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RADIO SPECTRUM POLICY GROUP

RSPG Report on the result of the ITU-R World Radiocommunication Conference 2019

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1. Introduction

The World Radiocommunication Conference (WRC-19) of the International Telecommunication Union (ITU) took place in Sharm El Sheikh, Egypt, from 28 October to 22 November 2019. The conference is the peak of a preparation period of several years after WRC-15. The Conference was attended by 163 Member States and over 3600 participants.

The preparation with technical studies towards the elaboration of common proposals for the 48 members of European Conference of Telecommunication and Postal Administrations (CEPT) was done by the Conference Preparatory Group, as for previous WRC. This included also in-depth analysis of the positions and proposals of the five other regional groups acknowledged by the ITU.

Inside the Union, the Radio Spectrum Policy Group (RSPG), the Commission as well as the Council worked closely and in a timely manner on the Union's position for WRC-19 on those Agenda items for which a decision of the WRC may affect common rules or alter their scope. The requirement for a Council decision (see TFEU Art. 218 (9)) has been confirmed by the European Court of Justice¹.

In its Opinion on WRC-19², the RSPG provided recommendations for an EU position on those Agenda items for which an EU position was needed.

Based on the RSPG Opinion, the Commission developed a proposal for an EU position for the WRC-19 to the Council, which addressed all elements identified by the RSPG. Those Agenda items were related to Maritime safety and traffic management (Agenda items 1.8, 1.9.1, 1.9.2), Aeronautical safety and traffic management (Agenda item 1.10), Intelligent Transport Systems (Agenda item 1.12), International Mobile Telecommunication -5G-(Agenda item 1.13), Radio Local Area Networks (Agenda item 1.16 and issue 9.1.5), Mobile Satellite Systems in the 2-GHz-band (Issue 9.1.1) and relevant issues for the future Agenda for WRC-23 (Agenda item 10). For all those Agenda items Member States were obliged to do their utmost to ensure that the objectives foreseen in the Union position were preserved in the outcomes of the WRC-19 and the attainment of these objectives were not subject to burdensome conditions. After consideration and amendments to the Commission proposal the Council approved a Decision on an EU position for WRC-19³.

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See Judgement of the ECJ C687/15 on WRC-15 (http://curia.europa.eu/juris/liste.jsf?language=en&num=C-687/15)

² See RSPG18-038final (https://rspg-spectrum.eu/wp-content/uploads/2018/10/RSPG18-038final-RSPG opinion on WRC19.pdf)

Council decision on the position to be taken on behalf of the European Union in the International Telecommunication Union (ITU) World Radiocommunication Conference 2019 (WRC-19), adopted by the Council of the European Union (Employment, Social Policy, Health and Concumer Affairs) in its 3698th meeting held on 13 June 2019 (https://data.consilium.europa.eu/doc/document/ST-10300-2019-INIT/en/pdf)

In a separate Opinion⁴ the RSPG recommended a forward looking approach on EU coordination during WRCs under the newly applied procedure of TFEU Art. 218 (9). This Opinion provided additional recommendations to the Member States and the Commission in order to allow an efficient coordination together with the CEPT aiming to achieve the best possible result for the Union. Following the advice from RSPG, several ad hoc EUcoordination meetings were held during WRC-19.

The role of the RSPG is to assist and advise the European Commission on radio spectrum policy issues, on coordination of policy approaches, on the preparation of multiannual radio spectrum policy programmes and, where appropriate, on harmonised conditions with regards to the availability and efficient use of radio spectrum necessary for the establishment and functioning of the internal market. The RSPG notes that the reasons for concluding that a Union objective can be better achieved at Union level shall be substantiated by qualitative and, wherever possible, quantitative indicators. With a view to WRC-19, both RSPG Opinions noted the importance of relying on the strength of CEPT inside the ITU.

This Report will describe and analyse the results of WRC-19 compared to the starting positions of the Union and evaluate further the effectiveness of the new procedure on the EU coordination during WRC-19.

2. WRC-19 results regarding European Union positions

WRC-19 adopted modifications to the Radio Regulations (RR), which consist an international treaty applied by all ITU Member States, in order to preserve access to spectrum and orbit resources in all parts of the world, without harmful interference and to facilitate the efficient and effective operation of all radiocommunication services.

a) Agenda item 1.13 (IMT bands above 24.25 GHz)

Agenda item 1.13 aimed for the European Union to complement the availability of spectrum for Electronic Communication Services (ECS) usable for ultra-high capacity links in higher frequency bands. These bands form a complementary element for the worldwide deployment of the fifth generation of mobile communication systems, so called "5G". The scope of studies was limited to eleven bands, ranging from 24.25 GHz to 86 GHz, mainly within already existing allocations to the mobile service, to ensure from the beginning an opportunity of worldwide harmonisation.

24.25-27.5 GHz:

The EU position requested the Member States to "support a co-primary allocation in the frequency band 24.25-25.25 GHz and the identification of the band 24.25-27.5 GHz for International Mobile Telecommunication (IMT). In addition, regulatory provisions in the Radio Regulations to protect other services should be consistent with the Commission Decision regarding that band, in particular to ensure protection of relevant EU Earth Exploration Satellite Service Policy Programme projects (i.e. Copernicus)".

At WRC-19, the first part (allocation and identification) has been successfully agreed and the band is now harmonised worldwide with relevant technical and regulatory conditions to protect other services.

⁴ See RSPG19-009final (<u>https://rspg-spectrum.eu/wp-content/uploads/2013/05/RSPG19-</u> 009final RSPG Opinion EU-coordination.pdf)

WRC-19 decided, with regards to the co-existence between the different radiocommunication services in the band, in line with the proposals from CEPT and the EU technical harmonisation decision (second part of the EU position on the 26 GHz band). A specific point at WRC-19 was the out-of-band emission limit(s) (OOBE) in the band 23.6-24 GHz, where huge differences between the numerous proposals needed to be bridged. It was therefore extremely difficult, if not impossible, in the international negotiation environment of WRC-19 to agree on the EU value of the OOBE. All Member States, including the Commission and Partner Countries outside EU, which had been aligned with CEPT before the Conference, worked intensively together to ensure a similar level of protection of the passive services in the band 23.6-24 GHz, as adopted in the EU.

Finally, a recommended decision had been developed by a high-level group led by the Chairman of the Conference. It was based on the common understanding that the Earth Exploration Satellite Service - EESS - (passive) need to be effectively protected. In addition, it was of a common view that, although a limited number of transmission from 5G equipment is not likely to cause harmful interference to such service, mass-market deployment and usage can cause such interference. Such mass-market is expected to appear not before 2025-2027. Consequently WRC-19 decided a two-step approach to balance the need for a timely market entrance of 5G equipment with the constant and long term need of protection of the EESS (passive): an initial OOBE limit for base stations of -33 dBW/200 MHz will be applied immediately after WRC-19, and a final more stringent limit of -39 dBW/200 MHz will be applied after 1st September 2027. In addition, it was recognized that no high-density mobile applications are intended to be used in the band below 23.6 GHz. All measures of this WRC-19 compromise have been considered by EU Member states and the Commission to be a minor change compared to the EU position, since the limits referred in the Commission's Implementing Decision on the 26-GHz-band are compliant (i.e. more stringent) with the WRC-19 limits. Further discussion took place after WRC-19 at the EU level (Radio Spectrum Committee, RSC) to implement the WRC-19 limits, in a revision of the Commission's Implementing Decision, while advancing the date of application of the stringent limit (1st January 2024) and making mandatory that no high-density broadband access be deployed below 23.6 GHz.

• 40.5-43.5, 66-71 GHz and 27.5-29.5 GHz:

The EU position requested further that the Member States should

- "- support that the frequency band 40.5-42.5 GHz is given worldwide a co-primary mobile allocation and that the frequency band 40.5-43.5 GHz is identified for IMT;
- support that the frequency band 66-71 GHz is identified for IMT taking into account the use of this frequency band by Multiple Gigabit Wireless Systems (MGWS) / Wireless Access Systems (WAS);
- oppose consideration of the frequency band 27.5-29.5 GHz for IMT under this agenda item."

WRC-19 decided on the primary allocation of 40.5-42.5 GHz and identified the frequency bands 40.5-43.5 GHz and 66-71 GHz for IMT on a global basis. There was no proposal regarding modifications to the band 27.5-29.5 GHz and thus there was no change regarding IMT (i.e. 5G) in this band under Agenda item 1.13.

In summary all positions of the Council decision have been reached on this Agenda item.

b) Agenda item 1.8 (GMDSS)

Agenda item 1.8 was dealing with a regulatory framework for a modernized Gobal Maritime Distress and Safety System (GMDSS) in two aspects, namely used frequency channels and an additional satellite system into the GMDSS.

The first issue – a recognition of appropriate MF and HF frequencies for NAVDAT, in Article 5 and Appendix 17 of the RR, while waiting for the finalization of the GMDSS modernization in 2022 by the International Maritime Organisation – was resolved quite easily in the first half of WRC-19, with the result fully in line with the CEPT position.

The EU position covered only the second issue and requested from the Member States: "For satellite systems used in the provision of GMDSS support regulatory measures in the Radio Regulations for the introduction of an additional GMDSS provider while protecting the radio astromony service".

The two most controversial issues were the status of the allocations (primary or secondary) and the bandwidth used in support of GMDSS (5 MHz up to 10 MHz). It was agreed that the additional satellite system would use the band 1621.35-1626.5 MHz of the maritime mobile-satellite service on a primary basis when providing GMDSS services with provisions to protect the radio astronomy service in adjacent band against harmful interference from the mobile-satellite service in the whole 1613.8-1626.5 MHz frequency band.

In summary the position of the Council decision has been reached on this Agenda item.

c) Agenda item 1.9.1 (AMRD)

Agenda item 1.9.1 was dealing with the growing number of equipment called Autonomous maritime radio devices (AMRD) which use spectrum in the VHF maritime mobile band, especially channels designated to the Automatic Identification System (AIS). There was no regulation of such equipment before WRC-19, although regulation was required to ensure maritime safety. In particular AMRD using AIS technology endangered the proper functioning of the mandatory AIS collision avoidances system.

Within ITU a new Recommendation (ITU-R M.2135) had been adopted by the Radiocommunication Assembly which defines two groups of AMRD:

- AMRD Group A addressing all AMRD that enhance safety of navigation (e.g. man overboard-AIS class M equipment) and
- AMRD Group B addressing AMRD that do not enhance the safety of navigation and they deliver signals or information which are not relevant to the navigator of the vessel (or general shipping) or do not complement vessel traffic safety in waterways.

The EU Position requested Member States to "support efforts to ensure the integrity of Automatic Identification Systems and of Global Maritime Distress and Safety System. To this end, operation of Autonomous Maritime Radio Devices should be regulated and harmonised".

WRC-19 decided that AMRD Group A shall operate on channel 70 for digital selective calling and on channels AIS1 and AIS2 for automatic identification system, while Group B

shall operate on one specific channel in the bands of RR Appendix 18 (i.e. 160.900 MHz). The power of the AMRD transmitters of Group B shall be limited to a value that ensures their compatibility with radio systems operating in accordance with the existing frequency allocation.

In summary the position of the Council decision has been reached on this Agenda item.

d) Agenda item 1.9.2 (VDES)

Agenda item 1.9.2, a follow-up issue of WRC-15, was aiming to allocate an appropriate portion of current allocations to the maritime mobile service in the frequency band 156 - 162MHz to the maritime mobile-satellite service to support the implementation of the VHF Data Exchange System (VDES)

The EU position requested the Member States to "support the allocation of an appropriate portion of current allocations to the maritime mobile service in the frequency band 156-162 MHz to the maritime mobile-satellite service to support the implementation of the VHF Data Exchange System (VDES)."

Altough the allocation status for the VDE-SAT downlink needed a complicated agreement, finally a common view supported also by CEPT was reached as follows:

- 1. The proposed modifications to Appendix 18 and Article 5 were finalized.
- 2. The allocation of a portion of the frequency bands of Appendix 18 to the maritime mobile satellite service for VDE-SAT with secondary status.
- 3. An additional provision to be included on the use, subject to agreement obtained under No. 9.21, with regards to the terrestrial services in certain non-EU Member States which have added their name to the list.

In summary the position of the Council decision has been reached on this Agenda item.

e) Agenda item 1.10 (GADSS)

Agenda item 1.10 dealt with the introduction of a Global Aeronautical Distress and Safety System (GADSS), which is under consideration by the International Civil Organisation (ICAO). GADSS is a follow-up activity of the question of relevant spectrum bands for a Global flight tracking system at WRC-15.

The EU position requested "no change in Article 5 regarding the Global Aeronautical Distress and Safety System" and WRC-19 decided that there was no need to revise the RR. During WRC-19, ICAO recognized that the implementation of GADSS, according to its concept of operations (CONOPS), does not require any specific provision in the RR.

In summary the position of the Council decision has been reached on this Agenda item.

f) Agenda item 1.12 (ITS)

Agenda item 1.12 was looking into possible global or regional harmonisation of spectrum for the development of Intelligent Transport Systems (ITS). In its Opinion (RSPG18-038 FINAL) the RSPG noted that any solution would have to take utmost account of already existing harmonisation in Europe. Since this Agenda item was limited to frequency bands

already allocated to the appropriate mobile service, the preparatory studies looked into the aspect of solving the item without revision of the RR, e.g. by means of non-binding ITU documents.

The EU position requested "to support a no change to the Radio Regulations as regards spectrum for ITS, as convergence is already being achieved through the more suitable instrument of ITU-R Recommendations".

WRC-19 decided that there was no need to revise the RR to respond to Agenda item 1.12. A compromise could be reached by formulating a new WRC Recommendation. In essence the WRC Recommendation is referring to the existing ITU-R Recommendation M.2121 and therefore does not affect the existing harmonisation decision in Europe.

In summary the position of the Council decision has been reached on this Agenda item.

g) Agenda item 1.16 (RLAN 5 GHz)

Agenda item 1.16 considered "issues related to wireless access systems, including radio local area networks (WAS/RLAN), in the frequency bands between 5 150 MHz and 5 925 MHz, and take the appropriate regulatory actions, including additional spectrum allocations to the mobile service, in accordance with Resolution 239 (WRC-15)".

• 5 150-5 250 MHz:

The EU position requested to "support relaxation of existing conditions in the frequency band 5 150-5 250 MHz, where applicable and compatibility with other services is ensured."

WRC-19 agreed on changes to Resolution 229 by providing new conditions for WAS/RLANs within the band 5 150-5 250 MHz by allowing indoor usage in trains (limited by maximum mean e.i.r.p. of 200 mW) as well as in automobiles (with a maximum e.i.r.p. of 40 mW). Furthermore, it was agreed that limited outdoor usage can be allowed to a level of up to 200 mW eirp, with an option to transmit up to 1 W (30 dBm) eirp with additional restrictions to protect other services.

The relaxation of the existing conditions in the band was in line with the EU position.

• 5 725-5 850 MHz:

The EU position requested to "support a mobile co-primary allocation in the frequency band 5 725-5 850 MHz under relevant conditions, if it can be shown that compatibility is ensured with other services, in particular that road tolling and smartTachograph can be protected, as well as radars. Support no change to the frequency band 5 725-5 850 MHz, unless such compatibility is ensured."

WRC-19 agreed on no changes to Resolution 229 since compatibility with other services could not be demonstrated. Nevertheless it was accepted that the band could be used in certain countries outside the EU. This remains in line with the EU position of No Change.

• 5 250-5 350 MHz, 5 350-5 470 MHz and 5 850-5 925 MHz:

The EU position requested to "support that no changes are made concerning the frequency bands 5 250-5 350, 5 350-5 470 and 5 850-5 925 MHz.

For these bands, No Change was agreed at WRC-19, in line with the EU position.

In summary the position of the Council decision has been reached on this Agenda item.

h) Agenda Item 9.1 - Issue 9.1.5 (Protection criteria 5 GHz) Agenda item 9.1 (issue 9.1.5) considered "the technical and regulatory impacts of referencing Recommendations ITU-R M.1638-1 and ITU-R M.1849-1 in Nos. 5.447F and 5.450A of the Radio Regulations".

The EU position requested to "support, under issue 9.1.5, that any amendments for the bands 5 250-5 350 MHz and 5 470-5 725 MHz do not impact the current coexistence conditions between RLAN and other services, nor introduce retrospective limitations to RLAN devices."

The compromise that was achieved at the WRC-19 replaced the current references to ITU-R Recommendations M.1638-0 and ITU-R RS.1632-0 with suitable text and a reference to Resolution 229. This was in line with the EU position, as the revision did not impact coexistence conditions between RLAN and other services.

In summary the position of the Council decision has been reached on this Agenda item.

i) Agenda item 9.1 - Issue 9.1.1 (IMT-MSS 2 GHz)

Issue 9.1.1 under Agenda item 9.1 was examining possible technical and operational measures to ensure coexistence and compatibility between the terrestrial component of IMT and the satellite component of IMT in the frequency bands 1 980-2 010 MHz and 2170-2200 MHz where those frequency bands are shared by the mobile service and the mobile-satellite service in different countries, in particular for the deployment of independent satellite and terrestrial components of IMT and to facilitate development of both the satellite and terrestrial components of IMT.

The EU position requested to "support adequate measures for protection of services provided by MSS satellites systems inside the Union, from harmful interference from outside the Union from the terrestrial component of IMT in the bands 1 980-2 010 MHz and 2 170-2 200 MHz."

WRC-19 decided on modifications to Resolution 212, with the technical conditions of the CEPT position included in the Annex of the Resolution as guidance on the implementation of technical and operational measures to ensure co-existence between the terrestrial and satellite component of IMT. Provided that this guidance is followed, in particular by countries outside the EU, the EU position has been met.

j) Agenda item 10 (Agenda of WRC-23)

Agenda item 10 considered "to recommend to the Council⁵ items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences [...]":

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⁵ ITU Council

• UHF review:

The EU position requested the Member States to "support the inclusion of an Agenda item for WRC-23 to review 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 of the Radio Regulations." The Item was already agreed for the preliminary Agenda of WRC-23 by the previous Conference, i.e. WRC-15.

In addition, the EU position requested, consistently with the timeline proposed in the Lamy report and subsequently set out in the Decision (EU) 2017/899, support no change at WRC-19 in the band 470-694 MHz.

During the Conference there was a general support for this Item. However there were also opinions expressed by a regional organization and some administrations that the item is not required at this time due to the extensive use of the broadcasting service in the band and it should be considered by a future WRC (beyond 2027). There were also views expressed by some administrations that the related Resolution 235 from WRC-15 needs refinement to clarify the possiblity of further IMT identification.

In order not to reopen the delicate balance in setting this Agenda item for WRC-23, this Item was kept in the Agenda for WRC-23 and the corresponding Resolution was not modified.

Hence the position of the Council decision has been reached on this subject.

• Galileo:

The EU position also requested the Member States to "support the consideration of the inclusion of the Agenda item for WRC-23 to address the protection of Galileo from the amateur service allocated on a secondary basis in the band 1 240-1 300 MHz."

There was no broad support for the Agenda item as several views were expressed that such an Agenda item is not considered requiring (regulatory) action from a WRC due to the nature of a secondary allocation vs primary but the issue could be studied under the normal framework of ITU-R within the appropriate Study Group and Working Group. Again, after several compromises and negotiations the issue was included in the Agenda for WRC-23 under Item 9 as topic 9.1.b. This means that the issue is examined by ITU-R (WP 5A) during the study period and results are reported to WRC-23 by the Director of the Radiocommunication Bureau in his report for the purpose of considering appropriate actions. The studies will review the different systems and applications used in the amateur service and amateur-satellite service allocations within the frequency band 1 240-1 300 MHz and study possible technical and operational measures to ensure the protection of RNSS (space-to-Earth) receivers, including Galileo, from the amateur and amateur-satellite services in this band without considering the removal of the amateur and amateur-satellite services allocations.

In summary the position of the Council decision has been reached on this Agenda item.

3. EU coordination at WRC-19 negotiations

The RSPG has recommended a forward looking approach on EU coordination during WRC-19 and the forecoming ones, under the newly applied procedure of TFEU Art. 218 (9)⁶. The Council Decision on an EU position for WRC-19 contained provisions when an EU position on a single WRC Agenda item needs to be evolved. The main objectives of the RSPG recommendations were to ensure the unity of the Member States during WRC-19 on the EU positions and to allow efficient coordination, as well as facilitation of effective and successful negotiations together with the CEPT.

The RSPG notes that its recommendations have been successfully implemented:

- the Commission proposal to the Council for an EU position took utmost account of the recommendations in particular the objective to allow active negotiations;
- EU coordination meetings were kept to the minimum necessary;
- EU Rapporteurs, often identical with the CEPT Coordinators, have been appointed. In case of Agenda item 1.9.2 where the CEPT Coordinator was from a non-EU country, the EU Rapporteur worked closely together with CEPT;
- Update(s) on possible deviations from an EU position have been made in time to ensure active negotiations by all Member States in support of the EU position;
- The Member States stayed united on all issues of the Council decision and defended them actively. In case where an evolvement of the EU position was necessary, it was kept to a minimum possible, e.g. on Agenda item 1.13 regarding the usage conditions of the 26 GHz band.

The RSPG notes that it would be worthwhile that the Commission informs RSPG about any additional item that wishes to be included in the draft Council decision so as to enable RSPG to provide further strategic advice, even after the final adoption of the RSPG Opinion for a WRC.

The RSPG notes further that in cases where the conference did not make sufficient progress on an Agenda item, the applied procedure at WRC-19 to continue negotiations with representatives of the ITU regional groups, may raise concerns regarding the principles of transparency and equality of Member States at international fora. However, the CEPT leadership and the EU Rapporteurs ensured that the available information on the progress, including requests for evolving positions, has been always circulated in a timely manner allowing the Member States to act in unity.

The RSPG also notes that the ad hoc EU Coordination meetings were co-chaired by the representative of the Commission and by a representative of the Presidency of the Council. Due to the specificity of the negotiations at WRCs, the RSPG notes that this approach worked efficiently.

In addition to the WRC Agenda items, EU coordination was needed to create common views on the reservations related to the Final Acts. All EU Members States signed the common reservations.

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⁶ See RSPG19-009final (<u>https://rspg-spectrum.eu/wp-content/uploads/2013/05/RSPG19-009final RSPG Opinion EU-coordination.pdf</u>)

4. Conclusion

The RSPG adopted this Report through its written procedure and drew the following conclusions:

- 4.1 All elements highlighted by the RSPG in its Opinion(s) have been taken into utmost account, in particular on the identified Agenda items with relevance to EU policies. As such the process of RSPG to address EU interests on WRC-19 was fully satisfying. Therefore RSPG is of the view that no further amendment to the process is necessary for WRC-23.
- 4.2 The EU coordination at WRC-19 was successful and ensured united and active negotiations of the Member States.
- 4.3 All EU positions on specific WRC-19 Agenda items have been reached: WRC-19 was for the EU a complete success.

References

RSPG Opinions and Reports

http://rspg-spectrum.eu/rspg-opinions-main-deliverables/

- RSPG Opinion on EU Coordination at ITU-R Radiocommunication Conferences (RSPG19-009final)
- RSPG Opinion on the ITU-R World Radiocommunication Conference 2019 (RSPG18-038final)
- RSPG Interim Opinion on Common Policy Objectives for WRC-19 (RSPG17-010final)
- Opinion on the Preparation of ITU World Radiocommunication Conferences (RSPG09-294final)

Council Decision

 Council Decision on the position to be taken on behalf of the European Union in the International Telecommunication Union (ITU) World Radiocommunication Conference 2019 (WRC-19) (103300/19)

https://data.consilium.europa.eu/doc/document/ST-10300-2019-INIT/en/pdf

Others

Judgment of the Court (Grand Chamber) of 25 October 2017 —
European Commission v Council of the European Union (Case C-687/15)
http://curia.europa.eu/juris/liste.jsf?language=en&num=C-687/15