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CEPT BRIEF ON AGENDA ITEM AI 1.2

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;

# ISSUE

This agenda item concerns the allocation to the mobile, except aeronautical mobile, service in 694-790 MHz, which will become effective immediately after WRC‑15.

The allocation was added by WRC-12 and implemented through No. 5.312A and Resolution 232, which included a requirement for agreement obtained under No. 9.21 with respect to the aeronautical radionavigation service in countries listed in No. 5.312.

Resolution 232 called for studies on

* the spectrum requirements of the mobile and broadcasting services in this frequency band;
* the channelling arrangements for the mobile service, taking into account compatibility with other primary services, including in adjacent bands;
* compatibility between the mobile service and other services currently allocated in the frequency band 694-790 MHz; and
* solutions for accommodating applications ancillary to broadcasting requirements.

These studies have been categorised in the following way:

* Issue A concerns the lower edge of the mobile, except aeronautical mobile, allocation;
* Issue B concerns compatibility between mobile and broadcasting;
* Issue C concerns compatibility between mobile and aeronautical radionavigation;
* Issue D concerns services ancillary to broadcasting.

# CEPT position

* CEPT supports to set 694 MHz as the lower edge of the mobile allocation referred to in Resolves 1 of Resolution 232 (WRC-12).
* For Issue B (compatibility between the mobile service and the broadcasting service) CEPT supports Method B1 in the CPM Report.
* CEPT supports that, for countries which are part of GE06, the existing procedures of that agreement shall apply to the coordination between mobile and broadcasting services and that this is sufficient to ensure the protection of broadcasting service. CEPT opposes further conditions in the RR (e.g. 9.21, thresholds other than GE06).
* Digital terrestrial television in the UHF band below 694 MHz in particular channel 48 (686-694 MHz), shall be protected. For this, technical conditions applicable to IMT user equipment should be included in a new ITU-R Recommendation specifying the level of -42 dBm/8 MHz in the band 470-694 MHz for IMT user equipment operating in the band 694-790 MHz MHz that are using a 10 MHz channel bandwidth or less. In addition, the frequency arrangement A11 (mobile station transmitter: 703-733 MHz; base station transmitter 758-788 MHz; zero to four frequency blocks of 5 MHz in 738-758 MHz could be used to complement the downlink capacity of a frequency arrangement in this or other bands) as currently contained in the ongoing revision of Recommendation ITU-R M.1036-4 (RA-15 document 5/1008) should be used. CEPT has developed a European Common Proposal to RA-15 in this regard (see document CPG15(15)CGRA\_Annex 5).
* CEPT supports revision of No. 5.296 to add applications ancillary to programme making including changing the upper limit of the frequency band specified in the footnote. CEPT considers conducting studies aiming at finding new tuning ranges, on a regionally harmonised basis, for wireless microphones. CEPT notes that the existing Resolution ITU-R 59 provides a framework for these ongoing studies within the ITU-R.
* CEPT supports equitable access to the radio frequency spectrum at the border between countries.
* CEPT supports technical and regulatory conditions applicable to the mobile service based on Method [C1] / [C4] in the CPM Report for the protection of aeronautical radionavigation service (No 9.21 still applies).
* To ensure coexistence between ARNS and MS and to avoid undue separation distances and coordination burden, CEPT supports bi- or multilateral agreements before WRC-15 based on a common coordination framework.

# Background

During the Study Period 2008-2012, ITU‑R studied compatibility between the mobile service and other radiocommunication services allocated in the 790-862 MHz band under WRC‑12 agenda item 1.17. The outcome of that Agenda item was a revision of Resolution 749 (Rev. WRC‑12). In response to proposals into WRC‑12 from administrations, that the Conference additionally developed Resolution 232 (WRC‑12) which covers the 694-790 MHz band, with possible refinement of the lower frequency boundary at WRC‑15.

## Existing services in the band

Current allocations in the range 694 - 790 MHz in Region 1.

The Table of Frequency Allocations has the following allocations and footnotes in Region 1 in the range 694-790 MHz:

Primary allocation to the broadcasting service

* 5.296 Additional allocation: in Albania, Germany, Saudi Arabia, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Burkina Faso, Cameroon, Congo (Rep. of the), Côte d'Ivoire, Croatia, Denmark, Djibouti, Egypt, United Arab Emirates, Spain, Estonia, Finland, France, Gabon, Ghana, Iraq, Ireland, Iceland, Israel, Italy, Jordan, Kuwait, Latvia, The Former Yugoslav Republic of Macedonia, Libya, Liechtenstein, Lithuania, Luxembourg, Mali, Malta, Morocco, Moldova, Monaco, Niger, Norway, Oman, the Netherlands, Poland, Portugal, Qatar, the Syrian Arab Republic, Slovakia, the Czech Republic, the United Kingdom, Sudan, Sweden, Switzerland, Swaziland, Chad, Togo, Tunisia and Turkey, the band 470-790 MHz, and in Angola, Botswana, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Nigeria, South Africa, Tanzania, Zambia and Zimbabwe, the band 470-698 MHz are also allocated on a secondary basis to the land mobile service, intended for applications ancillary to broadcasting. Stations of the land mobile service in the countries listed in this footnote shall not cause harmful interference to existing or planned stations operating in accordance with the Table in countries other than those listed in this footnote. (WRC‑12)
* 5.300 Additional allocation: in Saudi Arabia, Cameroon, Egypt, United Arab Emirates, Israel, Jordan, Libya, Oman, Qatar, the Syrian Arab Republic, Sudan and South Sudan, the band 582-790 MHz is also allocated to the fixed and mobile, except aeronautical mobile, services on a secondary basis. (WRC‑12)
* 5.311A For the frequency band 620-790 MHz, see also Resolution 549 (WRC‑07). (WRC‑07)
* 5.312 Additional allocation: in Armenia, Azerbaijan, Belarus, the Russian Federation, Georgia, Kazakhstan, Uzbekistan, Kyrgyzstan, Tajikistan, Turkmenistan and Ukraine, the band 645-862 MHz, in Bulgaria the bands 646-686 MHz, 726-758 MHz, 766-814 MHz and 822-862 MHz, in Romania the band 830-862 MHz, and in Poland, the band 830-860 MHz until 31 December 2012 and the band 860-862 MHz until 31 December 2017, are also allocated to the aeronautical radionavigation service on a primary basis. (WRC‑12)
* 5.312A In Region 1, the use of the band 694-790 MHz by the mobile, except aeronautical mobile, service is subject to the provisions of Resolution 232 (WRC‑12). See also Resolution 224 (Rev. WRC‑12). (WRC‑12)

## Broadcasting service

The frequency band 694-790 MHz represents 30 per cent of the total remaining UHF broadcasting spectrum.

In 2012, as part of its preparations for submission of material to the ITU-R Joint Task Group 4-5-6-7 preparing for WRC-15, the WP6A prepared and distributed a questionnaire on spectrum requirements for terrestrial television broadcasting in the frequency band 694-790 MHz in Region 1 and the Islamic Republic of Iran (Circular Letter 6/LCCE/78 updated to 24 July 2013)[[1]](#footnote-2).

On the basis of the information received, Report ITU-R BT.2302 has been approved at the April 2014 meeting of ITU-R Study Group 6.

The analysis of responses shows that a majority of Region 1 countries need 224 MHz or more (320 MHz) for their terrestrial broadcasting platforms.

The use of the 700 MHz frequency band by the broadcasting service varies across Region 1 countries. In certain CEPT countries, the 700 MHz frequency band is intensively used.

Making the 700 MHz band available for the mobile service would require intensive national replanning and international coordination activities and require substantial investments, both from consumers and from the terrestrial network operators. In addition, such a reallocation would correspond to a reduction of the capacity for broadcasting, which would require in many countries the implementation of new technologies (DVB-T2/HEVC).

The terrestrial broadcasting service is, in many countries, a cost-efficient solution for high-quality media delivery to the whole population. It is the main TV platform delivering free-to-air TV programmes to citizens.

European long-term strategy for UHF broadcasting band is being developed in ECC TG6 with a target of finalising the work by summer 2014.

Co-channel issue

During WRC-07, CEPT was strongly involved in carrying out the necessary technical studies about the potential impact of the cumulative effect of interference from base stations, which individually did not trigger the need for coordination with broadcasting.

According to the CPM Report to WRC-12, “the studies 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, taking into account the elements previously mentioned, the potential impact of cumulative interference might be less significant in practice” (For complete information, see section 3/1.17/4.1 of the CPM Report: <http://www.itu.int/md/R07-CPM11.02-R-0001/en>).

Therefore, JTG 5-6 drew the attention of administrations on this issue and offered the choice between three options.

The CEPT brief for WRC-12 Agenda item 1.17 set out the following position on the co-channel issue:

Extract from CEPT brief for WRC-12 agenda item 1.17

“CEPT is of the view that there is no need to change the current provisions of the RR in force. The provisions of the GE06 Agreement continue to apply. CEPT countries support these regulatory provisions and state that these should not be questioned nor reviewed under WRC-12 Agenda Item 1.17.

With respect to the options associated to Method A1 (NOC), CEPT supports option I (no additional arrangements to take account of a potential impact of the cumulative effect of interference from the MS to the BS).”

CEPT considers these results are applicable to WRC-15. In addition, the studies on co-channel interference (see CPM text on agenda item 1.2, section 4.1.1) which has been conducted by JTG 4-5-6-7should be taken into account.

Adjacent channel issue

CEPT has conducted sharing studies with the aim to satisfy the three objectives of (i) reduce the risk of interference between mobile use and the broadcasting service below 694 MHz, (ii) being technically feasible from the point of view of practical implementation of IMT terminal, and (iii) to achieve global harmonisation of mobile terminals.

These studies indicate that, in order to protect the broadcasting transmission in TV channel 48 and below from interference from the mobile service (IMT) in the band 694-790 MHz:

the out-of-band emission limit of the mobile (IMT) User Equipment (UE) using a 10 MHz channel bandwidth or less should be set at -42 dBm/8 MHz below 694 MHz; this is the best available candidate to meet all three objectives from the extensive analysis carried out, when combined with the suitable channelling arrangements.

The IMT Uplink band should start at 703 MHz, thus ensuring a guard band of 9 MHz

These sharing studies include static and statistical considerations on the adjacent channel operation of IMT and DTT reception, as well as case studies and lab measurements.

If administrations wish to allow the deployment of IMT on a national basis with a bandwidth greater than 10 MHz and in case an out-of-band power higher than −42dBm/8 MHz is generated in the band below 694 MHz, they should consider:

* either implementing the greater IMT bandwidth starting at a frequency higher than 703 MHz so that the required limit of out-of-band power is still met; and/or
* applying mitigation techniques.

Some administrations may wish to implement additional measures in some cases to eliminate interference to terrestrial broadcasting in the frequency band 470-694 MHz.

## Aeronautical radionavigation service

The sharing studies of ITU-R JTG 4-5-6-7 between MS and ANRS are presented in Annex 23 to Joint Task Group 4-5-6-7 Chairman's Report (Document 4-5-6-7/715). This document contains compatibility studies between the mobile service and the aeronautical radionavigation service both with and without interference from broadcasting service. The group could not reach agreement as to the parameters and methodology that should be used and hence on a single conclusion. In these studies, the required coordination distance between MS and ARNS ranges from 15 to 565 kilometres.

The CPM Report contains six alternative methods to satisfy Issue C of WRC 15 agenda item 1.2. Attached to each method are views of some administrations not supporting the method.

## Mobile services

### Channelling arrangement

The CEPT channelling arrangement for IMT in the 694-790 MHz band will consist of:

* 2x30 MHz FDD aligned with the lower duplexer of Recommendation ITU-R M.1036-4 frequency arrangement A5: (uplink 703-733 MHz and downlink 758-788 MHz).
* Up to 20 MHz (738-758 MHz) for supplemental downlink.

This provides flexibility for combination with national options for the provision of PPDR and SAB/SAP in the spectrum 694-790 MHz, which are also under consideration and study by CEPT.

### Lower edge of the allocation to the mobile, except aeronautical mobile, service

CEPT supports a lower band edge at 694 MHz.

CEPT noted any modification of the lower band edge would affect the result of the intensive DTT coordination process in Africa and is unlikely to be satisfactory for the countries in Africa.

Any variation of the lower band edge from 694 MHz will impact the possible channelling arrangement and the relevance of the compatibility studies, in particular in adjacent band between mobile and broadcasting services.

## Solutions for applications ancillary to broadcasting and Programme making (SAB/SAP)

Many countries in Region 1 are using the additional allocation to the land mobile service on a secondary basis implemented by No. 5.296 for applications ancillary to broadcasting. Due to the radio wave propagation and antenna characteristics as well as the noise level the frequency range 470 – 790 MHz is well suited for services ancillary to broadcasting/services ancillary to programme making (SAB/SAP) equipment and is currently the core band in particular for professional wireless microphones and in-ear monitoring systems. Thus any change in the usage of the band is likely to have an impact on the usability of the band for these applications. SAB/SAP are important tools for the production of high quality media content. Moreover, for news gathering purposes and many events the usage of wireless production tools is often necessary. Consequently, Resolution 232 (WRC-12) invites ITU-R to study solutions for accommodating applications ancillary to broadcasting requirements. This includes studies on possible options for a revised No. 5.296 as well as relevant information on the spectrum requirements of those applications taking into account the specific nature of the demand which comprises a regular day-by-day demand and a significantly increased peak demand, e.g. for larger regular and extraordinary events. The solutions should also take into account the requirements of a high reliability and a high quality of service for SAB/SAP. As an important element the studies should include the analysis of the suitability of a potential guard band and/or a duplex gap for SAB/SAP depending on the channelling arrangement. This could facilitate the usage of existing equipment in the future. Moreover, in particular to fulfilling the peak demand of SAB/SAP, it might also be studied under which conditions a co-channel usage is possible, taking into account potential future technological developments of SAB/SAP as well as the protection requirements of mobile broadband services.

The 700 MHz band is also heavily used in certain countries for SAB/SAP services, especially wireless microphones. The amount of spectrum available for SAB/SAP services was already diminished when making the 800 MHz band available for IMT, forcing them to migrate downwards, many of them within the remaining part of UHF band including 700 MHz band. There is a need to take account of the spectrum needs for SAB/SAP services, which differ from country to country and usage. (see hereafter),

The JTG 4-5-6-7 concluded in its October 2013 meeting that due to the erosion of the available spectrum for applications for SAB/SAP in the TV bands alternative spectrum must be found, preferably between 1.2 and 1.6 GHz due to the propagation characteristics needed for audio applications.

Therefore other frequency bands, such as the duplex gaps in IMT arrangements below 2 GHz, in addition to the remaining part of the 470-790 MHz, may be considered for SAP/SAB.

The studies on Agenda item 1.2 have concluded that further studies are needed to find additional bands/tuning ranges for audio SAB/SAP applications, on a regionally harmonised basis. Studies are already in progress in the ITU-R under Resolution ITU-R 59 towards this. Within CEPT, the band 1 350-1 400 MHz is currently under study for a possible new tuning range for SAB/SAP. ECC guidance for the deployment of wireless microphones in the band 1 350-1 400 MHz may be considered noting that SAB/SAP is to be operated on a non-interference and non-protection basis with respect to the incumbent services in the band. CEPT is not supporting this band for IMT under Agenda item 1.1.

# List of relevant documents

## ITU‑R Recommendations and Reports

Aeronautical radionavigation service:

* Recommendation ITU-R M.1830: Technical characteristics and protection criteria of aeronautical radionavigation service systems in the 645-862 MHz frequency band

Broadcasting service:

* Recommendation ITU-R BT.1368: Planning criteria, including protection ratios, for digital terrestrial television services in the VHF/UHF bands
* Recommendation ITU-R BT.1895: Protection criteria for terrestrial broadcasting systems
* Report ITU-R BT.2302: Spectrum requirements for terrestrial television broadcasting in the UHF frequency band in Region 1 and the Islamic Republic of Iran
* Recommendation ITU-R BT.2033: Planning criteria, including protection ratios, for second generation of digital terrestrial television services in the VHF/UHF bands
* Report ITU-R BT.2215: Measurements of protection ratios and overload thresholds for broadcast TV receivers

Mobile service:

* 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)
* Report ITU-R M.2039: Characteristics of terrestrial IMT-2000 systems for frequency sharing/interference analyses

SAB/SAP:

* Recommendation ITU-R BT.1871: User requirements for wireless microphones
* Report ITU-R BT.2069-5: Tuning ranges and operational characteristics of terrestrial electronic news gathering (ENG), television outside broadcast (TVOB) and electronic field production (EFP) systems

## CEPT and/or ECC Documentation (Decisions, Recommendations, Reports)

SAB/SAP:

* ERC Recommendation 25-10: Frequency ranges for the use of temporary terrestrial audio and video SAP/SAB links (incl. ENG/OB)
* ERC Recommendation 70-03, Annex 10: Radio microphone applications including aids for the hearing impaired
* ECC Report 002: SAP/SAB (Incl. ENG/OB) spectrum use and future requirements
* ERC Report 038: Handbook on radio equipment and systems video links for ENG/OB use
* ERC Report 42: Handbook on radio equipment and systems radio microphones and simple wide band audio links

Mobile service:

ECC Report 191: Adjacent band compatibility between MFCN and PMSE audio applications in the 1800 MHz range

## EU Documentation (Directives, Decisions, Recommendations, other), if applicable

* RSPG Opinion on Strategic Challenges facing Europe in addressing the Growing Spectrum Demand for Wireless Broadband (June 2013)
* RSPG Report on Spectrum for Wireless Broadband and Broadcasting in the Frequency Range 400 MHz to 6 GHz (June 2013)

# Actions to be taken

Ongoing

Aeronautical radionavigation service:

Communication between interested parties is encouraged to provide a common view on the methods

# Relevant information from outside CEPT

## European Union (date of proposal)

No information received

## Regional telecommunication organisations:

APT (June 2015)

APT’s Preliminary Views:

* APT members have supported the studies being conducted in ITU-R in accordance with Resolution 232 (WRC-12)
* any possible regulatory actions under WRC-15 Agenda Item 1.2 based on these studies should be limited to Region 1 and the Islamic Republic of Iran (which is party to GE06 Agreement)
* No additional constraint shall be placed on services allocated on a primary basis to administrations in Region 3.
* Encourage necessary action to be taken to include the allocation of 694-790MHz to the Mobile, except aeronautical mobile, Service in Region 1(referred to in Resolution 232) in Article 5 of Radio Regulation, as appropriate, based on the result of compatibility and sharing studies together with appropriate regulatory procedures.
* In so doing, from a global harmonization point of view, the frequency arrangement(s) for IMT need to be adopted in the band below 790MHz taking into account, to the extent feasible, frequency arrangements in the band 698-806 MHz as currently contained in Recommendation ITU-R M.1036. To promote economy of scale, such harmonization to adopt ITU-R M.1036-4 A5 paired frequency arrangements in Region 1, is desirable.
* the appropriate OOBE value to be used for Region 1 and I.R of Iran, when adopted by WRC-15, should be based on the result of compatibility studies, taking into account broadcasting parameters including time element, where required
* For GE06 country in Region 3: In the decisions of WRC-15 on Agenda Item 1.2, the integrity of GE-06 Agreement in relation to I.R Iran needs to be ensured considering cumulative effect of interference from Mobile Service to Broadcasting Service with appropriate regulatory procedure

ATU (date of proposal)

The ITU has done substantial work for sub-Saharan Africa for TV services to fit in 470-694 MHz.



Arab Group (June 2015)

ASMG position

Issue A: Options for the refinement of the lower edge

* Determine the lower edge for the 700 MHz for the Mobile Service by 694 MHz.
* Ensure the protection of the broadcasting service in particular channel 48 (686-694 MHz) in the lower adjacent band.
* Support the update of Table of Frequency Allocation and include the allocation of Mobile Service in the band 694-790 MHz on primary basis.
* Modify footnote 5.317 A to extend the use of (IMT) in the band down to 694 MHz.
* Modify or suppress footnote 5.312 A, according to the decision on modifying or suppressing Resolution 232, while ensuring the update of Table of Frequency Allocation with the allocation of Mobile Service in the band 694-790 MHz on primary basis.

Issue B: Technical and regulatory conditions applicable to the mobile service concerning the compatibility between the mobile service (MS) and the broadcasting service (BS).

* Support Method B1 in the current Draft CPM Report which specifies that The GE06 Agreement contains the necessary provisions to provide protection to the BS in neighbouring countries. And no additional measures are required.
* Provision 9.21 is not acceptable as a measure to protect BS from MS.
* Support specifying the OOBE level for mobile terminals by the value -25dBm/8MHz and support the consideration of the draft OOBE Recommendation agreed in JTG 4-5-6-7 by most of the Administrations.
* The Administration of Algeria does not support any technical or regulatory provision which may result in affecting the protection of the Broadcasting Service in the Band 694-790 MHz, Therefore it does not support the value of -25 dBm/8MHz as an OOBE level, also it supports the separation distances as a coordination trigger between Mobile Service and Broadcasting Service which might ensure the required protection for the Broadcasting Service.

Issue C: Technical and regulatory conditions applicable to the mobile service concerning the compatibility between the mobile service (MS) and the aeronautical radionavigation service (ARNS).

* This Issue is related to Administrations included in the footnote 5.312.
* Ensure that implementation of Mobile service in the Arab Region is not affected in the band (694-790 MHz) by any of the proposed methods which might require additional technical and regulatory measures of protection of ARNS service.
* Administration of Algeria supports the current Method C2 in the Draft CPM Report.

Issue D: Solutions for accommodating applications ancillary to broadcasting requirements.

* Support Method D3 which implies that Modification of the existing upper limits of frequency bands mentioned in RR No. 5.296for the secondary allocation to 694 MHz and extension of that use to the applications ancillary to programme-making.

Channelling Arrangements in the 700 MHz band

* Consider the current options of channelling arrangement in the PDNR revision of ITU-R Rec. M.1036 within works of Working Party 5D.

CITEL (date of proposal)

RCC (November 2013)

* BS and MS spectrum requirements in the band 694-790 MHz

The RCC Administrations are of the view that the BS requirements (taking into account the development of new technologies in broadcasting including HDTV) are 8 multiplexes for digital broadcasting in the band 470-790 MHz. These requirements can be met in case the frequency band 694-790 MHz is further used for broadcasting.

The MS spectrum requirements for IMT implementation are determined in the position the RCC administrations towards WRC-15 Agenda item 1.1.

The RCC Administrations consider that the use of the MS shall be determined by the administrations depending on their spectrum requirements for the BS.

* Compatibility studies

The RCC Administrations support the requirement to define the technical and regulatory conditions for the mobile service in the considered frequency band for the protection of other services based on the characteristics and protection criteria of these services developed by the responsible ITU-R Working Parties.

The RCC Administrations are of the opinion that the MS operating conditions in the considered frequency band shall be based on the technically justified criteria and compatibility estimation methods.

In the compatibility studies between the MS and broadcasting service the minimum cumulative losses (MCL) method and Monte-Carlo method are supported to be used in the frequency band 694-790 MHz and in the adjacent frequency bands.

* Refinement of lower edge of allocation to the mobile service (Issue A)

The RCC Administrations consider that the lower edge of allocation to the mobile service (including guard band) shall not be lower than 694 MHz.

The IMT frequency arrangement shall be chosen taking into account the compatibility with the ARNS and with the terrestrial TV broadcasting systems.

The RCC Administrations consider the frequency arrangement based on the existing A5 arrangement in accordance with Recommendation ITU-R M.1036-4 as a preferable one.

The potential frequency arrangements for IMT systems shall be taken into account while defining the protection conditions of the terrestrial TV broadcasting and ARNS systems.

While choosing the frequency arrangement the usage of the frequency band 694-790 MHz by the ancillary broadcasting applications shall also be taken into account.

* Protection of the broadcasting service (Issue B)

The RCC Administrations consider that the allocation conditions to the MS in the frequency band 694-790 MHz shall include the required technical and regulatory limitations of MS for providing protection for the BS. Imposing restrictions or application of additional requirements for the BS shall not be allowed.

The RCC Administrations support the method under which the regulatory and technical conditions for the MS are defined directly in the Radio Regulations or in WRC Resolution to provide protection of the BS.

To protect the BS from the MS interference the provisions of GE-06 Agreement shall be applied as well as additional regulatory and technical conditions taking into account the aggregate interference effect from the MS stations in the main and adjacent frequency bands.

* Protection of ARNS (Issue C)

The RCC Administrations consider that the allocation conditions for the MS in the frequency band 694-790 MHz shall include the required technical and regulatory limitations of the MS to provide protection for the ARNS. Imposing restrictions or application of additional requirements to the ARNS shall not be allowed.

The protection of the ARNS applied in RCC countries under No.5.312 shall be ensured by application of coordination procedures under RR No.9.21 for the MS in relation to the ARNS using the coordination thresholds based on the ITU-R study results taking into account the aggregate interference.

The following document provides information from RCC presented at last ITU-R WP 6A meeting ([Document 6A/237](http://www.itu.int/md/R12-WP6A-C-0237/en)). The respected information was taken into account in development of the WP 6A liaison statement to JTG 4-5-6-7 on the spectrum requirements for terrestrial TV broadcasting and also used for development of a preliminary draft a new report "Spectrum requirements for terrestrial television broadcasting" (Annex 10 to WP 6A chairman report).

Copy of the ITU-R document WP 6A/237: 

## International organisations

IATA (date of proposal)

ICAO (date of proposal)

IMO (date of proposal)

NATO (June 2015)

NATO supports all regulation and harmonisation work aiming to make best use of the band by the MOBILE SERVICE. NATO foresees a possible future military use in parts of the band 694-790 MHz for broadband mobile applications.

SFCG (date of proposal)

WMO and EUMETNET (date of proposal)

## Regional organisations

ESA (date of proposal)

EUMETNET (date of proposal)

Eurocontrol (date of proposal)

## OTHER INTERNATIONAL AND REGIONAL ORGANISATIONS

DIGITALEUROPE (January 2014)

DIGITALEUROPE supports the use of 700 MHz band (694-790 MHz) for mobile broadband while ensuring protection to DTT services in the band below. DIGITALEUROPE believes the transition from DTT to mobile broadband services should be managed carefully by administrations and aligned time-wise with the Consumer Electronics Industry. The transition should also be properly resourced, while applying accurate frequency planning and good spectrum engineering practices for Digital Television avoiding any disruptions of the existing DTT services to the consumers.

Regarding the channelling arrangement for mobile broadband in the 700 MHz, DIGITALEUROPE supports a frequency arrangement in ITU Region 1 that facilitates a global solution, leverages on standardization activity (3GPP Band 28) and is compatible with EU 800MHz band (3GPP Band 20). This allows harmonisation, economies of scale and roaming capabilities across all ITU regions.

EBU (January 2015)

In principle, EBU supports maintaining the 700 MHz band for broadcasting services in Region 1. The 694-790 MHz sub-band is used for broadcasting services (both digital terrestrial television DTT and PMSE) as heavily as the rest of the UHF band (470-694 MHz) by most European countries.

However, in the event that any mobile services are introduced in the 700 MHz band, technical and regulatory conditions should ensure coexistence and future cooperation between broadcasting and broadband services, minimising the risk of harmful interference to DTT.

Broadcasting services below 694 MHz should, therefore, be protected from harmful interference from mobile services, taking into account the GE06 Agreement. In particular, any technical conditions applicable to mobile use of the 700 MHz band (such as OOB emission levels and guard bands) should be clearly specified in an ITU-R Recommendation to ensure the risk of such harmful interference has been minimised. A reference to the Recommendation should be made either in a WRC-15 Resolution or in a footnote to the allocation in the Radio Regulations.

GSMA

The band 694-790 MHz that was identified for IMT in Region 1 at WRC-12 provides important spectrum in order to satisfy the increasing demand for mobile broadband data. The GSMA believes that the benefits from use of this band in Europe and elsewhere in Region 1 will be maximised if the frequency arrangements and other technical and regulatory conditions are harmonised with those in other parts of the world

1. WP6A received 33 CEPT responses, out of a total of 48 CEPT members. [↑](#footnote-ref-2)