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| **World Radiocommunication Conference (WRC-23) Dubai, 20 November - 15 December 2023** | A close up of a sign  Description automatically generated |
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|  | **19 August 2023** |
|  | **Original: English** |
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| Asia-Pacific Telecommunity Common Proposals | |
| Proposals for the work of the conference | |
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| Agenda item 10 | |

to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev.WRC-19)**

Resolution **804 (Rev.WRC-19)** - Principles for establishing agendas for world radiocommunication conferences

**Introduction**

APT Members support to consider the following item as an agenda item for WRC-31:

*possible regulatory provisions to avoid harmful interference to the radiocommunication services caused by Wireless Power Transmission (WPT), in accordance with Resolution* ***[WPT] (WRC-23)****;*

Depending on the workload of WRC-27, APT Members may consider to transfer this agenda item from WRC-31 to WRC-27:

**Proposals**

ADD ACP/xxA25A8/1

resolution [ACP/A10-WPT] (WRC‑23)

Studies on possible regulatory provisions to avoid harmful interference to the radiocommunication services caused by Wireless Power Transmission (WPT)

The World Radiocommunication Conference (Dubai, 2023)

considering

*a)* that wireless power transmission (WPT) is defined as the transmission of power from a power source to an electrical load wirelessly using an electromagnetic field, excluding transmission for radiocommunications;

*b)* that a wide variety of technologies and applications of WPT are evolving, planned, or have already been partly put on the market; and

*c)* that such WPT technologies may be useful in a variety of applications, including solar power, airborne platforms, electric vehicles, Internet of Things (IoT) devices, and wireless charging of mobile or portable devices.

recognizing

*a)* that WPT is not a defined radio service in the Radio Regulations (RR);

*b)* that there are no international regulations to regulate the radiation from WPT;

*c)* that under RR Nos. **15.12** and **15.13**, administrations shall take all practicable and necessary steps to ensure that the operation of electrical apparatus or installations, including those for WPT, does not cause harmful interference to a radiocommunication service and, in particular, to a radionavigation or any other safety service;

*e)* that some administrations regard WPT as an ISM application defined by the RR, and they apply their current regulations to the ISM applications and equipment;

*f)* that some administrations regard WPT equipment as Short-range Radiocommunication Devices (SRD), and they apply their current SRD regulations although SRD is not defined by the RR, but it is discussed in some ITU-R Recommendations and Reports;

*g)* that in order not to cause harmful interference to the radiocommunication services, some administrations classify certain applications of WPT as a radio service that is not defined in the RR;

noting

*a）* that ITU-R SG 1 is studying, based on Question ITU-R 210/1, the technical and operational requirements to ensure that the radiocommunication services are protected from harmful interference caused by WPT operations;

*b)* that ITU-R Recommendations on frequency ranges for WPT (Recs. ITU-R SM.2110-1, SM.2129-0, and SM.2151-0) have been approved, and further studies on a variety of WPT applications and technologies are ongoing in the ITU-R; and

*c)* that ITU-R Recommendations provide guidance to administrations and are not binding on ITU Member States.

*resolves to invite [WRC-27/WRC-31]:*

to consider, based on the results of ITU-R studies, possible regulatory provisions to avoid harmful interference to the radiocommunication services caused by Wireless Power Transmission (WPT)

*resolves to invite ITU-R to conduct and complete in time for WRC-27*

the technical, operational, sharing and compatibility studies, and possible regulatory studies, with a view to ensure the protection of radiocommunication services to which the frequency band is allocated on a primary and secondary basis, or services in the adjacent bands, and WPT does not claim protection from those radiocommunication services, for the frequency bands:

19-21 kHz, 55-57 kHz, 63-65 kHz, 79-90 kHz, 100-148.5 kHz, 6 765-6 795, 2 410-2 483.5/2 486 MHz, 5 725-5 875 MHz, 61-61.5 GHz

3 to complete the study in time for preparation for WRC-27.

*resolves to encourage administrations*

to participate actively in these studies by submitting contributions to ITU-R.

*invites Member States, Sector Members, Academia, and Associates*

to participate in the studies by submitting contributions to ITU-R.

**Reasons:** Proposal for a new WRC-27 agenda item to consider Wireless Power Transmission (WPT)

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| **Subject:**   **Proposal of WRC-27 Agenda Item on Wireless Power Transmission (WPT)** | |
| **Origin: APT** | |
| ***Proposal*:**  *Studies on possible regulatory provisions to avoid harmful interference to the radiocommunication services caused by Wireless Power Transmission (WPT)* | |
| **Background/reason:**  A wide variety of technologies and applications of Wireless Power Transmission (WPT) are evolving, planned, or have already been partly put on the market.  This proposal is based on the following current regulatory situation regarding WPT:   * Since a WPT equipment is obviously a kind of electrical apparatus or installations, RR Nos. **15.12** and **15.13** are applicable and, administrations shall take all practicable and necessary steps to ensure that the operation of WPT equipment does not cause harmful interference to a radiocommunication service, in particular, to radionavigation or any other safety services. * Under the current international regulatory situation regarding WPT, many countries do not have sufficient regulations on WPT necessary to prevent harmful interferences to the radio services, and it is necessary to improve this situation. * The ITU-R Recommendations on WPT recommend that administrations may consider as guidance, the use of the frequency ranges, or portions thereof, that are listed in the Recommendations for the operation of WPT systems. * The frequency ranges listed in these Recommendations are based on the results of interference studies considering the situation in some countries.   Based on the above-mentioned situation, APT proposes the following new Agenda Item for WRC-27:   * Studies on possible regulatory provisions to avoid harmful interference to the radiocommunication services caused by Wireless Power Transmission (WPT) | |
| ***Radiocommunication services concerned*:**  All radiocommunication services and the radio astronomy services | |
| ***Indication of possible difficulties*:**  NONE. | |
| ***Previous/ongoing studies on the issue*:**  WRC-15 approved Resolution 958 for urgent studies on WPT for EV in preparation for WRC-19. However, ITU-R SG 1 failed to approve an ITU-R Recommendation in time for WRC-19. Therefore, WRC-19 decided that no changes were required to the RR at WRC-19 and recommended ITU-R to continue its studies on WPT.  Since then, three ITU-R Recommendations have been approved on frequency ranges for different types of WPT: Recommendations ITU-R SM. 2110-1 “Guidance on frequency ranges for operation of non-beam wireless power transmissions for electric vehicles,” SM.2129-0 “Guidance on frequency ranges for operation of non-beam wireless power transmission systems for mobile and portable devices,” and SM.2151-0 “Guidance on frequency ranges for operation of wireless power transmissions via radio frequency beam systems for mobile/portable devices and sensor networks.”  The ITU-R studies on WPT are ongoing addressing a variety of WPT technologies and applications and there may be more Recommendations approved before WRC-27. | |
| ***Studies to be carried out by*:**  ITU-R Study Group 1 | ***with the participation of*:**  Administrations, Sector members, academia, etc. |
| ***ITU‑R study groups concerned*:**  Study Groups 3, 4, 5, 6, and 7 | |
| ***ITU resource implications, including financial implications (refer to CV126)*:**  This proposed agenda item will be studied within the normal ITU-R procedures and planned budget. | |
| ***Common regional proposal*: *[Yes]*** | ***Multicountry proposal*:  *No***  ***Number of countries*:** TBD |
| ***Remarks*** | |