

Status of Regional Proposals/Positions for WRC-19

Abstract

The following table provides the current status of APT, ASMG, ATU, CEPT, CITEL, and RCC proposals and/or positions WRC-19 as shown against the SFCG WRC-19 objectives as contained in Resolution SFCG 36-1R1. These are summaries only and are intended solely for the information and use by SFCG member agencies.

<p>Agenda Item 1.2 Power Limits for MSS/MetSat/EESS Earth Stations around 400 MHz</p>	<p>SFCG supports establishment of appropriate in band e.i.r.p limits for earth stations operating in mobile-satellite service (399.9-400.05 MHz), the meteorological-satellite service (401-403 MHz) and the Earth exploration-satellite service (401-403 MHz), in order to preserve, on a long term basis, the operation of Data Collection Systems of both NGSO and GSO systems. SFCG does not support the use of e.i.r.p. density limits as a mechanism for ensuring compatibility. In addition, for both frequency bands, SFCG supports not applying the corresponding limit to satellite systems, for which complete notification information has been received by the Radiocommunication Bureau by 22 November 2019.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>APT members support the ITU-R studies in accordance with Resolution 765 (WRC-15) to conduct and complete, in time for WRC-19, the necessary technical, operational and regulatory studies on establishing in-band power limits for earth stations required to protect satellite system with lower or moderate power (e.g. DCS) from harmful interference from telecommand-link earth stations operating in the EESS and MetSat in the frequency band 401-403 MHz and the MSS in the frequency band 399.9-400.05 MHz.</p> <p>4.1 For the band 399.9-400.05 MHz</p> <p>APT members do not support Method A in the Draft CPM Report for this Agenda Item and support the e.i.r.p. limit indicated in Table 4/1.2/3-1 of the Draft CPM Report. APT members are of the view that transitional arrangements are needed to ensure that the existing telecommands for EESS systems, including those systems to be notified before a certain date (e.g. November 22, 2019), may continue to operate [until TBD]</p> <p>4.2 For the band 401-403 MHz</p> <p>APT members support Method E in the Draft CPM Report for this Agenda Item. APT members are of the view that transitional arrangements are needed to ensure that the existing telecommands for EESS, including those systems to be notified before a certain date (e.g. November 22, 2019), may continue to operate until January 1, 2029.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Follow up the ongoing studies in the ITU-R. • Supporting the ongoing studies in order to establish in-band power limits for earth stations operating in Mobile satellite service (MSS), Meteorological satellite service (MetSat) and Earth exploration service in the frequency bands 401-403MHz and 399.9-400.05MHz, in order to ensure the protection of the existing services without imposing any additional constraints in these services due to the massive usage of the fixed and mobile services in these frequency bands in the countries.
<p>ATU (2018-09-17)</p>	<p>APM19-3 agreed to:</p> <p>(a) For the band 399.9 – 400.05 MHz:</p> <ul style="list-style-type: none"> • Note that ECOWAS and EACO positions is Method A (no Change) • Note that Egypt position is to support Method B • Note that SADC was still considering the issue and therefore did not have a common position. <p>(b) For the band 401-403MHz:</p> <ul style="list-style-type: none"> • Note that ECOWAS and Egypt positions is to support Method E. • Note that EACO position is to support No Change • Note that SADC was still considering the issue.

<p>CEPT (2018-11-30)</p>	<p>In order to ensure long term continuity for the operation of satellite data collection systems, CEPT supports the establishment of in-band e.i.r.p limits, as appropriate, for earth stations in the EESS and MetSat in the frequency band 401-403 MHz (for GSO and non-GSO) and the MSS in the frequency band 399.9-400.05 MHz, taking into account the result of studies.</p> <p>In addition, CEPT proposes specific provisions for both frequency bands until 22 November 2024 for existing and planned satellite systems exceeding these e.i.r.p. limits, for which complete notification information has been received by the Radiocommunication Bureau, and that have been brought into use before 22 November 2019.</p> <p>CEPT is considering Method B of the draft CPM report on 399.9-400.05 MHz as a possible compromise solution to reach a reach a single method at CPM19-2.</p>
<p>CITEL (2018-08-11)</p>	<p>Peliminary Proposal from: MEX</p> <p>As a result of the work carried out by ITU-R WP 7B, and in accordance with the provisions in the draft text of the CPM, Mexico is of the opinion that the power limits and time considerations established in Method D are suitable to allow the operation of DCS and telecommand operations in the frequency bands 401-403 MHz and 399.9-400.5 MHz</p> <p>Preliminary Views from: CAN and USA</p> <p>USA support conducting and completing the necessary technical, operational, and regulatory studies on the possibility of establishing in-band power limits for earth stations in the EESS and MetSat service in the frequency band 401-403 MHz and the MSS in the frequency band 399.9-400.05 MHz.</p> <p>Canada is of the view that within the range 399.9-400.05 MHz, 20 kHz of spectrum should be exempt from any e.i.r.p. limits in order to allow space operation functions to continue in the band, while providing protection and regulatory certainty for the operation of DCS. Locating the band exempt from e.i.r.p. limits at the edge of the 399.9-400.05 MHz range would limit the impact to DCS.</p> <p>In the 401-403 MHz range, Canada is the of the view that sharing between non-geostationary satellite systems using space operation functions and GSO DCS may be feasible using mitigation techniques such as GSO arc avoidance and the use of directional antennas. Implementing for example e.i.r.p. density limits for earth stations in the 401-403 MHz band would provide flexibility for non-GSO space operation functions to operate while protecting GSO DCS receivers.</p> <p>Canada is also of the view that any new limits should only apply to systems that have not been brought into use by the end of WRC-19.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations support measures to study this issue and establish emitted power limits for earth stations used for space operation functions in the frequency bands 401-403 MHz and 399.9-400.05 MHz in order to avoid interference to data collection systems in the meteorological-satellite service, Earth exploration-satellite service and mobile-satellite service taking into account the Report ITU-R SA [400 MHz-LIMITS].</p> <p>The RCC Administrations consider that specified limits resulted from the above-mentioned studies shall not cover the registered in MIFR space systems using frequency bands 401-403 MHz and 399.9-400.05 MHz for space operation functions.</p>

<p>Agenda Item 1.3 MetSat upgrade / EESS allocation (space-to-Earth) at 460-470 MHz</p>	<p>SFCG supports raising the regulatory status of MetSat and EESS space-to-Earth allocations as proposed by Method B of the draft CPM text (ITU-R WP 7B Chairman Report 7B/326 Annex 2). SFCG recognizes the need for harmonization of the global operating environment to allow full development of critical MetSat/EESS systems. SFCG is of the opinion that the MetSat (space-to-Earth) allocation should be upgraded from secondary to primary status and a primary EESS (space-to-Earth) allocation should be added in the frequency band 460-470 MHz while providing protection for and not imposing any additional constraints on existing primary services to which the frequency band is already allocated. This should be realised while retaining the priority of MetSat over EESS as currently expressed in the RR. The SFCG supports the pfd mask for non-GSO satellites contained in Method B of the draft CPM text, and encourages SFCG member agencies to further develop a suitable pfd mask for GSO satellites.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<ul style="list-style-type: none"> • APT members support further ITU-R sharing and compatibility studies in accordance with Resolution 766 (WRC-15), to conduct and complete in time for WRC-19, the necessary technical, operational and regulatory studies on the possibility to upgrade the secondary allocation of the meteorological-satellite service (space-to-Earth) to primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz. • The appropriate measures are necessary to be taken to ensure the protection of existing fixed, mobile, and broadcasting services and not to constraint their future developments in the frequency band 460-470 MHz and in the adjacent bands, and stations of the EESS and MetSat services shall not claim protection from the fixed, mobile, and broadcasting services. APT members also note that the priority of MetSat over EESS should be maintained. • APT members note that further studies are required to address appropriate I/N protection criteria with regard to the PPDR systems. The decision on which Method to adopt will depend on the outcome of those studies. • Stations of the EESS and MetSat services shall not cause harmful interference to fixed, mobile, and broadcasting services in 460-470 MHz and adjacent bands. APT members note that further studies are required to address appropriate pfd limits for GSO and non-GSO satellites to ensure this. <p>Other Views from APT Members: Some administrations noted that continuous operation of the existing systems of EESS (space-to-Earth) and MetSat (space-to-Earth) is also necessary to be ensured.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Due to the heavily used for the frequency band 460–470 MHz in the Arab countries for mobile and fixed services, so initially ASMG doesn’t support the possible upgrading of the secondary allocation to the meteorological satellite service (space-to-earth) to primary status and a primary allocation to the Earth exploration satellite service (space-to-earth) in the frequency band 460-470MHz. • Follow up studies under this agenda item and ensure the protection of the existing services.
<p>ATU (2018-09-17)</p>	<p>APM19-3 agreed to take <u>Method A (No change)</u> as the African preliminary position.</p>

CEPT (2018-11-30)	<p>CEPT supports that the MetSat (space-to-Earth) allocation should be upgraded from secondary to primary status and that a primary EESS (space-to-Earth) allocation should be added in the frequency band 460-470 MHz provided that</p> <ul style="list-style-type: none">• the protection of primary services in the frequency band and in adjacent frequency bands is ensured by the introduction of relevant pfd masks for GSO and non-GSO satellites• “MetSat and EESS earth stations shall not claim protection from stations in the fixed and mobile services”, as stated in recognizing f) of Res 766• priority of MetSat over EESS as currently expressed in the RR is retained.
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CITEL (2018-08-11)

Preliminary Proposal from: B and MEX

Brazil: Proposal (Method B)

Brazil's proposal was based using the currently CPM text developed for the WG 7B and could be modified if this CPM text have changes in the future meetings.

Mexico

Primary allocation to MetSat and EESS services in the frequency band 460-470 MHz may give confidence to the public sector and to space and meteorological agencies on the development of data collection systems and programs, as well as provide regulatory certainty. Therefore, parties interested in using the MetSat and EESS services are seeking to upgrade the MetSat allocation to primary status, and to include a primary allocation to EESS in the frequency band 460-470 MHz while providing protection and not imposing additional constraints on existing terrestrial services nor adjacent frequency bands.

As a result of the work done by ITU-R WP 7B and in accordance with the provisions of the CPM draft text, Mexico is of the view that the power limits set in Method B can protect the fixed and mobile services in case the allocation of the MetSat (space-to-Earth) service is upgraded to primary status basis, and a primary allocation is given to EESS (space-to-Earth) in the frequency band 460-470 MHz.

Preliminary Views from: ARG and USA

ARG supports the conduction of studies related to item 1.3 of the WRC-19 Agenda. However, it points out the importance of determining a proper pfd limit to be imposed to MetSat (space-to-Earth) and EESS (space-to-Earth) to protect the existing primary services to which this frequency band is already allocated.

The change of status of the allocation to these services from secondary to primary must not produce interferences in the provision of the mobile service that already has a primary status, and is identified for use by the IMT systems (see Note 5.286AA of the Radio Regulations) in the three regions of ITU.

In the Argentine Republic the feasibility of allocating the Mobile Service and identifying for use by the Advanced Mobile Communication Systems (SCMA) the band of 450-470 MHz is currently under study, taking into consideration for this the frequency arrangements currently under elaboration at the ITU-R Working Group 5D, specifically the provisions to be included in the new version (under elaboration) of Recommendation ITU-R M.1036 "Frequency arrangements for the implementation of terrestrial component of International Mobile Telecommunication (IMT) in the bands identified for IMT in the Radio Regulations (RR)".

The United States supports conducting and completing sharing and compatibility studies with the co-primary fixed and mobile services, including IMT systems. These studies would determine the feasibility of potentially upgrading the MetSat (space-to-Earth) allocation to primary status, and the potential addition of a primary EESS (space-to-Earth) allocation in the frequency band 460-470 MHz, while protecting the current primary allocations for fixed and land mobile services including IMT systems and maintaining the conditions contained in No. **5.289**.

Should studies support the upgrade of the MetSat service and/or addition of a primary allocation to the EESS, the appropriate pfd limit should be determined for MetSat (space-to-Earth) and EESS (space-to-Earth) systems to protect the existing and planned deployments of primary services in the frequency band 460-470 MHz. Should studies conclude that a less restrictive pfd limit than that contained in Resolution **766 (WRC-15) considering further a)** can protect incumbent services, then the pfd limit ($-152 \text{ dBW/m}^2 / 4 \text{ kHz}$) shall apply. To the extent that sharing and compatibility studies, field tests and other relevant input indicate that a more restrictive pfd limit is necessary to protect terrestrial operations, this more restrictive limit must be adopted if any upgrade to the existing MetSat secondary allocation or new allocation to EESS is proposed.

RCC (2018-03-15)	<p>The RCC Administrations consider that there is a need to harmonize frequency allocations used by data collection systems (DCS) in the meteorological-satellite service and the Earth exploration-satellite service.</p> <p>However upgrading the secondary allocation to the meteorological-satellite service (space-to-Earth) to a primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460-470 MHz are possible under the following conditions:</p> <ul style="list-style-type: none">- The protection of the terrestrial services to which the frequency band 460-470 MHz is allocated on a primary basis;- The proposed measures for the protection of the terrestrial services will not impose additional constraints on the existing satellite systems and the networks operated within meteorological-satellite service and the Earth exploration-satellite service;- Maintaining priority of the meteorological-satellite service over the Earth exploration-satellite service.
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<p>Agenda Item 1.5 Earth Stations in Motion at 17.7-19.7 GHz & 27.5-29.5 GHz</p>	<p>SFCG does not oppose the use of the 17.7-19.7 GHz by earth stations in motion communicating with geostationary space stations in the fixed-satellite service as per Method B of the draft CPM text (ITU-R WP4A Chairman Report 4A/826 Annex 28) provided that the protection of the EESS(passive) is ensured. SFCG notes that the introduction of ESIM for maritime and aeronautical use in the sub-band 18.6-18.8 GHz may change the sharing environment with EESS(passive) over the ocean area.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>Taking into account Resolution 158 (WRC-15), APT Members support studies conducted by ITU-R for regulatory issues and conditions on sharing and compatibility between ESIM and existing services allocated in the frequency bands 17.7-19.7 GHz and 27.5-29.5 GHz not to cause unacceptable interference to and not claim protection from services operating in accordance with the RR in the above mentioned frequency bands.</p> <p>APT Members in principle support Method-B where a new footnote RR No. 5.A15 with a reference to a new WRC Resolution. However, APT Members note that consensus has not been reached on the new WRC Resolution as there remain a number of “options” in its texts and further improvement would be needed. Therefore, APT Members are encouraged to submit individual and/or joint proposal to further modify the draft Resolution at CPM19-2.</p> <p>For maritime ESIM, there is a general agreement on the condition of minimum distance within the range from 60 to 120km from the low-water mark officially recognized by coastal states. . The exact value is yet to be decided.</p> <p>The issue of responsibility and obligation of various entities involved in the operation of ESIM including administrations authorizing ESIM needs to be addressed and clearly included in Annex 3 to the draft WRC Resolution.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Preliminary Position:</p> <ul style="list-style-type: none"> • Follow up potential effect of ESIM with respect to other services allocated in frequency bands 17.7-19.7 and 27.5-29.5 GHz and considering the protection of these services. • Study further interference mitigation techniques to protect fixed services used extensively in the band 27.5-29.5 GHz.

<p>ATU(2018-09-17)</p>	<p>APM19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Take <u>Method B</u> as the African preliminary position, which includes addition to a new footnote in Article 5 of the Radio Regulations with reference to a new resolution which will define operational and regulatory conditions for ESIMs incl pfd mask to protect terrestrial services in the band 27.5 to 29.5 MHz from aircraft ESIM, and an offshore separation distance to protect terrestrial services from maritime ESIM. 2. Note that there is an increasing need for mobile-satellite broadband communications to support the broader agenda of enhancing broadband; 3. Note that the study results conducted in EACO, SADC and Senegal show that sharing and compatibility between the three types of ESMIs and existing terrestrial services allocated in the bands is feasible and therefore support the identification of the frequency bands 17.7 -19.7 GHz and 27.5 AND 29.5GHz to the different types of ESIM. 4. Note the positive study result both in ITYU-R WP4A and the sub-regions and countries that identification of the frequency bands 17.7 -19.7 GHz and 27.5-29.5GHz for ESIM operations can be supported whilst ensuring protection of, and not imposing undue constraints on, other existing primary services allocated to these frequency bands. 5. Invite sub-regions and African countries to <ol style="list-style-type: none"> a. continue exploring different solutions (ie. the operational and regulatory conditions for ESIMs in item 4 above) incl band segmentation to ensure co-existence between Land ESIMs and Fixed services. b. thoroughly examine the draft example WRC Resolution (AI 1.5) and its annexes esp the sections which are not yet agreed or discussed and propose a contribution for the next CPM-19-2 <p>Note that EACO was still considering this agenda item and did thus not have a common position.</p>
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<p>CEPT (2018-11-30)</p>	<p>CEPT supports a regulatory framework for the operation of earth stations in motion (ESIM) in the bands 17.7-19.7 GHz and 27.5-29.5 GHz, while ensuring protection of, and not imposing undue constraints on, services allocated in those frequency bands. Due to the foreseen growing demand for ESIM and because ESIM terminals are ‘in motion’ and world-wide use, the regulatory framework for these terminals needs to be as simple and practicable as possible.</p> <p>Regarding the compatibility with terrestrial services in the 27.5-29.5 GHz bands the following conditions are considered as a way forward:</p> <ul style="list-style-type: none"> • Maritime ESIM – together with other technical conditions such as appropriate e.i.r.p limits as specified in Decision ECC/DEC/(13)01, minimum distance of 70 km from the low water mark officially recognized by coastal states similar to the method adopted in Resolution 902 (WRC-03). ESIM should comply with this minimum distance unless prior agreement of the concerned administrations has been given. • Aeronautical ESIM – together with other technical conditions, the pfd limits on the earth’s surface as specified in ECC Decision (13)01, should be used to ensure protection of MS and FS. This together with other consideration would ensure protection of terrestrial systems. ESIM should comply with these pfd limits unless prior agreement of the concerned administrations has been given. • Land ESIM – operating within national boundaries no specific regulatory action or amendments to the Radio Regulations at WRC-19 are needed. <p>Regarding compatibility with terrestrial services in the 17.7-19.7 GHz band, CEPT is of the view that ESIM shall not claim protection from the fixed and mobile services in the band.</p> <p>Regarding compatibility with satellite networks the ESIM characteristics shall remain within the envelope of the satellite network with which these ESIM communicate and the satellite network, when using ESIM, shall not cause more interference and shall not claim more protection than was coordinated when using typical earth stations in this satellite network.</p> <p>Regarding the 27.5-29.5 GHz band, the CEPT supports appropriate sharing techniques, including pfd mask for aeronautical ESIM, and minimum distance of 70 km from the low-water mark and maximum eirp of 24.44 dBW/14 MHz towards the territory of any coastal State for maritime ESIM in order to protect the fixed and mobile services allocated in the bands.</p> <p>CEPT is of the view that, in line with the principles already expressed in ITU Resolution 156 (WRC-15), the ESIM network operator shall have the capability to limit operations of such earth stations to the territory or territories of administrations where they are authorized and shall provide a point of contact for the purpose of tracing any suspected cases of interference from earth stations in motion.</p> <p>In case of interference from L-ESIM, the administration of the territory on which the L-ESIM operates is responsible for authorising the operation of L-ESIM on its territory and for acting. In case of interference from maritime or aeronautical ESIM, the administration of the country in which the ship or aircraft is registered and the administration responsible for the satellite network should have joined responsibility to act to remove interference.</p> <p>CEPT has developed a Roadmap on 5G (http://www.cept.org/ecc/topics/spectrum-for-wireless-broadband-5g#roadmap). In this respect it is noted that “Europe has harmonised the 27.5-29.5 GHz band for broadband satellite and is supportive of the worldwide use of this band for ESIM. This band is therefore not available for 5G”. It should also be noted that, in Europe, according to Decision ECC/DEC/(05)01, portions of the frequency band 27.5-29.5 GHz, are designated and can be used for the fixed service.</p>
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<p>CITEL (2017-12-01)</p>	<p>No inputs were received for this agenda item at the CITEL meeting ending Dec. 1, 2017. The Canadian Administration support studies under the terms of Resolution 158 (WRC-15). Studies are necessary to determine compatibility of ESIMs with services allocated in the frequency bands 17.7-19.7 GHz and 27.5-29.5 GHz. Sharing and compatibility studies between ESIM and FSS networks should include consideration of both geostationary and non-geostationary satellite systems, including non-GSO MSS feeder links, to ensure their protection.</p> <p>BRAZIL, USA: Support studies under the terms of Resolution 158 (WRC-15) on sharing and compatibility between ESIMs and current and planned stations of existing services allocated in the frequency bands 17.7-19.7 GHz and 27.5-29.5 GHz, while ensuring protection and not imposing undue constraints on these allocated services, and to take appropriate action based on the results of these studies.</p> <p>Before identifying use of the frequency bands, or portions thereof, for ESIM operation, studies should address each operational type of earth stations in motion to include the appropriate technical and regulatory provisions necessary to ensure protection of existing and planned allocated services.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations consider that technical conditions and regulatory provisions shall be developed with regard to operation of earth stations in motion (ESIMs) communicating with geostationary space stations in the fixed-satellite service and using frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5-29.5 GHz (Earth-to-space) to provide protection, based on existing criteria, of services having allocations in these (and adjacent) frequency bands, including EESS (passive) in the frequency band 18.6-18.8 GHz and future use of EESS (Earth-to-space) in the frequency band 28.5-29.5 GHz and also use of terrestrial services in the frequency bands 25.25-27.5 GHz and 27.5-29.5 GHz. The necessary regulatory and technical framework for ESIM operation could be defined in new Resolution [AI 1.5/ESIM] (WRC-19) as one of the possible methods of satisfying WRC-19 agenda item 1.5.</p> <p>The RCC Administrations consider that the methods including segmentation of the frequency bands, limitation of ESIM maximum off-axis e.i.r.p. spectral density, and other methods or their combinations, should be considered as the methods for sharing frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5-29.5 GHz (Earth-to-space) between ESIMs and GSO FSS stations and stations of other services having allocations in these frequency bands. ESIMs in the frequency bands 17.7-19.7 GHz shall not claim protection from fixed and mobile services operating in accordance with the Radio Regulations.</p> <p>The RCC Administrations consider that when developing technical conditions and regulatory provisions for operation of ESIMs in the frequency bands 17.7-19.7 GHz (space-to-Earth) and 27.5-29.5 GHz (Earth-to-space) special measures shall be envisaged to exclude unauthorized use of ESIMs in the territory of States that haven't granted relevant authorizations (licenses).</p> <p>Regulations applicable to ESIM, which would be defined under the issue 9.1.7 of WRC-19 agenda item 9.1, shall be taken into account when developing regulations within the frameworks of WRC-19 agenda item 1.5.</p>

<p>Agenda Item 1.6 Regulatory Framework for non-GSO FSS at 37.5- 39.5 GHz (↓) & 47.2-50.2 GHz (↑)</p>	<p>SFCG supports the revision of the current limits in Resolution 750 (Rev. WRC-15) for the band 50.2-50.4 GHz to protect EESS (passive) for both NGSO and GSO systems taking into account that studies have demonstrated the limits in Resolution 750 (Rev. WRC-15) do not sufficiently protect passive services in the band. Therefore SFCG supports Method D, Option 1 of the draft CPM text (ITU-R WP4A Chairman Report 4A/826 Annex 29). Studies have shown that compatibility between EESS (passive) and NGSO FSS in the band 36-37 GHz is achieved, noting however that they did not address the cold calibration channel. It is to be noted that sharing studies for SRS and EESS earth stations in the bands 37.5-38 GHz and 40-40.5 GHz are not listed in Resolution 159 (WRC-15). These studies will have to be addressed by WP 7B through the revision of Report ITU-R SA.2307 and Recommendation ITU-R SA.2079 for the band 37.5-38 GHz, and additional new report and recommendation for the band 40-40.5 GHz.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>APT Members support the establishment of regulatory and procedural conditions for non-GSO FSS satellite systems in the frequency bands 37.5- 39.5 GHz (space-to-Earth), 39.5 - 42.5 GHz (space-to-Earth), 47.2 - 50.2 GHz (Earth-to-space) and 50.4 - 51.4 GHz (Earth-to-space) while ensuring protection to GSO satellite networks in FSS, MSS and BSS, and other existing primary services in the same bands as well as protection of the EESS (passive) in the frequency bands 36-37 GHz and 50.2-50.4 GHz and the radio astronomy in the frequency bands 42.5-43.5 GHz, 48.94-49.04 GHz and 51.4-54.25 GHz.</p> <p>APT Members in general support Method A of the draft CPM Report.</p> <p>No APT Members support Methods B or C of the draft CPM Report.</p> <p>Other Views from APT Members: Some APT Members support a possible revision of Method A or Method D of the draft CPM Report.</p> <p>Some APT Members oppose Method D of the Draft CPM Report on the basis that any modification to the limits for GSO networks in Resolution 750 (Rev.WRC-15) is outside the scope of the agenda item.</p> <p>Some APT Members support No Change for this agenda item.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Preliminary Position: Follow up studies, considering the following:</p> <ul style="list-style-type: none"> • Protection of FSS GSO networks according to Article (22) • Review procedures for coordination trigger with respect to define epfd • Protection of current services in subject frequency bands and ensure protection of nearby allocations.

<p>ATU (2018-09-17)</p>	<p>APM19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Take Method A as the African preliminary position while continuing to further examine other Methods and their implementation (editor’s note: Method A presents a regulatory and technical implantation to modify RR Article 22 to include a Regulatory framework to enable non-GSO systems based upon a maximum allowable percent increase in GSO unavailability specified in the short-term and long-term performance objectives of the GSO links). 2. Note that EXOWAS and EACO were yet to formulate a position on this agenda item and SADC had no firm view yet. 3. Note that the last WP4A meeting (July 2018) proposed four methods to satisfy the agenda item. Methods A, B and C are almost the same. They only differ slightly on their implementation. 4. Support the studies under Resolution 159 (WRC-15) which aim at developing a regulatory framework for new non-GSO FSS satellite systems, while protecting GSO FSS systems in the frequency bands above 30GHz. 5. Encourage administrations to contribute to ongoing studies and ensure protection of existing FSS GSO but also exploring opportunities that might come with new NGSO systems.
<p>CEPT (2018-11-30)</p>	<p>CEPT supports the development of regulatory provisions, technical and operational conditions that would enable spectrally efficient operation of non-GSO FSS satellite systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) while ensuring protection for GSO satellite networks and stations of other existing services including passive services in the adjacent frequency bands.</p> <p>CEPT considers that the limits currently in Resolution 750 (Rev. WRC-15) are not sufficient for the protection of EESS (passive) in the adjacent frequency band 50.2-50.4 GHz from operation of non-GSO FSS satellite systems in the frequency bands under consideration in accordance with Resolution 159 (WRC-15). Appropriate unwanted emission limits for the protection of EESS (passive) are [-61.9] dBW/200 MHz for non-GSO user terminals and [-63] dBW/200 MHz for non-GSO gateways. CEPT is of the view that the effects of aggregate FSS interference from GSO satellite networks and non-GSO systems operating in the relevant bands should be taken into account to ensure the protection of the EESS (passive). CEPT considers that the unwanted emission limits for GSO FSS are not sufficient for the protection of EESS (passive) and should also be revised under WRC-19 AI 1.6. An appropriate unwanted emission limit is [-65.9] dBW/200 MHz for GSO.</p> <p>CEPT supports the development of the new Recommendation ITU-R S. [50/40 GHz Sharing Methodology] which describes in particular the methodology to calculate the maximum permissible level of interference from non-GSO satellite systems specified as single entry and aggregate limits for: a) increase in unavailability time allowance for degradation of GSO networks short term performance objectives b) a long term performance objective for GSO networks using Adaptive Coding Modulation. CEPT supports that this methodology takes into account the correlation between a fading event attenuating both the wanted signal and interfering signals in the frequency bands 40/50 GHz. In addition, CEPT supports that the conformity with these single-entry limits be evaluated using the calculation procedures in the new Recommendation ITU-R S. [50/40 GHz Sharing Methodology] and using the statistics of degradations due to the non-GSO system interference and fading issued from the latest versions of Recommendations ITU-R S.1503 and P.618, respectively.</p> <p>CEPT also supports the development the new Recommendation ITU-R S. [50/40 GHz Reference links] which contains characteristics of representative FSS GSO reference links.</p>

<p>CITEL (2018-08-11)</p>	<p>Preliminary Views from: B, CAN, MEX and USA</p> <p>Canada supports the studies under Resolution 159 (WRC-15) to develop a regulatory framework for new non-GSO FSS satellite systems.</p> <p>For the band 36-37 GHz: Canada, B and MEX are of the view that based on the results of studies, EESS (passive) systems operating in the 36- 37 GHz band and non-GSO FSS systems are compatible and no regulatory measures are required to address the compatibility between these two services.</p> <p>For the band 50.2-50.4 GHz: Canada, B and MEX are of the view that based on the results of studies, mitigation techniques and/or regulatory measures such as revising the current unwanted emission limits in Resolution 750 (WRC-15) are required to ensure compatibility between EESS (passive) systems operating in the band 50.2-50.4 GHz and non-GSO FSS systems.</p> <p>Canada, B and MEX are of the view that the use of the bands 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) by non-GSO FSS systems should be subject to coordination procedures under No. 9.12.</p> <p>USA/CAN/B/MEX support studies under WRC-19 Agenda Item 1.6 regarding the development of a regulatory framework for non-GSO satellite systems in the existing FSS allocations in the 37.5-39.5 GHz (space-to-Earth), 39.5-42.5 GHz (space-to-Earth), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) frequency bands under the terms of Resolution 159 (WRC-15) and to take appropriate action based on the results of these studies.</p> <p>Regarding resolves 4 and 5 of Resolution 159 (WRC-15), B and MEX are of the view that changes to the FSS GSO limits in Resolution 750 (Rev. WRC-15) fall outside the scope of Agenda item 1.6.</p>
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<p>RCC (2018-03-15)</p>	<p>The RCC Administrations consider that studies on technical and operational issues and regulatory provisions in order to ensure operation of non-GSO FSS satellite systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 47.2-48.9 GHz (limited to feeder links), 48.9-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) shall ensure protection to GSO satellite networks in FSS, MSS and BSS, and also to stations of other existing services in the same and adjacent frequency bands.</p> <p>The RCC Administrations consider that technical conditions and regulatory provisions shall be developed to ensure sharing of the considered frequency bands between non-GSO FSS systems.</p> <p>The RCC Administrations consider that when conducting studies, protection shall be ensured to EESS (passive) in the frequency bands 36-37 GHz, 47.5-48.5 GHz and 50.2-50.4 GHz, and also to the radio astronomy service in the frequency bands 42.5-43.5 GHz, 48.94-49.04 GHz and 51.4-54.25 GHz from non-GSO FSS transmissions.</p> <p>The RCC Administrations consider that the conditions for compatibility between FSS and EESS (passive) systems shall take into account the possibility of the impact on EESS (passive) of aggregate interference from GSO FSS networks and non-GSO FSS systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 47.2-48.9 GHz (limited to feeder links), 48.9-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) and, if needed, they shall be reflected in Resolution 750 (Rev. WRC-15).</p> <p>The RCC Administrations are in favour of the development of new Recommendation ITU-R S.[Methodology to assess FSS compatibility in the 50/40 GHz bands] for establishment of the appropriate protection criteria and maximum permissible levels of interferences from non-GSO FSS systems to GSO FSS networks in 40/50 GHz bands. At the same time, the criterion, which is based on the compliance of non-GSO FSS system with the requirements for maximum permissible increase in the percentage of unavailability for GSO FSS link, specified in new Recommendation ITU-R S.[Methodology to assess FSS compatibility in the 50/40 GHz bands], shall be used when developing limitations in Article 22 of Radio Regulations, that ensure adequate protection of GSO FSS systems.</p>
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<p>Agenda Item 1.7 Space Operations Service for non-GSO satellites with short duration below 1 GHz</p>	<p>SFCG recognizes the growing number of non-geostationary orbit satellites with short duration (NGSO SD) missions and the associated spectrum requirements resulting from this activity.</p> <p>SFCG recognises the need for viable solution for NGSO SD missions, however none of the methods contained in draft CPM text (ITU-R WP7B Chairman Report 7B/326 Annex 3) provides a solution that is acceptable on a global level.</p> <p>SFCG does not support Methods B1/B2 due to the large number of radiosondes that operate in the frequency range 403-406 MHz and their susceptibility to harmful interference by the NGSO SD missions, as evidenced in the Working Party 7B sharing studies.</p> <p>SFCG is of the view that new SOS allocations or updates to existing SOS allocations are favourable to accommodate the growing number of short duration non-GSO satellites. However, any new regulatory measures under this agenda item should assure four key elements:</p> <ul style="list-style-type: none"> • An unambiguous definition must be given about what constitutes a “satellite with short duration mission”: <ul style="list-style-type: none"> ○ A system with a period of validity of not more than three years that cannot be extended. ○ The case of a (or multiple) spacecraft with a lifetime of not more than three years, where the operator launches a (or multiple) replenishment/replacement spacecraft(s) such that the operator has persistent frequency and orbital characteristics and capabilities longer than three years, is not a short duration mission. • The solution shall not have negative impacts on science services already operating in the frequency bands proposed. Due to the importance of the frequency band 401-403 MHz for Data Collection Systems (GSO and non-GSO), any potential new allocation to SOS in this band added under this Agenda Item must be consistent with those limits established under WRC-19 agenda item 1.2. • In the light of the importance of MetAids operations for the scientific community, used in particular for the calibration of the EESS (passive) measurements, SFCG does not support a potential new allocation to SOS in the the band 403-406 MHz. • Any consideration of bands for use under this agenda item must exclude the 406-406.1 MHz COSPAS-SARSAT band as well as appropriate guard bands (see <i>resolves 1, Resolution 205 (WRC-15) and Working Party 7B studies</i>).
<p>Preliminary Positions</p>	

<p>APT (2019-01-12)</p>	<p>APT Members support to satisfy the additional spectrum requirements by possible new allocations or an upgrade of the existing allocations to the SOS on a primary basis in accordance with Resolution 659 (WRC-15) if the studies show that sharing and compatibility both in-band and out-of-band, is feasible with existing services and systems and without any constraint to the incumbent services, both in-band as well as adjacent bands.</p> <p>APT Members do not support the consideration of the following frequency ranges:</p> <ul style="list-style-type: none"> - Maritime mobile VHF radiocommunication in the frequency ranges 156-157.45 MHz, 160.6-160.975 MHz and 161.475-162.05 MHz, in accordance with RR No. 5.226 and Appendix 18 (Rev. WRC-15). - The frequency range 406-406.1 MHz that is dedicated for satellite emergency position-indicating radio beacons, in accordance with Resolution 205 (Rev. WRC-15); and - Frequency bands used by Global Maritime Distress and Safety System (GMDSS) included in Appendix 15 of RR. <p>Other Views from APT Members:</p> <ul style="list-style-type: none"> - Some APT Members support no changes to the Radio Regulations under this agenda item. - Some APT Members support the Method B1 in the draft CPM text. Some other APT Members do not support the Methods B1 and B2 in the draft CPM text. - There are concerns of APT Members on not needing to obtain agreement under RR No. 9.21 since many radio stations of land mobile service exist in the 148-149.9 MHz band.
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • No change to the RR based on the results of the current sharing studies for the candidate frequency bands, which confirmed that the space operations service and other existing services in that frequency bands could not be shared.
<p>ATU (2018-09-17)</p>	<p>APM 19-3 agreed to:</p> <ul style="list-style-type: none"> • Take Method A (No Change) as the African preliminary position. • Noted that EACO was still considering this agenda item and therefore did not have a common position.

<p>CEPT (2018-11-30)</p>	<p>CEPT supports additional allocations or upgrades of existing allocations to the space operation service for short duration mission satellites provided that:</p> <ul style="list-style-type: none"> • Studies of spectrum requirements are based on satellite missions planned and constellation development. • Studies of spectrum requirements show the need for additional allocations or upgrades of existing allocations. • Studies show compatibility with existing services. <p>CEPT supports the use of the current primary allocation to the space operation service in the space-to-Earth direction in the band 137-138 MHz, associated with relevant technical conditions (e.g. pfd limits).</p> <p>CEPT supports studies for possible modifications to the current regulatory situation including the removal of No 9.21 in the existing allocation to the space operation service in the Earth-to-space direction in the band 148-149.9 MHz.</p> <p>As an alternative to the band 148-149.9 MHz, CEPT is still investigating a possible 1 MHz allocation to the space-operation service in the Earth-to-space direction limited to non-GSO satellites with short duration missions within the band 403-405 MHz.</p> <p>For the following bands, considered under this Agenda item, CEPT supports a “No Change”:</p> <ul style="list-style-type: none"> ▪ 150.05-174 MHz; ▪ 400.15-403 MHz; ▪ 405-420 MHz. <p>CEPT is of the view that the band 272-273 MHz does not provide a solution to satisfy Agenda item 1.7 and hence supports a “No Change” for this band.</p> <p>CEPT recognises that studies under this Agenda item will have to take into account the considerations under Agenda item 1.2.</p>
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CITEL (2018-08-11)

Preliminary Views from: CAN, MEX and USA

Canada and the United States:

These administrations support completing sharing and compatibility studies between NGSO satellites with short duration missions and the incumbent services with respect to invites ITU-R 1, 2, and 3 of Resolution **659 (WRC-15)**, and supports that frequency bands below 1 GHz should be considered for allocation changes only if agreed ITU-R studies demonstrate sharing feasibility.

The frequency ranges described for consideration under invites ITU-R 3 overlap with allocations to critical global maritime distress and safety service (GMDSS) frequencies, identified in **RR Appendix 15**, and centered at 156.3 MHz, 156.525 MHz, 156.65 MHz, 156.8 MHz, 161.975 MHz, and 162.025 MHz, as well as frequencies used for the safety of life COSPAS/SARSAT system in the band 406-406.1 MHz. Therefore, these administrations are of the view that CPM text must exclude the GMDSS frequency bands stated above, the COSPAS-SARSAT frequency range 406-406.1 MHz and the 100 kHz adjacent bands above and below the COSPAS-SARSAT frequency range (Res. **205 (WRC-15)**) from consideration for possible new allocations or an upgrade of the existing allocations to the space operation service. Additionally, the frequency ranges for fixed and land mobile (162.0375-173.2 MHz, 173.4-174 MHz, and 406.1-420.0 MHz), meteorological satellite (400.15-403 MHz), earth exploration satellite service (401-403 MHz) and meteorological aids (400.15-406 MHz) services are heavily used, and usage of the existing allocations is expected to increase in the future. These factors must be considered in any sharing and compatibility studies under this agenda item.

These administrations are of the view that a single spacecraft with a lifetime of less than typically three years, where the operator does not launch replenishment or replacement spacecraft is a short duration mission. The operation of multiple spacecraft simultaneously can qualify as short duration if all spacecraft have lifetimes less than typically three years and therefore the frequency and orbital characteristics and capabilities exist for less than 3 years – i.e., no replenishment/replacement. The case of a single (or multiple) spacecraft with a lifetime of less than typically three years, where the operator launches a single (or multiple) replenishment/replacement spacecraft(s) such that the operator has persistent frequency and orbital characteristics and capabilities longer than typically three years, is not considered a short duration mission. Mexico supports the continuation of technical, operational, and regulatory studies that make it possible to assess possible new allocations to space operation service on a primary basis for NGSO satellites with short duration missions, considering the due protection of the services in which lifetime safety systems are used.

RCC (2018-03-15)	<p>The RCC Administrations consider that spectrum needs for telemetry, tracking and command in the space operation service for non-GSO satellites with short duration missions should be based on real plans for satellite constellation development, taking into account to be able to meet these needs by existing allocations to the space operation service and to the services where a space station is operated in the frequency bands below 1 GHz.</p> <p>The RCC Administrations consider that when using existing or new frequency allocations to the space operation service below 1 GHz (including frequency bands 150.05–174 MHz and 400.15–420 MHz) for the purpose to command non-GSO satellites with short duration missions, the protection shall be ensured to the incumbent services in the same and adjacent frequency bands.</p> <p>The RCC Administrations oppose using the frequency bands 150.05-174.0 MHz and 405.9-406.2 to command non-GSO satellites with short duration missions, since:</p> <ul style="list-style-type: none">- separate parts of the frequency band 150.05-174.0 MHz are actively used within the territory of RCC Administrations for fixed and mobile services;- frequency band 154-156 MHz is used for the radiolocation service on a primary basis according to No 5.225A in some countries of Region 1;- separate parts of the frequency band 156-162.05 MHz, as well as frequency band 405.9-406.2 MHz are used by GMDSS;- frequency bands 150.05-153.0 MHz and 406.1-410.0 MHz are allocated to the radio astronomy service on a primary basis, and the conducted studies have shown the difficulties of sharing between the space operation service and the above mentioned radio services.
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<p>Agenda Item 1.11 Railway Radiocommunication Systems between train and trackside</p>	<p>SFCG supports the protection of existing allocations of space science services. Since there is no consensus on frequency bands for study, SFCG will monitor this agenda item at this time. Of particular concern is the potential for interference in the passive bands 86-92 GHz and 100-102 GHz.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>APT Members are of the view that frequency bands (or parts thereof) within the ranges of 138-174 MHz, 335.4-470 MHz, 703-748 MHz, 758-803 MHz, 873-915 MHz, 918-960 MHz, 1 770-1 880 MHz, 43.5-45.5 GHz and 92-109.5 GHz, within the existing mobile service allocations, could be considered as potentially harmonized frequency bands for Region 3 for RSTT, in particular for train radio applications.</p> <p>APT Members invite other regional groups to consider frequency bands (or parts thereof) within the ranges of 138-174 MHz, 335.4-470 MHz, 873-915 MHz and 918-960 MHz, within the existing mobile service allocations, as global harmonized frequency bands for RSTT, in particular for train radio applications.</p> <p>APT Members agreed to add a new Method D to the draft CPM text for consideration by CPM 19-2.</p> <p>APT Members are also of the following views:</p> <ul style="list-style-type: none"> - International standards and global/regional harmonized frequency bands could facilitate the current and future development of RSTT. - Deployment of RSTT requires significant long term investment and a stable radio regulatory environment is important for the railway industry. - As Train Radio application of RSTT directly ensures passenger safety and security for train operations, harmonization of frequency bands for Train Radio application may have the priority among the four categories of RSTT applications. - The implementation of RSTT in the harmonized frequency bands shall not impose additional constraints on other primary services to which these frequency bands are already allocated. - The current and future ITU-R studies on RSTT should not be restricted to, or preclude, any particular relevant technology or delivery model. <p>Other Views from APT Members:</p> <p>Some APT Members support Method A of the current draft CPM Report on agenda item 1.11, considering that no change to the Radio Regulations is required under this agenda item and Recommendation ITU-R M.[RSTT_FRQ] listed relevant global and regional harmonized frequency ranges for consideration by administrations.</p> <p>Some APT Members support Method B or Method C of the current draft CPM Report on agenda item 1.11, are of the view that a new WRC Resolution is needed to provide regulatory certainty and guidance to administrations when making their frequency plans for RSTT. APT Members who support Method C also are of the view that a new WRC Resolution referring to Recommendation ITU-R M.[RSTT_FRQ] can potentially provide flexibility.</p> <ul style="list-style-type: none"> • Some APT Members support a new Method D. This new Method D proposes a new Resolution with references to the Recommendation ITU-R M.[RSTT_FRQ], where no specific frequency band is mentioned in the resolves part of the new Resolution.

ASMG (2018-08-23)	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Follow-up the studies about railway radio systems between the train and trackside within the current allocations of the mobile service. • Ensuring protection of the existing services without imposing any new restrictions on them. • Conduct a questionnaire for Arab administrations about railway radiocommunication systems..
ATU (2018-09-17)	<p>APM 19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Take Method C as the African preliminary position which entails a new WRC resolution to provide a regulatory framework to guide the harmonization process, with reference s to the Recommendation ITU R M [RSTT_FRQ] for possible global and/or regional harmonization of frequency arrangements for RSTT to provide flexibility. This method provides support for global or regional harmonization of frequency bands for use by (RSTT) within the existing Mobile services allocation so that no additional constraints are imposed on services to which these frequency bands are already allocated. 2. Note that SADC having reviewed the draft CPM report and the proceedings of the meetings of APM19-3 reviewed its position to align with the ATU preliminary Method C. 3. Invite EACO administrations whose current position is method A to review in view of the current draft CPM report and consider the possibility of aligning its position with ATU preliminary of Method C. 4. Task WG1 to foster a fully harmonized African position on or before the next APM 19-4.
CEPT (2018-11-30)	<p>CEPT is of the view that the harmonized use of frequencies for RSTT within existing mobile service allocations serves current and future demands of railway organisations on all operational levels.</p> <p>CEPT is of the view that no change to the RR is needed in response to WRC-19 Agenda item 1.11, except suppression of Resolution 236 (WRC-15).</p> <p>CEPT is of the view that harmonisation of frequencies for RSTT can be achieved through the course of ITU-R study group work by an applicable ITU-R Recommendation and/or Reports (e.g. non-mandatory Recommendation ITU-R M.[RSTT_FRQ_HARMONISATION] containing regional harmonisation measures). In this regard, CEPT highlights its existing framework for RSTT train radio on the basis of GSM-R, which serves interoperable cross-border railway operations. CEPT recognizes that there are other standards/technologies and frequency bands providing for RSTT. In addition, CEPT is of the view that Agenda item 1.11 does not cover the provision of public communication services for passengers.</p> <p>Accordingly, CEPT adopted an European Common Proposal (ECP) for agenda item 1.11, proposing no change to the RR, except suppression of Resolution 236.</p>
RCC (2018-03-15)	<p>The RCC Administrations consider it reasonable to harmonize frequency bands at global or regional level for their use by railway radiocommunication systems between train and trackside within existing mobile service allocations, including through the development of ITU-R Recommendations and Reports.</p> <p>The RCC Administrations are of the view that harmonized use of frequency bands by railway transportation systems within existing mobile service allocations shall not impose additional constraints on other services to which these frequency bands are already allocated, and shall provide the protection of existing systems for government communication.</p>

Proposals

<p>CITEL (2017-12-01)</p>	<p>Inter-American Proposal <u>NOC</u> Radio Regulations Volumes 1, 2 and 4 Support: Argentina, Brazil, Canada, United States of America, Ecuador, Guatemala, Mexico, Panama, Uruguay Reason: The Administrations believe it is unnecessary to identify spectrum specifically for railway radiocommunication systems. Regional and global harmonization can be satisfied by developing applicable ITU-R Reports and Recommendations. Therefore, no change to the Radio Regulations or regulatory action is required under this agenda item. SUP RESOLUTION 236 (WRC-15) Railway radiocommunication systems between train and trackside Support: Argentina, Brazil, Canada, United States of America, Ecuador, Guatemala, Mexico, Panama, Uruguay Reasons: The studies towards regional and global harmonization can be satisfied through ITU-R Recommendations and Reports.</p>

Agenda Item 1.12 Intelligent Transport Systems (ITS)	SFCG supports no change to the Article 5 of Radio Regulations under this agenda item. ITS may continue to operate in existing allocations for mobile service. Harmonization can be achieved through ITU-R Recommendations or Reports encouraging administrations to use globally or regionally harmonized bands.
Preliminary Positions	
APT (2019-01-12)	<p>APT Members support possible harmonization of frequency bands in existing mobile service allocations for the implementation of evolving ITS. APT Members support the consideration of the frequency band 5 850-5 925 MHz, or parts thereof, as global harmonized frequency band for evolving ITS. APT Members also support the consideration of examples of ITS frequency bands in current use, as listed in the Annex of Recommendation ITU-R M.[ITS_FRQ] for regional harmonized ITS frequency bands. APT Members support the suppression of Resolution 237 (WRC-15). APT Members are also of the view that:</p> <ul style="list-style-type: none"> – Evolving ITS should not be restricted to, nor exclude, any particular evolving ITS technology including LTE based V2X and its evolution technologies. – The use of frequency bands by ITS should not impose additional constraints on other primary services to which these frequency bands are already allocated and should take appropriate account of the potential interference from other primary services, including FSS earth station uplinks. <p>Other Views from APT Members: No consensus was reached regarding the Method to satisfy the agenda item. Some APT Members support the Method of no changes to the Radio Regulations under this agenda item and satisfy this agenda item through ITU-R Recommendation and/or Report. Some APT Members support methods of adding one new WRC Resolution specifying harmonized frequency bands of evolving ITS or adding one new WRC Resolution providing harmonized frequency bands including through non-mandatory reference to ITU-R recommendation to satisfy this agenda item.</p> <ul style="list-style-type: none"> • Some APT Members prefer to specify harmonized frequency bands explicitly in an ITU-R Recommendation, and currently have no preference over whether the ITU-R Recommendation is referenced in a WRC Resolution or not.
ASMG (2018-07-23)	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Follow-up studies, and request administrations to consider the possibility of identifying appropriate frequency bands for these systems within the current allocations of the mobile service. • Work on developing a vision for the use of intelligent transport systems (ITS) in Arab administrations and study the spectrum needs of these systems. • Conduct a questionnaire for Arab administrations about the candidate bands to be used for ITS from the bands contained in draft Recommendation ITU-R.M.[ITS_FRQ]
ATU (2018-09-17)	<p>APM 19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Take Method C as the African preliminary position which entails a new WRC resolution to encourage administrations to use globally and regionally harmonized frequency bands for ITS applications by referring to the most recent version of Recommendations ITU-R M.[ITS_FRQ]. Suppress Resolution 237 (WRC-15). This method provides a regulatory framework for worldwide or regional harmonization for ITS applications through a new WRC Resolution and the most recent version of Recommendation ITU-R M.[ITS_FRQ]. 2. Note that the administration of EGYPT SUPPORTS Method B citing that too much flexibility is provide by method C which can erode the desired harmonization in case wher the ITU-R Recommendation is amended in the future. 3. Note that EACO and SADC having reviewed the draft CPM report and the proceedings of the meetings of APM19-3 reviewed their position to align with the ATU preliminary position of Method C. 4. Task WG1 o foster a fully harmonized African position on or before the next APM 19

<p>CEPT (2018-11-30)</p>	<p>CEPT is of the view that its existing regional harmonisation measures for ITS in the band 5 855-5 925 MHz are sufficient and no changes to the RR are required in response to WRC-19 Agenda item 1.12 except the suppression of Resolution 237 (WRC-15). CEPT is developing a revision of its existing harmonisation framework for ITS around 63-64 GHz. CEPT is of the view that harmonisation measures for ITS at ITU-R level can be achieved through the course of ITU-R study group work by applicable ITU-R Recommendations (e.g. Recommendation ITU-R M.[ITS_FRQ]).</p> <p>CEPT is also of the view that harmonisation of ITS under AI 1.12 is limited to the exchange of information to improve traffic management and to assist driving safety. In addition, CEPT is of the view that Road tolling (also known as Electronic Toll Collection (ETC)) in 5 795-5 815 MHz is not part of Agenda Item 1.12. Accordingly, CEPT adopted an European Common Proposal (ECP) for agenda item 1.12, proposing no change to the RR, except suppression of Resolution 237.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations consider that there is no need to modify RR within this Agenda Item.</p> <p>The RCC Administrations support harmonization of frequency bands for evolving Intelligent Transport Systems at global and regional levels within existing mobile service allocations through the development of ITU-R Recommendations and Reports.</p> <p>The RCC Administrations are of the view that the implementation of evolving transport systems within existing mobile service allocations shall not impose additional constraints on services already having allocations in these or adjacent frequency bands.</p>
<p>Proposals</p>	
<p>CITEL (2017-12-01)</p>	<p>Draft Inter-American Proposals <u>NOC</u> Radio Regulations Volumes 1, 2 and 4 Support: Canada, United States Reason: It is unnecessary to identify spectrum specifically for Intelligent Transport Systems. Regional and global harmonization can be satisfied by developing applicable ITU-R Reports and Recommendations. Therefore, no change to the Radio Regulations or regulatory action is required under this agenda item. <u>SUP</u> RESOLUTION 237 (WRC-15) Intelligent Transport Systems applications Support: Canada, United States</p>

**Agenda Item 1.13
International Mobile
Telecommunications (IMT)
studies between 24.25-86 GHz**

SFCG supports the protection of existing space science service allocations. No new allocation/identification of spectrum to support mobile broadband systems (IMT-2020) should be made in or adjacent to bands allocated to space science services unless acceptable criteria and mandatory conditions are developed and implemented that ensure the protection and future usability of the concerned bands by those services. SFCG does not support consideration of any frequency band that is not included in the list of potential candidate bands as identified in Resolution **238 (WRC-15)**.

With regard to the issue of in-band sharing, a particularly critical situation concerns the band 25.5-27 GHz which constitutes the only frequency bands allocated to EESS and SRS (space-to-Earth) that allows for the downlink of the large data volume required by many current and future EESS and SRS satellite missions. As recognized in Resolution **238 (WRC-15)** (footnote 2 of *resolves 2*) for the 25.5-27 GHz band, it is fundamental for SFCG Member Agencies to be assured that EESS and SRS earth stations will continue to be able to expand in the future both in terms of number of satellites serviced and number of earth stations. Licences for these earth stations, which inherently provide protection from interference by IMT-2020 systems, must not be denied or restricted on the basis that such action may limit the IMT-2020 operational areas. Negative licensing experiences in the past with earlier cellular mobile systems in the band 2110-2120 MHz must not be repeated.

Internationally agreed mandatory mechanisms and criteria should therefore be identified to ensure the future availability of these earth station licences. It is necessary to ensure that the IMT-2020 systems will be deployed only in urban and suburban areas, as is assumed in all of the compatibility studies and as stated by WP 5D. Further, protection of earth stations needs to be codified in the Radio Regulations to ensure consistency across administrations; protection of earth stations should not be considered as strictly a domestic issue.

Protection of the various EESS (passive) bands adjacent to bands studied under this Agenda Item (23.6-24 GHz, 31.3-31.8 GHz, 36-37 GHz, 50.2-50.4 GHz, 52.6-54.25 GHz and 86-92 GHz) has to be ensured. For this appropriate mandatory unwanted emission limits for IMT-2020 devices have to be established. For some of these bands RR No.5.340 applies.

All studies presented in ITU-R confirm that only a drastic reduction in IMT-2020 unwanted emissions provided by WP 5D (in particular in the band 23.6-24 GHz) can ensure protection of EESS (passive). The SFCG is concerned that the current operational specifications for IMT-2020 indicate that the IMT-2020 systems will be unable to comply with the unwanted emission levels determined in the studies. The SFCG is of the view that an IMT allocation/identification should not be made unless the proponents of IMT-2020 clearly demonstrate the ability to comply with the needed unwanted emission limits to ensure the protection of the EESS (passive). Relevant unwanted emission limits will have to be implemented in the Radio Regulations by inclusion in Table 1 of Resolution 750 (Rev.WRC-15).

Other specific concerns of SFCG are:

- Protection of the 25.25-27.5 GHz band allocated to inter-satellite service (ISS) on primary basis, used for data relay satellite return links;
- Protection of the 31.8-32.3 GHz band allocated to SRS deep space (s-E) on primary basis, used for transmitting data to the Earth from distant locations in space;
- Protection of the 37-38 GHz band allocated to SRS (space-to-Earth), and the 40-40.5 GHz band allocated to EESS/SRS (Earth-to-space).

Frequency overlaps with other WRC-19 AI's (1.6 and 1.14) need to be taken into account.

Preliminary Positions

<p>APT (2019-01-12)</p>	<p>APT Members support the consideration of additional frequency bands for International Mobile Telecommunications (IMT), including possible additional mobile allocations on a primary basis, in accordance with Resolution 238 (WRC-15).</p> <p>APT Members also support ITU-R studies on spectrum needs for the terrestrial component of IMT and sharing and compatibility studies in accordance with Resolution 238 (WRC-15).</p> <p>Regarding the overlapping issue of the frequency bands within the scope of agenda item 1.13 associated with Resolution 238 (WRC-15) and those within the scope of agenda items 1.6, 1.14 and 9.1 (issue 9.1.9), APT Members are of the view that this issue would be handled by WRC-19 based on proposals submitted to the conference, discussion on these agenda items and WRC-19's decision on use of each frequency band mentioned in the corresponding Resolutions.</p> <p>APT Members have the following preliminary views for the frequency bands listed below.</p> <ul style="list-style-type: none"> • 24.25-27.5 GHz APT Members support identification of the frequency band 24.25-27.5 GHz, which will provide administrations the flexibility to implement IMT in the entire band or portions thereof, through Method A2 in the draft CPM Report taking into account that protection of the incumbent services in this and adjacent frequency bands should be ensured by selecting an appropriate Option for each Condition under Method A2 in the draft CPM Report. <p>Under Condition A2a (Protection measures for the EESS (passive) in the 23.6-24 GHz frequency band), APT Members support Option 1 in the Draft CPM Report (to revise Table 1-1 of Resolution 750 (Rev.WRC-15)). APT Members are encouraged to study and to provide unwanted emission limits to be included in this revision based on the range of unwanted emission levels applicable to different active service bands as indicated in Section 6.</p> <ul style="list-style-type: none"> • 31.8-33.4 GHz APT Members support Method B1 (NOC), which is the only Method in the draft CPM Report for the frequency band 31.8-33.4 GHz due to difficulty of sharing and compatibility between IMT and the incumbent services. • 37-40.5 GHz, 40.5-42.5 GHz and 42.5-43.5 GHz APT Members support identification of the frequency bands 37-40.5 GHz, 40.5-42.5 GHz and 42.5-43.5 GHz, or portions thereof, for IMT, through Methods C2/D2/E2 in the draft CPM Report taking into account that protection of the incumbent services in these and adjacent frequency bands should be ensured by selecting an appropriate Option for each Condition under Methods C2/D2/E2 in the draft CPM Report. <p>APT Members recognize that different administrations would implement IMT in different portions of the 37-43.5 GHz frequency range for IMT, and a global identification for IMT in the 37-43.5 GHz band, or portions thereof, would allow each country/region to implement IMT in different portions of the band in accordance with their national/regional considerations, while still facilitating the benefits of economies of scale.</p>
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Other Views from APT Members:

Some APT Members have the following views for the frequency bands listed below.

- **24.25-27.5 GHz**

Some APT Members support identification of the frequency band 24.25-27.5 GHz for IMT through Alternative 2 rather than Alternative 1 under Method A2 in the draft CPM Report.

Under Conditions A2b to A2g;

- Some APT Members support the Option “No condition is necessary” taking into account the results of sharing and compatibility studies performed by these APT Members.

- Some other APT Members support other Options that apply mandatory conditions for IMT base stations to protect other services operating in accordance with the Radio Regulations. These mandatory conditions could include, but are not limited to, the maximum total radiated power (TRP), the mechanical tilt, the maximum deployment density and the antenna pattern.

One APT Member is not in favour of an identification for IMT in the frequency band 27.0 – 27.5 GHz, and proposes no change (Method A1) in Region 3.

- **37-40.5 GHz**

One APT Member is not in favour of an identification for IMT in the frequency band 37.0 – 40.5 GHz, and proposes no change (Method C1) in Region 3.

- **45.5-47 GHz and 47-47.2 GHz**

Some APT Members support identification of the frequency bands 45.5-47 GHz and 47-47.2 GHz for IMT, only if suitable studies are performed before WRC-19 that show sharing and compatibility with the incumbent services is feasible and appropriate regulatory measures are developed accordingly.

Some APT Members are investigating the possibility of an identification for IMT in the frequency bands 45.5-47 GHz and 47-47.2 GHz.

One APT Member is not in favour of an identification for IMT in the frequency bands 45.5-47 GHz and 47-47.2 GHz that have not been studied within ITU-R yet.

- **47.2-50.2 GHz**

Some APT Members are investigating the possibility of an identification for IMT in some or all of the frequency band 47.2-50.2 GHz.

One APT Member supports further studies in the frequency band 47.2-50.2 GHz, and a potential identification for IMT with priority if sharing is feasible under the framework of agenda item 1.13.

One APT Member is not in favour of an identification for IMT in the frequency band 47.2-50.2 GHz.

- **50.4-52.6 GHz**

Some APT Members are investigating the possibility of an identification for IMT in some or all of the frequency band 50.4-52.6 GHz.

	<p>One APT Member supports further studies in the frequency band 50.4-52.6 GHz, and a potential identification for IMT with priority if sharing is feasible under the framework of agenda item 1.13.</p> <p>One APT Member is not in favour of an identification for IMT in the frequency band 50.4-52.6 GHz.</p> <ul style="list-style-type: none"> • 66-71 GHz Some APT Members support identification of the frequency band 66-71 GHz for IMT, and are of the view that protection of the incumbent services in this frequency band should be ensured by selecting an appropriate Option for each Condition under the relevant Method in the draft CPM Report. <p>Some APT Members are investigating the possibility of an identification for IMT in the frequency band 66-71 GHz.</p> <p>One APT Member is not in favour of an identification for IMT in the frequency band 66-71 GHz.</p> <ul style="list-style-type: none"> • 71-76 GHz Some APT Members support identification of the frequency band 71-76 GHz for IMT, and are of the view that protection of the incumbent services in this and adjacent frequency bands should be ensured by selecting an appropriate Option for each Condition under the relevant Method in the draft CPM Report. <p>Some APT Members are investigating the possibility of an identification for IMT in the frequency band 71-76 GHz.</p> <p>One APT Member is not in favour of an identification for IMT in the frequency band 71-76 GHz.</p> <ul style="list-style-type: none"> • 81-86 GHz Some APT Members support identification of the frequency band 81-86 GHz for IMT, and are of the view that protection of the incumbent services in this and adjacent frequency bands should be ensured by selecting an appropriate Option for each Condition under the relevant Method in the draft CPM Report. <p>Some APT Members are investigating the possibility of an identification for IMT in the frequency band 81-86 GHz.</p> <p>One APT Member is not in favour of an identification for IMT in the frequency band 81-86 GHz.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Support identification of IMT2020 within the frequency band 24.25 - 27.5 GHz with studying the following OOB limits in TG5/1 : <ul style="list-style-type: none"> ○ BS OOB Limits: -32to -37dBW/200 MHz ○ UE OOB Limits: -28to -30dBW/200 MHz • Support identification of IMT2020 within the following frequency bands: <ul style="list-style-type: none"> ○ 40.5 -42.5 GHz ○ 42.5 -43.5 GHz • Following up the ongoing studies on the other candidate bands as included in Resolution 238 (WRC 15)

	<ul style="list-style-type: none"> • Not supporting discussing any study or contribution on the frequency bands such as 28 GHz (27.5 –29.5 GHz). • Protection of the existing services within the candidate band • Considering the protection of the existing services within the adjacent bands
<p>ATU (2018-09-17)</p>	<p>APM19-3 agreed:</p> <p>A) For the band 24.25 – 27.5 GHz (Band A)</p> <p>1. Take method A2, Alternatively 2, condition A2a:Option 1 as the African preliminary position, which entails the following:</p> <ul style="list-style-type: none"> ○ Allocating the band 24.25 – 25.25 GHz to the mobile services (except aeronautical mobile) on a primary basis in Region 1 and 2. ○ Identifying, globally, the band 24.25-27.5 GHz for IMT by a new footnote. ○ Revising Resolution 750 (WRC-15) , Table 1-1, to include the following IMT unwanted emission limits for 23.6 to 24.0GHz frequency band to protect EESS (passive). <ul style="list-style-type: none"> ○ BS : -32 to -37 dBW/200 MHz ○ UE: -28 to -30 dBW/200 MHz <p>2. Take the following conditions and options as the AFRICAN preliminary position with respect to other services:</p> <ul style="list-style-type: none"> ○ Condition A2b: Option 3 – no condition necessary ○ Condition A2c: Option 4 – no condition necessary ○ Condition A2d: Option 4– no condition necessary ○ Condition A2e: Option 9 –no condition necessary ○ Condition A2f: Option 3 – no condition necessary ○ Condition A2g: Option 4 – no condition necessary <p>3. Note inputs received by the meeting regarding the need to define conditions necessary to ensure co-existence between IMT and those services for which the stated conditions apply.</p> <p>4. Note the invitation from Satellite industry for ATU to further consider the protection of FSS and ISS space stations (and other space services) though the definition of a limit on the Total Radiated Power (TRP) for IMT base stations and limiting the pointing angle above the horizon for the main beam of IMT base stations.</p> <p>5. TASK WG2 for further consideration of the noted issues above and recommend a way forward at APM 19-4</p> <p>B.) For the band 31.8 33.4GHz (Band B) Take method B1 (No Change) as the African preliminary position</p> <p>C.) For the band 37-40.5 GHz (Band C)</p> <p>1. Take method C2, Alternative 2 Condition C2a ; Option 4 as the African preliminary position, which entails the following:</p> <ul style="list-style-type: none"> ○ Identifying of the band 37-40.5GHz to terrestrial component of IMT. ○ No condition necessary with respect to ESS in the lower adjacent band: <p>2. Note that with respect to EESS (passive) protection; Compatibility with EESS (passive) systems operating in the frequency band 36-37GHz may require that IMT systems comply with some unwanted emission levels. However, the frequency band 36-37GHz is also allocated on a primary basis to the MS and FS; and , coexistence conditions with the EESS (passive) are currently addressed in resolution 752 (WRC-07)</p> <p>3. Take the following conditions and options as the African preliminary position with respect to other services:</p> <ul style="list-style-type: none"> ○ Condition C2b: Option 6 ○ Condition C2c: Option 3 ○ Condition C2d: Option 2 ○ Condition C2e: Option 3

4. Note the concerns raised over the “no conditions apply” options with respect to co-existence of IMT with other services in the band.

5. Note the need to ensure equitable access to spectrum by all services allocated to the band, in particular FSS (for HDFSS applications).

6. Task WG2 for further consider the noted issues above and recommend a way forward at APM-19-4

D.) For the band 40.5- 42.5GHz (Band D)

1. Take Method D2, Alternative 2 as the African preliminary position, which entails upgrading the mobile allocation to a primary service in the Table of frequency allocations and identifying the frequency band for IMT by a new footnote in the frequency band 40.5-42.5GHz.

2. Take the following Conditions and options as the African preliminary position with respect to other services:

- Condition D2a:Option 5 –no condition necessary
- Condition D2b:Option 3 –no condition necessary
- Condition D2c:Option 3 –no condition necessary

3. Note the need for further consideration of conditions necessary for co-existence with other services, in particular FSS

4. Note the need to ensure adequate spectrum and conditions for HDFSS.

5. Task WG2 for further consider the noted issues above and recommend a way forward.

E.) For the band 42.5 – 43.5 GHz

1. Take Method E2 , Alternative 2 as the African preliminary position , which entails identifying the 42.5-43.5 GHz to terrestrial component of IMT

2. Take the following conditions and options as the African preliminary position:

- Condition E2a:Option 7 –no condition necessary
- Condition E2b:Option 3 –no condition necessary
- Condition E2c:Option 4 –no condition necessary

3. Note the need for further considerations of conditions necessary for co-existence with other services, in particular FSS.

4. Task WG2 to further consider the noted issue above and recommend a way forward.

F.) For the band 45.5-47.0 GHz (Band F)

1. Note that no studies on this band were conducted by TG5/1.

2. Defer a decision on this band in anticipation of output contributions with studies on the band at CPM19-2.

G.) For the band 47- 47.2 GHz (Band G):

1. Note that no studies on this band were conducted by TG5/1.

2. Defer a decision on the band in anticipation of input contributions with studies on the band at CPM19-2.

H.) For the band 47.2 – 50.2 GHz (Band H)

1. Take method H2, Alternative 2 AS THE African preliminary position, which entails identifying the 47.2-50.2 GHz frequency band for the terrestrial component of IMT.

2. Take the following conditions and options as the African preliminary position:

- Condition H2a:Options 2 –Resolution 750 (Rev. WRC-19) in Table 1-1 , taking into account RR No 5.340.1
- Condition H2b: Option 8 – no condition necessary
- Condition H2c: Option 3 – no condition necessary
- Condition H2d: Option 4– no condition necessary

3. Note that in the range 47.2-52.6 GHz, appropriate balance should be ensured between spectrum available for IMT, for FSS terminals and FSS gateways.

	<p>4. Note the need for further consideration of conditions necessary for co-existence with other services, in particular FSS.</p> <p>5. Task WG2 for further consider the noted issues above and recommend a way forward.</p> <p>I.) For the band 50.4- 52.6 GHz (Band I)</p> <p>1. Take Method I2, Alternative 2 as the African preliminary position: Identification to Terrestrial component of IMT in the 50.4-52.6GHz (in the Mobile service).</p> <p>2. Take the following conditions and options as the African preliminary position:</p> <ul style="list-style-type: none"> ○ Condition I2a: Options 2 – Resolution 750 (rev. WRC-19) in Table 1-1, taking into account RR No. 5.340.1 ○ Condition I2b: Option 7: no condition necessary ○ Condition I2c: Option 4: no condition necessary <p>J.) For the band 66-71GHz (Band J)</p> <p>1. Take Method J2, Alternative 2 as the African preliminary position which entails identification to terrestrial component of IMT in 66-71GHz (in the mobile services)</p> <p>2. Take the following conditions and options as the African preliminary position:</p> <ul style="list-style-type: none"> ○ Condition J2a: option 1 <ul style="list-style-type: none"> ▪ Take into account the latest technical characteristics of IMT and MGWS/WAS ▪ To invite ITU-R to develop Recommendations and Reports that will assist administrations in ensuring that applications and services in the band 66-71GHz can utilize the band efficiently including the development of appropriate sharing protocols between IMT and MGWS/WAS where needed. ○ Condition J2b: Option 1 – Revise RR No. 5.553 to remove the 66-71GHz frequency band from that footnote. ○ Condition J2c: Option 3 – no condition necessary <p>3. Note the need to consider the impact of an IMT identification in the band to the future of the MGWS/WAS ecosystem.</p> <p>4. Task WG2 to further consider the noted issue above and recommend a way forward.</p> <p>K.) For the band 71-76GHz (Band K)</p> <p>Continue with the consideration of the band at sub-regional and WG2 levels with a view to developing an appropriate solution to support (in terms of method, alternative and option) as appropriate.</p> <p>L.) For the band 81-86GHz (Band L)</p> <p>Continue with the consideration of the band at sub regional and WG2 levels with a view to developing an appropriate solution to support (in terms of method, alternative and option) as appropriate.</p>
<p>CEPT (2018-11-30)</p>	<p>CEPT supports the results of the ITU-R studies¹ on IMT spectrum needs in the range 24.25-86 GHz. CEPT supports sharing and compatibility studies for the bands listed in Resolves 2 of Resolution 238 (24.25-27.5 GHz, 31.8-33.4 GHz, 37-43.5 GHz, 45.5-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz), with the focus on the frequency bands 24.25-27.5 GHz, 40.5-43.5 GHz and 66-71 GHz.</p> <p>CEPT supports the identification of global bands for IMT among the bands listed in resolves to invite ITU-R 2 of Resolution 238, taking into account the results of sharing and compatibility studies with existing services. Bands</p>

¹ i.e. excluding Annex B from Doc ITU-R TG5/1 Document 5-1/36 Attachment 1: Information on spectrum needs in some countries

	<p>outside those listed in resolves to invite ITU-R 2 of Resolution 238 are not supported for consideration under this Agenda item.</p> <p>The following bands are supported for IMT identification and where appropriate, allocation to the Mobile Service on a primary basis:</p> <ul style="list-style-type: none"> • 24.25-27.5 GHz: CEPT has confirmed the clear priority for this band through the adoption of a harmonisation decision (ECC Decision (18)06) including relevant conditions for the protection of other services in the band and adjacent bands.. The Decision was developed based on studies that assumed an individual authorisation regime. CEPT supports the unwanted emission limits of –42 dBW/200 MHz Total Radiated Power (TRP) for base stations and –38 dBW/200 MHz TRP for mobile terminals, into the 23.6-24 GHz band, to be included as mandatory limits in Resolution 750. CEPT is considering RR N° 5.536A, 5.536B and 5.536C in relation with coexistence with EESS and SRS earth stations. • 40.5 – 43.5 GHz: CEPT proposes an IMT identification for 40.5-43.5 GHz. This is a priority band for CEPT and already identified for future harmonisation in Europe. CEPT considers that the bands 40.5-43.5 GHz has good potential for future harmonisation in Europe. The process for developing harmonisation decisions for additional bands (other than 26 GHz) may be launched immediately after WRC-19, under the assumption of an individual authorisation regime. • 66-71 GHz: CEPT supports that IMT and MGWS/WAS should have equal access to the frequency band 66-71 GHz. An identification should not confer any priority to IMT and this should be emphasized in the footnote identifying the band and associated WRC Resolution. CEPT supports modifying No. 5.553 to remove the frequency band 66-71 GHz from this footnote. <p>Other candidate bands considered:</p> <ul style="list-style-type: none"> • 37-40.5 GHz: whilst CEPT will not propose identification and has no intention of using 37-40.5 GHz for IMT, CEPT will not oppose a global IMT identification for the full 37-43.5 GHz range. <p>The following bands are not supported for the IMT identification and CEPT is proposing NOC:</p> <ul style="list-style-type: none"> • 31.8-33.4 GHz • 71-76 GHz • 81-86 GHz. <p><i>Note: CEPT has developed a <u>Roadmap on 5G</u> (http://cept.org/ecc/topics/spectrum-for-wireless-broadband-5g#roadmap). In this respect it is noted that “Europe has harmonised the 27.5-29.5 GHz band for broadband satellite and is supportive of the worldwide use of this band for ESIM. This band is therefore not available for 5G”.</i></p>
<p>CITEL (2018-08-11)</p>	<p>Draft inter-American Proposal (DIAP) from B, COL, and URG to:</p> <ul style="list-style-type: none"> • Identify 24.25-27.5 GHz for IMT. • Modification of 5.338A so that in the range 24.25-24.45 GHz, Resolution 750 applies. • Modification of Resolution 750 with “TBD” limits in Table 1. • Identification is subject to a draft new Resolution on “Implementation of International Mobile Telecommunications in 24.25-27.5 GHz” which only says, “TBD.” <p>Peliminary Proposal from Brazil to identify 37-43.5 GHz for IMT. Identification is subject to a draft new Resolution on “Implementation of</p>

International Mobile Telecommunications in the 37-43.5 GHz” which only says, “TBD.

Preliminary proposal from Brazil to identify 66-71 GHz. Identification is subject to a draft new Resolution on “Implementation of International Mobile Telecommunications in the 66-71 GHz” which only says, “TBD.”

Preliminary Views from: ARG, CAN, COL, MEX and USA

Canada’s views:

The availability of globally or regionally harmonized spectrum for IMT above 24 GHz is key to the future development of IMT systems for the delivery of next generation services. For this reason, Canada has supported and participated in the studies under WRC-19 agenda item 1.13, taking place in ITU R TG 5/1, in the following frequency bands:

- 24.25-27.5 GHz, 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz, which have allocations to the mobile service on a primary basis; and
- 31.8-33.4 GHz, 40.5-42.5 GHz and 47-47.2 GHz, which may require additional

allocations to the mobile service on a primary basis.

In making this spectrum available for IMT per Resolution 238 (WRC-15), Canada is of the view that passive services in frequency bands adjacent to those under study in AI 1.13 need to be protected taking into account the relevant provisions of the Radio Regulations.

Regulatory limits for the protection of any service should be technically derived, based on studies using the parameters and deployment scenarios provided by the expert ITU-R Working Parties, such that sufficient protection is provided to co-primary services while minimizing the impact on the delivery of IMT services in terms of cost, coverage and performance to the extent possible.

Canada is of the view that most cases involving terrestrial interference paths (e.g. between IMT and Earth stations or IMT and the FS) can be resolved through domestic decision-making and/or bilateral coordination due to the short distances involved. Further discussion may be needed on the precise measures that may be necessary at the ITU in support of coordination, noting that coordination with Earth stations is already addressed in Appendix 7 of the Radio Regulations.

With regard to the identification of specific bands, Canada has the following views at this time, assuming that questions related to the protection of adjacent and co-channel primary services are resolved:

- 24.25-27.5 GHz: This is a priority band for consideration for identification for IMT, in full or in part, due to the potential for global use. Canada is currently consulting on the potential to make the frequency range from 26.5-27.5 GHz available for flexible use for terrestrial fixed and mobile services prior to WRC-19; therefore, identification for IMT of spectrum in this sub-band is a high priority for Canada.
- 31.8-33.4 GHz: This band is of lesser priority to Canada at this time considering, among other factors, study results showing interference to aeronautical radionavigation systems and that more spectrum is available in other candidate frequency ranges or groups of candidate frequency ranges.
- 37-40.5 GHz: Canada is currently consulting on the potential to make the band 37-40 GHz available for flexible use for terrestrial fixed and mobile services prior to WRC-19; therefore, identification for IMT of this spectrum in Region 2 is a high priority for Canada. For the band 40-40.5 GHz, decisions on identification need to take into account the global identification for HDFSS, for ubiquitous deployment of satellite terminals, as per footnote 5.516B.
- 40.5-42.5 GHz: For the band 40.5-42 GHz, considerations on identification for IMT need to take into account the identification for HDFSS, for ubiquitous deployment of satellite terminals, in Region 2 as per footnote

5.516B. For the band 42-42.5 GHz, consideration for identification of spectrum for IMT is a priority, considering the potential benefits of economies of scale of the development of IMT equipment that can operate over a broad frequency range.

- 42.5-43.5 GHz: Consideration for identification for IMT of spectrum in this range is a priority considering the potential benefits of economies of scale of the development of IMT equipment to operate over a broad frequency range.
- 45.5-47 GHz: The consideration for identification for IMT of this band is a lesser priority compared to spectrum in lower frequency bands.
- 47-47.2 GHz: The consideration for identification for IMT of this band is a lesser priority compared to spectrum in lower frequency bands.
- 47.2-50.2 GHz: The consideration for identification for IMT of this band is a lesser priority compared to spectrum in lower frequency bands.
- 50.4-52.6 GHz: The consideration for identification for IMT of this band is a lesser priority compared to spectrum in lower frequency bands.
- 66-71 GHz: Canada is currently consulting on the potential to make the entire frequency range from 57-71 GHz available for flexible use for terrestrial fixed and mobile services prior to WRC-19; therefore, identification for IMT of spectrum in this band is a relatively high priority for Canada.
- 71-76 GHz: Canada's priority for the use of this band is for FS for backhaul in support of IMT systems using other bands. Consideration for identification for IMT in addition to this backhaul is a lesser priority.
- 81-86 GHz: Canada's priority for the use of this band is for FS for backhaul in support of IMT systems using other bands. Consideration for identification for IMT in addition to this backhaul is a lesser priority.

All of the above views remain preliminary and subject to change as discussions progress.

COLOMBIA: While all bands remain suitable for identification at this stage, Colombia would like to make the following observations regarding the lower portions of the range, from 24.25 GHz to 43.5 GHz:

- Responses received until the previous meeting of CCP.II to the questionnaire show that, except for a few cases, there are either no services licensed in these bands or the services belong to the fixed service category. When they belong to other service categories (such as FSS), most of them occupy a relatively small (500MHz or less) bandwidth with-respect-to the total range being considered for study (e.g. 3.25 GHz for 24.25GHz – 27.5GHz).
- Other regions initiated discussions on suitable bands among the lists of candidate bands. As an example, Europe ([2], [3]) identified the 24.25 GHz – 27.5 GHz as a “pioneer band”, while other bands up to 43.5 GHz have been positively considered. With the view of seeking not only regional but global frequency harmonization to the possible extent, it is positive to take under consideration activities of other regions.

- The lower portions of the range would provide comparatively more suitable propagation characteristics for deployment compared to the upper portions, considering that some installations could cover outdoor and indoor environments with some Non-Line-of-Sight (NLoS) situations.

Based on the considerations above, Colombia is of the initial view that the lower portions of the frequency range (from 24.25 GHz to 43.5 GHz) provide good opportunities in terms of availability, technical performance and potential for global harmonization. Colombia would like to invite other members to consider this initial view for consideration and collaboration towards a regional (and possibly global) harmonization of the frequency bands.

USA: Support studies under WRC-19 agenda item 1.13 and take appropriate action based on the results of these sharing and compatibility studies in accordance with Resolution **238** in the following bands:

	<ul style="list-style-type: none"> • 24.25-27.5 GHz, 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz, which have allocations to the mobile service on a primary basis; and • 31.8-33.4 GHz, 40.5-42.5 GHz and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis. <p>MEXICO: Regional harmonization for agenda item 1.13 should consider similar approaches in terms of allocations and plans for the radio spectrum, in order to favor cost reduction and encourage the development of a sustainable ecosystem for the deployment of IMT systems.</p> <p>For this reason, Mexico supports the studies that are being conducted in the various ITU-R Study Groups on protection criteria, sharing and compatibility in the bands agreed on through Resolution 238 (WRC-15), for the purpose of not imposing new regulatory or technical limitations to services to which the frequency bands are currently allocated on a primary basis, in order for the CITEL administrations to make better, more fully-grounded decisions to achieve regional or global harmonization for the future development of IMT systems and the correct operation of services allocated on a primary basis in the frequency bands under study.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations consider it is reasonable to perform studies on IMT system compatibility firstly in the frequency bands 24.25 – 27.5 GHz, 40.5 – 42.5 GHz and 66 – 71 GHz, where global harmonization could be achieved.</p> <p>The RCC Administrations consider that when developing technical conditions and regulatory provisions for the allocation of frequency bands to the MS and their identification for IMT it is necessary to ensure protection of other services having allocation in the considered and adjacent frequency bands taking into account the need in their development, first of all for existing systems or those planned to be used by RCC Administrations.</p> <p>The RCC Administrations consider that when performing studies an impact of aggregate interferences on receiving space or aeronautical stations shall be taken into account.</p> <p>The RCC Administrations do not oppose the allocation of the frequency band 24.25-25.25 GHz to mobile service on a primary global basis and identification of the frequency band 4.25-27.5 GHz for IMT, subject to adoption of mandatory constraints for IMT stations to protect:</p> <ul style="list-style-type: none"> - space stations in the Earth exploration-satellite service (passive) in the frequency band 23.6-24 GHz from out-of-band emissions of IMT stations and in the frequency bands 50.2-50.4 GHz and 52.6-54.25 GHz from second harmonic emissions of IMT stations; - space stations in the fixed-satellite service and inter-satellite service. <p>The RCC Administrations do not support allocation of the frequency band 31.8-33.4 GHz to mobile service on a primary basis and identification of the frequency bands 31.8-33.4 GHz and 42.5-43.5 GHz for IMT systems. The position of the RCC Administrations on other frequency bands included into Resolution 238 (WRC-15), is to be determined. The RCC Administrations oppose the consideration of frequency bands not included into Resolution 238 (WRC-15), under this WRC-19 agenda item.</p>

<p>Agenda Item 1.14 High Altitude Platform Systems (HAPS)</p>	<p>SFCG prefers Method A, “no change.” Assuming that the ITU-R studies show a need for identification of additional spectrum for HAPS in Region 2, SFCG does not support the identification of frequency bands in 21.4-22 GHz and 24.25-27.5 GHz for HAPS, unless acceptable sharing conditions are agreed upon that do not adversely impact the space research, Earth exploration-satellite, or inter-satellite services.</p> <p>As with WRC-19 agenda item 1.13, a particularly critical situation concerns the band 25.25-27.5 GHz which is heavily used globally for high data volume downlinks by many current and future EESS and SRS satellite missions. Within this band, inter-satellite links must also remain protected. This band is indicated as a candidate band for HAPS identification only for Region 2. If such an allocation is made, it should be accompanied by a WRC-19 Resolution which includes sufficient protection for these services. The Resolution should state that: “the provisions of No. 5.536A shall not apply and the provisions of RR Nos. 9.17 and 9.18 shall apply. Administrations operating HAPS systems shall not claim protection from SRS/EESS stations operated by other administrations.” The resolution should have PFD limits which protect SRS/EESS services.</p> <p>Identification of the band 24.25-27.5 GHz for HAPS under this agenda item must also be supported by studies showing the 21.2-21.4 GHz and 23.6-24.0 GHz EESS (passive) bands will be adequately protected from the HAPS unwanted emissions. The discussed above Resolution should contain EIRP density limits which protect these EESS (passive) services. Any revision of the current identifications for HAPS shall also continue to ensure that science services are protected.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>Noting that the spectrum needs for HAPS is in the range from 396 MHz to 2 969 MHz for the uplink and from 324 MHz to 1 505 MHz for downlink, and that amount for the frequency bands designated to HAPS in Radio Regulations is 600 MHz for global and 1200 or 1360 MHz for some administrations in Region 1 and 3, according to the Report ITU-R F.2438-0. APT Members support the development of necessary regulatory procedures, taking into account existing frequency bands that have already been designated for HAPS in the Radio Regulations.</p> <p>APT Members also support sharing and compatibility studies between HAPS and other services to ensure protection of the services to which frequency bands are allocated and their future developments. Based on these ITU-R studies, appropriate methods and options as well as regulatory procedures should be considered in order to ensure protection of all existing services and their future development in accordance with Resolution 160 (WRC-15).</p> <p>APT Members support the need to review existing HAPS designations that have not been utilised before designating any possible new HAPS frequency bands.</p> <p>Regarding the overlapping issues of the frequency bands within the scope of agenda item 1.14 and agenda items 1.5, 1.6 and 1.13, and various sharing study results in the preliminary draft new Report ITU-R F.[HAPS-39GHz] and the preliminary draft new report ITU-R F.[HAPS-31GHz], APT Members are of the view that these issues need to be handled by WRC-19 before any new designations.</p> <p>APT Members are of the view that any consideration of the frequency band 24.25-27.5 GHz in Region 2 under this agenda item should not limit the possibility to identify the band for IMT on a global level under Agenda item 1.13.</p> <p>Other Views from APT Members:</p> <p>Some APT Members support consideration of use of gateway and fixed terminal links for HAPS in the frequency band 38-39.5GHz on the global level.</p> <p>Some APT Members support Method A No Change to Radio Regulations and support existing provisions in the Radio Regulation remain unchanged in the corresponding frequency bands for HAPS.</p> <ul style="list-style-type: none"> - Some APT Members support Method B1 option1 for band 27.9-28.2GHz and Method B1 option 1a for band 31-31.3GHz, and with an appropriate modification to the example Resolution text.

<p>ASMG (2018-07-23)</p>	<p>ASMG Position is to support:</p> <ul style="list-style-type: none"> • On preliminary basis, no new frequency identifications for HAPS • Following-up the on-going studies in ITU-R • Emphasizing on the necessity of: <ul style="list-style-type: none"> ○ clarifying of technical and operational characteristics of HAPS ○ providing clear technical solutions for protecting the existing allocations from potential interference caused by HAPS. ○ studying the appropriateness of the previously identified frequency bands to the HAPS applications.
<p>ATU (2017-09-15)</p>	<p>ATU supports the introduction of technologies that seek to provide broadband connectivity in unserved and underserved regions and therefore supports the sharing and compatibility studies provided that these studies demonstrate that HAPS and existing and planned services (including the services in the bands under consideration under AI 1.13 and 1.6 and adjacent bands) can co-exist. ATU further supports appropriate regulatory actions to facilitate the use of HAPS, including modifying regulatory provisions in currently identified bands and identifications in candidate bands</p>
<p>CEPT (2018-11-30)</p>	<ul style="list-style-type: none"> • CEPT supports, while ensuring protection of existing services and their future development including other applications of the fixed service (in accordance with Resolution 160 (WRC-15)) and subject to the conclusions of the ongoing sharing and co-existence studies for the bands mentioned below and, as appropriate, in the adjacent bands : <ul style="list-style-type: none"> ○ Worldwide designations for transmissions from high altitude platform stations (in the downlink direction) in the bands 6 440- 6 520 MHz, 27.9-28.2 GHz. ○ Worldwide designations for transmissions to and from high altitude platform stations (in the uplink and downlink directions) in the bands 31-31.3 GHz and 38-39.5 GHz. • For the bands 6 440-6 520 MHz, 27.9-28.2 GHz, 31-31.3 GHz, 38-39.5 GHz, 47.2-47.5 GHz and 47.9-48.2 GHz, CEPT is supporting new footnotes and associated resolutions and/or appropriate modifications to the existing footnotes and associated resolutions. • CEPT is of the view that any consideration of the frequency bands 21.4-22 GHz and 24.25-27.5 GHz in Region 2 under this Agenda item shall be accompanied by appropriate protection of: ISS in the band 24.45-24.75 GHz, ISS in the band 25.25-27.5 GHz, EESS (passive) in the bands 21.2-21.4 GHz, 22.21-22.5 GHz and 23.6-24 GHz, EESS and SRS (space-to-Earth) in the band 25.5-27 GHz and FSS in the bands 24.75-25.25 GHz and 27-27.5 GHz. This includes the appropriate protection of the mobile service in the band 24.25-27.50 GHz as results of consideration under WRC-19 agenda item 1.13. • CEPT is of the view that any consideration of the frequency band 24.25-27.5 GHz in Region 2 under this Agenda item should not limit the possibility to identify the band for IMT on a global level under Agenda item 1.13.

<p>CITEL (2018-08-11)</p>	<p>Draft Inter-American Proposal from B, BAH and EQA to identify the following for HAPS:</p> <ul style="list-style-type: none"> • 24.25-25.25 GHz in Region 2 (method B3, option 2) • 25.25-27 GHz worldwide and 27-27.5 GHz in Regions 2 and 3 (method B2, option 2) • Draft new Resolution on Use of the bands 24.25-27.5 GHz by fixed links for high altitude platform stations in the fixed service in Region 2. • 38-39.5 GHz worldwide (method B2, option 1b) <p>Preliminary Proposals: MEX to identify 21.4-22 GHz for HAPS in Region 2 only with an accompanying Resolution on “Use of the bands 21.4-22 GHz by high altitude platform stations in the fixed service for Region 2” (method B2, option 2)</p> <p>Preliminary Views from: B, BAH, CAN, EQA, MEX, URG and USA</p> <p>Brazil and Ecuador: supports ITU-R activities in accordance to Resolution 160 (WRC-15) and is conducting sharing and compatibility studies to assess coexistence between HAPS and other services in the candidate frequency bands. Provided that these studies demonstrate sharing and compatibility with existing services and candidate applications are feasible, and future development of existing services is considered, Brazil supports appropriate regulatory actions, including addressing additional spectrum needs for HAPS.</p> <p>Bahamas and Canada support the introduction of technologies that seek to provide broadband connectivity in un-served and underserved regions and therefore supports the study of broadband HAPS systems by ITU-R according to Resolution 160 (WRC-15). They have reviewed the sharing studies, and believe that coexistence between HAPS and other services in existing and candidate bands is feasible under appropriate conditions to protect other services. Therefore, Bahamas and Canada support consideration of appropriate regulatory actions to address HAPS spectrum needs to facilitate use of HAPS broadband applications. These regulatory actions could include modifications to the regulatory requirements in existing frequency bands already identified for HAPS, as well as possible additional spectrum identifications in the candidate frequency bands, in accordance with Resolution 160 (WRC-15), such as:</p> <ul style="list-style-type: none"> • Realizing a global HAPS designation in the existing frequency range 6 440-6 520 MHz in the HAPS-to-ground direction, by adding a new footnote or modifying No. 5.457; • Adding a Region 2 HAPS designation in the frequency range 21.4-22 GHz for the HAPS-to-ground direction, by adding a new footnote; • Adding a Region 2 HAPS designation in the frequency range 24.25-27.5 GHz for both the HAPS-to-ground and ground-to-HAPS directions, by adding a new footnote. The sub-band 24.25-25.25 GHz can be allocated to the Fixed Service on a primary basis; • Realizing a global HAPS designation in the existing frequency ranges 27.9-28.2 GHz (HAPS-to-ground direction) and 31-31.3GHz (HAPS-to-ground and ground-to-HAPS directions), by adding a new footnote; • Adding a global HAPS designation in the frequency range 38-39.5 GHz for the ground-to-HAPS direction, by adding a new footnote; • Facilitating the global use by HAPS in the existing frequency bands 47.2-47.5 GHz and 47.9-48.2 GHz for both the HAPS-to-ground and ground-to-HAPS directions, by amending Resolution 122. <p>USA: In order to facilitate the use of HAPS links on a global or regional level, the United States supports studies, in accordance with Resolution 160 (WRC-15), and appropriate WRC-19 action based on the results of these studies, including possible modifications to the existing provisions on HAPS identifications in the Radio Regulations and possible new HAPS identifications in the fixed service bands at 21.4-22 GHz and 24.25- 27.5 GHz in Region 2, and 38-39.5 GHz globally.</p> <p>Mexico supports the development of technologies to provide broadband connectivity in marginalized or underserved regions. With a view to satisfy this Agenda Item, Mexico supports sharing and compatibility studies between broadband HAPS systems and the fixed</p>
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	<p>service within the framework of Working Group ITU-R 5C, in accordance with Resolution 160 (WRC-15).</p> <p>On condition that the compatibility studies demonstrate feasibility of sharing between HAPS and the fixed service, Mexico supports the adoption of appropriate regulatory measures to satisfy Resolution 160 (WRC-15) including additional identifications in candidate bands that are allocated to the fixed service.</p> <p>Uruguay supports the studies carried out within the framework of Resolution 160 (WRC-15). While these studies demonstrate the feasibility of sharing and compatibility with existing services and do not impose restrictions on their future development, Uruguay supports the adoption of the pertinent regulatory measures, including the eventual need for additional spectrum for HAPS.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations support the need to justify spectrum requirements for gateway station and fixed terminal links for HAPS to provide broadband connectivity in the fixed service taking into account frequency bands which have been already identified for HAPS. The RCC Administrations support necessary modifications to existing RR Article 5 footnotes and related WRC Resolutions to facilitate HAPS development at global or regional level.</p> <p>The RCC Administrations consider that in the case of modification to conditions for use of frequency bands authorized for HAPS or identification of new frequency bands for gateway station and fixed terminal links for HAPS, the protection and the possibility of further development shall be ensured for existing services, including other applications of fixed service, having allocations in these and adjacent frequency bands.</p>

<p>Agenda Item 1.15 Land Mobile and Fixed services footnote between 275-450 GHz</p>	<p>SFCG supports the concept that no actual allocations will be made to any service above 275 GHz at WRC-19. However, SFCG supports the conclusions of the technical studies performed in ITU-R showing that a large amount of spectrum within the 275-450 GHz range could be identified for FS and MS applications, with the exception of the bands 296-306 GHz, 313-318 GHz and 333-356 GHz that, as a result of ITU-R compatibility studies, were deemed incompatible with the existing Earth exploration-satellite service (passive). Thus, SFCG does not oppose either Method D1 or E from the draft CPM text, as both provide identification of the frequency ranges for land-mobile and fixed service use that will not cause harmful interference to the passive services while maintaining the requirement for active users to take all practicable steps to protect passive applications.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>APT Members support the ITU-R studies to consider identification of frequency bands for use by the land mobile and fixed service applications operating in the frequency range 275-450 GHz, taking into account the most recent work conducted by WP 5A and WP 5C on a version of Reports ITU-R M.2417 and F.2416, respectively, as well as the spectrum needs, provided that the protection of passive services identified in No. 5.565 is ensured. If such identification is made, APT Members support revising the existing footnote and/or adding a new footnote to the relevant part of the Radio Regulations. APT Members are also of the view that, in the bands identified for RAS in RR No. 5.565 (275-323 GHz, 327-371 GHz, 388-424 GHz and 426-442 GHz), separation distances and/or avoidance angles between RAS stations and FS stations should be considered depending on the deployment environment of FS stations.</p> <p>Other Views from APT Members:</p> <p>Some APT Members support possible identification of FS applications in all bands in the frequency range 275-450 GHz, except 296-306 GHz, 313-320 GHz and 330-356 GHz. Their view may change pending further studies in WP 1A.</p> <p>Some APT Members do not support the identification of 296-306 GHz, 313-320 GHz and 330-356 GHz for the FS applications because the current outcomes of sharing and compatibility studies in ITU-R WP 1A shows infeasibility between FS application and EESS (passive).</p> <p>Some APT Members support possible identification of LMS applications in the entire band in the frequency range 275-450 GHz. Their view may change pending further studies in WP 1A.</p> <p>Some APT Members do not support identification of LMS/FS applications in the frequency bands within the frequency range 275-450GHz if the result of sharing and compatibility studies between LMS/FS application and passive services identified in RR No.5.565 indicates that sharing is not feasible.</p> <p>Some APT Members support to the work conducted by WP 5A and WP 5C on a revision of Reports ITU-R M.2417 and F.2416, respectively.</p> <p>Some APT Members do not support the identification of 361-365 GHz to the FS/LMS at this stage. Their view may change pending further studies in WP 1A.</p> <p>Some APT Members are of the view that it is not necessary to propose the whole 94 GHz bandwidth of 356-450 GHz for identification for the FS/LMS applications, taking into account the spectrum needs summarized in ITU-R studies as contained in section 1/1.15/3 of the current version of draft CPM text.</p> <p>Some APT Members are of the view that the term “designated” is better replaced with the term “identified” in Methods as it has been used in the existing RR No. 5.565.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> ○ Support the current studies to consider identification of frequency bands for use by administrations for the land-mobile and fixed services applications operating in the frequency range 275-450 GHz, while ensuring the protection of passive services identified in No5.565, and not adding any additional constraints on these services and the possibility to support the only method proposed to satisfy this Agenda Item.

ATU (2017-09-15)	ATU agreed to encourage administrations to closely follow the ongoing studies on the identification of frequency bands in the range 275-450 GHz for Land Mobile and Fixed Service applications to ensure the protection of passive services identified in No 5.565.
CEPT (2018-11-30)	<p>CEPT supports the inclusion of a new footnote to Article 5 of the Radio Regulations identifying the following frequency bands for fixed and mobile service applications in the range 275-450 GHz while maintaining the protection of the passive services identified in No. 5.565:</p> <ul style="list-style-type: none"> • 275-296 GHz • 306-313 GHz • 318-333 GHz • 356-450 GHz <p>With a total bandwidth of 137 GHz, CEPT stresses that this is exceeding the assessed spectrum requirements of the land mobile and fixed services. In addition to the 23 GHz already allocated to land mobile and fixed services in the lower adjacent band 252-275 GHz, this is hence providing a contiguous band of 44 GHz.</p> <p>However, CEPT does not support land mobile and fixed services identification in the EESS (passive) bands 296-306 GHz, 313-318 GHz and 333-356 GHz (as identified in No 5.565) since study results show that they are not compatible.</p> <p>Active services other than land mobile and fixed services are not subject to WRC-19 Agenda item 1.15. Consequently, CEPT is of the view that the corresponding regulatory provisions to other active services have to remain unchanged.</p>
CITEL (2017-12-01)	<p>Preliminary Proposals: MEX and USA</p> <p>Mexico proposes to include a similar footnote to No. 5.565 of the RR, containing the frequency bands for the land mobile service and the fixed service applications, mentioning that administrations wishing to use these bands for these applications should take the steps needed to protect passive services, according to the findings of compatibility studies for the frequency bands between 275-450 GHz, as follows:</p> <p style="padding-left: 40px;">The following frequency bands are identified for use by administrations for the implementation of the following active service applications:</p> <ul style="list-style-type: none"> - Land mobile service applications: 275-325 GHz - Fixed service applications: 275-296 GHz, 306-313 GHz, 319-325 GHz <p>Administrations wishing to make the above-mentioned frequency bands available for land mobile and/or fixed service applications are urged to take all practicable steps to protect passive services operating according to No. 5.565 until the Frequency Allocation Table is established in the 275-1000 GHz frequency range. In the frequency band 275-325 GHz, some specific conditions (e.g., minimum separation distances and/or avoidance angles) may be necessary to ensure protection of radio astronomy sites from land mobile and/or fixed service applications, on a case-by-case basis. (WRC 19)</p> <p>In addition, MEX proposes NOC to footnote 5.565</p> <p>USA proposes to add a footnote to the table of frequency allocations identifying the following bands for use by administrations for land-mobile and fixed service applications: 275-296 GHz, 306-313 GHz, 320-330 GHz and 356-450 GHz</p> <p>In addition, USA proposes NOC to footnote 5.565 and SUP of Resolution 767</p> <p>Preliminary Views from: CAN and USA</p> <p>Canada and the United States are of the view that it may be possible to develop a similar footnote to that in No. 5.565 for land-mobile and fixed services, identifying bands for terrestrial active service use. To this end, Canada and the United States support studies in the ITU-R on sharing and compatibility between passive and active services as well as spectrum needs for the land-mobile and fixed services for WRC-19 agenda item 1.15 under the terms of Resolution 767 (WRC-15).</p>
RCC (2018-03-15)	The RCC Administrations consider it reasonable that identification of frequency bands for land-mobile and fixed service applications in 275-450 GHz band in the RR No. 5.565

	<p>will facilitate global harmonization of radio frequencies for development and introduction of land mobile and fixed service applications above 275 GHz.</p> <p>The RCC Administrations consider that when identifying frequency bands for active services in 275-450 GHz range, a balance of interests has to be observed in the use of this frequency range by both active and passive services, ensuring possibility for future development of new active service applications while excluding interferences to the passive services in the frequency bands already identified in No. 5.565 of the Radio Regulations.</p> <p>The RCC Administrations consider that to provide a balanced use of 275-450 GHz range, frequency bands could be identified for sharing between active and passive services, and also frequency bands for exclusive use by active and passive applications taking into account the frequency bands identified in No. 5.565 for passive services and effect of active applications in the main and adjacent frequency bands.</p>
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<p>Agenda Item 1.16 RLANs studies at 5150-5925 MHz</p>	<p>The primary SFCG frequency bands of interest under this agenda item are 5250-5350 MHz and 5350 -5470 MHz and SFCG has particular concerns with the identification of these bands due to the results of studies in WP 5A. SFCG members have been deeply involved in ITU-R studies related to the sharing studies between RLAN 5 GHz and EESS (active) in both the 5250-5350 MHz band and 5350-5470 MHz bands showing that a change of RLAN technical conditions in the first band and a new mobile service allocation for RLAN in the second band would not be compatible with all EESS(active) instrument types (altimeters, scatterometers and SAR). Therefore, SFCG supports no change to Radio Regulations, which is the single method currently identified in the draft CPM text for these two frequency bands, 5250-5350 MHz and 5350-5470 MHz.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<ul style="list-style-type: none"> • APT members support studies being conducted in ITU-R in accordance with Resolution 239 (WRC-15). • APT members are of the view that the protection of incumbent services including their current and planned use in the frequency bands 5 150-5 350 MHz, 5 350-5 470 MHz, 5 725-5 850 MHz and 5 850-5 925 MHz should be ensured, without unacceptable constraints on these services. • In the frequency bands 5 250-5 350 MHz, 5 350-5 470 MHz and 5 850-5 925 MHz, APT Members support NOC to the Radio Regulations for the use of WAS/RLAN to protect incumbent services. • In the frequency band 5150-5250 MHz, APT Members are still investigating the possibility to enable outdoor WAS/RLANs operations while protecting the incumbent services, without unacceptable constraints on these services. • In the frequency band 5 725-5 850 MHz, APT Members support the worldwide use for mobile service taking into account RR No.5.453. <p>Other Views from APT Members:</p> <ul style="list-style-type: none"> • In the frequency band 5 150-5 250 MHz, some APT Members support no change (NOC) to the Radio Regulation for the use of WAS/RLAN to protect incumbent services. Some other APT Members support to enable outdoor WAS/RLANs operations with associated conditions to protect incumbent services and modify the Radio Regulations in this regard. • In the frequency band 5 725-5 850 MHz, some APT Members support NOC to the Radio Regulations for the use of WAS/RLAN to protect incumbent services.
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Follow-up studies of this agenda item for wireless access systems including radio local area networks (WAS / RLAN) .. • Do not support the identification of new bands for (WAS / RLAN), unless the studies show possibility of coexistence with current services. • Ensure protection of the existing services without adding any new restrictions on them.
<p>ATU (2017-09-15)</p>	<p>ATU adopted a preliminary view of No Change for all the bands (i.e. 5 150 - 5 350; 5 350 - 5 470 ; 5 725 – 5 850; 5 850 - 5 925 MHz) under this AI based on the previous study results which showed that co-existence is not feasible & encourages administrations to contribute and actively participate in studies with a view to ensure protection of existing in-band and adjacent band primary services.</p>

<p>CEPT (2018-11-30)</p>	<p>In the 5 150-5 250 MHz band, CEPT notes that an outdoor relaxation to WAS/RLAN would affect the operation of the MSS feeder links, aeronautical radionavigation and aeronautical telemetry (see No 5.446C). However, CEPT is still studying usage restrictions (e.g. in vehicle use) combined with appropriate mitigation techniques to achieve co-existence with incumbent services to enable outdoor WAS/RLAN use in this band.</p> <p>In the 5 250-5 350 MHz band, CEPT notes that the current studies have shown difficulties in achieving co-existence with incumbent services and therefore supports no change to the RR in this band.</p> <p>In the 5 350-5 470 MHz band, CEPT supports no change to the RR in this band.</p> <p>In the 5 725-5 850 MHz band, CEPT would support a new mobile allocation to accommodate WAS/RLANs use if sharing and compatibility studies can demonstrate the effectiveness of any new proposed interference mitigation techniques to ensure the protection of radars, fixed service (see No 5.455) and FSS space station receivers. It is to be noted that CEPT will take into account compatibility studies between RLAN and specific applications within CEPT (e.g. road tolling systems). At this time, no effective mitigation techniques has been proposed to enable co-existence with certain modes of frequency hopping radars operated in this band in some CEPT countries.</p> <p>In the 5 850-5 925 MHz band, CEPT notes that the current studies have shown difficulties in achieving co-existence with other incumbent services without imposing any additional constraints on existing services such as FSS (space station receivers) and existing applications under the mobile service such as ITS (including urban rail). Therefore, CEPT supports no change to the RR in this band.</p> <p>Accordingly, CEPT adopted European Common Proposals (ECP) for agenda item 1.16, proposing no change to the RR for the bands 5250-5350 MHz, 5350-5470 MHz and 5850-5925 MHz.</p>
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<p>CITEL (2017-12-01)</p>	<p>Draft Inter-American Proposal</p> <p><u>NOC</u> 5 350-5 470 MHz</p> <p>Support: Canada and Mexico</p> <p>Reasons: No change to the Table of Frequency Allocations in the band 5 350-5 470 MHz as further study of currently available mitigation measures indicate that there are no feasible mitigation techniques to facilitate sharing between RLAN and EESS (active) in the band 5 350-5 470 MHz.</p> <p>Peliminary Proposals: B and MEX</p> <p>Preliminary Proposals</p> <p>Brazil</p> <p><u>NOC</u> 5 150-5 250 MHz And MOD Resolution 229</p> <p><u>Mexico:</u></p> <p><u>NOC</u> 5 250-5 350 MHz <u>ADD</u> 5 725-5 850 MHz <i>Additional allocation</i> to the mobile service on a primary basis.</p> <p>Preliminary Views from: B, CAN and MEX</p> <p>The Brazilian Administration supports the necessity for studies to consider possible additional spectrum allocation to be mobile service, including radio local area networks (WAS/RLAN), while ensuring the protection of the C band uplink and of all existing services in the candidate bands.</p> <p>Canada is of the view that <u>only</u> the specific frequency bands 5 150-5 350 MHz, 5 350-5 470 MHz, 5 725-5 850 MHz and 5 850-5 925 MHz listed in the <i>resolves</i> and <i>invites ITU-R</i> of Resolution 239 (WRC-15) are to be considered and/or studied under WRC-19 agenda item 1.16 and not the entire 5 GHz frequency range (5 150-5 925 MHz).</p> <p>Canada is assessing and may contribute to studies listed under <i>invites ITU-R</i> of Resolution 239 (WRC-15).</p> <p>MEXICO</p> <p>WAS/RLANs have promoted the development of broadband access and have been deployed license-exempt, pursuant to the provisions of CITEL and ITU-R, in the frequency bands 5150-5250 MHz, 5250-5350 MHz, 5470-5600 MHz, 5650-5725 MHz, and 5725-5850 MHz. However, it is considered that a potential additional allocation to the mobile service should be based on evidence of spectrum saturation in existing bands, growth projections, and the non-affectation/degradation of any existing services that might operate in the potential additional spectrum.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations are in favour of necessary protection from potential WAS/RLAN interference for all the services having allocations in the considered frequency bands, first of all for systems in radiolocation and aeronautical radionavigation services used for the safety of flights.</p> <p>The RCC Administrations consider that the use of WAS/RLAN in the frequency bands 5150-5250 MHz and 5250-5350 MHz is possible subject to maintaining existing conditions identified in Resolution 229 (WRC-12), since the conducted ITU-R studies did not reveal new efficient mitigation methods ensuring sharing between outdoor WAS/RLAN and the systems in existing services in the considered frequency bands.</p> <p>The RCC Administrations do not support the use of WAS/RLAN in the frequency bands 5350–5470 MHz, 5725–5850 MHz and 5850–5925 MHz, since the studies conducted by ITU-R at the moment, showed that sharing between considered by the ITU-R WAS/RLAN and the systems in existing services in the considered frequency bands is not ensured.</p>

**Agenda Item 7
Resolution 86 –
Satellite
Regulatory
Procedures**

SFCG supports possible changes to the Radio Regulations to improve the handling of the advance publication, coordination, notification and recording procedures for satellite networks. SFCG shall monitor all the issues covered under this agenda item to ensure that any possible change will not adversely impact space science services.

There are currently issues A through N under this Agenda Item. Issues B, C, E through G, I through L, and N do not concern the SFCG. So far SFCG has identified several issues of specific interest to space science services:

Issue A: This issue involves development of a general definition of: 1) bringing into use (BIU) for NGSO systems and 2) the implementation of a milestone based deployment approach for specific services and bands.

SFCG is of the opinion that the proposed changes should only be applicable to FSS or MSS non-GSO constellations or systems subject to coordination under Section II of Article 9, or to RR Article 22, supporting adoption of revisions that would not impose undue constraints in operation of satellites with science missions.

Therefore, SFCG supports Option C of the draft CPM text (Working Party 4A Chairman Report Doc. 826, Annex 32) with respect to BIU and with respect to the milestone based deployment approach, SFCG supports Option 1 of the draft CPM text which limits the applicability of the milestone approach to only FSS and MSS systems. SFCG should oppose any changes in BIU which include a continuous deployment period for the space science services or inclusion of the space science services in the milestone based approach. Additionally under Issue A is the ideal of orbital tolerances for the inclination, apogee, perigee and argument of perigee. This should not be supported by the SFCG unless there is a clear understanding of how this will impact mission in the space science services which may not have the adequate propulsion resources to perform such station keeping and whose orbit will degrade over time.

Issue D: SFCG does not oppose either Method D2 or D3 (Working Party 4A Chairman Report Doc. 826, Annex 33) of the draft CPM text. This issue relates to publication of a list of potentially affected networks at the time of coordination which may be useful for SFCG members.

Under method D2, it is proposed to add the requirements to have:

- a) a pre-compiled list of potentially affected satellite networks and/or systems, published for information only, included in the CR/C Special Section for coordination under RR Nos. 9.12, 9.12A and 9.13, by stipulating it in RR No. 9.36.1;
- b) the definitive list of affected satellite networks or systems to be considered when effecting coordination under RR Nos. 9.12, 9.12A and 9.13 to be included in the CR/D Special Section by stipulating it in RR No. 9.53A.

Under method D3, it is proposed to add the requirements to have the list of satellite networks or systems potentially affected included in the CR/C Special Section for coordination under RR Nos. 9.12, 9.12A and 9.13 for information only, by stipulating it in RR No. 9.36.1.

Issue H: This issue introduces additional orbital data in the NGSO API describing a non-GSO satellite when submitting an API and/or CR/C package, for sun synchronous satellites, as the orbital elements for such satellites are mission dependant and would be known at the API stage. This would allow the proper modelling of the orbit of new satellite network filings and may also be of use to SFCG members. SFCG supports the initiative which is the only Method in the draft CPM text.

At the July meeting of WP 4A, several Administrations have proposed a new issue to address short-duration missions. SFCG does not support any simplification of the Radio Regulations that would have a negative impact on the use of the bands such as the 2 GHz data links bands for EESS and SRS.

Issue M: This issue involves a simplified regulatory regime for short duration missions, defined specifically as mission with less than [10] satellites with period of validity less than three years. SFCG does not support modifying the procedures for filing satellites under RR Articles 9 and 11 unless sufficient safeguards are in place to ensure a simplified and/or expedited filing process cannot be exploited. Further issues such as cost recovery for such as process should also be considered.

Preliminary Positions

APT (2019-01-12)

APT Members support consideration of possible changes to improve advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks/systems on the basis that activity under this agenda item is not used to make changes to allocations in Article 5 of the Radio Regulations.

APT Members are of the view that the general principle that satellite networks should be brought into use after conducting necessary frequency coordination should be maintained.

Taking into account the heavy workload of WRC-19 and several complex Agenda Items to be dealt with on the one hand, and the need for careful consideration of issues brought to WRC-19 to be carefully examined by CPM19-2 on the other hand, APT Members are of the view that APT Member states are invited to not bring any new issues under Agenda Item 7 to WRC-19.

Issue A - Non-GSO BIU:

- APT Members support a BIU requirement based on a milestone-based approach inclusive of a deployment factor for non-GSO systems, providing regulatory certainty to networks and recognition that constellations of non-GSO satellites may generally take time to be developed and to complete their deployment. On draft CPM report text on Issue A, APT Members have the following views:

BIU Period

- APT Members support a continuous period of at least 90 days for the FSS and MSS in a notified orbital plane of a satellite with the capability of transmitting or receiving the frequency assignments, in accordance with the current practice as contained in the Rules of Procedure on RR No. **11.44**.

Milestone-based approach

- APT Members have the following preliminary views, in general:
 - A milestone-based approach for the maintenance of the recording in the MIFR of assignments to non-GSO systems should be associated with a minimum number of satellites to be deployed over time.
 - Recognizing that some constellations may deploy some satellites but may fail to meet the milestones, a provision is proposed to reduce the maximum number of satellites recorded in the MIFR while preserving the rights for the already in-orbit satellites. The reduction of the maximum number of satellites recorded in the MIFR should be based on the number of actual satellites deployed.
 - APT members support the adoption of new WRC Resolution for Fixed Satellite Service(FSS), Mobile Satellite Service(MSS) and Broadcasting Satellite Service (BSS)if required in frequency bands of 10.7-13.25 GHz, 13.75-14.5 GHz, 17.3-20.2 GHz, 27-30 GHz, 37.5-42.5 GHz, 47.2-50.2 GHz and 50.4-51.4 GHz. This Resolution shall identify the requirement for the implementations of each milestone of deployment (Time period, percentage of satellites deployed for each milestone) together with necessary measure(s) to be applied to the system which failed to meet the milestone approach.

Transitional Measure

- APT members are of the view that those systems brought into use and notified, but not fully deployed before a date to be set by the Conference, will have the same regulatory certainty as that available to those systems which will be brought into use and notified after this date. For those systems brought into use and notified, but not fully deployed before a date to be set by the Conference, appropriate transitional measures may need to be considered in order to allow administrations to have sufficient time to adapt their current development and

deployment schedules to meet milestones, as appropriate. Reference to mile-stone based approach and transitional measures should be understood to be addressed irrespective of any method or option.

Applicability of tolerance concept for orbital characteristic values

- APT Members are of the view that a tolerance concept for Appendix 4 orbital data elements requires further studies.

Issue D – Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos. 9.12, 9.12A and 9.13:

- APT Members do not Support Method D1(NOC).

Other Views from APT Members:

- Some APT Members Support Method D2, as the follows:
“Under this method, it is proposed to add the requirements to have:
 - a) a pre-compiled list of potentially affected satellite networks and/or systems, published for information only, included in the CR/C Special Section for coordination under RR Nos. 9.12, 9.12A and 9.13, by stipulating it in RR No. 9.36.1;
 - b) the definitive list of affected satellite networks or systems to be considered when effecting coordination under RR Nos. 9.12, 9.12A and 9.13 to be included in the CR/D Special Section by stipulating it in RR No. 9.53A.

The list of potentially affected satellite networks/systems provided in the CR/C is for information only, and to also avoid a different status compared to the list of affected administrations. Under the current regulatory regime, the definitive list of administrations is provided in the CR/D. Under this method, it is proposed to also include the definitive list of satellite networks/systems in the CR/D.”

- Some other APT Members Support Method D3, as the follows:
“Under this method, it is proposed to add the requirements to have the list of satellite networks or systems potentially affected included in the CR/C Special Section for coordination under RR Nos. 9.12, 9.12A and 9.13 for information only, by stipulating it in RR No. 9.36.1. As opposed to Method D2, no further action will be required from the notifying administrations for the list of satellite networks/systems following the publication of the CR/C.”

Issue H – Modifications to RR Appendix 4 items to be provided for non-geostationary satellite systems not subject to the procedures of Section II of RR Article 9:

- APT Members support the single method outlined in draft CPM text to address this issue.

Other Views from APT Members:

- With regard to the proposed modifications to RR Appendix 4 items under Issue H for sun-synchronous non-GSO satellite networks, it is desirable to add the option of adding the local sun time of descending node in addition to the current proposal of adding the local sun time of ascending node.

Issue M – Simplified regulatory regime for non-GSO satellite systems with short duration missions:

- APT members support a simplified regulatory regime for non-GSO satellite systems with short duration missions. APT members also support the principles of the draft new WRC Resolution in draft CPM text.

	<ul style="list-style-type: none">• APT members are of the view that the simplified regulatory regime for non-GSO satellite systems with short-duration missions should not place additional burden on potentially affected administrations.• APT members support the retention of the typical 4 month commenting period from the date of BR IFIC containing information published under No. 9.2B. <p>Other Views from APT Members:</p> <ul style="list-style-type: none">• Some other APT members are of the view that that the further development of the new Resolution is required to give flexibility in its applications and do not create unreasonable obligations for operators of existing satellite services.
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ASMG (2018-07-23)

Issue A - Non-GSO BIU:

ASMG Preliminary Position:

- Initial support for explicit provisions of the Radio Regulations regarding the status of non-geostationary systems along the lines of the regulatory status of geostationary systems.
- Not to support first option, modification to 11.44
- Follow-up of the results of the studies of the options presented and the achievement of the following basic objectives:
 - Balancing the equitable access and spectrum efficiency with respect to radio spectrum and orbit resources.
 - Avoid any misuse for the filing procedures of NGSO networks
 - Follow up with BR regarding software tools may be required to query and ensure notification and BIU of NGSO consultation.

Issue B – Modification of recorded AP30/30A assignments:

ASMG Preliminary Position:

- Follow-up on ongoing studies.
- Initial support to apply coordination Arc between FSS and MSS and between MSS and MSS networks in the band 19.7-20.2 and 29.5-30 GHz, instead of DT/T (6%) approach.
- Continue the application of 9.41 with respect to networks exceeds DT/T 6%

Issue C – RR Article 11 and AP30/30A/30B discrepancies:

ASMG Preliminary Position:

- Initial support for single method proposed in draft CPM text

Issue D – Identification of coordination:

ASMG Preliminary Position:

- Follow-up studies under this issue.
- Initial support to method D2 in draft CPM text

Issue E - Harmonization of RR AP30B with AP30/30A:

ASMG Preliminary Position:

- Follow up studies and considering results of agenda item 7 Issue M

Issue F – Enhancement of AP30B:

ASMG Preliminary Position:

- Follow up studies and considering results of agenda item 7 Issue M

Issue G – Updating the AP30/30A reference situation:

ASMG Preliminary Position:

- Follow-up studies under this issue.
- Initial support Method A

Issue H – Modifications to RR Appendix 4 items to be provided for non-geostationary satellite systems not subject to the procedures of Section II of RR Article 9:

ASMG Preliminary Position:

- Support change Appendix 4 for NGSO information

Issue I – Additional RR Appendix 4 data items to be provided for non-geostationary satellite systems with multiple orbital planes

ASMG Preliminary Position:

- Support change Appendix 4 for NGSO information

Issue J – Modification of Section 1, Annex 1 of RR Appendix 30 pfd limit

ASMG Preliminary Position:

- Initial support for Method B
- Follow up studies with respect to cross border interference and guard bands

Issue K – Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and 6.21 c) of RR Appendix 30B

ASMG Preliminary Position:

- Support Appendix 30B modification, according to ASMG submission.
- Follow up studies for the proposed Appendix30/30A modifications

Issue L – Update to Appendix 4 data elements required for RR Article 22 EPFD verification after revision of Recommendation ITU-R S.1503

ASMG Preliminary Position:

- Support updates to Appendix4

Issue M – Resolution related to RR Appendix 30B

ASMG Preliminary Position:

- Follow up studies
- Study proposed resolution, considering pros and cons of its applications

Issue N – Measures to facilitate entering new assignments into the RR Appendix 30B List

ASMG Preliminary Position:

- Follow up studies
- Study proposed resolution, considering pros and cons of its applications
- Support updates to Appendix 4

<p>ATU (2018-09-17)</p> <p>AI 7 in general</p>	<p>APM 19-3 agreed to:</p> <p>1. Note that the July 2018 meeting of Working party 4A made the following structural changes to its work:</p> <ul style="list-style-type: none"> • The suppression of <ul style="list-style-type: none"> ○ Issue E (Harmonization of RR App 30B with RR Appendix 30 & 30A) And ○ Issue F (Concerns with the lack of implementation of certain provisions of the RR and that can lead to difficulties during the entering of an assignment onto APP 30B list). • Creations of new issue E (Resolution related to RR Appendix 30B) • Renaming of Issue N as new Issue F. <p>2. Note the creation of new Issue M (Simplified regulatory regime for non-GSO satellite systems with short duration missions).</p> <p>Issue A</p> <p>Studies relating to the BIU of frequency assignments to non-GSO satellite systems, and consideration of a milestone based deployment approach for non-GSO FSS satellite systems in certain bands</p> <p>APM 19-3 agreed to:</p> <p>Take the Only Method, as the African preliminary position, proposed for BIU and milestone approach for deployment of Non-GSO systems:</p> <p>1. Regarding BIU, APM 19-3 may consider maintaining the current 90 days for Non – GSO satellite to be fully operational.</p> <p>2. ATU members are encouraged to further consider options proposed for milestone approach which will provide a balance between avoiding paper satellites and providing some flexibility to NGSAs operator for deployment of the system.</p> <p>Issue B</p> <p>Application of coordination arc in the Ka-band, to determine coordination requirements between the FSSS and other satellite services,</p> <p>Take Method B2 as an African preliminary position the use of the coordination arc with a value of 8 degrees as the coordination criteria , to determine if coordination is required between FSS and MSS systems and between MSS systems in the frequency band 29.5 - 30GHz (Earth-to-Space)</p> <p>19.7-20.2 GHz (space-to-Earth), in all 3 Regions, replacing the existing coordination criteria $\Delta T/T > 6\%$</p> <p>Issue C</p> <p>Issues for which consensus was readily achieved in the ITU-R.</p> <p>APM19-3 agreed to:</p> <p>1. Support, as a matter of an African preliminary position, the methods proposed for each matter under this issue considering that the matters are non-contentious and consensus has already been achieved at the ITU-R WP4A on all matters on how best to resolve them.</p> <p>2. Note that matters under this issue (i.e. Issue C) are non-contentious and consensus has already been achieved at the ITU-R WP4A on all matters on</p> <p>Issue D</p> <p>Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos 9.12, 9.12A and 9.1.</p> <p>APM19-3 agreed to:</p> <p>Take Method D2 as the African preliminary position – to include the list of potentially affected networks in CR/C and in addition to give a room for potentially affected Administrations to include additional Satellite networks which might have been omitted in CR/C and publish them in CR/D.</p> <p>Issue E</p> <p>Resolution related to RR Appendix 30B</p> <p>APM19-3 agreed to:</p> <p>Take the Only Method, as the African preliminary position, which proposes the development of a new WRC Resolution to facilitate those Administrations</p>
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who don't have a frequency assignment in the Appendix 30B and wish to provide an economically viable satellite service to its national territory as initially considered when the allotment Plan was established in 1988.

Issue F

Measures to facilitate entering new assignments into the RR Appendix 30B List

APM19-3 agreed to:

Take Method F1 as the African preliminary position, which proposes to update the coordination, triggers to take into account technological advances and avoid some unnecessary coordination while assuring adequate protection of other satellite networks.

Issue G

Updating the reference situation for networks under RR Appendices 30 and 30A when Provisional recording is used.

APM19-3 agreed to:

1. **Take Method G1 as the African preliminary position**, which provides that when a network enters the List of Appendix 30 or 30A, the reference situation of the interfered with the network shall only be updated if-and-when the Bureau is informed that the agreement has been obtained. RR Provision 4.1.18 must be modified to reflect this view.

2. **Noted** that EACO is of the view that Method G2 is the appropriate method to address this agenda item.

Issue H

Modifications to RR Appendix 4 data elements to be provided for non- geostationary Satellite networks/systems

APM19-3 agreed to:

Take the Only Method, as the African preliminary position, proposed in WP 4A which provides additional items to include in RR Appendix 4 for APIs for frequency assignments to NGSO satellite systems in bands not subject to coordination under Section II of RR Article 9 for facilitating modelling of NGSO.

Issue I

Additional RR Appendix 4 data items to be provided for non- geostationary satellite systems with multiple orbital planes

APM19-3 agreed to:

Take the Only Method, as the African preliminary position, in WP 4A which proposes two additional items in RR Appendix 4 for the provision of information relating to the multiple orbital planes and their relationship with respect to the NGSO satellite system.

Issue J – pfd limit in Section 1, Annex 1 of RR Appendix 30

APM19-3 agreed to:

Take Method J2as the African preliminary position, which proposes no change to the Radio Regulations since the pfd limit referred to in the first paragraph of Section 1 of Annex 1 to RR Appendix 30 is hard limit that shall not be exceeded in order to protect BSS assignments from interference that may be caused by BSS networks located outside an arc of 90° around a wanted BSS network.

Issue K –

Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B

APM19-3 agreed to:

Take the Only Method, as the African preliminary position, proposed which intends to make satellite coordination easier and to allow satellites networks opportunity of additional examination that have received unfavourable finding.

Issue L – Update to
Appendix 4 data
elements required
for RR Article 22
epfd verification
after revision of
Recommendation
ITU-R S.1503

APM19-3 agreed to:

Take the Only Method, as the African preliminary position, proposing changes to RR Appendix 4 which reflects the amendments on Recommendation ITU-R S.1503.

Issue M –
Simplified
regulatory regime
for non-GSO
satellite systems
with short-duration
missions

APM19-3 agreed to:

Take adoption of the new WRC Resolution as the African preliminary position, together with an associated regulatory regime for non-GSO satellite systems with short duration missions as proposed in the draft CPM text.

<p>CEPT (2018-11-30)</p>	<p>CEPT is studying possible improvements of the coordination and notification procedures for space services. CEPT supports retaining the current process of continuing evolution at successive WRCs of the regime governing space services. CEPT intends to develop specific positions susceptible to bring improvement to the regulatory process. CEPT favours the review of any RR provision which can bring accurate solutions to specific detected inconsistencies and develop new improved provisions with emphasis on solving the most urgent issues, i.e. well characterized issues whose improvement is urgent and impacting.</p> <p>CEPT also favours a stable and predictable regulatory framework for efficient and economical use of spectrum and orbit resources.</p> <p>CEPT supports to include into consideration under WRC agenda item 7 only the issues considered by the relevant Working Parties prior to the deadline for the draft CPM Report and included into the draft CPM Report, in order to give administrations and regional organizations sufficient time to draw up a position and develop regulatory texts. See below for a detailed position on the individual issues relevant for SFCCG: issues A, D, H and M.</p> <p>Issue A - Bringing into use of frequency assignments to all non-GSO satellite systems, and consideration of a milestone-based approach for the deployment of non-GSO satellite systems in specific bands and services:</p> <p>CEPT supports that a solution to address this issue should follow the principles established by ITU-R WP 4A (Annex 30 of 4A/826, Section 3/7/1.3).</p> <p>CEPT supports that the definition of the BIU of frequency assignments to non-GSO systems in accordance with the current practice as contained in then RoP adopted by the 73rd meeting of the RRB to be left unchanged from the current practice. This means that CEPT supports considering that the frequency assignments to a non-GSO system be brought into use with the deployment of one of its satellites in one of the notified orbital planes with the operational capability of transmitting or receiving those frequency assignments. Further consideration needs to be given on the most appropriate length of the period during which such satellite needs to operate in one of the notified orbital planes of the non-GSO system.</p> <p>At the same time, CEPT supports a milestone-based approach for the maintenance of the recording in the MIFR of assignments to non-GSO systems associated with a minimum number of satellites to be deployed over time. In assessing milestone timelines and objectives, CEPT will seek a balance between the need to prevent spectrum warehousing, the proper functioning of coordination mechanisms and the operational requirements related to the deployment of a non-GSO satellite system.</p> <p>CEPT supports that any milestone-based approach should be applicable to FSS/BSS/MSS in at least the frequency bands 10.7-13.25, 13.75-14.5, 17.3-21.2, 27-31, 37.5-47, 47.2-50.2 and 50.4-51.4 GHz and is considering its applicability to other primary satellite services in the same direction and same frequency bands.</p> <p>CEPT believes that the milestone-based proposal gives regulatory certainty to networks and systems and gives recognition that constellations of non-GSO satellites may generally take time to be fully deployed. CEPT supports the adoption of a unique method encompassing all types of constellations.</p> <p>CEPT supports three milestones to be applied to networks recorded in the MIFR. Recognizing that some constellations may deploy some satellites but may fail to meet the milestones, a provision is proposed to reduce the number of satellites recorded in the MIFR while preserving the rights for the already in-orbit satellites. The reduction of the characteristics of the constellation recorded in the MIFR should be based on the number of actual satellites launched.</p> <p>In the absence of a ITU-R recommendation dealing with calculation for interference as a result of modification, CEPT supports the non-application of No. 11,43B if modifications to notified orbital parameters, following milestone failure, are limited to the reduction of the number of orbital planes, reduction of the number of satellites per plane, modification of the right ascension of the ascending node of each plane and the modification of the</p>
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initial phase angle of each satellite provided that notifying administration submit a commitment stating that the modified characteristics shall not cause more interference or require more protection than the initial notified characteristics.

CEPT supports that those systems brought into use and notified, but not fully deployed before a date to be set by the Conference, will have the same regulatory certainty as that available to those systems which will be brought into use and notified after this date.

CEPT supports a methodology that would ensure that at one point in time after WRC-19, the recorded frequency assignments and their associated characteristics must reflect the actual deployment of such systems. Appropriate transitional measures are needed in order to allow administrations having systems brought into use and notified before a date to be set by the Conference to have sufficient time to adapt their current development and deployment schedules to meet milestones after an appropriate date after WRC-19.

CEPT supports that the suspension of frequency assignments does not extend the milestone period nor reduce the requirements associated with any of the remaining milestones.

CEPT will study further whether provisions should be developed so as to avoid that the same space station may be used to gain undue advantage in the deployment of the constellation by bringing into use multiple filings.

CEPT supports the adoption of a new Resolution by WRC-19 based on the principles and methodology set out above to address this issue.

Issue D - Identification of those specific satellite networks and systems with which Coordination needs to be effected under RR Nos 9.12, 9.12A and 9.13:

CEPT proposes that the Bureau publish in the CR/D special section the “definitive lists” of those specific GSO networks or non-GSO systems, as appropriate, with which coordination under Nos 9.12, 9.12A or 9.13 needs to be effected, similarly to what is currently done under the provisions of No 9.36.2, as outlined in Method D2 in the draft CPM text.

CEPT understands that, once the relevant software currently used by the Bureau will be amended as needed, such an approach would not significantly increase the daily workload of the Bureau for producing such lists. In fact, the Bureau carries out a similar analysis to produce the list of Administrations currently published in the BR IFIC under the provisions of No 9.36.1; the proposed changes would just modify the details published in the BR IFIC, together with simplifying the administrative burden currently born by many Administrations.

Issue H - Modifications to RR Appendix 4 data elements to be provided for non-GSO satellite systems not subject to the procedures of Section II of RR Article 9: CEPT supports the only method proposed for agenda item 7 Issue H.

Issue M - Simplified regulatory regime for non-GSO satellite systems with short duration missions: CEPT supports the regulatory framework in the draft CPM text method where the short lifetimes of non-GSO space stations are taken into account. CEPT proposes to introduce this simplified regulatory regime for the advance publication, notification and recording procedures for non-GSO satellite systems with short duration missions not subject to Section II of RR Article 9 and in that respect supports the principles of the draft new WRC Resolution together with the associated regulatory regime.

This regulatory regime for non-GSO satellite systems with short duration missions not subject to Section II of RR Article 9 shall be based on the following principles:

- The satellite operator shall stop the emission of the space station in case of harmful interference experienced by current assignments such in line with RR No. 22.1;
- The API and the corresponding notification shall be accurate and complete regarding the orbital parameters and the number of carriers;
- The amount of time of 4 months for comments raised by administrations following a publication of an API shall not be changed;

	<ul style="list-style-type: none"><li data-bbox="440 191 1432 296">▪ The API associated to a limited number of small satellites (maximum of 10) shall be unique, shall not be duplicated or re-used; the maximum duration is 3 years, any extension is prohibited.
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CITEL (2017-12-01)

Issue A - Non-GSO BIU: Canada is of the view that the current seven-year period may not be enough to deploy a “mega” non-GSO constellation. In trying to address this issue, it is important to adopt a balanced approach, taking into account the financial, technological and planning challenges posed by the multiple launches required to deploy this type of constellation but also the need to prevent any abuse that may lead to spectrum reservation. In this context, a milestone approach appears to be an appropriate solution. Canada is of the view that any options considered under Issue A reflect the following principles:

1. the BIU process should be separate from any milestones established to maintain the rights and protections for the recorded frequency assignments to non-GSO satellite system;
2. the successful completion of the BIU process for non-GSO satellite systems does not require the deployment of all satellites in the system by the end of the regulatory period;
3. appropriate time should be given to allow the completion of the deployment of non-GSO satellites in constellations;
4. appropriate transitional measures should be considered for the non-GSO satellite system’s BIU prior to WRC-19;
5. the procedures adopted under Issue A should be applied to specific services in specific bands;
6. concurrently with the development of a milestone-based approach, methodologies should be developed for the implementation of RR Nos. 9.58/11.43A/11.43B relating to the regulatory treatment of the adjustments to the characteristics of frequency assignments to non-GSO satellite systems.

Issue D – Identification of coordination:

Draft Inter-American Proposal

MOD ²⁰ **9.36.1** In the case of coordination under Nos. **9.12, 9.12A** and **9.13**, as appropriate, the Bureau shall also identify the satellite networks or systems with which coordination may need to be effected. The list of administrations identified by the Bureau under Nos. **9.11** to **9.14** and **9.21**, and the list of satellite networks or systems identified by the Bureau under Nos. **9.12, 9.12A** and **9.13** are only for information purposes, to help administrations comply with this procedure. (WRC-19)

Support: Brazil, Canada, Mexico

Reasons: This modification is required in order to have the list of potentially affected satellite networks or systems published in addition to the list of administrations.

MOD **9.52C** For coordination requests under Nos. **9.11** to **9.14** and **9.21**, an administration not responding under No. **9.52** within the same four-month period shall be regarded as unaffected and, in the cases of Nos. **9.11** to **9.14**, the provisions of Nos. **9.48** and **9.49** shall apply. Furthermore, for coordination under Nos. **9.12, 9.12A** and **9.13**, any satellite network or system identified under No. **9.36.1** but not referred to in the response provided by administrations under No. **9.52** within the same four-month period shall be regarded as unaffected and the provisions of Nos. **9.48** and **9.49** shall also apply. (WRC-19)

Support: Brazil, Canada, Mexico

Reasons: This modification is required to indicate the consequence for not identifying satellite networks or systems in the response provided under No. 9.52.

MOD **9.53A** Upon expiry of the deadline for comments in respect of a coordination request under Nos. **9.11** to **9.14** and **9.21**, the Bureau shall, according to its records, publish a Special Section, indicating the list of administrations having submitted their disagreement and the list of satellite networks or systems upon which their disagreement is based, as appropriate, or other comments within the regulatory deadline. (WRC-19)

Support: Brazil, Canada, Mexico

	<p>Reasons: This modification is required in order to have the definitive list of affected satellite networks or systems published in addition to the list of administrations.</p> <p>ISSUES H - For NGSO systems not subject to the procedures of Section II of RR Article 9: Canada supports also the addition of the following data elements in Appendix 4 for frequency assignments to non-GSO satellite service not subject to section II of Article 9:</p> <ul style="list-style-type: none"> -For elliptical orbit, the argument of the perigee; -For constellation, the angular separation between two consecutive ascending nodes, the angular separation between two consecutive satellites in the same orbital plane, both angles measured from the centre of the Earth, and the angular separation between two satellites in two adjacent planes measured from the centre of the Earth in the ascending direction.
<p>RCC (2017-05-16)</p>	<p>The RCC Administrations consider it necessary further improvements in the notification, coordination and recording procedures for frequency assignments to satellite networks in different services in order to ensure equitable access of ITU Member States to orbital and frequency resource. See Annex 1.2</p> <p>the Administration which proposes inclusion of its new assignment in the List, and the Administration which has already included several assignments in the List (inclusion in the Appendix 30B of the provisions similar to § 4.1.25 of the Appendices 30 and 30A for Regions 1 and 3).</p> <p>With regard to the harmonization of the Appendix 30B with § 4.1.13 of the Appendices 30 and 30A for Regions 1 and 3 and § 4.2.17 for Region 2, the RCC Administrations consider that existing provisions of the Radio Regulations allow Administrations establishing agreements for the specific period of time with the affected Administrations.</p> <p>Issue F – Enhancement of AP30B: The RCC Administrations consider that the improvement of Appendix 30B should be based on the study of practical difficulties of Administrations applying existing procedures of the Appendix 30B revised by WRC-07. The RCC Administrations consider that some Appendix 30B modifications proposed in the Issues E and F affect Appendix 30B basic principles specified by WRC-07, therefore such proposals should be considered within the separate agenda item.</p> <p>Issue G – Updating the AP30/30A reference situation: The RCC Administrations consider it unreasonable to modify No. 4.1.18 of RR Appendices 30 and 30A, where the reference situation of the victim satellite network would be updated only after the agreement between the Administration notifying the network and the Administration notifying interfering new network.</p> <p>Issue XX - Application of the coordination arc in Ka-band to identify the need in the coordination between FSS and other services: The RCC Administrations support the study on the possibility of introducing the coordination arc mechanism in the frequency bands 29,5-30/19,7-20,2 GHz to identify the need in the coordination between geostationary satellite networks in the mobile-satellite service (MSS) and the fixed-satellite service (FSS) as well as between MSS geostationary satellite networks.</p> <p>The RCC Administrations consider that applying the coordination arc criterion would increase the efficiency of coordination procedure while maintaining the possibility to apply the RR No. 9.41.</p>

<p>Agenda Item 9.1.1 Implementation of IMT at 1885-2025 MHz and 2110-2200 MHz</p>	<p>SFCG should continue to monitor the developments of this issue in WPs 4C and 5D for any potential outcomes that could degrade the use of the 2200-2290 MHz and 2025-2110 MHz bands by the space science services. It is to be noted that unwanted emissions by SRS/EESS/SOS (Earth-to-space) may in turn interfere with terrestrial IMT and satellite-based IMT (MSS) in the 1885-2025 MHz band.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>APT Members support conducting ITU-R studies on possible technical and operational measures to ensure coexistence and compatibility between the terrestrial component of IMT (in the mobile service) and the satellite component of IMT (in the mobile service and the mobile-satellite service) in the frequency bands 1 980–2 010 MHz and 2 170–2 200 MHz in different countries, in accordance with Resolution 212 (Rev.WRC-15).</p> <p>Other Views from APT Members:</p> <p>Some APT members have a view that since the Radio Regulations did not establish priority neither between terrestrial and satellite components of IMT, nor between mobile and mobile-satellite services in the bands 1 980–2 010 MHz/2 170–2 200 MHz, the present flexibility of Administrations for deployments of either terrestrial or satellite components of IMT need to be retained and any outcome of this Issue should not result in any changes to the Radio Regulations at WRC-19. Potential interference for all four possible scenarios between these services could be managed by bilateral/multilateral negotiation where administrations can bilaterally/multilaterally determine the appropriate mitigation techniques on a case-by-case basis.</p> <p>Some APT members have a view that in conduction of ITU-R studies, actual and realistic system characteristics/conditions need to be taken into account rather than the worst-case characteristics/conditions only, and no further regulatory studies or actions on either service based on worst-case scenario are required within ITU-R. Some APT members have a view that the proposed interference mitigation techniques in draft CPM text and recommendation or report for space component IMT, should be feasible due to the current technological advancement.</p> <p>Some APT members have a view that the final result of ITU-R study on this issue should provide practical protection criteria for the receivers of IMT UE and IMT MTC.</p> <p>Some APT members have a view that interference mitigation measures may be required to ensure that the operation of one service in any particular country should not constrain the operation of the other service in other countries. Some APT members will consider the possible need for revisions to the Radio Regulations to ensure coexistence of independent satellite and terrestrial IMT components in the frequency bands 1 980–2 010 MHz and 2 170–2 200 MHz.</p> <p>Some APT members are of the view that the protection of terrestrial IMT operating in the frequency band 1 980–2 010 MHz and 2 170–2 200 MHz is required.</p> <p>Some APT members are of view that the compatibility between stations in IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service) is still under study within the ITU-R and may be ensured by the following measures, subject to the outcome of studies in appropriate manner:</p> <ul style="list-style-type: none"> ➤ Conducting proper frequency arrangements in the band 1 980–2 010 MHz; ➤ Applying current coordination procedure specified in the provisions of RR Article 9 and in the future where appropriate introduce appropriate modifications to the RR Appendices 5 and 7, subject to the outcome of studies in the WRC-19 study-cycle to identify coordination thresholds in the frequency bands under consideration.
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Follow up the studies on this issue in the ITU Radio Sector Working Groups and support technical, operational and procedural measures for

	<p>IMT systems to ensure compatibility between the terrestrial and satellite components of IMT systems in the frequency bands 1980-2010 MHz and 2170-2200 MHz.</p> <ul style="list-style-type: none"> • Preference for using the terrestrial component of IMT in these bands.
<p>ATU (2018-09-17)</p>	<p>APM19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Invite ATU administrations and sub-regions to continue with consideration of this issue with a view to secure technical, operational and regulatory measures that ensure compatibility between the terrestrial and satellite components of IMT systems in the frequency bands 1885-2025 MHz and 2110-2200 MHz. In this instance, Administrations and sub-regions were invited to refer to the Draft CPM Text for details of studies conducted by the ITU-R with respect to this issue. 2. Task WG1 to continue considering the issue and develop a recommendation to APM19-4. 3. Pledge that ATU would work towards a harmonized position regarding use of the band.
<p>CEPT (2018-11-30)</p>	<p>CEPT supports adequate measures to ensure the compatibility and co-existence of the satellite and terrestrial components of IMT, taking into account that the bands 1980-2010 MHz and 2170-2200 MHz are prioritised for MSS (mobile satellite service) use in CEPT (see Decisions ECC/DEC/(06)09, ECC/DEC/(06)10, and European Commission Decision 2007/98/EC) while MSS and MS (mobile service) have co-primary status in the RR.</p> <p>CEPT is of the view that protection of the MSS uplinks in CEPT countries (Interference scenario A1) is not ensured by the current Radio Regulations (RR). There is currently no provision in the RR that would prevent interference from IMT base stations to IMT space stations and there is no coordination process between the administration responsible for MS and the administration responsible for MSS and no process to identify the concerned administrations. Therefore potential revisions to the RR should be developed at least for Region 1 and 3:</p> <ul style="list-style-type: none"> - to ensure that the band 1980-2010 MHz is not used for IMT base station transmitters or - limiting the e.i.r.p. of IMT base stations in the uplink band (1980-2010 MHz) <p>CEPT is of the view that potential interference between the terrestrial IMT systems and MSS earth stations and vice versa (Interference scenarios A2 and B1) can be managed by cross-border coordination provisions in the RR Appendix 7 and there is no requirement for additional regulatory measures.</p> <p>CEPT is of the view that the protection of the terrestrial component of IMT (Interference scenario B2) could be achieved by using the current space station pfd thresholds contained in Table 5-2 of Appendix 5 RR, and by removing Note 3 of this table CEPT is studying a revision of the threshold value, , in order to avoid the need of unnecessary coordination by MSS systems with respect to countries which operate terrestrial IMT systems.</p>
<p>CITEL (2017-12-01)</p>	<p>CANADA</p> <p>There should not be any impact from the outcome of these studies on the existing use of the frequency bands by the terrestrial component of IMT in 2 170-2 180 MHz (part of the 1 710-1 780 / 2 110-2 180 MHz IMT frequency band) nor on flexible MS/MSS use in 2 000-2 010 & 2 180-2 200 MHz.</p> <p>MEXICO</p> <p>For the administration of Mexico, it is important to know the outcomes of these studies, since the bands 1710 - 1780/2110 - 2180 MHz and 1850 - 1920/1930 - 2000 MHz are designated for the terrestrial component of IMT in Mexico. The segmentation specified for these bands is based on an FDD scheme in which the</p>

	<p>1710-1780 MHz and 1850-1920 MHz segments are used for base-mobile transmission and the 2110-2180 MHz and 1930-2000 MHz segments are used for base-mobile transmission. In addition, Mexico is authorized to exploit the emission and reception rights of signals and frequency bands associated with foreign satellite systems that cover—and can provide services within—its national territory at the 2000-2010/2190-2200 MHz frequency band.</p> <p>Accordingly, if the 1 980-2 000 MHz and 2 170-2 190 MHz frequency bands were used for the satellite component of IMT in a country with which Mexico shares borders, it would be necessary to set out the technical and operational measures to ensure coexistence and compatibility between the two IMT components.</p> <p>USA Support studies of technical and operational measures under agenda item 9.1/issue 9.1.1 in accordance with Resolution 212 (Rev. WRC-15), with the objective of ensuring compatible operations of both the terrestrial component of IMT in the mobile service and the satellite component of IMT in the mobile-satellite service in neighboring countries, without undue constraints on either service, in the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz.</p>
RCC (2018-03-15)	<p>The RCC Administrations are in favour of development of technical and operational measures as well as regulatory provisions with regard to IMT systems in order to ensure compatibility between IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service), including GSO and non-GSO systems, in the frequency bands 1980–2010 MHz and 2170–2200 MHz where those frequency bands are shared by mobile service and the mobile-satellite service in different countries.</p> <p>To facilitate compatibility between IMT terrestrial component (in mobile service) and IMT satellite component (in mobile-satellite service) in the frequency bands 1980-2010 MHz and 2170-2200 MHz, the RCC Administrations support adoption of relevant ITU-R Recommendations and Reports and also relevant procedural provisions facilitating such compatibility.</p>
Agenda Item 9.1.4 Stations on board sub-orbital vehicles	<p>SFCG members will continue to monitor the developments of this issue in WP 5B for any spectrum requirements identified that could impact space science service operations.</p> <p>It is important that any regulatory changes associated with this agenda item will not adversely impact the operation of launch vehicles or sounding rockets. Launch vehicle operations during the first minutes of low orbit must not be limited beyond the current regulations.</p>
Preliminary Positions	
APT (2019-01-12)	<p>- APT Members are of the view that no changes to the Radio Regulations (RR) are required at WRC-19</p> <p>APT Members support the on going ITU-R studies in accordance with Resolution 763 (WRC-15)</p>
ASMG (2018-07-23)	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Support following-up on-going studies in ITU-R.
ATU (2018-09-17)	<p>APM19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Take No Change, as the African preliminary position, to the Radio Regulations at WRC-19 and consider this matter as a possible agenda item for WRC-23. 2. Note that EACO supports the conclusion of No Change to the RR is proposed for WRC-19 cycle. Further operational, technical and regulatory issues may need to be addressed which require continuing studies, in particular of the status of the stations aboard sub-orbital vehicles and type of applications through the appropriate mechanism;

	<p>3. Note that ITU-R is studying the impact of the future deployments of sub-orbital vehicles on radiocommunications regulations and some aspects would require further operational, technical and regulatory issues may need to be addressed, which require continuing studies, in particular of the status of the station aboard suborbital vehicles and type of applications, through the appropriate mechanism;</p> <p>4. Support the ongoing studies and encourage active participation in order to positively influence the outcomes of the studies.</p>
<p>CEPT (2018-11-30)</p>	<p>CEPT recognizes that:</p> <ul style="list-style-type: none"> • the delimitation between atmosphere and outer space has not been legally defined at an international level by the competent organisations; • the definitions of status of the stations for suborbital flights for radiocommunication purpose by ITU-R do not prevent the competent international organisations (ICAO, UNOOSA) to potentially propose in the future, relevant definitions or other orientations concerning the kind of law (Air law, Space law, Sui generis) which could be applicable for the various types of suborbital systems concepts and projects.] • the current satellite/space launch systems including re-usable part are already operated under the Radio Regulation <p>CEPT is of the view that:</p> <ul style="list-style-type: none"> • no change to the Radio Regulations is required for WRC-19; • • suborbital vehicles need to be differentiated from current satellite/space launch vehicles; • suborbital vehicles need to be split in two different categories: <ul style="list-style-type: none"> ○ first category with trajectory and/or speed allowing continuous direct communication with ground during all the suborbital flight phase, then the stations fitted on board are considered as terrestrial stations or earth stations; • second category with trajectory and/or speed implying a reentry in the atmosphere avoiding direct communication to the ground (communication black out), then stations fitted on board are considered as space stations during the suborbital flight phase;
<p>CITEL (2017-12-01)</p>	<p>CANADA, USA To support studies called for by Resolution 763 (WRC-15), noting that those studies need to be completed during this study cycle. Based on the outcome of those studies, consider a possible future agenda item for WRC-23.</p> <p>CANADA Canada is of the view that existing station and service definitions in Article 1 of the Radio Regulations can be applied to sub-orbital vehicles (space planes)</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations consider that stations ensuring sub-orbital flights shall be operated within the frameworks of existing radio services and these stations shall be subject to regulatory, technical and procedural provisions currently in force for these radio services.</p> <p>The RCC Administrations also consider it necessary to develop additional technical and operational measures which would help to avoid harmful interference to radiocommunication services from stations ensuring sub-orbital flights when existing measures will be insufficient. The developed technical and operational measures shall be specified in the new ITU-R Recommendation and shall not</p>

	impose additional constraints on the operation of stations used during spacecraft launch and delivery in orbit.
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<p>Agenda Item 9.1.6 Urgent Studies for Wireless Power Transfer (WPT) for electric vehicles</p>	<p>While past work on the topic of WPT for electric vehicles has focused on bands below 400 kHz, and in the 6 765-6 795 kHz band, Resolution 958 (WRC-15) does not limit the studies to those bands. SFCG should continue to monitor the developments of this issue for any spectrum requirements identified that could impact space science services operations.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<ul style="list-style-type: none"> • APT Members support the studies carried out by ITU-R in accordance with Resolution 958 (WRC-15) to assess the impacts of WPT-EV on radiocommunication services and to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from WPT-EV. • APT Members are of the view that all radiocommunication services must be adequately protected from harmful interference that may be generated by WPT-EV, both at the fundamental frequency and from spurious and out-of-band emissions. • APT Members support consideration of the inclusion of one or more frequency ranges for WPT-EV in an ITU-R Recommendation based on completion of ITU-R studies. • APT Members supports further ITU-R studies related to WPT-EV to develop methodology and guidance to administrations in the following aspects: <ul style="list-style-type: none"> - one or more appropriate frequency ranges for WPT-EV are specified in a revision of Recommendation ITU-R SM.2110-0; - limits on unwanted radiation, including harmonics, are expected to be specified in a new ITU-R Recommendation; and - results of related studies and examples of existing national implementations throughout the Regions are provided in Report ITU-R SM.2303-2 and WDPDN Report ITU-R SM.[WPT_EV_IMPACT] and are expected to be provided in one or more ITU-R Reports on regulatory matters of WPT. • Consequently, APT Members are of the view that there is no need for activity related to WRC-19 to amend the RR. • APT Members support that ITU-R studies for WPT-EV should be continued after WRC-19, and APT Members are encouraged to consider necessary proposals depending on upcoming progress of ITU-R studies • APT Members are of the view that ITU-R will need to continue to closely collaborate with SDOs to ensure that appropriate frequency ranges and technical limits are incorporated into standards to protect radiocommunication services. <p>Other Views from APT Members:</p> <ul style="list-style-type: none"> • Some APT Members support a frequency range 79-90 kHz as a globally or regionally harmonized frequency range for WPT-EV. • Some APT Members are of the view that a Recommendation on frequency ranges for WPT-EV should be approved at the latest at RA-19.
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • Follow up and support the current studies to assess the impact of (WPT) for electric vehicles on radiocommunication services; and to study suitable harmonized frequency ranges which would minimize the impact on radiocommunication services from (WPT) for electrical vehicles. • Ensure the protection of the incumbent services and not add any additional constraints on these services. • Emphasize the importance of universally harmonized frequency bands to achieve a global standardization.
<p>ATU (2018-09-17)</p>	<p>APM19-3 agreed to</p> <ol style="list-style-type: none"> 1. Support the ongoing sharing and compatibility studies between Wireless Power Transfer (WPT) systems and existing services.

	<p>2. Note that ongoing studies related to the impact of WPT for EV are considering the following frequency bands</p> <ul style="list-style-type: none"> ○ 19-25kHz ○ 55-65kHz ○ 79-90kHz ○ 81.38-90kHz <p>3. Note that the 85kHz band is the preferred band with high probability of harmonization and is the least likely to cause interference to other services.</p> <p>4. Note that WPT systems have the capability to interfere with the broadcasting service applications in the range 148.5-283.5kHz under the GE75 Broadcasting plan.</p> <p>5. Urge administrations to contribute to and actively participate in the on-going studies to ensure that existing services are protected from spurious and out-of-band emissions from WPT applications, and to positively influence the outcome of the studies.</p> <p>6. Note the ICAO, EBU and IARU concerns regarding the potential interference to existing radio services by WPT-EV unwanted emissions.</p> <p>7. Note that WP 1B Report ITU-R SM.2303 contains the potential impact/effects of radiation from WPT systems and invited administrations to consider the information.</p> <p>8. Invite administrations to study the draft CPM19-2 txt which concludes that WPT-EV operating on 55-65kHz will cause harmful interference to SFTS operating to 60kHz. Due to this it may be possible to define two separate frequency ranges below and above 60kHz to create an exclusion within the 55-65kHz range to mitigate the impact.</p>
CEPT (2018-11-30)	<p>CEPT is of the view that no regulatory action to the RR will be required in order to resolve AI 9.1, issue 9.1.6. ITU-R Report SM.[WPT.SPEC.MNGM] and Recommendations ITU-R SM.2110 and ITU-R SM.[WPT-UNWANTED], are considered sufficient to specify suitable frequency bands and limits on unwanted emissions for WPT-EV, along with determination of the related centre frequencies. CEPT has identified the following candidate bands as suitable for WPT-EV, which can minimise the impact of WPT-EV on radiocommunication services:</p> <ul style="list-style-type: none"> • 19-21 kHz for the highest power category (specific heavy-duty electric vehicles), and • 79-90 kHz for the medium power category (all types of electric vehicles). <p>In addition CEPT is of the view that no bands above 90 kHz should be considered for use by WPT-EV.</p> <p>CEPT is of the view that bands at 60 kHz and 77.5 kHz used by applications of the standard frequency and time signal service are not suitable for WPT-EV and require specific protection.</p>
CITEL (2017-12-01)	<p>No Preliminary View on this agenda item yet.</p>
RCC (2018-03-15)	<p>The RCC Administrations are in favour of harmonizing frequency bands to be used for Wireless Power Transmission (WPT) for electric vehicles, which could be implemented by the development of relevant Recommendation ITU-R.</p> <p>The RCC Administrations support the development of conditions for use of the frequency band 79-90 kHz by WPT devices, which would provide protection to stations of radiocommunication services from possible interference, and which have relevant allocations in the Radio Regulations on a primary or secondary basis.</p>

<p>Agenda Item 9.1.8 Urgent Studies for Machine Type Communications (MTC)</p>	<p>SFCG should continue to monitor the developments of this issue in WP 5D for any spectrum requirements identified that could impact space science services operations and supports the position that no need for changes to the Radio Regulations are required. Although no specific frequency ranges are identified to exclusively provide for the enhanced services, these services may be considered to be within the definition of IMT-2020 and, as such, add to the total amount of spectrum sought under AI 1.13.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>APT Members support results of ITU-R studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in accordance with Resolution 958 (WRC-15) contained in draft CPM report for Agenda Item 9.1 issue 9.1.8.</p> <p>APT Members are of the view that the possible harmonized use of spectrum to support narrowband and broadband machine-type communication applications can be achieved through ITU-R Recommendations/Reports and there is no need to make any changes to the Radio Regulations nor any identification of spectrum to support narrowband and broadband machine-type communication applications in the Radio Regulations, consistent with the current Draft CPM Report conclusion.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> • For Broadband MTC and IoT applications: Support the use of existing bands identified for (IMT) systems to support the implementation of broadband communications infrastructure from machine to machine and (IoT) • For Narrowband MTC and IoT applications: Support the possibility of: <ul style="list-style-type: none"> ○ Using existing bands identified for (IMT) systems, such as (694 – 960 MHz) ○ Harmonized use of 2x3 MHz (733-736 / 788-791 MHz) in the 700 MHz band for narrowband MTC/IoT in interested countries. ○ Use of IMT bands for other applications
<p>ATU (2018-09-17)</p>	<p>APM 19-3 agreed to: Take No Change approach as the African preliminary position. Note that the existing frequency arrangements for IMT as detailed in Rec. ITU-R M.1036 are sufficient to help enable a wide range of narrowband and broadband MTC applications and devices, both above and below 1 GHz, and a consequence. Emphasize the need for and support harmonized use of spectrum to support the implementation of narrowband and broadband MTC.</p>
<p>CEPT (2018-11-30)</p>	<p>CEPT supports studies on the technical and operational aspects of radio networks and systems, as well as spectrum needed, including possible harmonized use of spectrum to support the implementation of narrowband and broadband machine-type communication infrastructures, in order to develop Recommendations, Reports and/or Handbooks, as appropriate. CEPT is of the view that no modifications to the Radio Regulations are required in order to resolve Agenda item 9.1 issue 9.1.8.</p> <p>CEPT supports the consideration of IMT technologies within Agenda item 9.1 issue 9.1.8 as well as the consideration of non-IMT technologies in the purview of WPs 1B and 5A related to machine-type communications.</p>

<p>RCC (2018-03-15)</p>	<p>The RCC Administrations consider that any modifications to the Radio Regulations provisions related to regulation of using narrowband and broadband machine-type communication applications are not necessary.</p> <p>The RCC Administrations support the development of ITU-R Recommendations, Reports and/or Handbooks on technical and operational aspects of using different radio networks and systems, as well as on spectrum needed and experience in spectrum use, to support the implementation of narrowband and broadband machine-type communication infrastructures.</p> <p>The RCC Administrations understood that the practicability for harmonization of any frequency bands for narrowband or broadband machine-type communication shall be justified taking into account features and prospects of the introduction of such systems both within IMT and non-IMT technologies.</p>
<p>PROPOSALS</p>	
<p>CITEL (2017-12-01)</p>	<p>Inter-American Proposal</p> <p><u>NOC</u> Radio Regulations Volumes 1 and 2 Support: Argentina, Brazil, Canada, Colombia, Dominican Republic, Ecuador, United States, Guatemala, Mexico, Panama, Uruguay Reasons: Analysis of the current and future spectrum use for narrowband and broadband machine type communications (MTC), also known as machine-to-machine (M2M) or Internet of Things (IoT), concluded that there is no need to identify specific spectrum for those applications. Therefore, no change to the Radio Regulations or regulatory action is required.</p> <p><u>SUP</u> ANNEX TO RESOLUTION 958 (WRC-15): Urgent studies required in preparation for the 2019 World Radiocommunication Conference, item 3. Support: Argentina, Brazil, Canada, Colombia, Dominican Republic, Ecuador, United States, Guatemala, Mexico, Panama, Uruguay Reasons: Analysis of the current and future spectrum use for narrowband and broadband machine type communications (MTC), also known as machine-to-machine (M2M) or Internet of Things (IoT), concluded that there is no need to identify specific spectrum for those applications. Therefore, no change to the Radio Regulations or regulatory action is required. No changes also apply to RR Volume 3, apart from the suppression proposed to parts of Resolution 958 (WRC-15).</p>

Agenda Item 9.1.9 FSS (↑) studies at 51.4-52.4 GHz	<p>The SFCG objective is to ensure that any allocation in the band 51.4-52.4 GHz will not adversely impact the EESS (passive) allocation in the bands 52.6-54.25 GHz and 50.2-50.4 GHz (both covered under RR No. 5.340).</p> <p>SFCG does not support an allocation until out of band sharing studies have been completed that show the EESS (passive) is not adversely affected and any required revision to Resolution 750 (rev. WRC 15) is agreed.</p>
Preliminary Positions	
APT (2019-01-12)	<p>APT Members support the possibility of an allocation to the fixed-satellite service (Earth-to-space) in the frequency band 51.4-52.4 GHz limited to FSS gateway links for geostationary orbit use while protecting currently allocated services in the same frequency band and in adjacent frequency bands.</p> <p>APT Members are of the view that further review is required for the proposed unwanted emission limits for the FSS in Resolution 750 (Rev.WRC-15).</p>
ASMG (2018-07-23)	<p>ASMG Preliminary Position:</p> <ul style="list-style-type: none"> ○ Initial support to FSS allocation in 51.4-52.4, that is limited to FSS feeder links. ○ Considering results of studies in AII.13
ATU (2018-09-17)	<p>APM19-3 agreed to:</p> <ol style="list-style-type: none"> 1. Support an allocation of the frequency band 51.4-52.4 GHz to the fixed-satellite service (Earth to space), limited to FSS gateway links for geostationary orbit use while protecting currently allocated services in the same frequency band and in adjacent bands as proposed in the draft CPM text. 2. Support studies on evaluation of additional spectrum needs for development of FSS in accordance with resolves to invite ITU-R 1 of Resolution 162 (WRC 15). 3. Support sharing and compatibility studies with existing services for the consideration of a new primary allocation to the FSS in the frequency band 51.4-52.4 GHz (Earth-to-space) limited to FSS feeder links for geostationary orbit use. 4. Note that ECOWAS is yet to formulate a position on this agenda item.
CEPT (2018-11-30)	<p>Based on the results of studies on additional spectrum needs for development of the fixed-satellite service and on the sharing and compatibility studies conducted in accordance with Resolution 162 (WRC-15), CEPT supports the additional allocation of 1 GHz spectrum in 51.4-52.4 GHz band for the GSO FSS (Earth-to-space) gateways.</p> <p>To ensure the protection of the EESS (passive) operating in the band 52.6-54.25 GHz CEPT is proposing an unwanted emission limit of [-37/-39] dBW/100 MHz associated to a maximum elevation angle of [74/78°] for FSS Earth stations that would operate in the 51.4 - 52.4 GHz band. For elevation angles equal or higher than [74/78°] the proposed unwanted emission limit is -52 dBW/100 MHz. This assumes a 3 dB apportionment of the EESS (passive) protection criterion to take into account the aggregate interference from all the active services allocated in the 51.4-52.4 GHz band. CEPT supports studies regarding the impact on radio astronomy observations in the band 51.4-54.25 GHz.</p> <p>FSS gateways Earth stations shall operate with a minimum antenna diameter of [4.5] m.</p>
CITEL (2018-08-11)	<p>Preliminary views: B, CAN, MEX and USA</p> <p>USA, CAN</p> <p>The United States and Canada support the study of all aspects of spectrum needs for the development of the fixed-satellite service under <i>Resolves 1</i> of Resolution 162. The United States and Canada further support the study, as appropriate, of a possible primary allocation to the FSS of the frequency band 51.4-52.4 GHz (Earth-to-space), limited to GSO FSS feeder links, under the terms of Resolution 162 (WRC-15) to ensure compatibility with existing services, including adjacent bands as appropriate. Such studies should determine the suitability, including protection of fixed and mobile services, of a new primary allocation to the FSS in the</p>

	<p>frequency band 51.4-52.4 GHz (Earth-to-space), limited to FSS feeder links for geostationary orbit use, and the possible associated regulatory actions based on the results of these studies.</p> <p>CAN, B Canada supports the addition, in Article 5 of the Radio Regulations, of a new primary allocation for FSS in the frequency band 51.4-52.4 GHz (Earth-to-space), limited to GSO FSS gateways through a footnote introducing specific regulatory measures to prevent the deployment of ubiquitous Earth stations</p> <p>MEX The Administration of Mexico supports the studies being conducted in ITU-R pursuant to Resolution 162 (WRC-15) on sharing and compatibility for a possible new FSS allocation (Earth-to-space) on a primary basis in the frequency band 51.4-52.4 GHz, bearing in mind protection of the fixed and mobile services already allocated in this band.</p> <p>The Administration of Mexico is of the opinion that it could be feasible to add a new primary allocation to FSS in the band 51.4-52.4 GHz in the Earth-to-space direction, subject to the outcomes of the above-mentioned studies, as long as protection of the existing services allocated on a primary basis in this band is ensured.</p>
<p>RCC (2018-03-15)</p>	<p>The RCC Administrations are in favour of justification of additional spectrum needs for the development of the fixed-satellite service in the frequency bands above 50 GHz, taking into account technical aspects of using the frequency bands already allocated to this service in the ranges above 30 GHz as well as the possibility to optimize their use based on the technology of FSS satellites with multiple-beam antennas and frequency reuse.</p> <p>The RCC Administrations consider that the technical conditions and regulatory provisions, which are subject to the ITU-R studies, for use of new primary allocations to the FSS (Earth-to-space) in the 51.4-52.4 GHz band, limited to GSO FSS feeder links, shall ensure protection of existing services and systems in the considered and adjacent frequency bands and development of possible related regulatory measures, including revision of Resolution 750 (Rev. WRC-15).</p>

<p>Agenda Item 10 Future Conference Agenda Items</p>	<p><u>General principles</u> It is very important to ensure that before any new agenda item is agreed at WRC-19, the following elements are already available:</p> <ol style="list-style-type: none"> 1. Clear demonstration and quantification of the spectrum requirements. 2. Technical and operational parameters of the new systems for which modification of the RR is proposed. 3. Identification of the exact bands to be considered for regulatory changes. 4. Preliminary studies on the feasibility of sharing in these bands. <p>Taking into account Resolution 804 (rev. WRC-12), SFCG is of the view that adherence to these principles should be made conditional for adoption of any new WRC agenda item. It should be noted that application of these principles by the space sciences community is demonstrated in the WRC-23 preliminary agenda items 2.2 and 2.3 discussed below.</p> <p>SFCG also supports the inclusion of the following item on the WRC-23 agenda: Agenda Item X.X1 to consider a mechanism in RR Appendix 10 to improve the reporting of interference to passive sensors in accordance with Resolution YYY (WRC-19).</p> <p>The SFCG supports studies examining the possibility of establishing a mechanism in Appendix 10 to report harmful interference to EESS (passive) sensors.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>In developing new WRC Agenda items, APT Members support the ‘Principles for establishing agendas for WRCs’ as detailed in Annex 1 to Resolution 804 (Rev.WRC-12) and encourage administrations to use the <i>Template for the submission of proposals for agenda items</i> (Annex 2 of the Resolution). APT members are encouraged to consider the WRC-23 preliminary agenda items included in Resolution 810(WRC-15) and provide their views to the next APG meeting, together with conditions and course of actions to be undertaken in regard with these preliminary agenda items.</p> <p>Proposal for a possible new WRC-23 agenda item to consider identification for use by high altitude platform station as IMT base stations (HIBS) in the frequency bands below 2.7 GHz identified for IMT:</p> <p>APT Members are considering the establishment of an agenda item for WRC-23 which aims at identifying frequency bands for HIBS subject to resolution of various issues related to the subject matter, including the choice of frequency bands, depending on the results of studies currently carried out by AWG, in a satisfactory manner.</p> <p>Proposal for a possible new WRC-23 agenda item for VHF Space-Based Voice Communication Service:</p> <p>The proposed new item for inclusion in the agenda of WRC-23 to consider the possible identification of the VHF frequency band 118 – 137 MHz for Aeronautical Mobile Satellite (Route) Service is forwarded to the next APG meeting for further consideration.</p> <p>Proposal for a possible new WRC-23 agenda item for revising footnote No. 5.522B relating to the use of 18.6-18.8 GHz for FSS non-GSO systems:</p> <p>The proposed new item for inclusion in the agenda of WRC-23 to study the technical and regulatory issues associated with a possible revision to footnote No. 5.522B to enable the use of the band 18.6-18.8 GHz (space-to-Earth) by FSS non-GSO systems with an apogee below 20,000 km is forwarded to the next APG meeting for further consideration.</p> <p>Proposal for a possible new WRC-23 agenda item for the allocation of the frequency bands 1518-1559 MHz, 1626.6-1660.5 MHz and 1668-1675 MHz to the mobile-satellite service (space-to-space):</p>

	<p>The proposed new item for inclusion in the agenda of WRC-23 to consider possible allocation of the frequency bands 1518-1559 MHz, 1626.6-1660.5 MHz and 1668-1675 MHz to the mobile-satellite service (space-to-space) is forwarded to the next APG meeting for further consideration.</p> <p>Proposal for a possible new WRC-23 agenda item for Space Weather sensors:</p> <p>APT Members are encouraged to consider item 2.3 of the draft agenda of WRC-23 and contribute on this issue at the next APG meeting for further consideration.</p> <p>Proposal for a possible new WRC-23 agenda item for stations on board sub-orbital vehicles:</p> <p>The proposed new item for inclusion in the agenda of WRC-23 for stations on board suborbital vehicles is forwarded to the next APG meeting for further consideration.</p>
<p>ASMG (2018-07-23)</p>	<p>ASMG Position:</p> <ul style="list-style-type: none"> o ASMG administrations are invited to study this matter to discuss it further in the next ASMG meeting based on proposals received at ASMG-22meeting.
<p>ATU (2018-09-17)</p>	<p>APM19-3 recommends ATU member states to:</p> <ol style="list-style-type: none"> 1. Actively consider possible issues for discussion under this agenda item with a view to resolving any possible arising issues at an early stage: doing so would avoid the past experience whereby AI 10 issues are raised during the concluding stages of WRC thereby presenting significant challenges in the thorough considerations of the issues. 2. Let WG 6 spearhead considerations of possible issues under this agenda item and advise future APMs on possible causes of action. 3. Pay extra attention to the proposed agenda on review of the use of UHF band in view of the fact that majority of African countries plan to extensively use the 470 – 694MHz band for broadcasting. Also, in view of the fact DTT broadcasting remains a key service in the majority of the African countries, hence the preservation of this band for unconstrained use of the DTT services.
<p>CEPT (2018-11-30)</p>	<p>CEPT supports the inclusion of the preliminary Agenda items 2.1, 2.2, 2.3 and 2.5, as contained in Resolution 810 (WRC-15) and the corresponding Resolutions for the Agenda of WRC-23.</p> <p>CEPT is further considering the preliminary Agenda item 2.4 as well as proposals for new Agenda items.</p> <p>CEPT is of the view that agenda item 9.1, shall not include issues that are intended to be addressed through modifications to the Radio Regulations, including issues related to frequency allocation for radiocommunication services and/or changing the conditions of their use. In order to implement the above proposals, CEPT proposes to modify Resolution 804 (Rev. WRC-12).</p>
<p>CITEL (2017-12-1)</p>	<p>Preliminary Proposals: B and CAN</p> <p>Brazil proposes to include a WRC-23 agenda item that deals of the space weather sensors in accordance of the Resolution 657 (WRC-15).</p> <p>Brazil proposes the suppression of Resolution 657 (WRC-15) and the development a new resolution in order to possibility complete the space weather studies with a view to present the technical basis for the work of WRC-23.</p> <p>CAN</p> <p>It is proposed to carry out technical sharing studies between ESIM communicating with non-geostationary space stations in the fixed-satellite service and systems of other primary services in the bands 17.7-20.2 GHz and 27.5-29.1 GHz and 29.5-30.0 GHz and to develop</p>

	<p>the appropriate technical and regulatory provisions to facilitate operation of such earth stations, while ensuring harmful interference is not caused to stations of the FSS, FS and other primary services.</p> <p>Canada proposes to consider the use of the frequency bands 17.7-20.2 GHz and 27.5-29.1 GHz and 29.5-30.0 GHz by earth stations on mobile platforms communicating with non-geostationary space stations in the fixed-satellite service, in accordance with Draft New Resolution XXX.</p>
RCC (2017-05-16)	<p>The RCC Administrations consider it reasonable to include in the WRC-23 agenda the item on upgrading the allocation of the frequency band 14.8-15.35 GHz for the SRS.</p> <p>The RCC Administrations are in favour of the improvement WRC-23 standing agenda items 7, 9.1 and 9.2 activities according to principles of the document entitled "Proposals towards drawing up issues under some World Radiocommunication Conferences agenda items", see Annex 1.3</p>

WRC-23 Draft Agenda Item 2.2 EESS (active) around 45 MHz	The SFCG supports studies examining the compatibility of the proposed EESS (active) operations with the incumbents. SFCG supports inclusion of this agenda item in the WRC-23 agenda.
Preliminary Positions	
APT (2019-01-12)	No position yet
ASMG (2017-05-16)	
ATU (2017-05-16)	
CEPT (2018-11-30)	CEPT supports the inclusion of the preliminary Agenda item 2.2, as contained in Resolution 810 (WRC-15) and the corresponding Resolution for the Agenda of WRC-23.
CITEL (2017-12-1)	No Preliminary View on this agenda item yet.
RCC (2017-05-16)	

<p>WRC-23 Draft Agenda Item 2.3 Spectrum requirements and radio service designations for space weather sensors</p>	<p>The SFCG supports studies under this agenda item to determine appropriate recognition and protection for space weather sensors in the Radio Regulations without placing additional constraints on incumbent services. SFCG supports inclusion of this agenda item in the WRC-23 agenda.</p>
<p>Preliminary Positions</p>	
<p>APT (2019-01-12)</p>	<p>No position yet</p>
<p>ASMG (2017-05-16)</p>	
<p>ATU (2018-09-17)</p>	<p>No Preliminary View on this agenda item yet.</p>
<p>CEPT (2018-11-30)</p>	<p>CEPT supports the inclusion of the preliminary Agenda item 2.3, as contained in Resolution 810 (WRC-15) and the corresponding Resolution for the Agenda of WRC-23.</p>
<p>CITEL (2017-12-1)</p>	<p>No Preliminary View on this agenda item yet.</p>
<p>RCC (2017-05-16)</p>	

WRC-23 Draft Agenda Item 2.4 FSS (↓) in 37.5-39.5 GHz	SFCG supports the study of this topic. However, SFCG will only support this agenda item being placed on the final WRC-23 agenda, if sufficient consideration of protection of the space science service bands has been made during the WRC-19 study cycle.
Preliminary Positions	
APT (2019-01-12)	No position yet.
ASMG (2017-05-16)	
ATU (2017-09-15)	
CEPT (2018-11-30)	CEPT is further considering the preliminary Agenda item 2.4
CITEL (2017-12-1)	No preliminary position on this agenda item yet.
RCC (2017-05-16)	

Annex 1.2

RCC position on individual issues under AI 7

Issue A – Bringing into use of frequency assignments to all non-GSO satellite systems, and consideration of a milestone-based deployment approach for non-GSO satellite systems in specific bands and services

With regard to bringing into use of non-GSO systems, the RCC Administrations support that frequency assignment to space station of non-GSO satellite systems shall be considered as having been brought into use, when notifying administration informed the Bureau that at least one space station with the confirmed capability of transmitting or receiving, has been deployed on one of the notified orbital planes of the non-GSO satellite system, irrespective of the notified number of orbital planes and satellites per orbital plane in the system. The RCC Administrations do not support identification in the Radio Regulations a continuous period of 90 or less days of deployment of a satellite, when bringing into use frequency assignments to non-GSO system.

With regard to milestone-based approach to the deployment of multi-satellite non-GSO system, the RCC Administrations support adoption of new WRC-19 Resolution based on the following:

- the procedure of the milestone-based approach of deployment of FSS and MSS multi-satellite non-GSO systems will be applied to specific frequency bands and establish requirements to the implementation of the milestone-based approach of deployment of such non-GSO systems as well as contain restrictive measures applied to non-GSO systems failed to meet the milestone.

- the procedure for the the milestone-based approach of deployment shall not be applied to frequency assignments to non-GSO satellite systems/networks used for safety of human life.

Issue B - Application of coordination arc in the Ka-band, to determine coordination requirements between the FSS and other satellite services

The RCC Administrations consider that introducing the coordination arc would increase the efficiency of coordination procedure.

The RCC Administrations support introducing the coordination arc mechanism in Ka-band to identify the need in the coordination between MSS and FSS geostationary satellite networks, as well as between MSS geostationary satellite networks, while maintaining the possibility of applying RR No. 9.41.

Issue C – Issues for which consensus was achieved in ITU-R

Issue C1 - Discrepancy and/or inconsistency between the regulatory provisions dealing with any changes to the characteristics of an assignment

The RCC Administrations consider that the existing discrepancy between provisions of Articles in RR Appendices 30, 30A and 30B and the terminology of RR Article 11 provisions do not lead to complications when applying the relevant provisions of the Radio Regulations.

Issue C2 – Using a part of the Appendix 30B frequency band

The RCC Administrations do not oppose to the proposal on possible notification of frequency assignments blocks with bandwidth of 250 MHz each for additional systems in Ku-band within Appendix 30B.

Issue C3 – Modification of Article 6 §§ 6.13 and 6.15 of Appendix 30B

The RCC Administrations do not oppose the modification of RR Article 6 §§ 6.13 and 6.15 of Appendix 30B taking into account the Rules of Procedure under RR § 6.6 of Appendix 30B.

Issue C4 – Submission of a single notice for inclusion into the List and Notification under Appendices 30/30B

The RCC Administrations support the proposal on submitting and processing a single notice for a new assignment to be included into the List under § 4.1.12 and recorded under §§ 5.1.1 and 5.1.2 for the networks in the RR Appendices 30/30A in Regions 1 and 3.

Issue C5 – Timely notification of an administration that the 6-month period under RR No. 11.46 has expired

The RCC Administrations support the proposal that Radiocommunication Bureau should timely notify the administration on expiration of the 6-month deadline after the unfavorable finding was sent under RR No. 11.37 or No. 11.38.

Issue C6 – Submission of a single notice for an assignment to be included into the List and recorded under Appendix 30B

The RCC Administrations do not oppose to the proposal that for satellite networks in the RR Appendix 30B administrations would submit a single notice for a new assignment to be included into the List and recorded.

Issue C7 – The agreements concluded within the Appendix 30B for a specific period of time

Taking into account that existing provisions of the Radio Regulations allow Administrations to conclude agreements with the affected Administrations for a specific period of time, the RCC Administrations do not oppose the harmonization of RR Appendix 30B with § 4.1.13 and § 4.2.17 of Appendices 30/30A.

Issue D - Identification of those specific satellite networks and systems with which coordination needs to be effected under RR Nos. 9.12, 9.12A and 9.13

The RCC Administrations support the identification of specific GSO or non-GSO satellite networks which need coordination only according to RR Nos. 9.11A, 9.12, 9.12A or 9.13 as well as modification of relevant RR provisions.

Issue E - Harmonization of RR Appendix 30B with RR Appendices 30 and 30A

The RCC Administrations consider that the issue of harmonization of Appendix 30B and Appendices 30/30A should be studied based on the practical difficulties of Administrations applying existing procedures of the Appendix 30B revised by WRC-07.

The RCC Administrations consider that any modification of the Appendix 30B shall not result in the complication of the regulatory procedures and shall ensure protection of allotments in the Plan and frequency assignments in operation.

The RCC Administrations do not support the proposal to limit the period of validity of frequency assignments to satellite network to 15 years in the Appendix 30B with the possibility of single extension for another 15 years (harmonization of Appendix 30B with § 4.1.24 of Appendices 30/30A for Regions 1 and 3).

Issue F – Concerns with the lack of implementation of certain provisions of the Radio Regulations that can lead to difficulties during the process of entering an assignment into the RR Appendix 30B List

The RCC Administrations do not support the proposal to include in the RR Appendix 30B provisions relating to alignment of coverage area with service area in the conversion of national allotments with modification of characteristics, due to the complexity of practical implementation of the proposal.

Issue G - Updating the reference situation for Regions 1 and 3 networks under RR Appendices 30 and 30A when provisionally recorded assignments are converted into definitive recorded assignments

The RCC Administrations consider it unreasonable to modify No. 4.1.18 of RR Appendices 30 and 30A, where the reference situation of the victim satellite network would be updated only after the agreement is reached between the Administration notifying the network and the Administration notifying interfering new network.

Issue H – Modifications to RR Appendix 4 items to be provided for non-geostationary satellite systems not subject to the procedures of Section II of RR Article 9

The RCC Administrations support the inclusion of additional data elements of the RR Appendix 4 submitted for non-GSO systems at the advance publication stage in the frequency bands not subject to coordination.

The RCC Administrations are studying the relevance of insertion into RR Appendix 4 information about right ascension of the ascending node (RAAN) and additional data indicating belonging of non-geostationary satellite orbit to solar-synchronous orbit (for systems not subject to coordination) and also maximum communication distance for inter-satellite links in each specific non-GSO/GSO system.

Issue I – Additional RR Appendix 4 data items to be provided for non-geostationary satellite systems with multiple orbital planes

The RCC Administrations are studying the relevance of insertion into RR Appendix 4 additional provisions under which information on configuration of non-GSO systems should be provided during notification of new non-GSO systems with several orbital planes.

Issue J – pfd limit in Section 1, Annex 1 of RR Appendix 30

The RCC Administrations are studying consequences of exceeding pfd limit by frequency assignments in Regions 1 and 3 (Section 1, Annex 1 of RR Appendix 30) on the territory of notifying Administration in relation to ensuring the protection of assignments in the Plan and in the List of RR Appendix 30 serving territories of other countries.

Issue K – Difficulties for Part B examinations under § 4.1.12 or 4.2.16 of RR Appendices 30 and 30A and § 6.21 c) of RR Appendix 30B

The RCC Administrations support re-examination of notices under § 6.21 c) of RR Appendix 30B at the stage of publication relating to IFIC Part B in the case when networks which were the basis for the unfavourable finding were included in the List with decreased by results of coordination characteristics.

RCC Administrations also are studying the possibility to extend the above-mentioned approach to Appendices 30/30A.

Annex 1.3

RCC proposals towards drawing up issues under some World Radiocommunication Conferences agenda items

The RCC administrations have reviewed the established practice of drawing up World Radiocommunication Conferences agenda regarding items and some issues related to the Report of the Director of the Radiocommunication Bureau and indicated the following.

In accordance with No. 124 of the ITU Convention, the Conference (WRC) shall "consider and approve the report of the Director of the Bureau on the activities of the Sector since the last conference", and for this purpose WRC adds a standing item into a draft agenda:

9 to consider and approve the Report of the Director of the Radiocommunication Bureau, in accordance with Article 7 of the Convention:

9.1 on the activities of the Radiocommunication Sector since WRC

Issues under agenda item 9.1 are considered in accordance with WRC Resolutions which as a rule invite Radiocommunication Sector to carry out appropriate studies and also instruct the Director of the Bureau to include the results of these studies into his Report to WRC.

Analysis of the Resolutions adopted by previous WRCs shows that studies proposed by them contain assessment of additional spectrum needs for development of different services, technical and operational aspects of networks and systems in different services, which may lead to the need for the Radio Regulations modification.

Thus the issues considered in the Report of the Director of the Bureau on the activities of the Radiocommunication Sector actually become valid WRC agenda items and in some cases they do not differ in size and complexity from items directly included into the agenda of the next Conference. Moreover, CPM-19 first session decided that CPM Report on the issues of agenda item 9.1 shall not contain examples of regulatory texts.

Proposal:

Understanding that studying the issues under agenda item 9.1, which modify the Radio Regulations, has no direct relation to the Report of the Director of the Radiocommunication Bureau, such issues should not be included into agenda item 9.1 related to the Director's Report and should be considered as individual agenda items of the next WRC.

Resolution 804 (Rev. WRC-12) should be modified in order to implement the above-mentioned proposals, and these modifications could be applied during preparations to WRC-23.

9.2 - on any difficulties or inconsistencies encountered in the application of the Radio Regulations

The experience of handling the issues presented by the Director of the Bureau under agenda item 9.2 at WRC-15 showed that administrations faced significant difficulties in their consideration. Such difficulties were related to the lack of time for studying and developing an appropriate position, both at the level of administrations and at the level of regional organizations.

Taking into account that the issues identified by the Director of the Bureau regarding the difficulties and inconsistencies encountered in the application of the Radio Regulations are of practical importance for the activities of the Bureau, it is proposed that they should be considered as early as possible, i.e. immediately after such difficulties

have been identified. Various mechanisms can be used for this purpose, for example, consideration in the RRB or in the relevant SGs and/or their working parties.

In addition, one of the measures that will help administrations prepare consideration of agenda item 9.2 at WRC could be timely publication of the Director's Report on the difficulties and inconsistencies encountered in the application of the Radio Regulations.

Proposals:

1. The Director of the Bureau to submit issues on difficulties or inconsistencies encountered in the application of the Radio Regulations in the timeframe between two WRCs to the RRB and/or ITU-R SGs for consideration in accordance with their respective scopes and competences, as well as on unresolved difficulties to CPM for information;
2. To publish in all official ITU languages the Report of the Director on unresolved difficulties or inconsistencies encountered in the application of the Radio Regulations, which require consideration by the Conference, preferably five months before the opening of the Conference.

The proposals above do not require modifications to the Radio Regulations and can be proposed to the Director of BR as the RAG recommendations, and this will allow their application during preparation to WRC-19.

7 – "to consider possible changes, and other options, in response to Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference, an advance publication, coordination, notification and recording procedures for frequency assignments pertaining to satellite networks, in accordance with Resolution 86 (Rev.WRC-07), in order to facilitate rational, efficient and economical use of radio frequencies and any associated orbits, including the geostationary-satellite orbit"

Analysis of the number of issues considered at the previous WRCs under agenda item 7 shows that their number always remains high: WRC-12 has considered more than 20 issues under agenda item 7, WRC-15 – more than 14 issues, not taking into account issues raised directly at the Conference. The situation with the number of issues under WRC-19 agenda item 7 is the same, currently WP4A has already identified 17 issues and the proposals continue to arrive.

Issues are generally added according to the proposals which are based on practical experience and reflect urgent problems in the process of coordination, notification and recording of frequency assignments to satellite networks, which require relevant modifications to the Radio Regulations. Thorough consideration of each proposal and finding agreement between stakeholders are therefore required.

Indeed, a large amount of issues being considered under the standing agenda item 7 requires spending significant resources of administrations, both time-consuming and human resources. At the same time the number of issues should not pose difficulties provided the time for their consideration and study is adequate.

In this regard, it is proposed to consider the possibility of establishing a time limit within WP4A for the opening new issues under agenda item 7, for example, by limiting this period to the second session of the CPM.

Obviously, administrations have the right to submit contributions to the Conference on new issues under agenda item 7 and the Conference should consider them and make the relevant decision. However, it is often difficult for administrations to find solutions on such issues because of the lack of relevant studies and the lack of a position agreed at the national or regional levels. As for these issues, the experience of the past conferences shows that due to time limits and difficulties in resolving such issues during the Conference, these issues are discussed and further agreed upon during the next study period.

Proposal:

1. To include into consideration under WRC agenda item 7 only the issues considered by the relevant Working Party (WP4A) in the timeframe before the second session of the CPM and included into the draft CPM Report, in order to give administrations and regional organizations enough time to draw up positions and develop regulatory texts.
2. The issues directly raised at the Conference and which the Conference could not resolve should be studied in the next study period.
3. The issues for which only single Method has been proposed and agreement has been reached in the ITU-R, are proposed to be considered on the first day of the Conference during the Plenary Meeting and, if the Conference agrees, it is proposed to take decisions on them without addressing them at the level of Committees and Working Groups.

To implement the above-mentioned Proposal 1, modification of Resolution ITU-R 2-7 "Conference Preparatory Meeting" may be required and/or Resolution 86 (Rev. WRC-07) and/or Resolution 804 (Rev. WRC-12). Therefore, proposals 1 and 2 can be implemented during preparations to WRC-23.

Proposals 2 and 3 could be implemented already at WRC-19 provided the Conference adopts the relevant decisions.