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| U.S. Radiocommunications SectorFact Sheet |
| **Working Party:** ITU-R WP1A | **Document No:** USWP1A-02\_SD |
| **Ref:** Annex 2 of Chairman’s Report: Working Document Towards a Preliminary Draft New [Recommendation / Report] ITU-R SM.[WPT\_EMISSIONS]  | **Date:** April 1, 2022 |
| Document Title: Working Document Towards a Preliminary Draft New [Recommendation / Report] ITU-R SM.[WPT\_EMISSIONS] |
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| **Purpose/Objective:** Propose suppression or a more acceptable way forward for this working document. |
| **Abstract:** Since this working document was initiated by sector members in 2019 very few contributions have been received from administrations that support this working document. In the June 2020 meetings, the US proposed to suppress this document or carry it forward only as a working document towards a Report. In the last two meetings no substantive progress was made on this document, and work on the document was further postponed without significant interest from administrations. This contribution proposes again to suppress this document or provides an alternative approach for handling this document by limiting the scope to fundamental emissions only of wireless power transfer systems not operating in an ISM band. |

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| **Radiocommunication Study Groups** | Logo  Description automatically generated |
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| Received: Date 20xxSubject: Question [ITU-R 210-3/1](https://www.itu.int/pub/R-QUE-SG01.210) | **Document XX/-E** |
| **Date 20xx** |
| **Original: English** |
| United States of America |
| Proposal to Suppress the WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW [RECOMMENDATION / REPORT] ITU-R SM.[WPT\_EMISSIONS] |
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Background

[Annex 2](https://www.itu.int/dms_ties/itu-r/md/19/wp1a/c/R19-WP1A-C-0179%21N02%21MSW-E.docx) of the Chairman’s Report of the November 2021 Meeting is a *working document towards a preliminary draft new [recommendation / report] ITU-R SM.[WPT\_EMISSIONS]*. In the last meeting of WP1A, work on this document was postponed. Since the introduction of this document in 2019, no substantial progress or efforts by administrations have been made on this document. To date WP1A has not agreed on whether this document should become an ITU-R Report or Recommendation if it were to continue.

Discussion

The United States of America has reviewed the *working document towards a preliminary draft new [recommendation / report] ITU-R SM.[WPT\_EMISSIONS]* in preparation for the June / July 2022 WP1A meeting. The United States finds that this document does not add any additional value or pertinent information beyond what is already included (or planned to be included) in the following documents and any associated revisions in progress: ITU-R Recommendations SM.2110-1, SM.2129-0, SM.329-12, SM.1056-1, SM.1896-1; as well as ITU-R Reports SM.2451-0, SM.2449-0, and SM.2303-3.

Proposal

The United States recommends that WP1A ceases work on the *working document towards a preliminary draft new [recommendation / report] ITU-R SM.[WPT\_EMISSIONS]*.

Alternatively, if WP1A chooses to continue consideration of this working document, then the United States proposes to simplify the working document by limiting the scope to fundamental emissions of wireless power transfer systems not operating in an ISM band. In this alternative approach, the document could be retitled as a *working document towards a preliminary draft new [recommendation / report] ITU-R SM.[WPT\_FUNDAMENTAL\_EMISSIONS]* and simplified as proposed in the following attachment.

**Attachment:** Alternative proposal *working document towards a preliminary draft new [recommendation / report] ITU-R SM.[WPT\_FUNDAMENTAL\_EMISSIONS]*

Working document towards a preliminary draft new [Recommendation / REPORT] ITU-R SM.[WPT\_FUNDAMENTAL\_EMISSIONS]

Guidance to determine the fundamental radiated emission limits of non-beam WPT not operating in an ISM band

[Editor's note: The information contained in this document is preliminary and under study.]

Scope

This Recommendation addresses guidance for administrations to determine the radiated emission limits of the fundamental emissions from non-beam wireless power transmission (WPT) systems not operating in an ISM band.

[USA Note (to be removed): The above proposed scope incorporates this U.S.A. contribution as well as text from Japan 1A/119]

Terminology

In this Recommendation, the term “fundamental radiated emissions” refers to any electromagnetic fields at the operating frequency of the WPT system present outside the confines of the WPT system itself; transfer coils, connecting cables and supporting electronics.

In this Recommendation the term “disturbances” refers to any degradation, disruption or obstruction caused to radiocommunications by RF energy escaping from the confines of WPT equipment.

Keywords

Wireless power transmission, non-beam

Abbreviation/Glossary

CISPR: In French “Comité International Spécial des Perturbations Radioélectriques”,
International Special Committee on Radio Interference

ICNIRP: International Commission on Non‑ionizing Radiation Protection

IEC: International Electrotechnical Commission

IoT: Internet of Things

ISO: International Organization for Standardization

ISM: Industrial, Scientific, Medical

RR: Radio Regulations

SAE: Society of Automotive Engineers

WPT: wireless power transmission

Related ITU Recommendations, Reports

Recommendation ITU-R SM.1056; Recommendation ITU-R SM.1896; Recommendation ITU-R P.372; Recommendation ITU-R SM.2110; Recommendation ITU-R SM.2129, Report ITU-R SM.2153; Report ITU-R SM.2303; Report ITU-R SM.2451; Report ITU-R SM.2449; Recommendation ITU-R SM.329.

The ITU Radiocommunication Assembly,

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;

*b)* that non-beam WPT technologies utilize various near field mechanisms, such as inductive, resonant, and capacitive coupling to transfer power;

*c)*  that such non-beam WPT technologies are being considered for applications such as charging of mobile/portable devices, Internet of Things (IoT) devices, and electric vehicles;

*d)* that there is a potentially increasing demand for wireless power transmission technology;

*e)* that non-beam WPT is a promising technology to progress the commercialization of EVs, and contributes worldwide for global environment preservation;

*f)* that non-beam WPT systems used for mobile/portable devices, IoT devices and sensor devices, are also promising technologies to reduce energy burden on industrial process because these devices can be used without batteries and maintenance, and then contribute to reduction of carbon dioxide emissions;

*g)* that the International Electrotechnical Commission (IEC) has published a Technical Report IEC/TR 62869 on Wireless Power Transfer for audio, video and multimedia systems and equipment developed by TC 100;

*h)* that the IEC TC 69 published IEC International Standard (IS) 61980-1 on general requirement of electric vehicle wireless power transfer systems, is developing IEC IS 61980-2 on communication and control of electric vehicle wireless power transfer systems, and is developing IEC IS 61980-3 on specific requirements for the magnetic field power transfer systems of electric vehicle wireless power transfer systems;

*i)* that the International Organization for Standardization (ISO/TC22/SC37) has published ISO International Standard (IS) 19363 on electrically propelled road vehicles – magnetic field wireless power transfer;

*j)* that the Society of Automotive Engineers (SAE) International J2954 published a Standard on wireless power transfer for light-duty electric vehicles;

*k)* that non-beam WPT standards including the fundamental radiative emission limits have been or are being developed at national, regional, and international levels;

*l)* that WPT is considered to be either one of the electrical apparatus that are referred to in RR No. 15.12 or industrial, scientific and medical (ISM) equipment referred to in RR No. 15.13;

*m)* that issues of non-ionizing radiation exposure related to systems employing WPT technologies are dealt with by such organizations as the World Health Organization (WHO) and the International Radiation Protection Association (IRPA)/International Commission on Non ionizing Radiation Protection (ICNIRP);

noting

*a)* that protection of radiocommunication services from harmful interference caused by electrical installations is specifically called for in Nos. **15.12** and **15.13** of the Radio Regulations (RR);

*b)* that Recommendation ITU-R SM.1056 on the limitation of radiation from ISM equipment recommends that administrations consider the use of the latest edition of CISPR publication 11;

*c)* that Recommendation ITU-R SM.329 provides limits for unwanted emissions in the spurious domain, as well as measurement methods of spurious domain emissions;

*d)* that Reports ITU-R SM.2303, SM.2449, and SM.2451 provide information on various applications of non-beam WPT systems, including impact assessment of these WPT systems;

recommends

[USA Note (to be removed): The below proposed recommends incorporates the following: Japan 1A/54 and 1A/119 in recommends 1, EBU 1A/379 and 1A/109 in recommends 2. as well as new text from this USA contribution.]

1that administrations should determine the fundamental radiated emission limits by considering the disturbance from non-beam WPT systems at the input of a radio receiving antenna, the possible separation distances between non-beam WPT systems and radiocommunication receivers in each radio environment where non-beam WPT systems are used, and other factors including propagation loss due to walls of houses and buildings;

2 that administrations should implement limits, measures and procedures to ensure that radiocommunication services are protected from harmful interference caused by non-beam WPT systems;

3 that administrations should consider Recommendations ITU-R SM.2129 and ITU-R SM.2110 for determination of applicable operating frequencies for fundamental radiated emission limits applicable to non-beam WPT systems.

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