

## RESOLUTION 760 (REV.WRC-19)

**Provisions relating to the use of the frequency band 694-790 MHz in Region 1 by the mobile, except aeronautical mobile, service and by other services**

The World Radiocommunication Conference (Sharm el-Sheikh, 2019),

*considering*

- a)* that the favourable propagation characteristics of the frequency band 694-790 MHz are beneficial in providing cost-effective solutions for coverage;
- b)* that the ITU Radiocommunication Sector (ITU-R) carried out studies, in accordance with Resolution **232 (WRC-12)\***, on compatibility between the mobile service and other services currently allocated in the frequency band 694-790 MHz;
- c)* that it is necessary to adequately protect all primary services in the frequency band 694-790 MHz and in adjacent frequency bands;
- d)* that Report ITU-R BT.2339 provides elements on co-channel sharing and compatibility between digital terrestrial television broadcasting and International Mobile Telecommunications (IMT) in the frequency band 694-790 MHz in the GE06 planning area, which administrations can use in the development of their bilateral agreements;
- e)* that the frequency band 645-862 MHz is allocated on a primary basis to the aeronautical radionavigation service (ARNS) in the countries listed in No. **5.312**;
- f)* that, in some countries, applications ancillary to broadcasting and programme-making are operating in the frequency band 470-862 MHz or in parts of that frequency band and are expected to continue such operations;
- g)* that, in some countries, the implementation of IMT in the frequency band 694-790 MHz may affect the availability of frequencies for applications ancillary to broadcasting and programme-making,

*recognizing*

- a)* that, in Article **5**, the frequency band 694-790 MHz, or parts of that frequency band, is allocated, and is used on a primary basis, for various services;
- b)* that the GE06 Agreement applies in all Region 1 countries except Mongolia and in the Islamic Republic of Iran in the frequency bands 174-230/470-862 MHz;
- c)* that, in the frequency band 694-790 MHz, Resolution **224 (Rev.WRC-19)** applies;

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\* *Note by the Secretariat:* This Resolution was abrogated by WRC-15.

## RES760-2

- d)* that WRC-12, through Resolution **232 (WRC-12)\***, allocated the frequency band 694-790 MHz in Region 1 to the mobile, except aeronautical mobile, service on a primary basis, subject to agreement obtained under No. **9.21** with respect to the ARNS in countries listed in No. **5.312**, and requested this conference to specify technical and regulatory conditions applicable to the mobile-service allocation, as appropriate, taking into account the ITU-R studies;
- e)* that the identification of a given frequency band for IMT in the Radio Regulations does not preclude the use of that band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations;
- f)* that interference generated and received within a given country is a national matter and needs to be dealt with by each administration as a national matter;
- g)* that adjacent-channel interference generated in one country and affecting a neighbouring country needs to be mutually considered;
- h)* that Recommendation ITU-R M.2090 provides specific unwanted emission limits of IMT mobile stations operating in the frequency band 694-790 MHz in order to facilitate protection of existing services in the frequency band 470-694 MHz in Region 1;
- i)* that Recommendation ITU-R M.1036 provides frequency arrangements for implementation of the terrestrial component of IMT in the frequency bands identified for IMT in the Radio Regulations, and provides frequency arrangements in the frequency band 694-960 MHz;
- j)* that the studies carried out by ITU-R pursuant to Resolution **232 (WRC-12)\*** showed that the potential impact of the cumulative effect of interference from base stations, which individually did not trigger the need for coordination with broadcasting, could be significant; on the other hand, the potential impact of cumulative interference might be less significant in practice;
- k)* that bilateral coordination agreements have already been reached and will be used by administrations as an agreement obtained under No. **9.21** with respect to ARNS in countries listed in No. **5.312**;
- l)* that, in Region 1, a number of countries have deployments of applications ancillary to broadcasting and programme-making which provide tools for daily content production for the broadcasting service,

### *noting*

- a)* that, while some administrations may decide to use all or part of the frequency band 694-790 MHz for IMT, other countries may continue to operate other services to which the frequency band is also allocated;
- b)* that the timing of the deployment of IMT in the frequency band 694-790 MHz is likely to vary from country to country;
- c)* that parts of Region 1 have successfully completed or committed to completing modification of the GE06 Digital Plan in the frequency band 470-790 MHz in order to harmonize the use of the frequency band 694-790 MHz for IMT, while other parts of Region 1 have not started;

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\* *Note by the Secretariat:* This Resolution was abrogated by WRC-15.

- d) that a digital entry in the GE06 Plan may also be used for transmissions in the mobile service under the conditions set out in § 5.1.3 of the GE06 Agreement;
- e) that, in some countries, applications ancillary to broadcasting and programme-making may be operated in parts of the frequency band 694-790 MHz;
- f) that ITU-R studies regarding possible solutions for global/regional harmonization of frequency bands and tuning ranges for electronic news gathering (ENG)<sup>1</sup> are needed and Resolution ITU-R 59 provides the framework for such studies,

*resolves*

1 that use of the frequency band 694-790 MHz in Region 1 by the mobile, except aeronautical mobile, service is subject to agreement obtained under No. **9.21** with respect to ARNS in countries listed in No. **5.312**, in which regard the criteria for identifying affected administrations under No. **9.21** for the mobile service with respect to the ARNS in the frequency band 694-790 MHz are set out in the Annex to this Resolution;

2 that, for Region 1 and the Islamic Republic of Iran:

2.1 when coordination between administrations is being effected, the protection ratios applicable to the generic case NB contained in the GE06 Regional Agreement for the protection of the broadcasting service shall be used only for mobile systems with a bandwidth of 25 kHz; if another bandwidth is used, the relevant protection ratios are to be found in Recommendations ITU-R BT.1368 and ITU R BT.2033;

2.2 administrations are invited to take into account, *inter alia*, the results of the sharing studies conducted by ITU-R in response to Resolution **232 (WRC-12)\***;

3 that, with respect to adjacent-channel interference between the mobile service in the frequency band 694-790 MHz and the broadcasting service in the frequency band 470-694 MHz:

3.1 adjacent-channel interference within a given country is a national matter and needs to be dealt with by each administration as a national matter;

3.2 adjacent-channel interference should be treated among administrations concerned, using mutually agreed criteria or those contained in relevant ITU-R Recommendations (see also the most recent versions of Recommendations ITU-R BT.1368, ITU-R BT.1895 and ITU-R BT.2033, as well as ITU-R M.2090 when sharing with the broadcasting service is concerned), as appropriate,

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<sup>1</sup> ENG within Resolution ITU-R 59 represents all applications ancillary to broadcasting, such as terrestrial electronic news gathering, electronic field production, TV outside broadcast, wireless radio microphones and radio outside production and broadcast.

\* *Note by the Secretariat:* This Resolution was abrogated by WRC-15.

## RES760-4

*invites the ITU Radiocommunication Sector*

- 1 to consider the information received about the implementation of IMT in the frequency band 694-790 MHz and develop ITU-R Reports, as appropriate;
- 2 to pursue studies on the implementation of applications ancillary to broadcasting and programme-making on the basis of Resolution ITU-R 59,

*invites the Director of the Radiocommunication Bureau*

to work, in cooperation with the Director of the Telecommunication Development Bureau, to bring assistance to developing countries wishing to implement the new mobile allocation in order to help these administrations to determine the modifications of the GE06 entries according to their needs,

*invites administrations*

- 1 to provide information to ITU-R about the implementation of IMT in the frequency band 694-790 MHz, including, for example, implementation of measures for interference mitigation;
- 2 to communicate on a bilateral basis in order to eliminate possible cumulative interference, as appropriate;
- 3 to consider the use of applications ancillary to broadcasting and programme-making in those parts of the frequency band 694-790 MHz that are not used for other applications in the mobile service or other primary services,

*instructs the Director of the Radiocommunication Bureau*

to implement this Resolution and to take appropriate actions.

### ANNEX TO RESOLUTION 760 (REV.WRC-19)

#### **Criteria for identifying potentially affected administrations in the frequency band 694-790 MHz with respect to the aeronautical radionavigation service for countries listed in No. 5.312**

To identify affected administrations when applying the procedure for seeking agreement under No. 9.21 by the mobile service with respect to the aeronautical radionavigation service (ARNS) operating in countries mentioned in No. 5.312, the coordination distances (between a base station in the mobile service and a potentially affected ARNS station) indicated below should be used.

Notifying administrations may indicate in the notice sent to the Radiocommunication Bureau (BR) the list of administrations with which bilateral agreement has already been reached. BR shall take this into account in determining the administrations with which coordination under No. 9.21 is required.

## 1 Case of mobile-service usage under the frequency allocation plans when base stations transmit only in the frequency band 758-788 MHz and receive signals only in the frequency band 703-733 MHz

TABLE 1

ARNS station	System type code	Coordination distances for the receiving MS base stations (km)	Coordination distances for the transmitting MS base stations (km)
RSBN (ground receiver)	AA8	-	70/125/175*

\*  $90\% \leq \text{land path} \leq 100\%$  /  $50\% \leq \text{land path} < 90\%$  /  $0\% \leq \text{land path} < 50\%$ .

## 2 Other cases

TABLE 2

ARNS station	System type code	Coordination distances for the receiving MS base stations (km)**	Coordination distances for the transmitting MS base stations (km)
RSBN	AA8	50	125/175*
RLS 2 (type 1) (airborne receiver)	BD	410	432
RLS 2 (type 1) (ground receiver)	BA	50	250/275*
RLS 2 (type 2) (airborne receiver)	BC	150	432
RLS 2 (type 2) (ground receiver)	AA2	50/75*	300/325*
RLS 1 (types 1 and 2) (ground receiver)	AB	125/175*	400/450*
Other ARNS ground stations	Not applied	125/175*	400/450*
Other ARNS airborne stations	Not applied	410	432

\*  $50\% \leq \text{land path} \leq 100\%$  /  $0\% \leq \text{land path} < 50\%$ .

\*\* Coordination distances for the receiving MS base stations are based on protection of ARNS stations from the stations in the mobile service and do not ensure protection for receiving MS base stations from ARNS stations.

