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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-25** |
| 17 – 21 July 2017, Bali, Republic of Indonesia | **21 July 2017** |

Working Party 2

**preliminary views on WRC-19 agenda item 9.1 (ISSUE 9.1.1)**

**9** *to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with* ***Article 7*** *of the Convention:*

**9.1** *on the activities of the Radiocommunication Sector since WRC-15;*

**Issue 9.1.1: Resolution 212 (Rev.WRC-15)**

*Implementation of International Mobile Telecommunications in the frequency bands 1885-2025 MHz and 2110 -2200 MHz*

**1 Background**

Resolution **212 (Rev. WRC-15)** invites the ITU-R to study possible technical and operational measures to ensure coexistence and compatibility between the terrestrial component of IMT (in the mobile service) and the satellite component of IMT (in the mobile service and the mobile-satellite service) in the frequency bands 1 980-2 010 MHz and 2 170-2 200 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 terrestrial component of IMT has already been deployed or is being considered for deployment in the frequency bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz. Both the terrestrial and satellite components of IMT have already been deployed or are being considered for deployment in the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz.

It was noted that co-frequency deployment of independent satellite and terrestrial IMT components in the same geographical area is not feasible unless technique, such as the use of an appropriate guardband or other mitigation techniques are applied to ensure coexistence and compatibility between the terrestrial and satellite components of IMT.

It was also noted that satellite and terrestrial IMT components deployed in adjacent geographical areas might require technical and operational measures to avoid harmful interference between them.

Within ITU-R, Working Party **4C** (**WP 4C**) and Working Party **5D** (**WP 5D**) are responsible for the studies requested in the *invites ITU-R* of Resolution **212 (Rev.WRC-15)** with respect to the satellite and terrestrial components of IMT, respectively, taking into account the technical and operational characteristics provided by relevant above Working Parties.

Based on the above, WP **5D** and WP **4C** have jointly developed the working document towards a preliminary draft new [Recommendation/Report] ITU-R M.[MSS/IMT-ADVANCED SHARING].

**2 Documents**

**2.1 Input Documents:**

[APG19-2](http://www.apt.int/2017-APG19-2-DOCS-INP)/[INP-09 (KOR)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INP-09_KOR-WP2.docx), [INP-21 (NZL)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INP-21_NZL_WP2.docx), [INP-29 (AUS)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INP-29_AUS_WP2_0.docx), [INP-40 (INS)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INP-40_INS_WP2.docx), [INP-56 (J)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INP-56_J_WP2.docx)

**2.2 Information Documents:**

[APG19-2](http://www.apt.int/2017-APG19-2-DOCS-INF)/[INF-04 (CITEL)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INF-04_CITEL_Preparation.pdf), [INF-05 (RCC)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INF-05_RCC.docx), [INF-14 (CEPT)](http://www.apt.int/sites/default/files/2017/07/APG19-2-INF-14_CEPT_Preparation_for_WRC-19.pdf)

**3 Summary of Discussions**

**3.1 Summary of Members' view**

**3.1.1 Korea**

The Republic of Korea supports to conduct ITU-R studies on 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 2 170–2 200 MHz in different countries. The Republic of Korea is of the view that the discussion of **WRC-19** AI **9.1** (issue **9.1.1**) should be limited to possible technical and operational measures to ensure their coexistence, as addressed in Resolution **212 (Rev.WRC-15)**, and the regulatory consideration is its out of scope.

**3.1.2 New Zealand**

New Zealand supports appropriate studies on the technical and operational measures to ensure coexistence and compatibility between the terrestrial and satellite components of IMT.

Since the Radio Regulations did not establish priority neither between terrestrial and satellite components of IMT, nor between Mobile Service (MS) and Mobile-Satellite Service (MSS) in the bands 1 980-2 010 MHz and 2 170-2 200 MHz, New Zealand is currently of the view that the priority of regulatory status could be established based on their deployment by a specific future date.

**3.1.3 Australia**

Australia supports ITU-R studies regarding possible technical and operational measures to ensure coexistence and compatibility between the terrestrial component of IMT (in the mobile service) and the satellite component of IMT (in the mobile service and the mobile-satellite service) in the frequency bands 1 980- 2 010 MHz and 2 170-2 200 MHz.

Australia supports no change to the Radio Regulations, but encourages the development of appropriate ITU-R Recommendations/Reports to address this issue.

**3.1.4 Indonesia**

Indonesia is of the view to support the compatibility studies in defining compatibility conditions, including technical and operational measures as well as regulatory provisions, with regard to IMT systems in order to ensure coexistence and compatibility between IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service), in the frequency bands 1 980−2 010 MHz and 2 170−2 200 MHz where those frequency bands are potentially shared by mobile service and mobile-satellite service in neighboring countries.

**3.1.5 Japan**

Recognizing that the ITU-R study is considering pfd levels on the Earth’s surface to protect terrestrial component of IMT from the satellite component of IMT which is intending to provide its service in the adjacent geographical area, Japan supports technical studies in ITU-R on the 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 2 170-2 200 MHz.

**3.2 Key points raised during meeting**

APT Members discussed scope of the agenda item under Resolution **212** **(Rev.WRC-15)**.

**4 APT Preliminary Views**

APT Members supports conducting ITU-R studies on 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 2 170–2 200 MHz in different countries.

**5 Other views**

Some APT Members expressed the view that, in line with the Resolution 212 (Rev.WRC-15), since coexistence of the independent satellite and terrestrial IMT components in co-coverage areas in the frequency bands 1 980–2 010 MHz and 2 170–2 200 MHz is not feasible, necessary operational measures may need to be taken by the planned terrestrial component or planned satellite component of IMT systems, to ensure compatibility with any component of existing IMT systems which is already deployed in different countries.

Some APT Members expressed that there exist concerns and difficulties with the above view, especially within the coverage area not included in the service area for satellite component of IMT, which appears to be in contradiction with Resolution **212 (WRC-15)**.

Some other APT Members are considering ITU-R studies on compatibility and sharing between terrestrial and satellite components of IMT with respect to technical and operational measures.

**6 Views from Other Organizations**

**6.1 Inter-American Telecommunication Commission (CITEL)**

**Canada**

There should not be any impact from the outcome of these studies on the existing use of the frequency bands by the terrestrial component of IMT in 2 170‐2 180 MHz (part of the 1 710‐1 780/2 110‐2 180 MHz IMT frequency band) nor on flexible MS/MSS use in 2 000‐2 010 & 2 180‐2 200 MHz.

**MEX**

For the administration of Mexico, it is important to know the outcomes of these studies, since the bands 1 710‐1 780/2 110‐2 180 MHz and 1 850‐1 920/1 930‐2 000 MHz are designated for the terrestrial component of IMT in Mexico. The segmentation specified for these bands is based on an FDD scheme in which the 1 710‐1 780 MHz and 1 850‐1 920 MHz segments are used for base‐mobile transmission and the 2 110‐2 180 MHz and 1 930‐2 000 MHz segments are used for base‐mobile transmission. In addition, Mexico is authorized to exploit the emission and reception rights of signals and frequency bands associated with foreign satellite systems that cover—and can provide services within—its national territory at the 2 000‐2 010/2 190‐2 200 MHz frequency band.

Accordingly, if the 1 980‐2 000 MHz and 2 170‐2 190 MHz frequency bands were used for the satellite component of IMT in a country with which Mexico shares borders, it would be necessary to set out the technical and operational measures to ensure coexistence and compatibility between the two IMT components.

**6.2 Regional Commonwealth in the field of Communications (RCC)**

The RCC Administrations are in favour of development of technical and operational measures as well as regulatory provisions with regard to IMT systems in order to ensure compatibility between IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service), including GSO and non-GSO systems, in the frequency bands 1 980−2 010 MHz and 2 170−2 200 MHz where those frequency bands are shared by mobile service and the mobile-satellite service in different countries.

The RCC Administrations consider that when developing technical and operational measures with regard to terrestrial IMT systems only those characteristics of terrestrial IMT systems which are specified in ITU-R Recommendations and Reports should be used.

**6.3 European Conference of Postal and Telecommunications Administrations (CEPT)**

CEPT is of the view that it is required to carry out compatibility studies and to define compatibility conditions of terrestrial component of IMT (in the mobile service) and satellite GSO and NGSO systems (in the mobile satellite service) in the frequency bands 1 980–2 010 MHz and 2 170–2 200 MHz considering the case that these frequency bands are used by the mobile service and mobile satellite service in different countries.

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

APT Members are encouraged to submit their contributions for further considerations in the next APG19 meetings, taking into account progress of ITU-R studies.

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