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| APTlogogreen3 | ASIA-PACIFIC TELECOMMUNITY | **Document:** |
| **The 2nd Meeting of the APT Conference Preparatory Group for WRC-19 (APG19-2)** | **APG19-2/OUT-31** |
| 17 – 21 July 2017, Bali, Republic of Indonesia | **21 July 2017** |

Working Party 1

**PRELIMINARY VIEWs on WRC-19 agenda item 1.12**

**Agenda Item 1.12:**

*to consider possible global or regional harmonized frequency bands, to the maximum extent possible, for the implementation of evolving Intelligent Transport Systems (ITS) under existing mobile-service allocations, in accordance with Resolution* ***237 (WRC-15)****;*

**1. Background**

**Resolution 237 (WRC-15)** “Intelligent Transport Systems applications”

*resolves to invite the 2019 World Radiocommunication Conference*

taking into account the results of ITU Radiocommunication Sector (ITU-R) studies, to consider possible global or regional harmonized frequency bands for the implementation of evolving ITS under existing mobile-service allocations,

As the responsible group of WRC-19 Agenda item 1.12 in ITU-R, Working Party 5A (WP5A) developed a working document towards draft CPM text for this agenda item. WP 5A has also developed a working document towards a preliminary draft new Report ITU-R M.[ITS USAGE] covering overall ITS usage and a working document towards a preliminary draft new Recommendation ITU-R M.[ITS\_FRQ] dealing with harmonized frequency arrangements. In addition, Asia-Pacific Telecommunity (APT) is developing a working document towards a preliminary draft revision of APT Report on “The Usage of ITS in APT countries” (APT REPORT#18 (REV.2)).

Relevant ITU-R Reports/Recommendations, APT Reports/Recommendations and ongoing studies are as follows:

* Recommendation ITU-R M.1890, “Intelligent Transport Systems – Guidelines and Objectives”, 2011
* Recommendation ITU-R M.1453-2, “Intelligent Transport Systems – Dedicated Short Range Communications at 5.8 GHz”, 2005.
* Recommendation ITU-R M.1452-2, “Millimetre wave radiocommunication systems for ITS applications”, 2012.
* Report ITU-R M.2228, “Advanced Intelligent Transport Systems (ITS)radiocommunications”, 2012.
* Recommendation ITU-R M.2084, “Radio interface standards of vehicle-to-vehicle and vehicle-to-infrastructure communications for intelligent transport systems applications”,2015.
* Working document towards a preliminary draft new Report ITU-R M.[ITS USAGE], “Intelligent transport systems (ITS) usage in ITU Member States”
* Working document towards a preliminary draft new Recommendation ITU-R M.[ITS\_FRQ], “Harmonization of frequency arrangements for Intelligent Transport Systems in the mobile service”
* Working document towards a preliminary draft revision of APT Report on “The Usage of ITS in APT countries” (APT REPORT#18 (REV.2)).

**2. Documents**

* Input Documents:APG19-2/INP-7 (AWG), APG19-2/INP-8 (KOR), APG19-2/INP-20 (NZL), APG19-2/INP-28 (AUS), APG19-2/INP-39 (INS), APG19-2/INP-49 (CHN), APG19-2/INP-55 (J), APG19-2/INP-68 (THA)
* Information Documents:APG19-2/INF-1 (Chairman, APG-19), APG19-2/INF-2 (ICAO), APG19-2/INF-4 (CITEL), APG19-2/INF-5 (RCC), APG19-2/INF-6 (IARU), APG19-2/INF-7 (ATU), APG19-2/INF-14 (CEPT)

**3. Summary of Discussions**

**3.1 Summary of Members’ view**

1. **Republic of Korea**

The Republic of Korea supports relevant ITU-R studies in accordance withResolution **237 (WRC-15)** and the frequency band 5 855-5 925 MHz as globally or regionally harmonized spectrum for evolving ITS applications.

1. **New Zealand**

New Zealand supports the ITU-R studies undertaken in accordance with Resolution **237 (WRC-15)**, in order to harmonise frequency bands within existing mobile service allocations for the implementation of evolving Intelligent Transport Systems (ITS).

New Zealand is of the view that the new generation of Co-operative ITS should operate within those frequency bands that are already being adopted for ITS use on a regional (or sub-regional) basis within existing mobile service allocations, or an immediately adjacent frequency band that is also appropriate for such use.

New Zealand has made considerable arrangements to cease satellite uplink operation in the band 5 875-5 925 MHz, and that this spectrum is reserved for possible new usages pending government decision.

1. **Australia**

Australia supports studies under Resolution **237 (WRC-15)** toward possible harmonisation of frequency bands in existing mobile service allocations for the implementation of evolving Intelligent Transport Systems (ITS). Australia is of the view that no change to the Radio Regulations is required to satisfy this agenda item, and that no new WRC Resolution addressing this matter is necessary. Furthermore, spectrum harmonisation may be achieved by development of ITU-R Recommendations and supported by relevant new and/or revised ITU-R Reports.

Australia is also of the view that the ITU-R studies and any harmonised frequency bands for ITS should not be restricted to, nor exclude, any particular ITS technology.

1. **Indonesia**

The identification of harmonized frequency bands for ITS does not preclude the use of these bands/frequencies by any application of the services to which they are allocated and does not establish priority in applying and using the Radio Regulations.

Indonesia is of the view it is reasonable to harmonize frequency bands at global and/or regional levels within existing mobile service allocations to implement evolving Intelligent Transport Systems (ITS), including through the development of ITU-R Recommendation and/or ITU-R Report. The harmonized use of frequency bands by ITS within existing mobile service allocations shall not impose additional constraints on other primary services to which these frequency bands are already allocated and to minimize the potential interference to the existing mobile service applications/systems already identified/deployed in these frequency bands.

1. **People's Republic of China**

China's preliminary views are as follows:

1. China supports global or regional harmonization of frequency bands for evolving Intelligent Transport Systems under WRC-19 Agenda item 1.12 framework.
2. For study of WRC-19 Agenda item 1.12, China supports taking LTE-V2X into account as one of the evolving ITS technologies.
3. China supports global or regional harmonized frequency band for the evolving Intelligent Transport Systems within the frequency range of 5 850-5 925MHz.
4. **Japan**

Japan supports ongoing studies of technical and operational characteristics of ITS applications under existing mobile service allocations in AWG and ITU-R WP 5A for relevant recommendations and reports, and encouragement to members of APT to contribute to these studies.

1. **Thailand**

Thailand supports studies currently undertaken by ITU-R Working Party 5Aon technical and operational aspects of evolving ITS implementation using existing allocations for mobile service.

Thailand is of the view that spectrum used by ITS safety-related applications should be protected from harmful interference because the next generation of ITS will be used for safe driving support system and automated driving system.

As the mobile service bands used by ITS may also be utilized by other applications and services, Thailand is of the view that further studies should also address technical conditions to facilitate coexistence between ITS and other applications/services.

In particular, the frequency band 5 855 – 5 925 MHz is being used for ITS application in several countries, while many APT Member countries also use Fixed Satellite Service (FSS) in this band. Thailand notes that ITU-R Working Party 4A submitted a Liaison Statement requesting ITU-R Working Party 5A to take account of the co-primary allocation of FSS in the band in the study under WRC-19 agenda item 1.12 and ITU-R Working Party 5A is studying best practice and experiences on the usage of the bands between ITS and other applications**/**services as Section 7.5 of Working document toward a preliminary draft new Report ITU-R M.[ITS USAGE] (Annex 32 to ITU-R Working Party 5A Chairman’s Report). Thailand further encourages APT Member countries to submit contributions to ITU-R Working Party 5A addressing technical conditions to facilitate coexistence between ITS and other applications/services, particularly FSS, in the frequency band 5 855 – 5 925 MHz.

**3.2 Key points raised during the meeting**

* APT members noted that according to Working document towards a preliminary draft new Report ITU-R M.[ITS USAGE], “Intelligent transport systems (ITS) usage in ITU Member States” and Working document towards a preliminary draft revision of APT Report on “The Usage of ITS in APT countries” (APT REPORT#18 (REV.2)), the frequency bands 5 770-  
  5 850 MHz and 5 855-5 925 MHz(or portion of the band)are being used in some APT member countries.
* During the discussion, APT Members recognized that the consideration of possible Methods to satisfy this Agenda Item is important for the preparation of APG19-3 meeting.

**4. APT Preliminary View**

APT Members support studies under Resolution **237 (WRC-15)** toward possible harmonization of frequency bands in existing mobile-service allocations for the implementation of evolving Intelligent Transport Systems (ITS).

**5. Other Views**

Some APT Members support LTE-V2X as one of the evolving ITS technologies, and any harmonised frequency bands for ITS should not be restricted to, nor exclude, any particular evolving ITS technology.

Some APT member countries are considering possible Methods to satisfy the agenda item other than the method to not change the Radio Regulations and to SUP Resolution 237 (WRC-15).For example,to modify Article 5 of the Radio Regulations by adding a footnote which refers to a WRC Resolution, to develop a WRC Resolution which refers to an ITU-R Recommendation, or to ADD a footnote in Article 5 of Radio Regulations that directly references an ITU-R Recommendation.

Some APT Members are of the view that there is no need to change the Radio Regulations to satisfy this agenda item.

**6. Views from Other Organisations**

* **ASMG** 
  + Follow-up studies, and request administrations to consider the possibility of identifying appropriate frequency bands for these systems within the current allocations of the mobile service.
* **CEPT**
  + CEPT is of the view that its existing regional harmonisation measures for ITS in the bands 5 855-5 925 MHz and 63-64 GHz are sufficient and no changes to the RR are required in response to WRC-19 Agenda item 1.12.
  + CEPT is of the view that harmonisation measures for ITS on ITU-R level can be achieved through the development of an ITU-R Recommendation (and an ITU-R Report if needed).
  + CEPT is of the view that the requirements developed for ITS operations under the existing primary mobile allocation have already addressed the necessary sharing and compatibility requirements of the other primary services, and consequently do not impose additional constraints on primary services having allocations in the considered frequency bands.
  + CEPT is also of the view that harmonisation of ITS under WRC-19 Agenda item 1.12 is limited to the exchange of information to improve traffic management and assisting safe driving.
* **RCC** 
  + The RCC Administrations consider it reasonable to harmonize frequency bands at global and regional levels within existing mobile service allocations in order to implement evolving Intelligent Transport Systems, including through the development of ITU-R Recommendations and Reports.
  + The RCC Administrations are of the view that the implementation of evolving transport systems within existing mobile service allocations shall not impose additional constraints on services already having allocations in these or adjacent frequency bands.
* **IARU**
  + The IARU is of the view that existing and future amateur use in this band is protected with special attention to the bands 5 760 to 5 765 MHz and 5 830 to 5 850 MHz.
* **ICAO**
  + To ensure, on the basis of agreed ITU-R studies, that any regulatory actions within existing mobile-service bands do not impact existing aeronautical systems operating in accordance with the Radio Regulations.

**7. Issues for Consideration at Next APG Meeting**

APT Members are encouraged to contribute to the APG19-3 in considering frequency band(s) to be harmonized in Region 3 under this agenda item.

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