

RESOLUTION 749 (REV.WRC-19)

Use of the frequency band 790-862 MHz in countries of Region 1 and the Islamic Republic of Iran by mobile applications and by other services

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

considering

- a)* that the favourable propagation characteristics of the frequency band 470-862 MHz are beneficial in providing cost-effective solutions for coverage, including of large areas of low population density;
- b)* that the operation of broadcasting stations and base stations of the mobile service in the same geographical area may create incompatibility issues;
- c)* that many communities are particularly underserved compared to urban centres;
- d)* that applications ancillary to broadcasting are sharing the frequency band 470-862 MHz with the broadcasting service in all three Regions, and are expected to continue their operations in this frequency band;
- e)* that it is necessary to adequately protect, *inter alia*, terrestrial television broadcasting and other systems in this frequency band,

recognizing

- a)* that, in Article 5, the frequency band 790-862 MHz, or parts thereof, is allocated, and is used on a primary basis, for various services including broadcasting;
- 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 the transition from analogue to digital television is expected to result in situations where the frequency band 790-862 MHz will be used for both analogue and digital terrestrial transmission; and the demand for spectrum during the transition period may be even greater than the standalone usage of analogue broadcasting systems;
- d)* that the switchover to digital may result in spectrum opportunities for new applications;
- e)* that the timing of the switchover to digital is likely to vary from country to country;
- f)* that the use of spectrum for different services should take into account the need for sharing studies;

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g) that the Radio Regulations provide that the identification of a given frequency band for International Mobile Telecommunications (IMT) does not preclude the use of that frequency band by any application of the services to which it is allocated and does not establish priority in the Radio Regulations;

h) that the GE06 Agreement contains provisions for the terrestrial broadcasting service and other terrestrial services, a Plan for digital TV, and the List of other primary terrestrial services;

i) that the GE06 Agreement established, for the frequency band 470-862 MHz, 16 June 2015 as the date when the transition period ended, meaning that the assignments that were in the analogue Plan are no longer protected and shall not cause unacceptable interference in countries which are Contracting Members to the Agreement;

j) that the studies carried out by the ITU Radiocommunication Sector (ITU-R) pursuant to Resolution **749 (WRC-07)*** 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 ITU-R initiated studies with a view to developing and completing comprehensive Recommendations and Reports, in accordance with Resolution **224 (Rev.WRC-19)**, which need to take into account the cumulative effect of interference,

recognizing further

a) that the frequency band 790-862 MHz, as part of a wider frequency band, has been allocated to the mobile service in Region 3 (including the Islamic Republic of Iran) since 1971 (prior to WRC-07);

b) that the GE06 Agreement, in its relevant Annexes, establishes the relationship between digital terrestrial broadcasting, on the one hand, and other primary terrestrial services, including the aeronautical radionavigation service (ARNS) in the countries mentioned in No. **5.312**, on the other;

c) that WRC-07, under No. **5.316B**, allocated the frequency band 790-862 MHz in Region 1 to the mobile, except aeronautical mobile, service on a primary basis, and that this allocation shall come into effect as of 17 June 2015 and shall be subject to agreement obtained under No. **9.21** with respect to the ARNS in countries mentioned in No. **5.312**;

d) that the frequency band 790-862 MHz in Region 1 and the frequency band 790-806 MHz in Region 3 were identified by WRC-07 for use by administrations wishing to implement IMT, whereas the frequency band 806-960 MHz in Region 3 was identified for IMT in WRC-2000;

e) that for Contracting Members to the GE06 Agreement, the use of stations of the mobile service in relation to the broadcasting service is also subject to successful application of the procedures of the GE06 Agreement;

* *Note by the Secretariat:* This Resolution was revised by WRC-12, WRC-15 and WRC-19.

f) that the coordination between terrestrial services (fixed, mobile and broadcasting) in the frequency band 790-862 MHz between the Islamic Republic of Iran, on the one hand, and the other countries of Region 3, on the other, is a matter to be left to the administrations concerned, based on bilateral or multilateral negotiations, if it is mutually agreed by those administrations,

noting

a) that Resolution ITU-R 57 provides principles for the process of development of IMT-Advanced and that this process had already started after WRC-07;

b) that in the frequency band 790-862 MHz, Resolution **224 (Rev.WRC-19)** applies,

emphasizing

a) that the use of the frequency band 470-862 MHz by broadcasting and other primary services is also covered by the GE06 Agreement;

b) that the requirements of the different services to which the frequency band is allocated, including the mobile service, the ARNS (in accordance with No. **5.312**), the fixed service and the broadcasting service, shall be taken into account,

taking into account

that the results of the studies carried out by ITU-R pursuant to Resolution **749 (WRC-07)*** indicate that there is a need to protect other primary terrestrial services from the mobile service in Region 1,

resolves

1 that, in Region 1:

in accordance with No. **5.316B**, and based on the criteria contained in the Annex to this Resolution, administrations implementing the mobile service in Region 1 shall seek agreement under No. **9.21** with respect to the ARNS in the countries mentioned in No. **5.312**;

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 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 **749 (WRC-07)***;

3 that, with respect to adjacent channel interference within the frequency band 790-862 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;

* *Note by the Secretariat:* This Resolution was revised by WRC-12, WRC-15 and WRC-19.

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 when sharing with the broadcasting service is concerned), as appropriate,

invites administrations

to contribute further to the studies conducted by ITU-R in accordance with *recognizing k)* above,

instructs the Director of the Radiocommunication Bureau

to implement this Resolution and to take appropriate actions.

ANNEX TO RESOLUTION 749 (REV.WRC-19)

Criteria for identifying potentially affected administrations with respect to the aeronautical radionavigation service in countries listed in No. 5.312

To identify potentially 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, as stipulated in No. 5.316B, the coordination distances (between a base station in the mobile service and a potentially affected ARNS station) indicated below should be used.

When applying No. 5.316B, 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 where the mobile service is operated according to the frequency arrangement where the base stations transmit only in the frequency band 791-821 MHz and receive only in the frequency band 832-862 MHz

ARNS station	System type code	Coordination distances for receiving MS base stations (km)	Coordination distances for transmitting MS base stations (km)
RSBN (ground receiver)	AA8	–	70/125/175**
RLS 2 (Type 2) (aircraft receiver)	BC	70/150*	–
RLS 1 (Types 1 and 2) (ground receiver)	AB	70/125/175**	–

* The first value should be used when the notifying administration indicates in the notice form that the aggregate equivalent isotropically radiated power (e.i.r.p.) value of all user equipment operating simultaneously with the notified base station is assumed not to exceed 21 dBm in 1 MHz. The second value should be used in other cases.

** 90% ≤ land path ≤ 100% / 50% ≤ land path < 90% / 0% ≤ land path < 50%.

2 Other cases

ARNS station	System type code	Coordination distances for MS receiving base stations (km)	Coordination distances for MS transmitting base stations (km)
RSBN	AA8	50	125/175*
RLS 2 (Type 1) (aircraft receiver)	BD	410	432
RLS 2 (Type 1) (ground receiver)	BA	50	250/275*
RLS 2 (Type 2) (aircraft 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 types of ARNS terrestrial station	Not applicable	125/175*	400/450*
Other types of ARNS airborne station	Not applicable	410	432

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

