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| **Radiocommunication Assembly (RA-15) Geneva, 26-30 October 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| **PLENARY MEETING** | **Addendum 1 to Document RA15/PLEN/21-E** |
| **9 October 2015** |
| **Original: Russian** |
| Regional Commonwealth in the field of Communications Common Proposals | |
| proposals for THE WORK OF THE ASSEMBLY | |
| PROPOSED WAYS OF ACHIEVING PROGRESS WITH REGARD TO THE Draft revision of recommendation ITU‑R M.1036‑4 | |
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# 1 Introduction

At its tenth meeting, Study Group 5 considered the draft revision of Recommendation ITU‑R M.1036‑4 “Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations (RR)”, but did not reach agreement. It was decided to refer this document to the Radiocommunication Assembly 2015 for examination.

In particular, no agreement was reached on the inclusion of the new frequency arrangements B6 and B7 and on the extension of the existing arrangements B3 and B5. These changes to frequency arrangements for the terrestrial component of IMT include new additions to the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz, identified for the satellite component of IMT. Various opinions were expressed regarding the possibility of making such changes to the frequency arrangements for the terrestrial component of IMT before appropriate consideration is given to the issues related to simultaneous operation of the satellite and terrestrial components of IMT.

# 2 Discussion

The bands 1 980-2 010 MHz and 2 170-2 200 MHz are virtually the only bands accessible for deployment of the IMT satellite component in accordance with Resolution 212 (Rev. WRC-07) and specifically referred to in Resolution 223 (Rev. WRC-12) and Resolution 225 (Rev. WRC-12) as bands identified for the satellite component of IMT.

Preliminary sharing and compatibility studies in WP 4C show that compatibility/sharing between the terrestrial and satellite components of IMT around the frequency 2 GHz in the same coverage area cannot be achieved. Owing to the lack of applicable coordination thresholds and appropriate regulatory provisions in the Radio Regulations, it is very difficult to coordinate the use of the IMT satellite and terrestrial systems in the bands in question between a number of countries. It should be noted that if the proposed revision of Recommendation ITU-R M.1036 is approved before the above problems are resolved, there will be increasing interference between IMT terrestrial and satellite systems, creating a heavy burden of coordination between countries wishing to deploy IMT terrestrial or satellite systems.

It is worth noting that Recommendation ITU-R M.1036 states that one of the objectives of making frequency arrangements is to minimize the impact on other systems and services within the bands identified for IMT, which makes the aforementioned issues relevant to the revision of Recommendation ITU-R M.1036.

Moreover, the harmonization of frequency arrangements within the bands 1 980‑2 010 MHz and 2 170-2 200 MHz for the terrestrial component of IMT before undertaking sharing/compatibility studies and developing coordination procedures with the satellite component of IMT may jeopardize all the previous efforts of ITU-R in creating and developing the satellite component of IMT. The importance of this issue has already been recognized by the Director of BR, who will report on the difficulties encountered to WRC-15 under agenda item 9.2, and it is hoped that the conference will indicate some ways forward in resolving these issues.

WP 4C confirmed the existence of these issues in a liaison statement (Doc. [5/194](http://web.itu.int/md/R12-sg05-C-0194/en)), for WP 5D which expressed similar concerns and disagreement with the inclusion of these bands 1 980-2 010 MHz and 2 170-2 200 MHz in the revised version of Recommendation ITU-R M.1036 before completion of compatibility/sharing studies. This view has been also supported by SG 4 in a liaison statement to SG 5 (Doc. [5/212](http://www.itu.int/md/R12-SG05-C-0212/en)).

# 3 Conclusion

The RCC Administrations are of the view that the inclusion in the draft revision of Recommendation ITU‑R M.1036‑4 of new frequency arrangements B6 and B7 and the extension of existing arrangements B3 and B is premature. The RCC Administrations therefore propose keeping unchanged Section 3 of the draft revision of Recommendation ITU‑R M.1036-4, as shown in the attachment to this document.

Consideration of frequency arrangements for the terrestrial component of IMT in the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz is possible only after WRC-15 has discussed the feasibility of simultaneous development of the satellite and terrestrial components of IMT in the frequency bands 1 980‑2 010 MHz and 2 170-2 200 MHz.

attachment

draft revision of RECOMMENDATION ITU-R M.1036-4

Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations (RR)

*[Editorial note: No changes to the basic text of the draft revised Recommendation ITU-R M.1036-4 are proposed.]*

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Annex 1

*[Editorial note: proposals regarding the draft revised Recommendation ITU-R M.1036-4 are submitted only for Section 3 of Annex 1*

**NOC RCC/XA1/1**

**Section 3**

Frequency arrangements in the band 1 710-2 200 MHz[[1]](#footnote-1)

The recommended frequency arrangements for implementation of IMT in the band 1 710-2 200 MHz are summarized in Table 4 and in Fig. 4, noting the guidelines in Annex 1 above.

TABLE 4

Frequency arrangements in the band 1 710-2 200 MHz

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| --- | --- | --- | --- | --- | --- |
| Frequency  arrangements | Paired arrangements | | | | Un-paired arrangements  (e.g. for TDD) (MHz) |
| Mobile station transmitter (MHz) | Centre gap (MHz) | Base station transmitter (MHz) | Duplex separation (MHz) |
| B1 | 1 920-1 980 | 130 | 2 110-2 170 | 190 | 1 880-1 920; 2 010-2 025 |
| B2 | 1 710-1 785 | 20 | 1 805-1 880 | 95 | None |
| B3 | 1 850-1 910 | 20 | 1 930-1 990 | 80 | 1 910-1 930 |
| B4 (harmonized with  B1 and B2) | 1 710-1 785 1 920-1 980 | 20 130 | 1 805-1 880 2 110-2 170 | 95 190 | 1 880-1 920; 2 010-2 025 |
| B5 (harmonized with B3 and parts of B1 and B2) | 1 850-1 910 1 710-1 770 | 20 340 | 1 930-1 990 2 110-2 170 | 80 400 | 1 910-1 930 |
| *Notes to Table 4:*  NOTE 1 – In the band 1 710-2 025 MHz and 2 110-2 200 MHz three basic frequency arrangements (B1, B2 and B3) are already in use by public mobile cellular systems including IMT. Based on these three arrangements, different combinations of arrangements are recommended as described in B4 and B5. The B1 arrangement and the B2 arrangement are fully complementary, whereas the B3 arrangement partly overlaps with the B1 and B2 arrangements.  For administrations having implemented the B1 arrangement, B4 enables optimization of the use of spectrum for paired IMT operation.  For administrations having implemented the B3 arrangement, the B1 arrangement can be combined with the B2 arrangement. B5 is therefore recommended to optimize the use of the spectrum:  – B5 enables the use of spectrum to be maximized for IMT in administrations where B3 is implemented and where the band 1 770‑1 850 MHz is not available in the initial phase of deployment of IMT in this frequency band.  NOTE 2 – TDD may be introduced in unpaired bands and also under certain conditions in the uplink bands of paired frequency arrangements and/or in the centre gap between paired bands. | | | | | | |
| NOTE 3 – If selectable/variable duplex technology is implemented within terminals as the most efficient way to manage different frequency arrangements, the fact that neighbouring administrations could select B5 will have no impact on the complexity of the terminal. Further studies are necessary. | | | | | | |

FIGURE 4   
(See notes to Table 4)



*[Editor’s note: no change is proposed to the subsequent sections of the draft revised Recommendation ITU-R M.1036-4*

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1. The 2 025-2 110 MHz band is not part of this frequency arrangement. [↑](#footnote-ref-1)