributions carried out and to compare the mechanisms.

Pursuing this collaborative dynamic, and upstream of frequency allocation, the peer review allows particularly fruitful cooperation at a key moment in the process.

Qualcomm's understanding is that the process will be entirely closed to the industry and thus it would like to emphasize the importance of transparency and encourages the RSPG to continue organising stakeholder workshops on awards as well future publishing of annual reports on awards experiences and best practices.

WRC-23

Qualcomm agrees that RSPG should start preparing recommendations for European Union position(s) on items which are of importance for EU policies as early as possible in the preparation process for the next WRC (WRC-23), similar to the process successfully carried out for past WRCs. Qualcomm supports the same exercise for WRC-23.

In particular, with reference to IMT spectrum, the agenda agreed by the WRC-19 for WRC-23 will be :

- considering identification of the frequency bands 3300-3400 MHz, 3600-3800 MHz, 6425-7025 MHz, 7025-7125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible

additional allocations to the mobile service on a primary basis, in accordance with Resolution COM6/2 (WRC-19)

- considering primary allocation of the band 3 600-3 800 MHz to mobile service within Region 1 and take appropriate regulatory actions, in accordance with Resolution COM6/3 (WRC-19)
- reviewing the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions in the frequency band 470-694 MHz in Region 1 on the basis of the review in accordance with Resolution 235 (WRC-15);

The RSPG Opinion should first identify those agenda items that would have potential impact on EU policies, whether they have been proposed or not by CEPT.

ⁱ <https://www.gsma.com/spectrum/wp-content/uploads/2018/12/5G-mmWave-benefits.pdf>