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**Annex 21 to
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Annex 21 to Joint Task Group 4-5-6-7 Chairman's Report

PRELIMINARY 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 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 the 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 harmonisation 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 OOB 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 OOB 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 harmonisation of mobile stations.
- c) that different OOB 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 OOB limits into bands below 694 MHz including:
- -25dBm/8 MHz for up to 20 MHz IMT channel bandwidth;
 - -42dBm/8 MHz for up to 10 MHz IMT channel bandwidth;
 - -56dBm/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 OOB limit of -26.2 dBm/6MHz for an IMT mobile station using the A5 channelling arrangement is applicable within a regional organisation and is included in the relevant 3GPP specification;
- c) that new relevant 3GPP specifications contain an OOB limit of -25 dBm/8 MHz for up to 20 MHz IMT channel bandwidth and a value of -42 dBm/8MHz for 10 MHz IMT channel bandwidth;
- d) that existing mobile devices not complying with the OOB 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*.