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| Approval OF DRAFT NEW RECOMMENDATION ITU-R M.[BSMS700] |
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# 1 Introduction

The Chairman of Study Group 5 sent proposed draft new Recommendation ITU-R M.[BSMS700] (RA-15 Document [5/1009](http://www.itu.int/md/R12-SG05-RP-1009/en)) to the Radiocommunication Assembly for approval. This DNR relates to WRC-15 agenda item 1.2, which is to examine the results of ITU R studies, in accordance with Resolution **232 (WRC-12)**, on the use of the frequency band 694-790 MHz by the mobile, except aeronautical mobile, service in Region 1 and take the appropriate measures.

# 2 Background

In response to Resolution **232 (WRC-12)**, Joint Task Group 4-5-6-7 (JTG 4-5-6-7) produced the preliminary draft new Recommendation ITU-R M.[BSMS700] on “*Specific out-of-band emission limit of IMT mobile stations operating in the frequency band 694-790 MHz for protection of existing services in Region 1 in the frequency band below 694 MHz*” which was supported by a huge number of administrations and organizations but did not meet full consensus and therefore could not be adopted with respect to JTG 4-5-6-7 rules. The PDNR was further considered by Study Group 5 in November 2014 following the JTG 4-5-6-7 Executive Report (Document [5/127](http://www.itu.int/md/R12-SG05-C-0127/en)) to Study Groups 5 and 6, and was then considered by Working Party 5D.

At its June 2015 meeting, WP 5D decided to elevate the PDNR to the status of draft new Recommendation and to submit it to SG 5 for consideration (Document [5/214](http://www.itu.int/md/R12-SG05-C-0214/en)).

The ITU-R Study Group 5 meeting in July 2015 considered adoption of the draft new Recommendation based on the output from WP 5D and other contributions. However, the Study Group meeting did not reach agreement to adopt the draft new Recommendation. Therefore, in accordance with the provision 10.2.1.2, item a), of Resolution ITU-R 1-6, the SG 5 meeting decided to forward the texts to the Radiocommunication Assembly.

# 3 Benefits of draft new Recommendation ITU-R M.[BSMS700]

The draft new Recommendation ITU-R M.[BSMS700] is the result of a substantial work carried out within JTG 4-5-6-7. Co-signatory administrations from ASMG, ATU and CEPT believe that this DNR is mature enough to be approved as a new ITU‑R Recommendation, given that it addresses the main concerns of mobile and broadcasting stakeholders and is a delicate compromise amongst administrations of various parts of Region 1.

The approval of this Recommendation will help administrations wishing to use the 700 MHz band for the mobile service in defining the technical conditions for the limitation of the interference to the broadcasting service below 694 MHz.

# 4 Proposal

The Radiocommunication Assembly is invited to approve the new Recommendation ITU‑R M.[BSMS700]. The proponents of this contribution consider that the text reflects the sensitive balance in JTG 4-5-6-7 between the willingness of administrations to protect broadcasting while enabling mass market terminal equipment with limited supplemental cost.

DRAFT NEW RECOMMENDATION ITU-R M.[BSMS700]

Specific out-of-band emission limit of IMT mobile stations operating in the frequency band 694-790 MHz for protection of existing services in
Region 1 in the frequency band below 694 MHz

Scope

This Recommendation provides guidance to administrations on the specific out-of-band emission (OOBE) level of IMT mobile stations operating in the frequency band 694-790 MHz for the frequency band below 694 MHz in Region 1 for protection of existing services.

The ITU Radiocommunication Assembly,

considering

*a)* that Recommendations ITU‑R M.1581 and ITU‑R M.[IMT OOBE MS] specify the generic unwanted emission characteristics of IMT-2000 and IMT-Advanced mobile stations, respectively;

*b)* that Recommendation ITU‑R M.1036 provides the frequency arrangements of IMT networks, including those to be used in the band 694-790 MHz;

*c)* that Resolution **232 (WRC-12)** has invited ITU‑R to study the compatibility between the mobile service and other primary services to which the frequency band is allocated, including in adjacent frequency bands;

*d)* that the out-of-band emissions of IMT mobile stations operating in Region 1 in the frequency band 694-790 MHz need to be limited;

*e)* that too stringent limits may lead to an increase in size, cost or in complexity of IMT radio equipment;

*f)* the need to facilitate global harmonization and circulation of equipment to ensure roaming and promote economies of scale;

*g)* that administrations decide on the channel bandwidth which is to be used by the user equipment;

*h)* that in some countries of Region 1 the deployment of IMT systems in the 700 MHz band is expected to start immediately after WRC‑15,

recognizing

*a)* that a limit on the OOBE from IMT mobile stations is one of the factors necessary for the protection of the existing services in the band below 694 MHz;

*b)* that the recommended IMT mobile station OOBE limit should satisfy the following conditions:

• manage the risk of interference from mobile usage;

• being technically feasible from the point of view of practical implementation of IMT mobile stations; and

• to achieve global harmonization of mobile stations;

*c)* that different OOBE limits for IMT mobile stations operating in the 700 MHz band have been considered by Region 1 administrations;

*d)* that ITU‑R studies indicate different OOBE limits into bands below 694 MHz, including:

• −25 dBm/8 MHz for up to 20 MHz IMT channel bandwidth;

• −42 dBm/8 MHz for up to 10 MHz IMT channel bandwidth;

• −56 dBm/8 MHz for up to 10 MHz IMT channel bandwidth,

noting

*a)* that ITU‑R studies were based on the lower duplexer of A5 channelling arrangement in Recommendation ITU‑R M.1036 (i.e. uplink in 703-733 MHz) and a maximum output power of 23 dBm;

*b)* that an OOBE limit of −26.2 dBm/6 MHz for an IMT mobile station using the A5 channelling arrangement is applicable within a regional organization and is included in the relevant 3GPP specification;

*c)* that new relevant 3GPP specifications contain an OOBE limit of −25 dBm/8 MHz for up to 20 MHz IMT channel bandwidth and a value of −42 dBm/8 MHz for 10 MHz IMT channel bandwidth;

*d)* that existing mobile devices not complying with the OOBE limit referred to in *recommends*2 might continue to be deployed,

recommends

1 that the out-of-band emissions of an IMT mobile station operating in Region 1 in the frequency band 703-733 MHz with an IMT channel bandwidth greater than 10 MHz should not exceed −25 dBm/8 MHz into the frequency band 470-694 MHz;

2 that the out-of-band emission of an IMT mobile station operating in Region 1 in the frequency band 703-733 MHz with an IMT channel bandwidth of 10 MHz or less should not exceed −42 dBm/8 MHz into the frequency band 470-694 MHz;

3 that administrations should, when deciding on the relevant channel bandwidth, take into account *recommends*1 and 2.

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