

**ITUWORKSHOPS**

# 1<sup>st</sup> ITU Inter-regional Workshop on WRC-19 Preparation

21 - 22 November 2017

Geneva, Switzerland

[www.itu.int/go/ITU-R/wrc-19-irwsp-17](http://www.itu.int/go/ITU-R/wrc-19-irwsp-17)



## 1<sup>st</sup> ITU INTER-REGIONAL WORKSHOP ON WRC-19 PREPARATION (Geneva, 21-22 November 2017)

### **ITU-R Studies on Wireless Power Transmission (WPT) for Electric Vehicles (EVs): WRC-19 AI 9.1 (Issue 9.1.6)**

***CHANG Ruoting***  
***Chairman of WP 1B***



90<sup>th</sup> Anniversary  
CCIR - ITU-R Study Groups  
(1927-2017)

Organized by:





## **RESOLUTION 958 (WRC-15)**

### **Urgent studies required in preparation for the 2019 World Radiocommunication Conference The World Radiocommunication Conference (Geneva, 2015), considering**

- a) that the agenda of this conference included consideration of items for the agenda for the 2019 World Radiocommunication Conference (WRC-19);
  - b) that the agenda of this conference included consideration of items for the preliminary agenda for the 2023 World Radiocommunication Conference (WRC-23);
  - c) that items for the agenda for WRC-19 have been identified in Resolution 809 (WRC-15);
  - d) that items for the preliminary agenda for WRC-23 have been identified in Resolution 810 (WRC-15),
- resolves to complete studies on the topics identified in this Resolution and its annex, invites ITU-R as a matter of urgency, to complete the studies called for in this Resolution, instructs the Director of the Radiocommunication Bureau to report on these studies under agenda item 9.1 of WRC-19, as appropriate, based on the results of studies.

### **ANNEX TO RESOLUTION 958 (WRC-15)**

#### **Urgent studies required in preparation for the 2019 World Radiocommunication Conference**

##### **1) Studies concerning Wireless Power Transmission (WPT) for electric vehicles:**

- a) to assess the impact of WPT for electric vehicles on radiocommunication services;
- b) to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT for electrical vehicles.

These studies should take into account that the International Electrotechnical Commission (IEC), the International Organization for Standardization (ISO) and the Society of Automotive Engineers (SAE) are in the process of approving standards intended for global and regional harmonization of WPT technologies for electric vehicles.

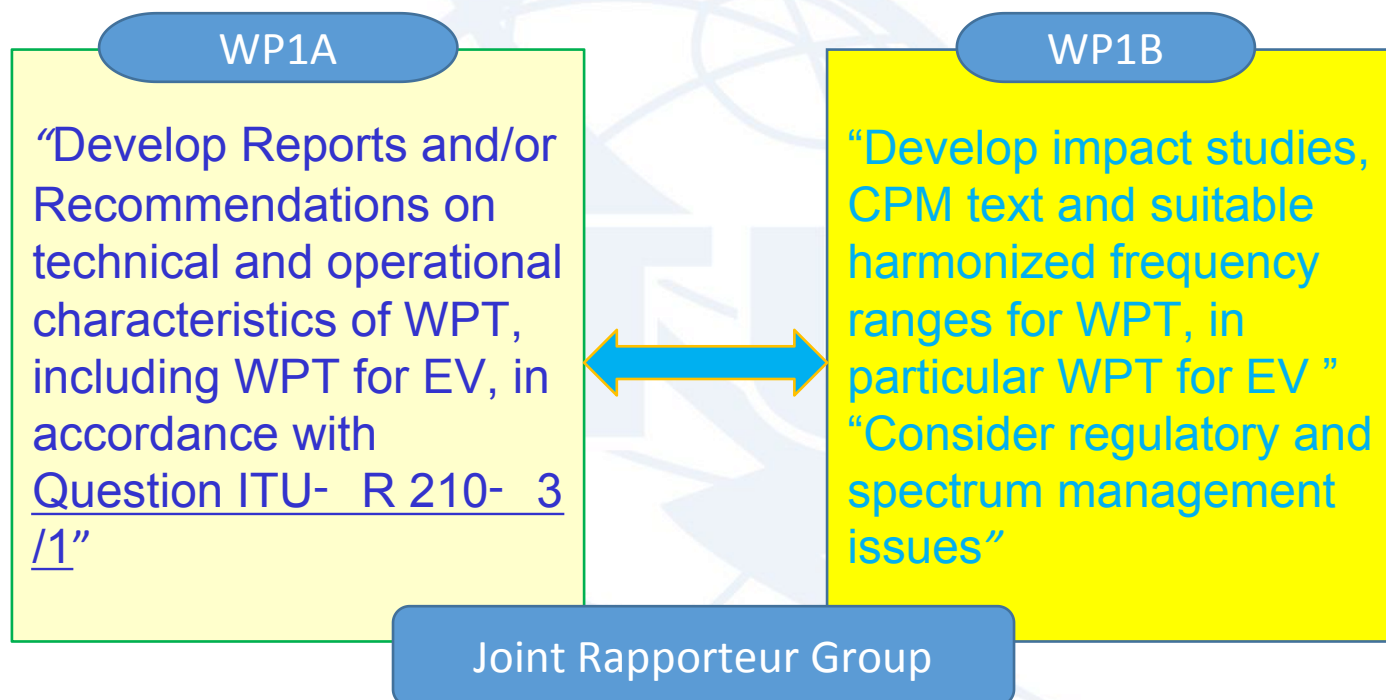


## Allocation of ITU-R preparatory work for WRC-19 related to WPT for electric vehicles

Topic	Responsible group	Action to be taken by the group	Concerned group
Issue 9.1.6: Issue 1) in the Annex to Resolution958 (WRC-15)	WP1B	<b>Studies concerning Wireless Power Transmission (WPT) for electric vehicles:</b> a) to assess the impact of WPT for electric vehicles on radiocommunication services; b) to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT for electrical vehicles.  These studies should take into account that the International Electrical Commission (IEC), the International Organization for Standardization (ISO) and the Society of Automotive Engineers (SAE) are in the process of approving standards intended for global and regional harmonization of WPT technologies for electric vehicles	WP1A WP5B WP6A



## Division of WPT study in SG1





# ITU-R studies on WPT4EV

- Report ITU-R SM.2303 ‘Wireless power transmission using technologies other than radio frequency beam’: This first output, was approved in 2014 and updated in 2015 and 2017. This Report contains various information about WPT for EVs among others.
- Recommendation ITU-R SM.2110-0 ‘Frequency ranges for operation of nonbeam Wireless Power Transmission (WPT) systems’: A preliminary draft new Rec. was prepared in June 2015, converted it to draft new Rec. in June 2016 but its approval procedure was postponed by one year. In June 2017, SG 1 agreed to apply PSAA. Although current vision includes only 6.78 MHz range for mobile/portable devices, work is underway to recommend more frequency ranges for WPT.
- Report ITU-R SM.[WPT. FREQ.MNGM] ‘Methodology for spectrum management of wireless power transmission (WPT)’: A working document was prepared by WP 1B as a basis for the draft CPM text for AI 9.1, Issue 9.1.6. This needs more discussions at the next meetings of WP 1B (see [Annex 3 to Doc. 1B/193](#))
- Draft CPM text for AI 9.1, Issue 9.1.6: A working document was prepared by WP 1B and a summary and conclusions are yet to be prepared before its deadline(See [Draft CPM text: Annex 1 to Doc. 1B/193](#))



# Key elements of WPT4EV

1. **Category of WPT devices**      **ISM?**
2. **The scope of EV**                      **Power level?**
3. **Suitable frequencies**                  **Power level, cost, technology, protection of radios**
4. **Impacts on radio users**              **Protection criteria, mitigation methods?**
5. **Emission limits of WPT**              **ITU-R or CISPR? Globally harmonious limits?**