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| **Radiocommunication Study Groups** |  |
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**[Attachment 8](#Att8):** WRC Resolutions related to the work of Study Group 5

[**Attachment 9**](#Att9)**:** WRC Recommendations related to the work of Study Group 5

[**Attachment 10**](#Att10)**:** Other WRC Resolutions calling for studies by Study Group 5

Attachment 8

WRC Resolutions related to the work of Study Group 5

| Allocation of ITU-R preparatory work for WRC-23 | | | |
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| Topic | Responsible group | Action to be taken by the group | Contributing group |
| 1 on the basis of proposals from administrations, taking account of the results of WRC 19 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the frequency bands under consideration, to consider and take appropriate action in respect of the following items: | | | |
| 1.1 to consider, based on the results of the ITU‑R studies, possible measures to address, in the frequency band 4 800-4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories, and to review the pfd criteria in No. **5.441B** in accordance with Resolution **223 (Rev.WRC‑19)**; | | | |
| Resolution **223 (Rev.WRC‑19)**  Additional frequency bands identified for International Mobile Telecommunications | **WP 5B** and **WP 5D**  Note: WP 5B and WP 5D to work jointly as provided below.[[1]](#footnote-1)1 | resolves  1 [not applicable]  2 [not applicable]  3 that in the frequency bands 4 800-4 825 MHz and 4 835-4 950 MHz, in order to identify potentially affected administrations when applying the procedure for seeking agreement under No. **9.21** by IMT stations in relation to aircraft stations, a coordination distance from an IMT station to the border of another country equal to 300 km (for land path)/450 km (for sea path) applies;  4 that in the frequency band 4 800-4 990 MHz, in order to identify potentially affected administrations when applying the procedure for seeking agreement under No. **9.21** by IMT stations in relation to fixed-service stations or other ground-based stations of the mobile service, a coordination distance from an IMT station to the border of another country equal to 70 km applies;  5 that the power flux-density (pfd) limits in No. **5.441B**, which is subject to review at WRC-23, shall not apply to the following countries: Armenia, Brazil, Cambodia, China, Russian Federation, Kazakhstan, Lao P.D.R., Uzbekistan, South Africa, Viet Nam and Zimbabwe,  invites the ITU Radiocommunication Sector  1 [not applicable]  2 to study the technical and regulatory conditions for the protection of stations of the aeronautical and maritime mobile services located in international airspace or waters (i.e. outside national territories) and operated in the frequency band 4 800-4 990 MHz;  3 [not applicable];  4 to include the results of the studies mentioned in *invites the ITU Radiocommunication Sector* above in one or more ITU‑R Recommendations and Reports, as appropriate,  invites the 2023 World Radiocommunication Conference  to consider, based on the results of the studies referred to in *invites the ITU Radiocommunication Sector* above, possible measures to address, in the frequency band 4 800-4 990 MHz, protection of stations of the aeronautical and maritime mobile services located in international airspace and waters from other stations located within national territories and to review the pfd criteria in No. **5.441B**. | **WP 1B, WP 3K, WP 3M, WP 5C,  WP 7D** |
| 1.2 to consider identification of the frequency bands 3 300-3 400 MHz, 3 600‑3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution **245** **(WRC‑19)**; | | | |
| Resolution **245 (WRC‑19)**  Studies on frequency-related matters for the terrestrial component of International Mobile Telecommunications identification in the frequency bands 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz, and 10.0-10.5 GHz  Note: With respect to *resolves* 1 of Resolution **245** **(WRC-19)**, CPM23-1 defined that the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available is 15 June 2021. | **WP 5D** | resolves to invite ITU‑R  1 to conduct and complete in time for WRC‑23 the appropriate studies of technical, operational and regulatory issues pertaining to the possible use of the terrestrial component of IMT in the frequency bands in *resolves to invite ITU‑R*2, taking into account:  – evolving needs to meet emerging demands for IMT;  – technical and operational characteristics of terrestrial IMT systems that would operate in these specific frequency bands, including the evolution of IMT through advances in technology and spectrally efficient techniques;  – the deployment scenarios envisaged for IMT systems and the related requirements of balanced coverage and capacity;  – the needs of developing countries;  – the time-frame in which spectrum would be needed;  2 to conduct and complete in time for WRC‑23 the sharing and compatibility studies[[2]](#footnote-2)1, with a view to ensuring the protection of services to which the frequency band is allocated on a primary basis, without imposing additional regulatory or technical constraints on those services, and also, as appropriate, on services in adjacent bands, for the frequency bands:  – 3 600-3 800 MHz and 3 300-3 400 MHz (Region 2);  – 3 300-3 400 MHz (amend footnote in Region 1);  – 7 025-7 125 MHz (globally);  – 6 425-7 025 MHz (Region 1);  – 10 000-10 500 MHz (Region 2),  resolves  1 to invite CPM23‑1 to define the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available, to ensure that studies referred to in *resolves to invite ITU‑R* can be completed in time for consideration at WRC‑23;  2 to invite WRC‑23 to consider, based on the results of the above studies, additional spectrum allocations to the mobile service on a primary basis and to consider identification of frequency bands for the terrestrial component of IMT; the frequency bands to be considered being limited to part or all of the bands listed in *resolves to invite ITU‑R*2,  invites administrations  to participate actively in these studies by submitting contributions to ITU‑R. | **WP 3K, WP 3M, WP 4A, WP 4B, WP 4C, WP 5A, WP 5B, WP 5C, WP 7B,  WP 7C** |
| 1.3 to consider primary allocation of the band 3 600‑3 800 MHz to mobile service within Region 1 and take appropriate regulatory actions, in accordance with Resolution**246 (WRC‑19)**; | | | |
| Resolution **246 (WRC‑19)**  Studies to consider possible allocation of the frequency band 3 600‑3 800 MHz to the mobile, except aeronautical mobile, service on a primary basis within Region 1 | **WP 5A** | resolves to invite ITU-R  to conduct sharing and compatibility studies in time for WRC‑23 between the mobile service and other services allocated on a primary basis within the frequency band 3 600-3 800 MHz and adjacent bands in Region 1, as appropriate, to ensure protection of those services to which the frequency band is allocated on a primary basis, and not impose undue constraints on the existing services and their future development,  resolves to invite WRC-23  based on the results of studies in *resolves to invite ITU‑R*, to consider possible upgrade of the allocation of the frequency band 3 600-3 800 MHz to the mobile, except aeronautical mobile, service on a primary basis within Region 1, and to take appropriate regulatory actions,  invites administrations  to participate in these studies in the process of preparation for WRC‑23. | **WP 3K, WP 3M, WP 4A, WP 5B, WP 5C,  WP 5D** |
| 1.4to consider, in accordance with Resolution **247** **(WRC‑19)**, the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level; | | | |
| Resolution **247 (WRC‑19)**  Facilitating mobile connectivity in certain frequency bands below 2.7 GHz using high-altitude platform stations as International Mobile Telecommunications base stations | **WP 5D** | resolves to invite ITU-R  1 to study spectrum needs, as appropriate, for high-altitude platform stations as IMT base stations to provide mobile connectivity in the mobile service taking into account:  – the existing identification in *recognizing b)*;  – the usage and deployment scenario envisioned for high-altitude platform stations as IMT base stations as complementary for terrestrial IMT networks;  – the technical and operational characteristics and requirements of high-altitude platform stations as IMT base stations;  2 to conduct and complete in time for WRC‑23, taking into account the results of studies already performed and those in progress within ITU‑R, sharing and compatibility studies to ensure the protection of services, without imposing any additional technical or regulatory constraints in their deployment, to which the frequency band is allocated on a primary basis, including other IMT uses, existing systems and the planned development of primary allocated services, and adjacent services, as appropriate, for certain frequency bands below 2.7 GHz, or portions thereof, globally or regionally harmonized for IMT, i.e.:  – 694-960 MHz;  – 1 710-1 885 MHz (1 710-1 815 MHz to be used for uplink only in Region 3);  – 2 500-2 690 MHz (2 500-2 535 MHz to be used for uplink only in Region 3, except 2 655‑2 690 MHz in Region 3);  3 to study appropriate modifications to the existing footnote and associated resolution in the identification in *recognizing b)* in order to facilitate the use of high-altitude platform stations as IMT base stations with the latest radio interface technologies of IMT;  4 to study the definition of high-altitude platform stations as IMT base stations (HIBS) including possible modifications to the provisions of the Radio Regulations, as appropriate;  5 to develop ITU‑R Recommendations and Reports, as appropriate, taking into account *resolves to invite ITU-R* 1, 2, 3, and 4 above,  further resolves to invite WRC-23  to consider, based on the results of the above studies, the use of high altitude platform stations as IMT base stations in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level, and take necessary regulatory actions, as appropriate, taking into account that changes to the footnotes in the *recognizing d)* are outside the scope and there should be no additional regulatory or technical constraints imposed on the deployment of ground-based IMT systems in the frequency bands referred to in those footnotes,  invites administrations  to participate actively in these studies by submitting contributions to ITU‑R. | **WP 3K, WP 3M, WP 4A, WP 4C, WP 5A, WP 5B, WP 5C, WP 6A, WP 7B, WP 7C,  WP 7D** |
| 1.5 to review the spectrum use and spectrum needs of existing services in the frequency band 470-960 MHz in Region 1 and consider possible regulatory actions in the frequency band 470‑694 MHz in Region 1 on the basis of the review in accordance with Resolution **235 (WRC‑15)**; | | | |
| Resolution **235 (WRC‑15)**  Review of the spectrum use of the frequency band 470-960 MHz in Region 1 | **TG 6/1**  Note: See Annex 9 to this Administrative Circular | resolves to invite ITU‑R, after the 2019 World Radiocommunication Conference and in time for the 2023 World Radiocommunication Conference  1 to review the spectrum use and study the spectrum needs of existing services within the frequency band 470-960 MHz in Region 1, in particular the spectrum requirements of the broadcasting and mobile, except aeronautical mobile, services, taking into account the relevant ITU Radiocommunication Sector (ITU‑R) studies, Recommendations and Reports;  2 to carry out sharing and compatibility studies, as appropriate, in the frequency band 470‑694 MHz in Region 1 between the broadcasting and mobile, except aeronautical mobile, services, taking into account relevant ITU‑R studies, Recommendations and Reports;  3 to conduct sharing and compatibility studies, as appropriate, in order to provide relevant protection of systems of other existing services,  invites administrations  to participate actively in the studies by submitting contributions to ITU‑R,  resolves to invite the 2023 World Radiocommunication Conference  to consider, based on the results of studies above, provided that these studies are completed and approved by ITU‑R, possible regulatory actions in the frequency band 470-694 MHz in Region 1, as appropriate,  further invites ITU‑R  to ensure intersectoral collaboration with the ITU Telecommunication Development Sector (ITU‑D) in the implementation of this Resolution. | **WP 3K, WP 3M, WP 5A, WP 5B, WP 5C, WP 5D, WP 6A** |
| 1.6 to consider, in accordance with Resolution **772 (WRC‑19)**, regulatory provisions to facilitate radiocommunications for sub-orbital vehicles; | | | |
| Resolution**772 (WRC‑19)**  Consideration of regulatory provisions to facilitate the introduction of sub-orbital vehicles | **WP 5B**  Note: See relevant text in CPM23-1 meeting report (Annex 4 to this Administrative Circular) on how to facilitate the work related to satellite. | resolves to invite ITU-R  1 to study spectrum needs for communications between stations on board sub-orbital vehicles and terrestrial/space stations providing functions such as, *inter alia*, voice/data communications, navigation, surveillance and TT&C;  2 to study appropriate modification, if any, to the Radio Regulations, excluding any new allocations or changes to the existing allocations in Article **5**, to accommodate stations on board sub‑orbital vehicles, whilstavoiding any impact on conventional space launch systems with the following objectives:  – to determine the status of stations on sub-orbital vehicles, and study corresponding regulatory provisions to determine which existing radiocommunication services can be used by stations on sub‑orbital vehicles, if necessary;  – to determine the technical and regulatory conditions to allow some stations on board sub‑orbital vehicles to operate under the aeronautical regulation and to be considered as earth stations or terrestrial stations even if a part of the flight occurs in space;  – to facilitate radiocommunications that support aviation to safely integrate sub-orbital vehicles into the airspace and be interoperable with international civil aviation;  – to define the relevant technical characteristics and protection criteria relevant for the studies to be undertaken in accordance with the bullet point below;  – to conduct sharing and compatibility studies with incumbent services that are allocated on a primary basis in the same and adjacent frequency bands in order to avoid harmful interference to other radiocommunication services and to existing applications of the same service in which stations on board sub-orbital vehicles operate, having regard to the sub-orbital flight application scenarios;  3 to identify, as a result of the studies above, whether there is a need for access to additional spectrum that should be addressed after WRC‑23 by a future competent conference,  invites ICAO  to participate in the studies and provide to ITU the relevant technical characteristics required for the studies called for in *resolves to invite ITU‑R*,  invites the 2023 World Radiocommunication Conference  to consider the results of the studies above and take the appropriate action,  instructs the Director of the Radiocommunication Bureau  to bring this Resolution to the attention of the relevant ITU‑R study groups,  invites administrations  to participate actively in the studies by submitting contributions to ITU‑R,  instructs the Secretary-General  to bring this Resolution to the attention of the United Nations Committee on the Peaceful Uses of Outer Space and ICAO and other international and regional organizations concerned. | **WP 3M, WP 4A, WP 4C,  WP 7B** |
| 1.7 to consider a new aeronautical mobile-satellite (R) service (AMS(R)S) allocation in accordance with Resolution **428** **(WRC‑19)** for both the Earth-to-space and space‑to‑Earth directions of aeronautical VHF communications in all or part of the frequency band 117.975-137 MHz, while preventing any undue constraints on existing VHF systems operating in the AM(R)S, the ARNS, and in adjacent frequency bands; | | | |
| Resolution**428 (WRC‑19)**  Studies on a possible new allocation to the aeronautical mobile satellite (R) service within the frequency band 117.975‑137 MHz in order to support aeronautical VHF communications in the Earth-to-space and space-to-Earth directions | **WP 5B**  Note: See relevant text in CPM23-1 meeting report (Annex 4 to this Administrative Circular) on how to facilitate the work related to satellite. | resolves to invite ITU‑R  1 to define the relevant technical characteristics and to study, taking into account *considering c)* and taking into account No. **5.200***,* compatibility between potential new AMS(R)S systems that operate within the frequency band 117.975-137 MHz in the Earth-to-space and space-to-Earth directions and existing primary services in band and in adjacent frequency bands, while ensuring protection of systems using existing primary services in those frequency bands and not constraining planned usage of those systems;  2 to take into account the results of the studies, to provide technical and regulatory recommendations relative to a possible new allocation to AMS(R)S within the frequency band 117.975‑137 MHz, taking into consideration the responsibility of ICAO in *noting b)*,  invites the 2023 World Radiocommunication Conference  to consider the results of the studies and take appropriate actions, including possible primary allocation to AMS(R)S within the frequency band 117.975-137 MHz,  invites Member States and Sector Members  to participate actively in the studies and to submit characteristics of any current and planned systems to be studied, as appropriate,  invites the International Civil Aviation Organization  to participate in the studies by providing aeronautical operational requirements and relevant available technical characteristics to be taken into account in ITU‑R studies and to take into account the sharing and compatibility conclusions at ITU‑R in the SARPs to be developed for AMS(R)S,  instructs the Secretary-General  to bring this Resolution to the attention of ICAO. | **WP 3M, WP 4C,  WP 7B** |
| 1.8 to consider, on the basis of ITU‑R studies in accordance with Resolution **171** **(WRC‑19)**, appropriate regulatory actions, with a view to reviewing and, if necessary, revising Resolution **155 (Rev.WRC‑19)** and No. **5.484B** to accommodate the use of fixed-satellite service (FSS) networks by control and non-payload communications of unmanned aircraft systems; | | | |
| Resolution**171 (WRC‑19)**  Review and possible revision of Resolution 155 (Rev.WRC‑19) and No. 5.484B in the frequency bands to which they apply | **WP 5B**  Note: See relevant text in CPM23-1 meeting report (Annex 4 to this Administrative Circular) on how to facilitate the work related to satellite. | resolves to invite ITU-R  1 to continue and complete in time for WRC‑23 relevant studies of the technical, operational and regulatory aspects, based on the frequency bands mentioned in *resolves* 1 of Resolution **155 (Rev.WRC‑19)**, in relation to the implementation of Resolution **155 (Rev.WRC‑19)**,taking into account the progress obtained by ICAO in the completion of SARPs on the use of FSS for the UAS CNPC links;  2 to review No. **5.484B** and Resolution **155 (Rev.WRC‑19)** taking into account the results of the above studies,  resolves to invite WRC‑23  to revise, if necessary, No. **5.484B** and Resolution **155 (Rev.WRC‑19)** and take other necessary actions, as appropriate, on the basis of the studies conducted under Resolution **155 (Rev.WRC‑19)** and *resolves to invite ITU‑R* above,  instructs the Secretary-General  to bring this Resolution to the attention of the Secretary-General of ICAO. | **WP 4A,  WP 4B** |
| 1.9 to review Appendix **27** of the Radio Regulations and consider appropriate regulatory actions and updates based on ITU‑R studies, in order to accommodate digital technologies for commercial aviation safety-of-life applications in existing HF bands allocated to the aeronautical mobile (route) service and ensure coexistence of current HF systems alongside modernized HF systems, in accordance with Resolution **429** **(WRC‑19)**; | | | |
| Resolution**429 (WRC‑19)**  Consideration of regulatory provisions for updating Appendix 27 of the Radio Regulations in support of aeronautical HF modernization | **WP 5B** | resolves to invite ITU-R  1 to identify any necessary modifications to Appendix **27** for the aeronautical mobile (route) service between 2 850 and 22 000 kHz noting *recognizing* *c)*;  2 to identify any necessary transition arrangements for the introduction of new digital aeronautical wideband HF systems and any consequential changes to Appendix **27**;  3 to recommend how new digital aeronautical wideband HF systems can be introduced while ensuring compliance with safety requirements and *recognizing e)*;  4 to define the relevant technical characteristics and to conduct any necessary sharing and compatibility studies, taking account *noting e),* with incumbent services that are allocated on a primary basis in the same or adjacent frequency bands to avoid harmful interference in accordance with *recognizing e)*;  5 to complete studies in time for WRC‑23,  resolves to invite WRC-23  to consider necessary changes to Appendix **27**, on the basis of the studies conducted under *resolves to invite ITU‑R* above,  instructs the Secretary-General  to bring this Resolution to the attention of the International Civil Aviation Organization,  invites the International Civil Aviation Organization  to participate actively by providing aeronautical operational requirements and relevant available technical characteristics to be taken into account in ITU‑R studies. | **WP 3L, WP 3M, WP 6A** |
| 1.10 to conduct studies on spectrum needs, coexistence with radiocommunication services and regulatory measures for possible new allocations for the aeronautical mobile service for the use of non-safety aeronautical mobile applications, in accordance with Resolution **430** **(WRC‑19)**; | | | |
| Resolution**430 (WRC‑19)**  Studies on frequency-related matters, including possible additional allocations, for the possible introduction of new non-safety aeronautical mobile applications | **WP 5B** | resolves to invite ITU‑R  to conduct, and complete in time for WRC-23:  1 studies on spectrum needs for new non-safety aeronautical mobile applications for air‑to‑air, ground-to-air and air-to-ground communications of aircraft systems;  2 sharing and compatibility studies in the frequency band 22-22.21 GHz, already allocated on a primary basis to the mobile, except aeronautical mobile, service, in order to evaluate the possible revision or deletion of the “except aeronautical mobile” restriction while ensuring the protection of primary services in the considered frequency bands and, as appropriate, in adjacent frequency bands;  3 sharing and compatibility studies on possible new primary allocations to the aeronautical mobile service for non-safety aeronautical applications in the frequency band 15.4-15.7 GHz, while ensuring the protection of primary services in the considered frequency bands and, as appropriate, adjacent frequency bands;  4 definition of appropriate protection for passive services and radio astronomy allocated in adjacent bands from unwanted emission of AMS,  invites the 2023 World Radiocommunication Conference  to review the results of the ITU‑R studies and take appropriate actions,  invites administrations  to participate actively in the studies by submitting contributions to ITU‑R. | **WP 3K, WP 3M, WP 4A, WP 5A, WP 5C, WP 7C,  WP 7D** |
| 1.11to consider possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e‑navigation, in accordance with Resolution **361 (Rev.WRC‑19)**; | | | |
| Resolution**361 (Rev.WRC‑19)**  Consideration of possible regulatory actions to support the modernization of the Global Maritime Distress and Safety System and the implementation of e‑navigation | **WP 5B**  Note: See relevant text in CPM23-1 meeting report (Annex 4 to this Administrative Circular) | resolves to invite the 2023 World Radiocommunication Conference  1 to consider possible regulatory actions, based on the ITU Radiocommunication Sector (ITU‑R) studies, taking into consideration the activities of IMO, as well as information and requirements provided by IMO, to support GMDSS modernization;  2 to consider possible regulatory actions, including spectrum allocations based on the ITU Radiocommunication Sector (ITU‑R) studies, for the maritime mobile service, supporting e‑navigation;  3 to consider regulatory provisions, if any, based on the results of ITU‑R studies, referred to in *invites ITU*‑*R* below, to support the introduction of additional satellite systems into the GMDSS,  invites ITU-R  to conduct studies taking into consideration the activities of IMO and other relevant international organizations, in order to determine spectrum needs and regulatory actions to support GMDSS modernization and the implementation of e‑navigation, including the introduction of additional satellite systems into the GMDSS,  instructs the Secretary-General  to bring this Resolution to the attention of IMO and other international and regional organizations concerned. | **WP 4C** (responsible for developing studies and draft CPM text on *resolves to invite the 2023 World Radiocommu-nication Conference* 3 and sending this to WP 5B) |
| 1.12 to conduct, and complete in time for WRC‑23, studies for a possible new secondary allocation to the Earth exploration-satellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, including in adjacent bands, in accordance with Resolution **656 (Rev.WRC‑19)**; | | | |
| Resolution**656 (Rev.WRC‑19)**  Possible secondary allocation to the Earth exploration-satellite service (active) for spaceborne radar sounders in the range of frequencies around 45 MHz | **WP 7C** | resolves to invite the 2023 World Radiocommunication Conference  to consider the results of studies on spectrum needs for a possible new secondary allocation to the Earth exploration-satellite (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, and take appropriate action,  invites ITU-R  to conduct studies on spectrum needs and sharing studies between the Earth exploration-satellite (active) service and the radiolocation, fixed, mobile, broadcasting, amateur and space research services in the 40-50 MHz frequency range and in adjacent bands,  invites administrations  to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector,  instructs the Secretary-General  to bring this Resolution to the attention of international and regional organizations concerned. | **WP 3K, WP 3L, WP 3M, WP 5A, WP 5B,  WP 6A** |
| 1.13 to consider a possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to the space research service, in accordance with Resolution **661** **(WRC‑19)**; | | | |
| Resolution**661 (WRC‑19)**  Examination of a possible upgrade to primary status of the secondary allocation to the space research service in the frequency band 14.8‑15.35 GHz | **WP 7B** | resolves to invite ITU-R  1 to investigate and identify all relevant scenarios mentioned in *recognizing* *a)* to *c)* that need to be considered in compatibility and sharing studies, taking into account the latest relevant ITU‑R Recommendations;  2 to conduct and complete in time for WRC‑23 sharing and compatibility studies in order to determine the feasibility of upgrading the SRS allocation to primary status in the frequency band 14.8‑15.35 GHz, with a view to ensuring protection of the primary service in *considering a)* and*d)* and taking into account *recognizing* *e)*;  3 to determine the technical and regulatory conditions according to the results of studies mentioned in *resolves to invite ITU‑R*2,  resolves to invite administrations  to participate actively in the studies and provide the technical and operational characteristics of the systems involved by submitting contributions to ITU‑R,  invites the 2023 World Radiocommunication Conference  to examine, on the basis of the results of studies by the ITU Radiocommunication Sector, the possibility of upgrading the secondary status of the allocation to the SRS to primary status in the frequency band 14.8-15.35 GHz, taking into account studies in *resolves to invite ITU‑R* 2 and the considerations in *resolves to invite ITU‑R*3. | **WP 3M, WP 5A, WP 5C, WP 7C,  WP 7D** |
| 1.14 to review and consider possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5‑252 GHz, to ensure alignment with more up-to-date remote-sensing observation requirements, in accordance with Resolution **662** **(WRC‑19)**; | | | |
| Resolution**662 (WRC‑19)**  Review of frequency allocations for EESS (passive) in the frequency range 231.5-252 GHz and consider possible adjustment according to observation requirements of passive microwave sensors | **WP 7C** | resolves to invite ITU‑R  1 to review the existing primary allocations to the EESS (passive) in the frequency range 231.5‑252 GHz in order to analyse if these allocations are aligned with observation requirements of passive microwave sensors;  2 to study the impact that any change to the EESS (passive) allocations in the frequency range 231.5-252 GHz might have on the other primary services in these frequency bands;  3 to study, as appropriate, possible adjustments to the EESS (passive) allocations in the frequency range 231.5-252 GHz, taking into account the results under *resolves to invite ITU‑R* 1 above,  invites the 2023 World Radiocommunication Conference  to review the results of these studies with a view to adjusting existing allocations or adding possible new allocations, as appropriate, to EESS (passive) in the frequency range 231.5‑252 GHz without unduly constraining the other primary services currently allocated in this frequency range,  invites administrations  to participate actively in the studies by submitting contributions to ITU‑R,  instructs the Secretary-General  to bring this Resolution to the attention of the international and regional organizations concerned. | **WP 3J, WP 3M, WP 4A, WP 4C, WP 5A, WP 5B,  WP 5C** |
| 1.15 to harmonize the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service globally, in accordance with Resolution **172** **(WRC‑19)**; | | | |
| Resolution**172 (WRC‑19)**  Operation of earth stations on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service in the frequency band 12.75-13.25 GHz (Earth-to-space) | **WP 4A** | resolves to invite ITU‑R  1 to study the technical and operational characteristics and user requirements of earth stations on aircraft and vessels that communicate or plan to communicate with GSO space stations in the FSS in the frequency band 12.75-13.25 GHz (Earth-to-space) under the envelope of Appendix **30B** Article 6 recorded in the List or MIFR with favourable finding only and examination of related existing regulatory provisions, subject to *recognizing a)*;  2 to study the sharing and compatibility issues between earth stations on aircraft and vessels communicating with GSO space stations in the FSS and current and planned stations of existing services in *considering* *a)* as well as services in bands adjacent to those, to ensure protection of, and not impose undue constraints on, those services and their future development, taking into account the provisions of Appendix **30B**;  3 to study the responsibility of the entities involved in the operation of the earth stations on aircraft and vessels in this Resolution;  3*bis* to develop the criteria to ensure that earth stations on aircraft and vessels as a new application of FSS in this frequency band shall not claim more protection or cause more interference than filed earth stations in Appendix **30B**;  4 to develop the technical conditions and regulatory provisions for the harmonized operation of earth stations on aircraft and vessels communicating with GSO space stations in the FSS operating in the frequency band 12.75-13.25 GHz (Earth-to-space), considering the results of the studies outlined in *resolves to invite ITU‑R*1 and 2, and in particular without affecting the Appendix **30B** Plan;  5 to ensure that the operation of earth stations on aircraft and vessels in the frequency band 12.75-13.25 GHz under Appendix **30B** shall not adversely affect the criteria in *recognizing j)*, including the cumulative effect of multiple earth stations on aircraft and vessels;  6 to ensure that the use of the frequency band 12.75-13.25 GHz (Earth-to-space) by earth stations on aircraft and vessels shall not limit the access of other administrations to their national resources in Appendix **30B** as well as implementation of Resolution **170** **(WRC‑19)**;  7 to ensure that the use of earth stations on aircraft and vessels in this Resolution would not result in any additional status than the GSO network with which these stations communicate;  8 to ensure that the results of ITU‑R studies are agreed by Member States taking into account the required consensus on this matter;  9 to complete studies in time for WRC‑23,  further resolves  that earth stations on aircraft and vessels addressed by this Resolution:  *a)* shall not be used or relied upon for safety-of-life applications;  *b)* shall not result in changes or restrictions to the existing Plan allotments and List assignments made under the Appendix **30B**, and their future development,  resolves to invite WRC‑23  to consider the results of the above studies in *resolves to invite ITU‑R* and take necessary actions, as appropriate,  invites administrations  to participate actively in the studies by submitting contributions to ITU‑R. | **WP 3M, WP 5A, WP 5B,  WP 5C** |
| 1.16 to study and develop technical, operational and regulatory measures, as appropriate, to facilitate the use of the frequency bands 17.7-18.6 GHz and 18.8‑19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by non-GSO FSS earth stations in motion, while ensuring due protection of existing services in those frequency bands, in accordance with Resolution **173** **(WRC‑19)**; | | | |
| Resolution**173 (WRC‑19)**  Use of the frequency bands 17.7‑18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5-30 GHz (Earth-to-space) by earth stations in motion communicating with non-geostationary space stations in the fixed-satellite service | **WP 4A** | resolves to invite ITU-R  1 to study the technical and operational characteristics and user requirements of the different types of earth stations in motion that plan to operate within non-GSO FSS systems in the frequency bands 17.7-18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5‑29.1 GHz and 29.5-30 GHz (Earth-to-space), or parts thereof;  2 to study sharing and compatibility between earth stations in motion operating with non-GSO FSS systems and current and planned stations of primary services allocated in the frequency bands 17.7-18.6 GHz and 18.8-19.3 GHz and 19.7-20.2 GHz (space-to-Earth) and 27.5-29.1 GHz and 29.5‑30 GHz (Earth-to-space), or parts thereof, to ensure protection of, and not impose additional constraints on, GSO systems and other services, including terrestrial services, in those frequency bands and in adjacent bands, including passive services;  3 to develop the technical and regulatory provisions for the operation of aeronautical and maritime earth stations in motion with non-GSO FSS systems, taking into account the results of studies under *resolves to invite ITU-R* 1 and 2;  4 to ensure that the technical and operational measures and the possible regulatory changes established in accordance with this Resolution shall not affect the relevant provisions related to the protection of GSO networks from non-GSO FSS systems;  5 to ensure that the results of ITU‑R studies are agreed by Member States by consensus;  6 to complete studies in time for WRC‑23,  resolves to invite WRC‑23  to review the results of these studies and take appropriate action. | **WP 3M, WP 4C, WP 5A, WP 5B, WP 5C,  WP 7B** |
| 1.17 to determine and carry out, on the basis of the ITU‑R studies in accordance with Resolution **773** **(WRC‑19)**, the appropriate regulatory actions for the provision of inter‑satellite links in specific frequency bands, or portions thereof, by adding an inter-satellite service allocation where appropriate; | | | |
| Resolution**773 (WRC‑19)**  Study of technical and operational issues, and regulatory provisions for satellite-to-satellite links in the frequency bands 11.7-12.7 GHz, 18.1‑18.6 GHz, 18.8‑20.2 GHz and 27.5-30 GHz | **WP 4A** | resolves to invite ITU‑R  1 to develop the technical and operational characteristics of different types of space stations that plan satellite-to-satellite transmissions in the frequency bands 11.7‑12.7 GHz, 18.1‑18.6 GHz, 18.8‑20.2 GHz and 27.5-30 GHz, taking into account *considering e)* above;  2 to study the technical and operational characteristics, including spectrum requirements, off‑axis e.i.r.p. values and out-of-band emission limits, for transmissions between space stations in the frequency bands 11.7-12.7 GHz, 18.1-18.6 GHz, 18.8-20.2 GHz and 27.5‑30 GHz;  3 to study sharing and compatibility between satellite-to-satellite links, intending to operate between space stations in the frequency bands 11.7-12.7 GHz, 18.1-18.6 GHz, 18.8‑20.2 GHz and 27.5‑30 GHz, and current and planned stations of the FSS and other existing services allocated in same frequency bands and adjacent bands, including passive services, with a view to ensuring protection of the primary services in *recognizing further i)*;  4 to develop, for different types of space stations, the technical conditions and regulatory provisions for satellite-to-satellite operations in the frequency bands 11.7‑12.7 GHz, 18.1‑18.6 GHz, 18.8-20.2 GHz and 27.5-30 GHz, or portions thereof, including new ISS allocations, as appropriate, taking into account the results of the studies above,  invites administrations  to participate in the studies and to provide input contributions,  resolves to invite the 2023 World Radiocommunication Conference  to consider the results of the above studies and take necessary regulatory actions, as appropriate. | **WP 3M, WP 4B, WP 4C, WP 5A, WP 5B, WP 5C,  WP 7B** |
| 1.18 to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution **248** **(WRC‑19)**; | | | |
| Resolution**248 (WRC‑19)**  Studies relating to spectrum needs and potential new allocations to the mobile‑satellite service in the frequency bands 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300‑3 315 MHz and 3 385-3 400 MHz for future development of narrowband mobile‑satellite systems | **WP 4C** | resolves to invite ITU‑R  1 to conduct studies on spectrum and operational requirements as well as system characteristics of low-data rate systems for the collection of data from, and management of, terrestrial devices in the MSS as described in *considering a)* and limited to the basic characteristics in *recognizing c)*;  2 to conduct sharing and compatibility studies with existing primary services to determine the suitability of new allocations to the MSS, with a view to protecting the primary services, in the following frequency bands and adjacent frequency bands:  1 695-1 710 MHz in Region 2,  2 010-2 025 MHz in Region 1,  3 300-3 315 MHz, 3 385-3 400 MHz in Region 2;  3 to consider possible new primary or secondary allocations, with the necessary technical limitations, taking into account the characteristics described in *recognizing c),* to the MSS for non-GSO satellites operating low-data rate systems for the collection of data from, and management of, terrestrial devices based on the result of sharing and compatibility studies, while ensuring the protection of existing primary services in those frequency bands, and adjacent bands, without causing undue constraints on their further development,  resolves to invite WRC‑23  to determine, on the basis of the studies conducted under the *resolves to invite ITU‑R* above, appropriate regulatory actions,  invites administrations  to participate in the studies by submitting contributions to ITU‑R. | **WP 3M, WP 4A, WP 4B, WP 5A, WP 5B, WP 5C, WP 5D, WP 7B** |
| 1.19to consider a new primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2, while protecting existing primary services in the band, in accordance with Resolution **174** **(WRC‑19)**; | | | |
| Resolution**174 (WRC‑19)**  Primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3‑17.7 GHz in Region 2 | **WP 4A** | resolves  that the studies referred in *invites ITU-R* below shall protect radiocommunication services to which the band is allocated on primary basis, in particular assignments contained in Appendix **30A** of the Radio Regulations,  invites ITU-R  to conduct, and complete in time for WRC‑23, sharing and compatibility studies between the fixed-satellite service (space-to-Earth) and the broadcasting-satellite service (space-to-Earth) and between the fixed-satellite service (space-to-Earth) and the fixed-satellite service (Earth‑to-space), in order to consider possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz for Region 2, while ensuring the protection of existing primary allocations in the same and adjacent bands, as appropriate, and without imposing any additional constraints on existing allocations to the broadcasting‑satellite service (space-to-Earth) and the fixed-satellite service (Earth-to-space),  invites WRC-23  to consider the results of the above studies and take necessary actions, as appropriate,  invites administrations  to participate actively in the studies and provide the technical and operational characteristics of the systems involved by submitting contributions to ITU‑R. | **WP 3M, WP 5A, WP 5B, WP 5C,  WP 7B** |
| 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‑19: | | | |
| a) In accordance with Resolution **657 (Rev.WRC‑19)**, review the results of studies relating to the technical and operational characteristics, spectrum requirements and appropriate radio service designations for space weather sensors with a view to describing appropriate recognition and protection in the Radio Regulations without placing additional constraints on incumbent services; | | | |
| Resolution**657 (Rev.WRC‑19)**  Protection of radio spectrum-reliant space weather sensors used for global prediction and warnings | **WP 7C** | resolves to invite ITU-R  1 to identify, in time for WRC‑23, and based on existing and possible further ITU‑R studies on the technical and operational characteristics, specific space weather sensors which need to be protected by appropriate regulation, including:  – to determine if receive-only space weather sensors shall be designated as applications of the Metaids service;  – to determine the appropriate radiocommunication service, if any, for cases where it is determined that receive-only space weather sensors do not fall under the Metaids service;  2 to conduct, in time for WRC‑23, any necessary sharing studies with incumbent systems operating in frequency bands used by space weather sensors with the objective of determining potential regulatory provisions that can be provided to receive-only operational space weather sensors for their appropriate recognition in the Radio Regulations, while not placing additional constraints on incumbent services;  3 to develop potential solutions to describe in the Radio Regulations in Articles **1** and **4**, and/or as a WRC resolution, if deemed appropriate, for consideration by WRC-23, space weather sensor systems and their corresponding usage, as well as protection requirements for receive-only space weather sensors;  4 to conduct studies, in time for WRC‑23, on the technical and operational characteristics of active space weather sensors and conduct necessary sharing studies with incumbent systems operating in frequency bands used by active space weather sensors, with the objective of determining the appropriate radiocommunication service for those sensors,  instructs the Director of the Radiocommunication Bureau  to report on the results of the ITU-R studies to WRC-23,  invites administrations  to participate actively in the studies and provide the technical and operational characteristics of the systems involved by submitting contributions to ITU‑R,  instructs the Secretary-General  to bring this Resolution to the attention of the World Meteorological Organization (WMO) and other international and regional organizations concerned. | **WP 1B,  WP 3J,  WP 3K,  WP 3L, WP 3M, WP 5A, WP 5B, WP 5C, WP 6A, WP 7D** |
| b) Review of the amateur service and the amateur-satellite service allocations in the frequency band 1 240‑1 300 MHz to determine if additional measures are required to ensure protection of the radionavigation-satellite (space-to-Earth) service operating in the same band in accordance with Resolution **774** **(WRC‑19)**; | | | |
| Resolution**774 (WRC‑19)**  Studies on technical and operational measures to be applied in the frequency band 1 240-1 300 MHz to ensure the protection of the radionavigation-satellite service (space-to-Earth) | **WP 5A** | resolves to invite ITU‑R  1 to perform the detailed review of the different systems and applications used in the amateur service and amateur-satellite service allocations within the frequency band 1 240‑1 300 MHz;  2 taking into account the results of the above review, to study possible technical and operational measures to ensure the protection of RNSS (space-to-Earth) receivers from the amateur and amateur-satellite services within the frequency band 1 240-1 300 MHz, without considering the removal of these amateur and amateur-satellite services allocations,  instructs the Director of the Radiocommunication Bureau  to include the results of these studies in his Report to WRC‑23 for the purpose of considering appropriate actions in response to *resolves to invite ITU‑R* above. | **WP 3M, WP 4C** (responsible for developing studies on *resolves to invite ITU R 2* and sending this to WP 5A) |
| c) Study the use of International Mobile Telecommunication system for fixed wireless broadband in the frequency bands allocated to the fixed services on primary basis, in accordance with Resolution **175** **(WRC‑19)**; | | | |
| Resolution**175 (WRC‑19)**  Use of International Mobile Telecommunication systems for fixed wireless broadband in the frequency bands allocated to the fixed service on primary basis | **WP 5A and WP 5C**  Note: This is a joint activity and a joint plenary may be held if required. WP 5A will provide the draft text on the results of studies to the CPM Chapter co‑Rapporteurs. | resolves to invite ITU‑R  to conduct any necessary studies on the use of International Mobile Telecommunication systems for fixed wireless broadband in the frequency bands allocated to the fixed service on primary basis, taking into account the relevant ITU‑R studies, Handbooks, Recommendations and Reports,  instructs the Director of the Radiocommunication Bureau  to report to WRC‑23 on the results of these studies,  invites administrations  to participate in these studies in the process of preparation for WRC‑23. | **WP 1B, WP 4A, WP 4C, WP 5D, WP 6A, WP 7B, WP 7C,**  **WP 7D** |
| d) Protection of EESS (passive) in the frequency band 36-37 GHz from non-GSO FSS space stations; | | | |
| See [WRC-19 Document 535](https://www.itu.int/md/R16-WRC19-C-0535/en), 2nd section of the Annex | **WP 7C** | **Protection of EESS (passive) in the frequency band 36-37 GHz**  Under studies considered for WRC-19 agenda item 1.6, a preliminary study on the protection of EESS (passive) sensors operating in the 36-37 GHz was submitted to the ITU‑R. This preliminary study indicated that it may be necessary to not exceed an out-of-band e.i.r.p. of −34 dBW/100 MHz, for all angles greater than 71.4 degrees from nadir, for FSS non-GSO space stations operating in the frequency band 37.5-38 GHz. In addition, interference into the cold calibration channel of the EESS (passive) sensor operating in the frequency band 36‑37 GHz has not been studied.  WRC-19 invites ITU-R to conduct further study of this topic and develop Recommendations and/or Reports, as appropriate, and report back to WRC-23 to take action, if necessary.  Furthermore, WRC-19 agreed that modifications to Resolution **750 (Rev. WRC-19)** should not be considered under these studies since the frequency band 36-37 GHz is not referenced in No. **5.340**. | **WP 4A,**  **WP 5A,**  **WP 5C,**  **WP 5D** |

Attachment 9

WRC Recommendations related to the work of Study Group 5

| **Topic** | **Title** | **Action to be taken by the group** | **WP** |
| --- | --- | --- | --- |
| Recommendation **16 (Rev.WRC-19)** | Interference management for stations that may operate under more than one terrestrial radiocommunication service | recommends  that ITU-R study all aspects of interference management resulting from the impact of technical convergence on the radio regulatory environment, involving stations that may operate under more than one terrestrial radiocommunication service, particularly cross-border interference cases, to ensure harmful interference is not caused to stations of other Member States, | **5A, 5B, 5C, 5D** |
| Recommendation **34 (WRC-12)** | Principles for the allocation of frequency bands | instructs the Director of the Radiocommunication Bureau and requests the ITU‑R study groups  1 when carrying out technical studies relating to a frequency band, to examine the compatibility of broadly defined services with the existing utilizations and the possibility of aligning allocations on a worldwide basis, having regard to *considerings a)* to *g)* and *recommends* 1 to 4 above;  2 to conduct these studies, with the participation of the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), the World Meteorological Organization (WMO) and other international organizations concerned, where appropriate;  3 to submit a report to future world radiocommunication conferences containing the results of these studies,  invites ITU‑R  to identify areas for study and to undertake the studies necessary to determine the impact on existing services of those agenda items of future world radiocommunication conferences which involve broadening the scope of existing service allocations, | **5A, 5B, 5C,  5D** |
| Recommendation **75 (Rev.WRC-15)** | Study of the boundary between the out-of-band and spurious domains of  primary radars using magnetrons | recommends  that ITU-R study calculation methods for the −40 dB bandwidth necessary for the determination of the boundary between the spurious and out-of-band domains of primary radars using magnetrons, | **5B** |
| Recommendation **76 (WRC-12)** | Deployment and use of cognitive radio systems | recommends  that administrations participate actively in the ITU‑R studies conducted under Resolution ITU‑R 58, taking into account *recognizing* *a)* and *b)*. | **5A, 5D** |
| Recommendation **206 (Rev.WRC-19)** | Studies on the possible use of integrated mobile-satellite service and ground component systems in the bands 1 525‑1 544 MHz, 1 545‑1 559 MHz,  1 626.5‑1 645.5 MHz and 1 646.5‑1 660.5 MHz | recommends  to invite ITU-R to conduct studies on the possible use of integrated MSS systems in the bands 1 525-1 544 MHz, 1 545-1 559 MHz, 1 626.5-1 645.5 MHz and 1 646.5-1 660.5 MHz, as appropriate, taking into account the need to protect existing and planned systems, as well as the above considering, recognizing and noting, and in particular *recognizing a)*, *b)* and *c)*, | **5D** |
| Recommendation **207 (Rev.WRC-19)** | Future IMT systems | recommends  to invite ITU-R to study as necessary technical, operational and spectrum related issues to meet the objectives of future development of IMT systems. | **5D 1A** |
| Recommendation **208 (WRC-19)** | Harmonization of frequency bands for evolving Intelligent Transport Systems applications under mobile‑service allocations | recommends  1 that administrations consider using globally or regionally harmonized frequency bands, or parts thereof, as described in the most recent versions of Recommendations (e.g. ITU-R M.2121), when planning and deploying evolving ITS applications, taking into account *recognizing b*) above;  2 that administrations take into account, if necessary, coexistence issues between ITS stations and stations of existing services (e.g. FSS earth stations), taking into account *considering f)*, | **5A** |
| Recommendation **316 (Rev.WRC-19)** | Use of ship earth stations within harbours and other waters under national jurisdiction | recommends  that all administrations should permit, to the extent possible, ship earth stations to operate within harbours and other waters under national jurisdiction, in the frequency bands used for the GMDSS | **5B** |

Attachment 10

Other WRC Resolutions calling for studies by Study Group 5

|  |  |  |  |
| --- | --- | --- | --- |
| WRC Res/Rec | Title | *resolves/invites* | WP |
| Resolution **145**  **(Rev.WRC-19)** | Use of the band 27.9-28.2 by high altitude platform stations in the fixed service | *invites ITU-R*  1 to continue to carry out studies on the appropriate interference mitigation techniques for the situations referred to in *considering i)*;  2 to develop protection criteria for the mobile service having primary allocations in the frequency band 27.9-28.2 GHz from HAPS in the fixed service and include the results of these studies in existing or new ITU-R Reports/Recommendations, as appropriate. | **5C** |
| Resolution **212**  **(Rev.WRC-19)** | Implementation of International Mobile Telecommunications in the bands 1 885-2 025 MHz and 2 110‑2 200 MHz | *invites the ITU Radiocommunication Sector*  to study possible technical and operational measures to improve co-existence and compatibility between the terrestrial and satellite components of IMT in the frequency bands 1 980‑2 010 MHz and 2 170-2 200 MHz where those frequency bands are shared by the mobile service and the mobile-satellite service in different countries, in particular for the deployment of independent satellite and terrestrial components of IMT and to facilitate development of both the satellite and terrestrial components of IMT, | **5D** |
| Resolution **221**  **(Rev.WRC-07)** | Use of high altitude platform stations providing IMT in the bands 1 885-1 980 MHz, 2 010‑2 025 MHz and 2 110‑2 170 MHz in Regions 1 and 3 and 1 885-1 980 MHz and 2 110-2 160 MHz in Region 2 | *invites ITU-R*  to develop, as a matter of urgency, an ITU-R Recommendation providing technical guidance to facilitate consultations with neighbouring administrations | **5D** |
| Resolution **331 (Rev.WRC-12)** | Transition to the Global Maritime Distress and Safety System (GMDSS) | *invites ITU‑R*  to monitor the development of and changes to the GMDSS, and to continue to develop techniques and systems relevant for the GMDSS, | **5B** |
| Resolution **356 (Rev.WRC-19)** | ITU maritime service information registration | *invites the ITU R* *Radiocommunication Sector*  to consult with administrations, IMO, the International Civil Aviation Organization (ICAO), the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), and the International Hydrographic Organization (IHO) to identify elements for incorporation in ITU online information systems, | **5B** |
| Resolution **646 (Rev.WRC-19)** | Public protection and disaster relief | *invites the ITU Radiocommunication Sector*  1 to continue its technical studies and to make recommendations concerning technical and operational implementation, as necessary, to meet the needs of PPDR radiocommunication applications, taking into account the capabilities, evolution and any resulting transition requirements of the existing systems, particularly those of many developing countries, for national and international operations;  2 to review and revise Recommendation ITU-R M.2015 and other relevant ITU-R Recommendations and Reports, as appropriate. | **5A, 5B, 5C, 5D** |
| Resolution **660 (WRC-19)** | Use of the frequency band 137‑138 MHz by non‑geostationary satellites with short-duration missions in the space operation service | *invites the ITU Radiocommunication Sector*  to conduct, as a matter of urgency, relevant studies of technical, operational and regulatory aspects in relation to the implementation of this Resolution, | **5B [7B]** |
| Resolution **703 (WRC-07)** | Calculation methods and interference criteria recommended by ITU R for sharing frequency bands between space radiocommunication and terrestrial radiocommunication services or between space radiocommunication services | *resolves*  1 that the Director of the Radiocommunication Bureau, in consultation with Study Group Chairmen, shall annually prepare a list identifying the relevant newly approved ITU-R Recommendations relating to sharing between space radiocommunication and terrestrial radiocommunication services, or between space radiocommunication services;  2 that the Director of the Radiocommunication Bureau shall, once a year, publish this list electronically for the information of all administrations. | **5A, 5B, 5C, 5D** |
| Resolution **748**  **(Rev.WRC-19)** | Compatibility between the aeronautical mobile (R) service and the fixed-satellite service (Earth-to-space) in the frequency band 5 091-5 150 MHz | *invites*  1 administrations to supply technical and operational criteria necessary for sharing studies for the AM(R)S, and to participate actively in such studies;  2 ICAO and other organizations to participate actively in such studies, | **5B** |

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1. 1 WP 5B to provide characteristics and protection criteria for the aeronautical and maritime mobile services. WP 5D initiates studies with characteristics of IMT. Studies must take into account comments from both Working Parties (*invites the ITU-R* 2). WP 5D in consultation with WP 5B develops reports/recommendations, as appropriate, which are approved by SG 5 in accordance with Resolution ITU-R 1-8 (*invites the ITU-R* 4). WP 5B and WP 5D develop relevant parts, as appropriate, of the draft CPM text. WP 5D finalizes draft CPM text taking into consideration comments by WP 5B (for *invites WRC-23*). [↑](#footnote-ref-1)
2. 1 Including studies with respect to services in adjacent bands, as appropriate. [↑](#footnote-ref-2)