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| **Radiocommunication Study Groups** |  |
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| **3 February 2025** |
| **English only** |
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| Categorization of the W(A)RC Resolutions in force | |
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At its 27th meeting from 25 to 27 May 2020, the Radiocommunication Advisory Group (RAG) (see the Summary of Conclusions in [BR Administrative Circular CA/252](https://www.itu.int/md/R00-CA-CIR-0252/en) of 1 June 2020) considered a proposal to categorize new and revised Resolutions adopted by previous WRCs. The RAG invited the Bureau to produce such documentation and make it available on the RAG and Study Groups web pages.

The following categories have been established:

**Category 1 (associated with items on the next WRC agenda or the subsequent WRC preliminary agenda)**

Resolutions which are directly and exclusively associated with a WRC-27 agenda item or a WRC‑31 preliminary agenda item.

**Category 2 (not included in Category 1 but calling for ITU-R Studies)**

Resolutions which are not of Category 1, but which refer to ITU-R for study as results of deliberation at WRC(s).

**Category 3 (addressed to BR)**

Resolutions which, among other destines, are also addressed to the Radiocommunication Bureau (BR) for implementation (or application of relevant RR provisions) and reporting the results of that implementation to the next WRC.

**Category 4 (collaboration/cooperation with other ITU Sector(s) or other International Organizations)**

Resolutions which call for collaboration/cooperation of other ITU Sector(s) or other international organizations on certain activities referred to in those Resolutions.

**Category 5 (inviting PP, WRC, Council or the RRB to take necessary actions, as appropriate)**

Resolutions which, among other actions, invites future Plenipotentiary Conference(s), WRC(s) or ITU Council, or the RRB to take necessary actions, as appropriate.

**Category 6 (other Resolutions not identified within Categories 1 to 5)**

Resolutions which do not fit in any of the above-mentioned 5 categories but could present some implementation aspects.

The table below lists all the World (Administrative) Radio(communication) Conference (W(A)RC) Resolutions in force. The elements of each Resolution relating to the ITU Radiocommunication Sector (ITU-R) are contained in the column titled “*resolves / invites / instructs*”. Links to the relevant ITU-R Study Group (SG) documents describing the assignment of the Resolution to sub-groups of the SG (i.e. Document 1 of each SG) is provided where applicable and when available.

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| Table legend | |
|  | Cells in this colour indicate that the W(A)RC Resolution, requiring studies by ITU-R, is not included in any SG Document 1. |
|  | Cells in this colour indicate that the W(A)RC Resolution, requiring studies by ITU-R, is included in Document 1 of one or more SG(s). |

| Resolution | Title | *resolves / invites / instructs* | WP | Category/(ies) |
| --- | --- | --- | --- | --- |
| **1 (Rev.WRC-97)** | Notification of frequency assignments | *resolves*  that, unless specifically stipulated otherwise by special arrangements communicated to the Union by administrations, any notification of a frequency assignment to a station shall be made by the administration of the country on whose territory the station is located. | − | 3 |
| **2 (Rev.WRC-03)** | Equitable use, by all countries, with equal rights, of the geostationary-satellite and other satellite orbits and of frequency bands for space radiocommunication services | *resolves*  1 that the registration with the Radiocommunication Bureau of frequency assignments for space radiocommunication services and their use do not provide any permanent priority for any individual country or groups of countries and do not create an obstacle to the establishment of space systems by other countries;  2 that, accordingly, a country or a group of countries having registered with the Bureau frequencies for their space radiocommunication services need to take all practicable measures to facilitate the use of new space systems by other countries or groups of countries, in particular those of developing countries and least developed countries, so desiring;  3 that *resolves* 1 and 2 of this Resolution shall be taken into account by the administrations and the Bureau. | − | 3 |
| **4 (Rev.WRC-03)** | Period of validity of frequency assignments to space stations using the geostationary-satellite and other satellite orbits | *resolves*  1 that, until this Resolution is reviewed by the next competent world radiocommunication conference, frequency assignments to space radiocommunication stations located on the geostationary-satellite and other satellite orbits, noting *considering e*) and *f)*, shall not be considered perpetual and shall be dealt with as follows:  1.1 a frequency assignment to a space station2 shall be deemed definitively discontinued after the expiry of the period of operation shown on the assignment notice, reckoned from the date on which the assignment was brought into service. This period shall be limited to that for which the satellite network was designed. The Bureau shall then invite the notifying administration to take steps to cancel the assignment. If the Bureau receives no reply within three months following the expiry of the period of operation, it shall insert a symbol in the Remarks Column of the Master Register to indicate that the assignment is not in conformity with this Resolution;  1.2 if a notifying administration which wishes to extend the period of operation originally shown on the assignment notice of a frequency assignment of an existing space station2 informs the Bureau accordingly more than three years before the expiry of the period in question and if all other basic characteristics of that assignment remain unchanged, the Bureau shall amend as requested the period of operation originally recorded in the Master Register and publish that information in a special section of the Bureau’s International Frequency Information Circular (BR IFIC);  1.3 if, at least three years before the expiry of the period of operation recorded in the Master Register of a frequency assignment to an existing space station2, an administration initiates the coordination procedure specified in No. **9.7** to bring into service a new space station using the same assigned frequency and the same orbital position but with different technical characteristics, and if the Bureau finds after the notification that the new assignment conforms with the provisions of No. **11.31** and does not increase, in relation to the preceding assignment, the probability of interference to the detriment of a frequency assignment recorded in the Master Register or involved in the coordination procedure, the new assignment shall be given a favourable finding and shall be entered in the Master Register;  1.4 a notifying administration which wishes to modify a basic characteristic of a frequency assignment of a space station2 recorded in the Master Register shall initiate, in any case other than those covered by *resolves* 1.2 and 1.3, the appropriate modification procedure in accordance with the provisions of Nos. **11.43A** to **11.46**;  2 that, for the application of the provisions of *resolves* 1.1 above, the information concerning the period of validity of frequency assignments to space stations shall be notified in addition to that contained in Appendix **4**;  3 that the application of this Resolution shall not prejudge in any way the decisions of future radiocommunication conferences,  *invites ITU-R*  to undertake studies with respect to the implementation of this Resolution,  *invites the next competent world radiocommunication conference*  to take cognizance of the results of ITU‑R studies undertaken as a result of this Resolution and take action, as appropriate,  *instructs the Secretary-General*  to bring this Resolution to the attention of the Council.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  2 The expression “space station” may apply to more than one satellite provided that only one satellite is in operation at any particular moment and that the stations installed on board successive satellites have identical basic characteristics. | − | 2  AND  3  AND  5 |
| **5 (Rev.WRC-23)** | Technical cooperation with the developing countries in the study of propagation in tropical and similar areas | *resolves to instruct the Secretary-General*  1 to offer the assistance of the Union to developing countries in the tropical areas which endeavour to carry out national propagation studies in order to improve and develop their radiocommunications;  2 to assist these countries, if necessary with the collaboration of international and regional organizations such as the Asia-Pacific Broadcasting Union (ABU), Arab States Broadcasting Union (ASBU), African Telecommunication Union (ATU) and the African Union of Broadcasting (AUB) which may be concerned, in carrying out national propagation measurement programmes, including collecting appropriate meteorological data, on the basis of ITU-R Recommendations and Questions in order to improve the use of the radio-frequency spectrum;  3 to arrange funds and resources for this purpose from the UNDP or other sources in order to enable the Union to provide the countries concerned with adequate and effective technical assistance for the purpose of this Resolution,  *resolves to instruct the Director of the Radiocommunication Bureau*  to include this activity in the operational plan, within existing budgetary resources of the Sector,  *invites administrations*  to submit the results of these propagation measurements to ITU-R for consideration in its studies,  *invites the Council*  to follow the progress made in carrying out programmes of propagation measurements and the results achieved, and to take any action that it considers necessary. | − | 2  AND  3  AND  5 |
| **7 (Rev.WRC-19)** | Development of national radio‑frequency management | *resolves*  1 that meetings shall be organized between representatives of the Radiocommunication Bureau and the personnel involved in frequency management matters from administrations of developing and developed countries;  2 that such meetings shall be aimed at designing standard structures suitable for administrations of developing countries and include discussions concerning the establishment and operation of radio-frequency management units;  3 that such meetings should also identify the particular needs of developing countries in establishing such units, and the means required to meet those needs,  *recommends*  that developing countries, when planning the use of funds, particularly those received from international sources, make provision for participation in these meetings as well as taking appropriate action for the introduction and development of such units,  *invites the ITU Council*  to take the necessary measures for the organization of such meetings,  *instructs the Secretary-General*  1 to circulate this Resolution to all Member States, drawing their attention to its importance;  2 to circulate the results of such meetings, particularly to the developing countries;  3 to inform the developing countries of the types of assistance ITU can provide in setting up the desired structure,  *instructs the Director of the Radiocommunication Bureau*  to include this activity in the Operational Plan, within existing budgetary resources of the Sector,  *draws the attention of the next plenipotentiary conference*  1 to the particular problems identified in this Resolution;  2 to the need for prompt and effective action to resolve them;  3 to the need to take all practicable measures to ensure that resources are made available for this purpose. | − | 3  AND  5 |
| **8 (WRC-23)** | Tolerances for certain orbital characteristics of space stations deployed as part of non-geostationary-satellite orbit systems in the fixed-satellite, broadcasting-satellite or mobile-satellite service | *resolves*  1 that this Resolution applies to frequency assignments to non-GSO systems, for orbital planes having an orbital eccentricity less than 0.5 and an apogee altitude less than 15 000 km notified as part of a non-GSO FSS, BSS or MSS system subject to Resolution **35 (Rev.WRC‑23)**;  2 that, for frequency assignments to which resolves 1 applies, and for which information concerning the bringing into use or bringing back into use, or the deployment information under Resolution **35 (Rev.WRC‑23)**, has been provided to the Bureau prior to 1 January 2025, the notifying administration shall communicate to the Bureau the required information regarding the system’s deployed space stations in accordance with Annex 1 to this Resolution no later than 1 April 2025 and include in that submission, for each orbital plane and without submitting a modification to the notification information, the information under Appendix 4 data items A.4.b.4.r and A.4.b.4.s (distances to the apogee and perigee of the space station);  3 that, for frequency assignments to which *resolves* 1 applies, and for which information concerning the bringing into use or bringing back into use of the frequency assignments is provided to the Bureau on or after 1 January 2025, the notifying administration shall communicate to the Bureau the required information regarding the system’s deployed space station(s) in accordance with Annex 1 to this Resolution at the same time as the notifying administration informs the Bureau of the bringing into use of applicable frequency assignments under No. 11.44C or the bringing back into use of applicable frequency assignments under No. 11.49.2, and, for each orbital plane, include in that submission, if not already provided, and without submitting a modification to the notification information, the information under Appendix 4 data items A.4.b.4.r and A.4.b.4.s (distances to the apogee and perigee of the space station);  4 that, for frequency assignments to which resolves 1 applies, and which retain the remark in the MIFR entry that was added under *resolves* 5 *b)* of Resolution **35 (Rev.WRC‑23)**, and for which deployment information under Resolution **35 (Rev.WRC-23)** is provided to the Bureau on or after 1 January 2025, the notifying administration shall communicate to the Bureau the required information regarding the system’s deployed space stations in accordance with Annex 1 to this Resolution at the same time as the notifying administration communicates to the Bureau the required information under *resolves* 7 or 8, as applicable, from Resolution **35 (Rev.WRC‑23)**;  5 that, for frequency assignments to which resolves 1 applies, and for which a modification to the characteristics of the notified or recorded frequency assignments has been submitted pursuant to *resolves* 11c) of Resolution **35 (Rev.WRC‑23)**, the notifying administration shall communicate to the Bureau the required information regarding the system’s deployed space stations in accordance with Annex 1 to this Resolution within 30 days after notification information reflecting the modified characteristics is published in the Radiocommunication Bureau International Frequency Information Circular (BR IFIC) (Part II-S);  …  8 that, upon receipt of the required information submitted in accordance with *resolves* 2, 3, 4 or 5 above, the Bureau shall promptly make that information available “as received” on the ITU website;  9 that, if the information to be provided in any Annex 1 submission in accordance with *resolves* 2, 3, 4 or 5 above shows a difference between the observed and notified/recorded distances to the apogee or perigee of the space station, or a difference between the observed and notified/recorded angles of inclination of the orbital plane of the space station, that is greater than the values specified in *resolves* 7 above, the notifying administration shall also submit to the Bureau, no later than the deadline for the Annex 1 submissions in accordance with *resolves* 2, 3, 4 or 5 above, modifications to the characteristics of the notified or recorded frequency assignments reflecting the revised orbital parameters; a failure to provide such a modification will result in the frequency assignments subject to this *resolves* 9 not being considered as brought into use under No. 11.44C or brought back into use under No. 11.49.2, or counted towards a milestone under the procedures in Resolution **35 (Rev.WRC‑23)**;  10 that, where a notifying administration has communicated to the Bureau the required information regarding the system’s deployed space stations in accordance with Annex 1 to this Resolution under *resolves* 4 or 5 (in reference to *resolves* 11*c)* of Resolution **35 (Rev.WRC-23)**, and where *resolves* 9 of this Resolution does not apply), the notifying administration shall ensure that its notification information aligns with the fully-deployed system, and that any such modification be considered under *resolves* 16 below;  …  12 that any space station deployed as part of a non-GSO FSS, BSS or MSS system subject to this Resolution that has been counted towards a milestone under the procedures in Resolution **35 (Rev.WRC‑23)** for systems that have not completed the milestone process shall be considered in the deployment information submitted under *resolves* 7 or 8 of Resolution **35 (Rev.WRC‑23)**, as applicable, for any subsequent milestone submission if the tolerances referred to in *resolves* 11 above have not been exceeded for a maximum of 60 consecutive days;  13 that any space station deployed as part of a non-GSO FSS, BSS or MSS system subject to this Resolution that has completed the milestone process in *resolves* 6 or *resolves* 7 to 18 of Resolution **35 (Rev.WRC‑23)** shall not exceed the tolerances referred to in *resolves* 11 above for a maximum of 60 consecutive days;  14 that, for any space stations under *resolves* 12 or 13 above that have exceeded the maximum allowed differences in *resolves* 11 above for more than 60 consecutive days, the notifying administration shall provide the Bureau with the information in Annex 1 to this Resolution for these space stations only within 30 days after the end of that 60-day period (unless *resolves* 15 below is applied) and, within 90 days after the end of that 60-day period, submit modifications to the characteristics of the notified or recorded frequency assignments reflecting the revised parameters;  15 that, instead of applying the procedure in *resolves* 14 of this Resolution, if the notifying administration has informed the Bureau before the end of the 60-day period that it is temporarily discontinuing use of the frequency assignments, it may, within 3 years after the initiation of the discontinued use, inform the Bureau of the resumption of use within the maximum allowed differences in *resolves* 11, subject to the condition that the space stations with those frequency assignments cannot be counted towards any milestone submission under Resolution **35 (Rev.WRC‑23)** prior to such resumption;  16 that, upon receipt of the modifications to the characteristics of the notified or recorded frequency assignments as referred to in *resolves* 10, the Bureau shall:  *a)* promptly make this information available “as received” on the ITU website;  *b)* conduct an examination for compliance with Nos. **11.43A**/**11.43B**, as appropriate;  *c)* for the purpose of No. 11.43B, retain the original dates of entry of the frequency assignments in the MIFR, in the modifications submitted pursuant to *resolves* 10, if:  i) the Bureau reaches a favourable finding under No. **11.31**; and  ii) the modifications are limited to any Appendix **4** data item A.4.b.4 except Appendix **4** data item A.4.b.4.b (i.e. the number of satellites in the orbital plane) and any Appendix **4** data items A.14, A.4.b.6.a and A.4.b.7; and  iii) the notifying administration provides a commitment stating that the characteristics as modified will not cause more interference or require more protection than the characteristics provided in the latest notification information published in Part I‑S of the BR IFIC for the frequency assignments (see Appendix 4 data item A.39.a);  *d)* publish the information provided and its findings under No. **11.43B** in the BR IFIC;  17 that the Bureau shall, no later than 45 days before any deadline for submission by a notifying administration under *resolves* 2, 3, 4, 5 or 14, send a reminder to the notifying administration to provide the information required;  18 that, if a notifying administration fails to communicate the information required under *resolves* 2, 3, 4, 5 or 14, as appropriate, the Bureau shall promptly send the notifying administration a reminder asking the administration to provide the required information within 30 days from the date of that reminder from the Bureau;  19 that, if a notifying administration fails to provide information after the reminder sent under resolves 18, the Bureau shall send the notifying administration a second reminder asking it to provide the required information within 15 days from the date of the second reminder;  20 that, if a notifying administration fails to provide the required information under *resolves* 2, 3, 4, 5 or 14, as appropriate, following the reminders under *resolves* 18 and 19, the Bureau shall:  *a)* continue to take the entry in the MIFR into account when conducting its examinations, until the Radio Regulations Board confirms that *resolves* 20 *b)* shall apply;  *b)* no longer consider the frequency assignments in subsequent examinations under Nos. **9.36**, **11.32** or **11.32A** and inform administrations having frequency assignments subject to Sub-Section IA of Article **9** that those assignments shall not cause harmful interference to, or claim protection from, other frequency assignments recorded in the MIFR with a favourable finding under No. **11.31**;  21 that, if information provided by a notifying administration under *resolves* 4 or 5 of this Resolution results in frequency assignments not retaining their original dates of entry in the MIFR after application of *resolves* 9 or 14 of this Resolution, those space stations with altitude or inclination deviations that caused this result shall not be included in the total number of space stations deployed as part of the system for purposes of the milestone submission under Resolution **35 (Rev.WRC-23)** with which the information under *resolves* 4 or 5 of this Resolution is associated,  *further resolves*  to apply the provisions of this Resolution on a provisional basis as from 1 January 2025 pending review by a future competent conference,  *instructs the Radiocommunication Bureau*  1 to take the necessary actions to implement this Resolution and to report on any difficulties it or administrations encounter in the implementation or application of this Resolution to future world radiocommunication conferences;  2 not to revisit or review, in connection with submissions from administrations under this Resolution, any prior confirmations that frequency assignments subject to this Resolution have been brought into use or brought back into use or any prior milestone determinations under Resolution **35 (Rev.WRC-23)**;  3 to develop tools, including a naming convention applicable to large non-GSO systems complying with this Resolution, to help with implementation of this Resolution,  *invites the ITU Radiocommunication Sector*  to continue studies with a view to identifying a methodology or methodologies for determining whether specific changes to a notified orbital plane will cause more interference or require more protection than the characteristics provided in the latest notification information published in the BR IFIC (Part II‑S, if available, or Part I‑S if Part II‑S is not available) for the frequency assignments. |  | 2  AND  3  AND  5 |
| **10 (Rev.WRC-2000)** | Use of two-way wireless telecommunications by the International Red Cross and Red Crescent Movement | *resolves to urge administrations*  1 to take account of the possible needs of the International Red Cross and Red Crescent Movement for two-way wireless telecommunication means when normal communication facilities are interrupted or not available;  2 to assign to these organizations the minimum number of necessary working frequencies in accordance with the Radio Regulations;  3 to take all practicable steps to protect such communications from harmful interference. | − | 4  AND  6 |
| **12 (Rev.WRC-23)** | Assistance and support to Palestine | *resolves*  1 to continue to provide assistance to Palestine, through the ITU Radiocommunication Sector and in collaboration with the ITU Telecommunication Development Sector, pursuant to the relevant ITU resolutions and decisions, in particular in the areas of capacity building, spectrum management and frequency assignment, with a view to enabling Palestine to manage and exploit its radio spectrum;  2 to enable Palestine to modernize its telecommunication networks, including building and operating 4G and 5G networks, through support and technical assistance;  3 that Palestine should operate its telecommunication networks, including building and operating 4G and 5G networks, through support and technical assistance;  4 to urgently empower Palestine, through assistance provided to it, in order to ensure that Palestine is able to obtain and manage the necessary frequencies for microwave links, which are considered essential to the operation of 4G and 5G services, and identify mechanisms to ensure that Palestine is able to exploit the additional bands needed for new, modern mobile telecommunication networks, such as IMT-2020 in accordance with the Interim Agreement;  5 to enable Palestine to urgently extend, install, own, manage and operate optical fibre broadband telecommunication networks (and optical fibre links) between governorates and major cities to ensure a more robust digital transformation in Palestine in accordance with the Interim Agreement;  6 to support Palestine in obtaining VHF and UHF frequencies for fixed and mobile telecommunication services;  7 to enable Palestine to obtain FM frequencies for the broadcasting service;  8 to instruct the Director of the Radiocommunication Bureau to ensure the implementation of this Resolution,  *urges concerned parties*  1 to make all possible efforts to achieve the following:  i) facilitation of the import and deployment of equipment for the implementation of the agreement signed on 27 December 2022 with respect to the operation of 4G and 5G services, for the Palestinian operators in accordance with the Interim Agreement;  ii) enabling the establishment of Palestine's own international access networks including satellite earth stations, submarine cables, optical fibre and microwave systems in accordance with the Interim Agreement,  *instructs the Director of the Radiocommunication Bureau*  1 to take appropriate measures within the mandate of the Radiocommunication Bureau, in cooperation with the respective Sectors, in order to assist in the implementation of this Resolution;  2 to report to the next world radiocommunication conference on progress achieved in the implementation of this Resolution;  3 to ensure support and assistance in the mobilization and development of financial and human resources and capacity building for the radiocommunication sector in Palestine through innovation and financing in various fields;  4 to assist in the delivery of telecommunication networks and Internet services to remote areas (and all health centres in Palestine);  5 to assist in the implementation of projects of the three ITU Bureaux, including the regional initiatives,  *instructs the Secretary-General*  1 to ensure the implementation of this Resolution and to submit an annual report to the ITU Council on progress made in implementing this Resolution;  2 to coordinate the activities carried out by the three ITU Sectors in accordance with *resolves* above, to ensure that the Union’s action in favour of Palestine is as effective as possible, and to report on the matter to the Council on the progress achieved on these issues. | − | 3  AND  4 |
| **13 (Rev.WRC-97)** | Formation of call signs and allocation of new international series | *resolves*  1 that the Director of the Radiocommunication Bureau shall continue to urge administrations:  1.1 to make maximum use of the possibilities of the series at present allocated, in order to avoid, as far as possible, further requests;  1.2 to review the call-sign assignments they have already made from their present allocations, with a view to releasing any series and placing them at the disposal of the Union;  2 that the Director of the Radiocommunication Bureau shall, upon request, furnish advice to administrations on the means of effecting the greatest economy, which should be the rule, in the use of a series of call signs;  3 that if, nevertheless, before the next competent world radiocommunication conference, it appears that all the possibilities of the present system of forming call signs will be exhausted, the Director of the Radiocommunication Bureau shall:  3.1 explore the possibility of extending the present allocations of international call-sign series by lifting the limitation on use of the letter “Q” and the digits “0” and “1”;  3.2 issue a circular-letter:  3.2.1 explaining the position;  3.2.2 urging administrations to send in their proposals for possible solutions;  4 that, from the information thus submitted, the Director of the Radiocommunication Bureau shall prepare a report, together with his comments and suggestions, for submission to the next competent world radiocommunication conference. | − | 3 |
| **14 (WRC-23)** | Studies on development of regulatory measures, and implementability thereof, to limit the unauthorized operations of non-geostationary-satellite orbit (non-GSO) earth stations in the fixed-satellite service (FSS) and mobile-satellite service (MSS) and associated issues related to the service area of non-GSO FSS and MSS satellite systems | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on regulatory measures to limit the unauthorized operations of non-GSO FSS and MSS earth stations in the Earth-to-space direction in order to address and cease such operations, taking into account technical and operational aspects, as appropriate;  2 studies on regulatory measures, taking into account recognizing c) with regard to non-GSO FSS and MSS satellite systems, and the implementability of such measures, without adversely affecting the provision of service in the rest of the service area of the non-GSO satellite system,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to ITU Radiocommunication Sector,  *resolves to invite the 2027 world radiocommunication conference*  to consider the results of the studies under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* above and take appropriate action. | See [[CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 1 |
| **15 (Rev.WRC-03)** | International cooperation and technical assistance in the field of space radiocommunications | *resolves to instruct the Director of the Radiocommunication Bureau*  to include this activity in the Operational Plan, within existing budgetary resources of the Sector,  *invites the Council*  1 to draw the attention of administrations to the means by which they may avail themselves of technical assistance in connection with the introduction of space communications;  2 to consider the most effective manner in which requests for such assistance by Member States may be formulated and presented in order to secure maximum financial and other assistance, including the allocation of the funds in the regular budget of ITU for implementing this Resolution, preferably within the budget of the Sector identified for the implementation of this Resolution;  3 to consider how best to make use of funds made available by the United Nations in accordance with its Resolution 1721 to give technical and other assistance to administrations of Member States to make effective use of space communications;  4 to consider in what way the work of the ITU-T, ITU-R and ITU-D and other organs of the Union may be utilized in the most effective way for the information and assistance of administrations of Member States in the development of space radiocommunications. | − | 3  AND  4  AND  5 |
| **18 (Rev.WRC‑23)** | Relating to the procedure for identifying and announcing the position of ships and aircraft of States not parties to an armed conflict | *resolves*  1 that the frequencies for urgency signal and messages specified in the Radio Regulations may be used by ships and aircraft of States not parties to an armed conflict for self-identification and establishing communications; the transmission will consist of the urgency or safety signals, as appropriate, described in Article 33 followed by the addition of the single word “NEUTRAL” pronounced as in French “neutral” in radiotelephony; as soon as practicable, communications shall be transferred to an appropriate working frequency;  2 that the use of the signal as described in the preceding paragraph indicates that the message which follows concerns a ship or aircraft of a State not party to an armed conflict. The message shall convey at least the following data:  *a)* call sign or other recognized means of identification of such ship or aircraft;  *b)* position of such ship or aircraft;  *c)* number and type of such ships or aircraft;  *d)* intended route;  *e)* estimated time en route and of departure and arrival, as appropriate;  *f)* any other information, such as flight altitude, radio frequencies guarded, languages and secondary surveillance radar modes and codes;  3 that the provisions of Article **33** relating to urgency and safety transmissions, and medical transports shall apply as appropriate to the use of the urgency and safety signals, respectively, by such ship or aircraft;  4 that the identification and location of ships of a State not party to an armed conflict may be effected by means of appropriate standard maritime radio equipment (for example automatic identification system (AIS) or long-range identification and tracking (LRIT)); the identification and location of aircraft of a State not party to an armed conflict may be effected by the use of the secondary surveillance radar (SSR) system in accordance with procedures to be recommended by the International Civil Aviation Organization (ICAO);  5 that the use of the signals described above would not confer or imply recognition of any rights or duties of a State not party to an armed conflict or a party to the conflict, except as may be recognized by common agreement between the parties to the conflict and a non-party;  6 to encourage parties to a conflict to enter into such agreements,  *requests the Secretary-General*  to communicate the contents of this Resolution to the International Maritime Organization, the International Civil Aviation Organization, the International Committee of the Red Cross, and the International Federation of Red Cross and Red Crescent Societies for such action as they may consider appropriate. | − | 4 |
| **20 (Rev.WRC-03)** | Technical cooperation with developing countries in the field of aeronautical telecommunications | *resolves to instruct the Secretary-General*  1 to encourage ICAO to continue its assistance to developing countries which are endeavouring to improve their aeronautical telecommunications, in particular by providing them with technical advice for the planning, establishment, operation and maintenance of equipment, as well as help with the training of staff, essentially in matters relating to the new technologies;  2 for this purpose, to seek the continued collaboration of ICAO, the United Nations Conference for Trade and Development (UNCTAD) and other specialized agencies of the United Nations, as appropriate;  3 to continue to give special attention to seeking the aid of the United Nations Development Programme (UNDP) and other sources of financial support, to enable the Union to render sufficient and effective technical assistance in the field of aeronautical telecommunications,  *invites the developing countries*  so far as possible, to give a high level of priority to and include in their national programmes of requests for technical assistance projects relating to aeronautical telecommunications and to support multinational projects in that field. | - | 4 |
| **22 (Rev.WRC-23)** | Measures to limit unauthorized uplink transmissions from earth stations | *resolves*  1 that the operation of transmitting earth stations within the territory of an administration shall be carried out only if authorized by that administration;  2 that the notifying administration for a satellite network or system shall, to the extent practicable, limit the operation of transmitting earth stations on the territory of an administration on which they are located and operated to only those licensed or authorized by that administration;  3 that, when an administration identifies the presence of unauthorized transmitting earth station transmissions in its territories:  i) it should take all appropriate actions at its disposal to the extent of its ability to stop such unauthorized transmissions; and  ii) if the matter is not resolved, this administration may report the details of such unauthorized transmissions, if available, to the notifying administrations of the satellite networks or systems that may be associated with these unauthorized transmissions, and the notifying administrations of these satellite networks or systems shall cooperate with the reporting administration, to the maximum extent possible, in order to resolve the matter in a satisfactory and timely manner,  *invites administrations*  1 to take all appropriate actions to make publicly and readily available the procedures for licensing/authorizing the operation of earth stations in their territories;  2 that have identified unauthorized operation of earth stations within their territories to provide relevant information to the Radiocommunication Bureau (BR) to report such cases;  3 when requested by BR or another administration, to cooperate to the maximum extent practicable with assistance in identifying unauthorized earth stations, with monitoring or geolocation services,  *instructs the Director of the Radiocommunication Bureau*  1 upon receipt of information from an administration detecting an unauthorized uplink transmission from its territory, to immediately inform Member States and satellite operating agencies of the matter by appropriate means and work with the administrations involved to resolve the matter;  2 to inform the administrations on the type of assistance ITU can provide on this issue,  *instructs the Secretary-General*  to stress the importance and ensure the circulation of this Resolution to all Member States. | − | 3 |
| **25 (Rev.WRC-23)** | Operation of global satellite systems for personal communications | *resolves*  that administrations licensing global satellite systems and stations intended to provide public personal communications by means of fixed, mobile or transportable terminals shall ensure, when licensing these systems and stations, that they can be operated only from the territory or territories of administrations having authorized such service and stations in compliance with Articles **17** and **18**, in particular No. **18.1**,  *requests administrations*  1 to continue cooperating with worldwide satellite system operators in improving the established arrangements for the provision of service within their territories and with the Secretary‑General in implementing the GMPCS‑MoU and its Arrangements;  2 to participate actively in ITU-R studies in developing and improving relevant Recommendations, | − | 6 |
| **26 (Rev.WRC-23)** | Footnotes to the Table of Frequency Allocations in Article 5 of the Radio Regulations | *resolves*  1 that, wherever possible, footnotes to the Table of Frequency Allocations should be confined to altering, limiting or otherwise changing the relevant allocations rather than dealing with the operation of stations, assignment of frequencies or other matters;  2 that the Table of Frequency Allocations should include only those footnotes which have international implications for the use of the radio-frequency spectrum;  3 that new footnotes to the Table of Frequency Allocations should only be adopted in order to:  a) achieve flexibility in the Table of Frequency Allocations;  b) protect the relevant allocations in the body of the Table and in other footnotes in accordance with Section II of Article **5**;  c) introduce either transitional or permanent restrictions on a new service to achieve compatibility; or  d) meet the specific requirements of a country or area when it is impracticable to satisfy such needs otherwise within the Table of Frequency Allocations;  4 that footnotes serving a common purpose should be in a common format, and, where possible, be grouped into a single footnote with appropriate references to the relevant frequency bands,  *further resolves*  1 that any addition of a new footnote or modification of an existing footnote should be considered by a WRC only when:  *a)* the agenda of that WRC explicitly includes the frequency band to which the proposed additional or modified footnote relates; or  *b)* the frequency bands to which the desired additions or modifications of the footnote belong are considered during WRC and WRC decides to make a change in those frequency bands; or  *c)* the addition or modification of footnotes is specifically included in the agenda of WRC as a result of the consideration of proposals submitted by one or more interested administration(s);  2 that recommended agendas for future WRCs should include a standing agenda item which would allow for the consideration of proposals by administrations for deletion of country footnotes, or country names in footnotes, if no longer required[[1]](#footnote-1)1;  3 that in cases not covered by *further resolves* 1 and 2, proposals for new footnotes or modification of existing footnotes could exceptionally be considered by a WRC if they concern corrections of obvious omissions, inconsistencies, ambiguities or editorial errors and have been submitted to ITU as stipulated in No. 40 of the General Rules of conferences, assemblies and meetings of the Union, | See [[CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 1 |
| **27 (Rev.WRC-19)** | Use of incorporation by reference in the Radio Regulations | *resolves*  …  *further resolves*  …  *instructs the Director of the Radiocommunication Bureau*  *…*  *invites administrations*  *…* | See [[CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 1 |
| **32 (Rev.WRC-23)** | Regulatory procedures for frequency assignments to non-geostationary-satellite  networks or systems identified as short-duration mission not subject to the application of Section II of Article 9 | *resolves*  1 that this Resolution shall apply only to non-GSO networks or systems identified by the notifying administration as effecting short-duration missions and corresponding to the following criteria:  1.1 the network or system shall operate under any space radiocommunication service on frequency assignments that are not subject to the application of Section II of Article **9**;  1.2 the maximum period of operation and validity of frequency assignments of a non‑GSO network or system identified as short-duration mission shall not exceed three years from the date of bringing into use of the frequency assignments (see the Annex to this Resolution for the definition of date of bringing into use for such networks or systems), without any possibility of extension, after which the recorded assignments shall be cancelled;  1.3 the total number of satellites in a non-GSO network or system identified as short-duration mission shall not exceed 10 satellites;  2 that non-GSO networks or systems corresponding to *resolves* 1 of this Resolution shall comply with the conditions for use of the frequency band that is allocated to the service within which they operate;  3 that non-GSO networks or systems identified as short-duration mission using spectrum allocated to the amateur-satellite service shall operate in accordance with the definition of the amateur-satellite service as contained in Article **25**;  4 that non-GSO networks or systems with short-duration missions shall have the capability to cease transmitting immediately in order to eliminate harmful interference;  5 that, for the purpose of this Resolution, a non-GSO network or system identified as short-duration mission shall have a single launch date associated with the first launch (in the case of systems with multiple launches) and that launch date shall be defined as the date on which the first satellite of the non-GSO network or system with a short-duration mission is placed into its notified orbital plane,  *instructs the Director of the Radiocommunication Bureau*  1 to expedite the online publication of notices “as received” for such networks or systems, in addition to the normal publication of notices;  2 to provide the necessary assistance to administrations in the implementation of this Resolution,  *invites administrations*  1 to avoid heavily used frequency bands when assigning frequencies to a non-GSO network or system with a short-duration mission;  2 to exchange information associated with non-GSO networks or systems identified as short-duration mission and to make every possible effort to resolve interference that may be unacceptable to existing or planned satellite networks or systems, including those with short-duration missions;  3 to provide their comments on the application of No. **9.3**, upon receipt of the International Frequency Information Circular of the Radiocommunication Bureau (BR IFIC) containing information published under No. **9.2B**, as soon as possible within a period of four months from the date of publication of the BR IFIC, and to communicate to the notifying administration, with a copy to the Bureau, these comments on the particulars of the potential interference to its existing or planned systems. | - | 3 |
| **34 (Rev.WRC-19)** | Establishment of the broadcasting-satellite service in Region 3 in the frequency band 12.5‑12.75 GHz and sharing with space and terrestrial services in Regions 1, 2 and 3 | resolves  1 that, until such time as a plan may be established for the BSS in the frequency band 12.5-12.75 GHz in Region 3, the relevant provisions of Article **9** shall continue to apply to coordination between stations in the BSS in Region 3 and:  *a)* space stations in the BSS and the fixed-satellite service (FSS) in Regions 1, 2 and 3;  *b)* terrestrial stations in Regions 1, 2 and 3;  2that the ITU-R shall study urgently the technical provisions which may be appropriate for the sharing between stations in the broadcasting-satellite service in Region 3 and:  *a)* space stations in the broadcasting-satellite and fixed-satellite services in Regions 1 and 2;  *b)* terrestrial stations in Regions 1 and 2;  3 that, until such time as technical provisions are developed by ITU-R and accepted by administrations concerned under Resolution **703 (Rev.WRC-07)**, sharing between space stations in the BSS in Region 3 and terrestrial services in Regions 1, 2 and 3 shall be based on the following criteria, as appropriate:  *a)* the power flux-density at the Earth’s surface produced by emissions from a space station in the BSS in Region 3 for all conditions and for all methods of modulation shall not exceed the limits given in Annex 5 of Appendix **30**;  *b)* in addition to resolves 3 a) above, the provisions of Article **21 (Table 21-4)** shall apply in the countries mentioned in Nos. **5.494** and **5.496**;  *c)* the limits given in *resolves* 3 *a)* and *b)* above may be exceeded on the territory of any country provided the administration of that country has so agreed. | See Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3 |
| **35 (Rev.WRC-23)** | A milestone-based approach for the implementation of frequency assignments to space stations in a non-geostationary-satellite system in specific frequency bands and services | *resolves*  …  *instructs the Radiocommunication Bureau*  1 to take the necessary actions to implement this Resolution;  2 to report any difficulties it encounters in the implementation of this Resolution to future competent world radiocommunication conferences;  3 to continue to identify and report on specific frequency bands in specific services for which there may be a problem similar to that which resulted in the creation of this Resolution, as early as possible, but not later than the penultimate meeting of the responsible group prior to the second session of the conference preparatory meeting,  *invites the ITU Radiocommunication Sector*  to continue studies with a view to confirming the suitability and regulatory implementation of the post-milestone procedure set out in *resolves* 19 to 21 above, and to recommend appropriate action under Resolution **86 (Rev.WRC‑07)**. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3 |
| **40 (Rev.WRC-19)** | Use of one space station to bring frequency assignments to geostationary-satellite networks at different orbital locations into use within a short period of time | *resolves*  1that, when informing the Bureau of the bringing into use, or bringing back into use after suspension, of a frequency assignment to a space station in a geostationary-satellite network, the notifying administration shall indicate to the Bureau whether or not this action has been accomplished with a space station that has previously been used to bring into use, or resume the use of, frequency assignments at a different orbital location within the three years prior to the date of submission of this information;  2that, that, in cases where a notifying administration informs the Bureau, pursuant to *resolves* 1 above, that it has brought into use, or resumed the use after suspension of, a frequency assignment to a space station in a geostationary-satellite network with a space station that has previously been used to bring into use, or resume the use of, frequency assignments at a different orbital location within three years prior to the date of submission of this information, the notifying administration shall also indicate, for that same three-year period;  i)the last orbital location where the space station was used to bring into use, or resume the use of, frequency assignments;  ii) the satellite network(s) with which the frequency assignments in 2i) above were associated;  iii)the date on which the space station was no longer maintained at the orbital location in 2i) above;  …  *instructs the Radiocommunication Bureau*  to make available the information provided in *resolves* 1 and 2 on the ITU website within 30 days of its receipt. | − | 3 |
| **42 (Rev.WRC-19)** | Use of interim systems in Region 2 in the broadcasting-satellite and fixed-satellite (feeder-link) services in Region 2 for the frequency bands covered by Appendices 30 and 30A | *resolves*  that administrations and the Radiocommunication Bureau shall apply the procedure contained in the Annex to this Resolution, so long as Appendices **30** and **30A** remain in force. | − | 3 |
| **49 (Rev.WRC-23)** | Administrative due diligence applicable to some satellite radiocommunication services | *resolves*  that the administrative due diligence procedure contained in Annex 1 to this Resolution shall be applied for a satellite network or satellite system of the fixed-satellite service, mobile-satellite service or broadcasting-satellite service for which the request for coordination under No. 9.30, or for which the request for modifications of the Region 2 Plan under Article **4**, § 4.2.1 b) of Appendices 30 and 30A that involve the addition of new frequencies or orbital positions, or for which the request for modifications of the Region 2 Plan under Article **4**, § 4.2.1 a) of Appendices 30 and 30A that extend the service area to another country or countries in addition to the existing service area, or for which the request for additional uses in Regions 1 and 3 under § 4.1 of Article 4 of Appendices 30 and 30A, or for which the submission under Appendix 30B is received, with the exception of submissions of new Member States seeking the acquisition of their respective national allotments for inclusion in the Appendix 30B Plan,  *further resolves*  that the procedures in this Resolution are in addition to the provisions under Article **9** or **11** of the Radio Regulations or Appendices **30**, **30A** or **30B**, as applicable, and, in particular, do not affect the requirement to coordinate under those provisions (Appendices **30**, **30A**) in respect of extending the service area to another country or countries in addition to the existing service area,  *instructs the Director of the Radiocommunication Bureau*  to report to future competent world radiocommunication conferences on the results of the implementation of the administrative due diligence procedure. | See Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 3 |
| **55 (Rev.WRC-23)** | Electronic submission of, and communications on, notice forms for satellite networks, earth stations and radio astronomy stations and reports of harmful interference affecting space services | *resolves*  1 that, as from 3 June 2000, all notices (AP4/II and AP4/III), radio astronomy notices (AP4/IV) and API (AP4/V and AP4/VI) and due diligence information (Resolution **49 (Rev.WRC‑23)**) for satellite networks and earth stations submitted to BR pursuant to Articles 9 and 11 shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCap);  2 that, as from 17 November 2007, all notices for satellite networks, earth stations and radio astronomy stations submitted to BR pursuant to Articles 9 and 11, as well as to Appendices **30** and **30A** and Resolution **49 (Rev.WRC‑23)**, shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCap and SpaceCom);  3 that, as from 1 June 2008, all notices for satellite networks and earth stations submitted to BR pursuant to Appendix **30B** shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCap);  4 that, as from 1 July 2009, comments/objections submitted to BR in accordance with Nos. **9.3** and **9.52** with respect to Nos. **9.11** to **9.14** and **9.21** of Article **9**, or in accordance with § **4.2.10**, **4.2.13** or **4.2.14** of Appendices **30** and **30A** with respect to modification to the Region 2 Plan and use of the guardbands under Article 2A of those Appendices in Region 2, shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCom);  5 that, as from 18 February 2012, all requests for inclusion or exclusion submitted to BR under No. **9.41** of Article **9** shall be submitted in electronic format compatible with the BR electronic notice form capture software (SpaceCom);  6 that, since 3 June 2000, all graphical data associated with the submissions addressed in *resolves* 1, 2 and 3 should be submitted in graphics data format compatible with BR’s data capture software (graphical interference management system (GIMS));  7 that all information indicated in *resolves* 1 to 6 above, in Annexes 1 and 2 to Resolution **35 (Rev.WRC‑23)**, in Annex 2 to Resolution **552 (Rev.WRC-23)** and in the Attachment to Resolution **553 (Rev.WRC-23)** under §§ 8 and 9 shall be submitted to BR, using the e‑Submission of Satellite Network Filings platform;  8 that administrative correspondence between administrations and BR related to the advance publication, coordination, notification and recording processes, including correspondence related to Appendices **30**, **30A** and **30B**, for satellite networks, earth stations and radio astronomy stations shall be communicated, whenever possible, using the e‑Communications platform;  9 that reports of harmful interference affecting space services and associated correspondence exchanged between administrations and BR in accordance with Article 15 and No. **13.2** shall be submitted, whenever possible, using the SIRRS platform and following the guidance provided in the most recent version of Recommendation ITU‑R SM.2149;  10 that, wherever the words “telegram”, “telex” or “fax” are inserted in provisions related to the advance publication, coordination, notification and recording processes for satellite systems or networks, earth stations and radio astronomy stations, including the provisions contained in Appendices **30**, **30A** and **30B** and related Resolutions, the e‑Communications platform shall be used instead;  11 that other, traditional means of communication can be used in the case of difficulty encountered in applying *resolves* 8, 9 and 10,  *instructs the Radiocommunication Bureau*  1 to make available coordination requests and notifications referred to in *resolves* 1 “as received” within 30 days of receipt on its website;  2 to provide administrations with the latest versions of the capture and validation software and any necessary technical means, training and manuals, along with any assistance requested by administrations to enable them to comply with *resolves* 1 to 4 above;  3 to integrate the validation software with the capture software to the extent practicable.  4 to continue to develop and improve the e‑Submission of Satellite Network Filings, e‑Communications and SIRRS platforms to meet the needs of the Radio Regulations with respect to the submission of, and commenting on, satellite network filings, as well as the associated correspondence. | − | 3 |
| **63 (Rev.WRC-12)** | Protection of radiocommunication services against interference caused by radiation from industrial, scientific and medical (ISM) equipment | resolves  to that, to ensure that radiocommunication services are adequately protected, studies are required on the limits to be imposed on the radiation from ISM equipment, within and outside the frequency bands designated in the Radio Regulations for this use,  invites ITU‑R  1 to provide the necessary characteristics and protection criteria for relevant digital radiocommunication systems in order to enable CISPR to review and update, as needed, the limits on radiation from ISM equipment;  2 to continue, in collaboration with CISPR, its studies relating to radiation from ISM equipment, within and outside the frequency bands designated in the Radio Regulations for this use, in order to ensure adequate protection of radiocommunication services, including digital radiocommunication systems, with priority being given to the completion of studies which would permit CISPR to define limits in Publication CISPR 11 on radiation from ISM equipment inside all the bands designated in the Radio Regulations for the use of such equipment,  instructs the Director of the Radiocommunication Bureau  to bring this Resolution to the attention of CISPR*.* | See  Doc. [1/1](https://www.itu.int/md/R23-SG01-C-0001/en) | 2  AND  4 |
| **72 (Rev.WRC-19)** | World and regional preparations for world radiocommunication conferences | resolves to invite the regional telecommunication organizations  1 to continue their preparations for WRCs, including the possible convening of joint meetings of regional telecommunication organizations formally and informally;  2 to provide the Radiocommunication Bureau with a document containing the latest version of their views, positions and/or proposals under the agendas of WRCs at the earliest stage after each regional meeting in order to be published on the website of the related WRC,  *instructs the Director of the Radiocommunication Bureau*  1 to publish the documents mentioned in *resolves to invite the regional telecommunication organizations* on the website of each WRC immediately after receiving such documents;  2 to continue consulting the regional telecommunication organizations on the means by which assistance can be given to their preparations for future WRCs in the following areas:  – organization of regional preparatory meetings;  – organization of information sessions, preferably before and after the second session of the Conference Preparatory Meeting (CPM), including presentation of the chapters of the CPM Report;  – identification of major issues to be resolved by the forthcoming WRC;  – facilitation of regional and interregional formal and informal meetings, with the objective of reaching a possible convergence of interregional views on major issues;  3 to submit a report on the results of such consultations to each WRC,  *invites the Director of the Telecommunication Development Bureau*  to collaborate with the Director of the Radiocommunication Bureau in implementing this Resolution*.* | − | 3  AND  4 |
| **74 (Rev.WRC-03)** | Process to keep the technical bases of Appendix 7 current | invites ITU R  1 to continue its study, as required, of the technical bases used for determination of the coordination area of an earth station, including recommended values for the missing entries in the tables of technical coordination parameters (Annex 7 to Appendix **7**);  2 to maintain the relevant ITU-R texts in a format which would facilitate the future revision of Appendix **7**;  3 to assess the significance of changes to the technical bases,  resolves  1 that when ITU-R concludes, based on its studies of the methods in considering d) for determination of the coordination area of an earth station and/or the values of technical coordination parameters, that a revision of Appendix **7** is warranted, the matter shall be brought to the attention of the Radiocommunication Assembly;  2 that, if the Radiocommunication Assembly confirms the improvements of the methods in considering d) for determination of the coordination area of an earth station and/or the values of technical coordination parameters which have been presented by ITU-R, the Director of the Radiocommunication Bureau shall identify the matter in the Director’s report to the following WRC,  invites  1 WRCs, when presented with any significant changes through the Director’s report, to consider the revision of Appendix **7** in light of the recommendation of the Radiocommunication Assembly, pursuant to resolves 1 and 2 above;  2 each WRC, when modifying the Table of Frequency Allocations, to consider any consequential changes that may be required to the technical coordination parameters of Annex 7 to Appendix **7** and, if necessary, request ITU-R to study the matter. | See  Doc. [1/1](https://www.itu.int/md/R23-SG01-C-0001/en) | 2  AND  3  AND  5 |
| **76 (Rev.WRC-23)** | Protection of geostationary fixed-satellite service and geostationary broadcasting-satellite service networks from the maximum aggregate equivalent power flux density produced by multiple non geostationary fixed-satellite service systems in frequency bands where equivalent power flux-density limits have been adopted | *invites the ITU Radiocommunication Sector*  1 to continue its studies on the subject and develop, as a matter of urgency and preferably before 30July 2027, and taking into account existing and relevant ITU‑R Recommendations, a Recommendation on a suitable methodology for calculating the aggregate co-frequency epfd produced by non-GSO FSS systems and accurately modelling non-GSO FSS operations in the frequency bands referred to in *considering a)* above into GSO FSS and GSO BSS networks, which may be used to determine whether the systems are in compliance with the aggregate power levels given in Tables1A to1D, taking into account relevant elements of Recommendations ITU‑RS.1588 and ITU‑RS.1503, as appropriate;  2 to develop, as a matter of urgency and preferably before 30 July 2027, a Recommendation on a suitable methodology to adapt the operation of co-frequency non-GSO FSS systems in the frequency bands referred to in *considering* *a)* above to ensure that the aggregate power levels given in Tables 1A to 1D are met;  3 to continue to verify, as a matter of urgency, the effectiveness of the provisions defined in this Resolution and, if needed, to study and analyse possible amendments to those provisions,  *instructs the Director of the Radiocommunication Bureau*  1 to participate in the consultation meetings mentioned in *resolves*3 to 9 and to observe carefully the results of the epfd calculation mentioned in *resolves*3;  2 to publish in the Radiocommunication Bureau International Frequency Information Circular the information referred to in *resolves*5 and *instructs the Director of the Radiocommunication Bureau*1;  3 to report to WRC‑27, and to subsequent world radiocommunication conferences, on the implementation of this Resolution;  4 to examine the possibility, if needed, of developing software that can be used to calculate the epfd level mentioned under *resolves* 1,  *invites the 2027 world radiocommunication conference*  to review the report on the implementation of this Resolution and to take any necessary action, as appropriate,  *invites administrations*  1 to participate in the discussions and determinations mentioned under *resolves* 5, as appropriate;  *2 to provide to the Bureau, and to all participants in the consultation meetings, access to software developed, taking into consideration the methodology referred to in invites the ITU Radiocommunication Sector 1, to calculate the epfd level mentioned under resolves 2.* | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  5 |
| **80 (Rev.WRC-07)** | Due diligence in applying the principles embodied in the Constitution | *resolves*  1 to instruct the Radiocommunication Sector, in accordance with No. 1 of Article 12 of the Constitution, to carry out studies on procedures for measurement and analysis of the application of the basic principles contained in Article 44 of the Constitution;  2 to instruct the RRB to consider and review possible draft recommendations and draft provisions linking the formal notification, coordination and registration procedures with the principles contained in Article 44 of the Constitution and No. **0.3** of the Preamble to the Radio Regulations, and to report to each future World Radiocommunication Conference with regard to this Resolution;  3 to instruct the Director of the Radiocommunication Bureau to submit to each future World Radiocommunication Conference a detailed progress report on the action taken on this Resolution,  *invites*  1 the other organs of the Radiocommunication Sector, in particular the RAG, to make relevant contributions to the Director of the Radiocommunication Bureau for inclusion in his report to each future World Radiocommunication Conference;  2 administrations to contribute to the studies referred to in *resolves* 1 and to the work of the RRB as detailed in *resolves* 2. | See [[CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 1  AND  5 |
| **81 (Rev.WRC-15)** | Evaluation of the administrative due diligence procedure for satellite networks | *resolves*  1 that further experience is needed in the application of the administrative due diligence procedures adopted by WRC-97, and that several years may be needed to see whether the procedure produces satisfactory results;  2 that it is premature to consider the adoption, among other procedures, of any financial due diligence procedures. | − | 6 |
| **85 (Rev.WRC-23)** | Application of Article **22** of the Radio Regulations to the protection of geostationary fixed‑satellite service and broadcasting-satellite service networks from non-geostationary fixed-satellite service systems | *resolves*  1 that when the Bureau is unable to examine non-GSO FSS systems subject to Nos. **22.5C**, **22.5D** and **22.5F** under Nos. **9.35** and/or **11.31**, the notifying administration shall send to the Bureau a commitment that the non-GSO FSS system complies with the limits given in Tables **22‑1A**, **22‑1B**, **22‑1C**, **22‑1D**, **22‑1E**, **22‑2** and **22‑3** in addition to the information submitted under Nos. **9.30** and **11.15**; a detailed technical description including the results of epfd calculations using existing epfd validation software, the results of epfd calculations using simulation software with adequate modelling of the non-GSO satellite FSS system, and identification of particular areas of the most recent version of Recommendation ITU‑R S.1503 that fail to adequately model the non-GSO system shall also be provided;  1*bis* that the Bureau shall promptly make available on the ITU website the information referred to in *resolves*1 that it has received from the administration of the non-GSO satellite system, and publish it in the Radiocommunication Bureau International Frequency Information Circular (BR IFIC);  2 that the Bureau shall issue either a qualified favourable finding under No. **9.35** or a favourable finding with a date of review under No. **11.31** with respect to the limits contained in Tables **22‑1A**, **22‑1B**, **22‑1C**, **22‑1D**, **22‑1E**, **22‑2** and **22‑3**, if *resolves*1 is satisfied, otherwise the non-GSO FSS system will receive a definitive unfavourable finding;  3 that, if an administration believes that a non-GSO FSS system, for which the commitment referred to in *resolves*1 was sent, has the potential to exceed the limits given in Tables **22‑1A**, **22‑1B**, **22‑1C**, **22‑1D**, **22‑1E**, **22‑2** and **22‑3**, it may request from the notifying administration additional information with regard to the compliance with the limits mentioned above; both administrations shall cooperate to resolve any difficulties, with the assistance of the Bureau, if so requested by either of the parties, and may exchange any additional relevant information that may be available;  4 that the Bureau shall determine coordination requirements between GSO FSS earth stations and non-GSO FSS systems under Nos. **9.7A** and **9.7B** based on bandwidth overlap, GSO FSS earth station antenna maximum isotropic gain, *G*/*T* and emission bandwidth;  5 that *resolves*1 to 4 shall no longer be applied since, as per *considering* *d)*, the Bureau has communicated to all administrations via a circular letter that the epfd validation software is available and the Bureau is able to verify compliance with the limits in Tables **22‑1A**, **22‑1B**, **22‑1C**, **22‑1D**, **22‑1E**, **22‑2** and **22‑3** and, as per *considering g)*, Recommendation ITU‑R S.1714 has been revised and allows the Bureau to determine the coordination requirements between GSO FSS earth stations and non-GSO FSS systems under Nos. **9.7A** and **9.7B** based on all the conditions and criteria specified in Table 5‑1 of Appendix **5**;  6 that notwithstanding *resolves*5:  6.1 the course of actions described in *resolves*2and 3(without the need to satisfy *resolves*1)and *resolves*4 shall continue to apply for non-GSO systems that can be adequately modelled using the existing version of the epfd validation software tool, notified after the publication of the circular letter referred to in *considering d)*, until the review of all the non-GSO FSS systems with qualified favourable findings is completed; and  6.2 *resolves*1 to 3 and *resolves*4, as appropriate, shall continue to apply to non-GSO systems that cannot be adequately modelled by the version of the software available until a new version of the software which adequately models the non-GSO system is made available,  *invites the ITU Radiocommunication Sector*  1 to amend, as a matter of urgency and taking into account the information referred to in *resolves*1, as appropriate, the algorithm of Recommendation ITU‑R S.1503 to ensure that the epfd validation software available to the Bureau for epfd examinations can adequately model non-GSO satellite FSS systems while maintaining the level of protection for GSO satellite networks in Article **22**;  2 to conduct studies, as a matter of urgency, to ensure that an indefinite application of a qualified favourable finding for a given non-GSO FSS system is avoided,  *instructs the Director of the Radiocommunication Bureau*  1 to encourage administrations to develop the epfd validation software;  2 to continue to review, using the available epfd validation software, the qualified favourable findings made in accordance with Nos. **9.35** and**11.31**;  3 to review, once a version of the epfd validation software that adequately models the non-GSO systems to which *resolves*1 applies is available, the qualified favourable findings made in accordance with Nos. **9.35** and**11.31**;  4 to take the necessary actions to implement this Resolution. | See  Doc. [[4/1](https://www.itu.int/md/R23-SG04-C-0001/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 2  AND  3 |
| **86 (Rev.WRC-07)** | Implementation of Resolution 86 (Rev. Marrakesh, 2002) of the Plenipotentiary Conference | *resolves to invite future world radiocommunication conferences*  1 to consider any proposals which deal with deficiencies and improvements in the advance publication, coordination, notification and recording procedures of the Radio Regulations for frequency assignments pertaining to space services which have either been identified by the Board and included in the Rules of Procedure or which have been identified by administrations or by the Radiocommunication Bureau, as appropriate;  2 to ensure that these procedures, and the related appendices of the Radio Regulations reflect the latest technologies, as far as possible,  *invites administrations*  to consider, in preparing for PP-10, appropriate action with regard to Resolution 86 (Rev. Marrakesh, 2002). | See [[CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 1 |
| **95 (Rev.WRC-19)** | General review of the Resolutions and Recommendations of world administrative radio conferences and world radiocommunication conferences | *resolves*  that recommended agendas for future WRCs should include a standing agenda item to review the Resolutions and Recommendations of previous conferences that are not related to any other agenda item of the conference with a view to:  – abrogating those Resolutions and Recommendations that have served their purpose or have become no longer necessary;  – reviewing the need for those Resolutions and Recommendations, or parts thereof, requesting ITU Radiocommunication Sector (ITU-R) studies on which no progress has been made during the last two periods between conferences;  – updating and modifying Resolutions and Recommendations, or parts thereof, that have become out of date, and to correct obvious omissions, inconsistencies, ambiguities or editorial errors and effect any necessary alignment,  *invites future competent world radiocommunication conferences*  1 to review the Resolutions and Recommendations of previous conferences that are related to the agenda items of the conference, other than the standing agenda item mentioned in *resolves*, under those specific agenda items, with a view to their possible revision, replacement or abrogation, and to take appropriate action;  2 at the beginning of the conference, to determine which committee within the conference has the primary responsibility to review each of the Resolutions and Recommendations of previous conferences,  *instructs the Director of the Radiocommunication Bureau*  1 to conduct a general review of the Resolutions and Recommendations of previous conferences and, after consultation with the Radiocommunication Advisory Group and the chairmen and vice-chairmen of the radiocommunication study groups, submit a report to the second session of the Conference Preparatory Meeting (CPM) in respect of *resolves* and *invites future competent world radiocommunication conferences* 1, including an indication of any associated agenda items;  2 to include in the above report, with the cooperation of the chairmen of the radiocommunication study groups, the progress reports of ITU-R studies on the issues which have been requested by Resolutions and Recommendations of previous conferences but which are not placed on the agendas of the forthcoming two conferences,  *invites administrations*  to submit contributions on the implementation of this Resolution to the second session of CPM and the conference,  *invites the Conference Preparatory Meeting*  to include, in its Report, the results of the general review of the Resolutions and Recommendations of previous conferences, based on the contributions by administrations to the second session of CPM and the above-mentioned Report of the Director, in order to facilitate the follow-up by the conference. | See [[CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en)](https://www.itu.int/md/R00-CA-CIR-0251/en) | 1  AND  5 |
| **99 (Rev.WRC-23)** | Provisional application of certain provisions of the Radio Regulations as revised by the 2023 World Radiocommunication Conference and abrogation of certain Resolutions and Recommendations | *resolves*  1 that the date of entry into force of the frequency bands 1 614.4225-1 618.725 MHz or 1 616.3-1 620.38 MHz and 2 483.59-2 499.91 MHz, Nos. **5.368**, **5.372A**, **33.50**, **33.53**, as well as Appendix **15** for the frequency bands 1 614.4225-1 618.725 MHz or 1 616.3-1 620.38 MHz and 2 483.59-2 499.91 MHz is stipulated in *resolves* *6* of Resolution **365 (WRC-23)**;  2 that, as of 16 December 2023, the following provisions of the Radio Regulations shall provisionally apply:  – Appendix **30**: 4.1.10d; 4.1.13*bis*;4.1.13*ter*; 4.1.30; 4.1.31; 4.1.32; 5.1.6*bis*;  – Appendix **30A**: 4.1.10d; 4.1.13*bis*; 4.1.13*ter*; 4.1.34; 4.1.35; 4.1.36; 5.1.10*bis*;  – Appendix **30B**: 6.4*bis*;6.15; 6.15*quat*; 6.15*quin*; 6.27*bis*; 6.29*bis*; 6.29*ter*; 8.10*bis*; 8.10*ter*, | − | 3 |
| **111 (Orb-88)** | Planning of the fixed-satellite service in the bands 18.1-18.3 GHz, 18.3‑20.2 GHz and 27‑30 GHz | resolves  that the bands 18.1-18.3 GHz, 18.3-20.2 GHz and 27-30 GHz shall not be included in frequency bands identified for planning at this time,  invites the ITU-R  to continue its studies into the technical characteristics of the bands 18.1-18.3 GHz, 18.3‑20.2 GHz and 27‑30 GHz until a decision is taken by a future competent conference. | − | 2 |
| **114 (Rev.WRC‑15)** | Compatibility between the aeronautical radionavigation service and the fixed-satellite service (Earth-to-space) (limited to feeder links of the non-geostationary mobile-satellite systems in the mobile-satellite service) in the frequency band 5 091-5 150 MHz | resolves  that administrations authorizing stations providing feeder links for non-GSO systems in the MSS in the frequency band 5 091-5 150 MHz shall ensure that they do not cause harmful interference to stations of the aeronautical radionavigation service,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO. | − | 4 |
| **121 (WRC-23)** | Use of the frequency band 12.75-13.25 GHz by earth stations in motion on aircraft and vessels communicating with geostationary space stations in the fixed-satellite service | resolves  1 that, for any A‑ESIM or M‑ESIM communicating with a GSO FSS space station within the frequency band 12.75-13.25 GHz (Earth-to-space) or parts thereof, the following conditions shall apply:  …  1.1.2 with respect to satellite networks of other administrations, the characteristics of A‑ESIMs and M‑ESIMs shall remain within the envelope of typical characteristics of notified earth stations associated with the satellite networks with which these earth stations communicate, as published by the Bureau and included in its relevant International Frequency Information Circular (BR IFIC), and Annex 1 to this Resolution applies;  1.1.3 the use of A‑ESIMs and M‑ESIMs shall not cause any interference to Appendix **30B** allotments, assignments received by the Bureau under Article 6 either in process or yet to be processed, assignments in the List, assignments notified under Article 8 of that Appendix, and assignments recorded in the MIFR, as well as submissions under Appendix **30B**, beyond that specified in the relevant Annexes to that Appendix;  …  instructs the Director of the Radiocommunication Bureau  1 to take all necessary actions to facilitate the implementation of this Resolution;  2 to report to future world radiocommunication conferences on any difficulties or inconsistencies encountered in the implementation of this Resolution, including on whether or not the responsibilities relating to the operation of GSO A‑ESIMs and M‑ESIMs have been properly addressed;  3 to accelerate, to the maximum extent possible, the development and availability of the software required for implementation of the methodology contained in Annex 4 to this Resolution to examine compliance with the pfd limits in Part II of Annex 2 to this Resolution;  4 in the event of unacceptable interference:  4.1 based on information provided by the affected administration, to request the notifying administrations for satellite networks communicating with A-ESIMs and M-ESIMs that could potentially be causing unacceptable interference to promptly provide the relevant list of administrations that have authorized such ESIM operations to the affected administration;  4.2 to provide the affected administration with the list of networks potentially related to the reported case of unacceptable interference;  4.3 if a notifying administration fails to provide the information required under *instructs the Director of the Radiocommunication Bureau* 4.1 above within 45 days from the date of dispatch of the Bureau’s request referred to in *instructs the Director of the Radiocommunication Bureau* 4.1, to send the notifying administration a reminder to provide the required list within 15 days from the date of that reminder;  4.4 if a notifying administration fails to provide the required information following the reminder under *instructs the Director of the Radiocommunication Bureau* 4.3 above and if the affected administration has not confirmed to the Bureau that the case of unacceptable interference has been resolved, to submit the case to the subsequent meeting of RRB for review and the necessary actions, as appropriate,  invites the ITU Radiocommunication Sector  to study, as a matter of urgency, with the objective of preparing a Recommendation to be adopted and approved in accordance with Resolution ITU-R 1, the functionalities and implementation of NCMC for ESIMs,  instructs the Secretary-General  1 to bring this Resolution to the attention of the International Maritime Organization and the International Civil Aviation Organization;  2 to bring this Resolution to the attention of the ITU Council with a view to its considering whether cost recovery should be applied to GSO A-ESIMs and M-ESIMs. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  4  AND  5 |
| **122 (Rev.WRC-19)** | Use of the frequency bands 47.2‑47.5 GHz and 47.9‑48.2 GHz by high-altitude platform stations in the fixed service | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | − | 3 |
| **123 (WRC-23)** | Use of the frequency bands 17.7-18.6 GHz, 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 aeronautical and maritime earth stations in motion communicating with non-geostationary space stations in the fixed-satellite service | *resolves*  …  1.1 that, upon receipt of the notification information and commitment referred to in *resolves* 1 above, the Bureau shall examine them to check conformity with Article **11**, taking into account *recognizing* *a)* and *b)*, and with the provisions of this Resolution, and publish the results of its examination in its International Frequency Information Circular (BR IFIC);  …  *further resolves*  1 that the notifying administration for the non-GSO system with which ESIMs communicate, when submitting Appendix **4** information, shall send a firm, objective, actionable, measurable and enforceable commitment that, in the event of unacceptable interference being reported, it undertakes to immediately eliminate the interference or reduce it to an acceptable level;  2that, in the case of no action being taken with regard to the obligation referred to in *further resolves* 1 above, the Bureau shall send a reminder and request the notifying administration for the non-GSO system with which ESIMs communicate to comply with the requirements referred to in the commitment;  3 that, should the interference persist 30 days after the dispatch date of the above-mentioned reminder, the Bureau shall submit the case to the subsequent meeting of the Radio Regulations Board (RRB) for review and the necessary actions (including suppression of the frequency assignment in question), as appropriate;  4 that, for the implementation of *further resolves* 1 above, the notifying administration responsible for the operation of non-GSO A‑ESIMs and non-GSO M‑ESIMs shall also be responsible for observing and complying with all relevant regulatory and administrative provisions applicable to the operation of the ESIMs included in this Resolution or contained in the Radio Regulations;  5 that, in accordance with *instructs the Director of the Radiocommunication Bureau* 4 below, any notifying administration for a non-GSO system operating non-GSO A‑ESIMs and non-GSO M‑ESIMs, upon request by the Bureau regarding cases of unacceptable interference reported by an affected administration, shall provide the Bureau with a list of the administrations that have authorized non-GSO ESIM operations to communicate with that non-GSO FSS system and that are potentially related to a reported case of unacceptable interference,  *instructs the Director of the Radiocommunication Bureau*  1 to take all necessary actions to facilitate the implementation of this Resolution;  2 to report to future world radiocommunication conferences on any difficulties or inconsistencies encountered in the implementation of this Resolution, in particular with respect to the verification of compliance with the epfd limits specified in Article **22**;  …  *invites the ITU Radiocommunication Sector*  to study, as a matter of urgency, with the objective of preparing a Recommendation to be adopted and approved in accordance with Resolution ITU‑R 1, the functionalities and implementation of NCMCs for ESIMs,  *instructs the Secretary-General*  1 to bring this Resolution to the attention of the International Maritime Organization and the International Civil Aviation Organization;  2 to bring this Resolution to the attention of the ITU Council with a view to its considering whether cost recovery should be applied to non-GSO A‑ESIMs and non-GSO M‑ESIMs. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  4  AND  5 |
| **125 (Rev.WRC-12)** | Frequency sharing in the bands 1 610.6-1 613.8 MHz and 1 660‑1 660.5 MHz between the mobile-satellite service and the radio astronomy service | *resolves*  that a future competent conference should evaluate frequency sharing in the bands 1 610.6‑1 613.8 MHz and 1 660-1 660.5 MHz between the MSS and the radio astronomy service, based upon the experience gained with the use of ITU‑R M.1316 and other relevant ITU‑R Recommendations,  *invites ITU‑R*  to continue studies to evaluate the effectiveness of Recommendations aiming to facilitate sharing between the MSS and the radio astronomy service,  *instructs the Director of the Radiocommunication Bureau*  to provide the results of the studies in the Report of the Director to a future competent conference,  *urges administrations*  to participate actively in this evaluation. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3 |
| **126 (WRC-23)** | Temporary regulatory measures in Appendix 30B to improve the reference situation of severely impacted national allotments | *resolves*  1 that the special procedure outlined in this Resolution shall only be applied by administrations of assignments in the List and administrations of national allotments for which § 6.15 of Appendix **30B** of the 2020 version of the Radio Regulations was applied;  2 that, when agreements under § 6.15*quat* of Appendix **30B** are received by the Radiocommunication Bureau in accordance with *recognizing c)*, the Bureau shall immediately apply § 6.15*quin* and § 6.27*bis* of Appendix **30B** (WRC‑23) and update the reference situation without reviewing the previous examinations;  3 to request the notifying administrations of assignments for which the procedures of Article 6 of Appendix **30B** have not yet been completed and which have been examined by the Bureau before its application of *resolves* 2 to make their utmost efforts to take into account the new reference situations of national allotments with respect to which the special procedure of this Resolution has been applied when submitting their notice under § 6.17 or § 6.25 of Appendix **30B**,  *instructs the Director of the Radiocommunication Bureau*  1 to take the necessary actions to implement this Resolution, including drawing the attention of notifying administrations to *resolves*3 and providing necessary assistance to notifying administrations for the implementation of *resolves* 3;  2 to report to the relevant meetings of the Radio Regulations Board on the efforts undertaken by the notifying administrations in implementing *resolves*3 for further consideration;  3 to report to a future world radiocommunication conference on the implementation of this Resolution. | − | 3  AND  5 |
| **129 (WRC-23)** | Studies on possible revisions of sharing conditions in the frequency band 13.75-14 GHz to allow the use of uplink fixed-satellite service earth stations with smaller antenna sizes | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1studies on the technical and operational limitations regarding the minimum antenna size and associated power limitations of GSO and non-GSO FSS earth stations in the frequency band 13.75-14 GHz (Earth-to-space), while ensuring the protection of the services stipulated in Nos. **5.502** and **5.503**;  2 studies on possible changes to Nos. **5.502** and **5.503** and possible associated regulatory measures,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2027 world radiocommunication conference*  to consider, based on the results of the above studies, the minimum antenna size and associated power limitations of GSO and non-GSO FSS earth stations in the frequency band 13.75-14 GHz (Earth-to-space), possible changes to Nos.**5.502** and **5.503**, and consequential regulatory measures. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **130 (WRC-23)** | Studies relating to the use of the frequency band 51.4-52.4 GHz to enable its use by gateway earth stations transmitting to non-geostationary-satellite orbit systems in the fixed-satellite service (Earth-to-space) | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 sharing and compatibility studies with existing services, including in adjacent bands, including protection of the fixed and mobile services, and studies relating to the suitability of revising conditions associated with the primary allocation to the FSS in the frequency band 51.4-52.4 GHz (Earth-to-space) to enable its use by gateway earth stations of non-GSO FSS systems (Earth-to-space), and the relevant regulatory studies;  2 compatibility studies between non-GSO FSS gateway operation in the frequency band 51.4-52.4 GHz and the existing primary passive services operating in the frequency band 52.6‑54.25 GHz in order to review and revise Resolution **750 (Rev.WRC‑19)** to protect the EESS (passive), considering the aggregated interference from GSO gateway earth stations and non-GSO FSS gateway earth stations and taking into account that the existing limits for GSO FSS networks to protect the EESS (passive) operating in the frequency band 52.6-54.25 GHz established in Resolution **750 (Rev.WRC‑19)** continue to apply for those GSO FSS networks that were notified/brought into use before a date to be defined at WRC‑27;  3 studies on sharing and compatibility between non-GSO FSS gateway operation in the frequency band 51.4-52.4 GHz and the radio astronomy observations carried out in the frequency band 51.4-54.25 GHz in conformity with No. **5.556**, in order to determine the conditions to ensure the protection of these observations;  4 studies regarding the protection of GSO FSS space stations from the emissions of non-GSO FSS gateway earth stations, including possible associated regulatory actions and possible inclusion of the frequency band 51.4-52.4 GHz in the scope of Resolutions **769 (WRC‑19)** and **770 (Rev.WRC‑23)**,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector (ITU‑R),  *invites the 2027 world radiocommunication conference*  to consider, based on the results of the ITU‑R studies, the possible revision of the conditions related to allocations to the FSS in the frequency band 51.4-52.4 GHz to enable its use by non-GSO FSS gateway earth stations on a primary basis and any other related regulatory provisions. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **131 (WRC-23)** | Consideration of technical and regulatory measures for fixed-satellite service satellite networks/systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 42.5‑43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) for equitable access to these frequency bands | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  to study the technical and regulatory measures for FSS satellite networks/systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 42.5-43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), or portions thereof, for equitable access, while ensuring the protection of existing primary services to which the band is allocated in the same and adjacent bands, taking into account the specific needs of developing countries:  – without adversely affecting those services, specifically the operation of the satellite networks and systems in the bands;  – without changing measures to protect terrestrial services from unacceptable interference,  *invites the 2027 world radiocommunication conference*  to review the results of the studies in accordance with *resolves* *to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* above and take appropriate action on the usage of the frequency bands 37.5-42.5 GHz (space-to-Earth), 42.5‑43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) for equitable access to these frequency bands by FSS satellite networks/systems,  *invites administrations*  to participate actively in the studies by submitting contributions to ITU-R. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **133 (WRC-23)** | Study of the possible use of the frequency band 12.75-13.25 GHz by aeronautical and maritime earth stations in motion communicating with non-geostationary space stations in the fixed-satellite service (Earth-to-space) | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 studies on the technical and operational characteristics of A‑ESIMs and M‑ESIMs planning to communicate with the non-GSO space stations in the FSS in the frequency band 12.75‑13.25 GHz (Earth-to-space);  2 studies on sharing and compatibility between A‑ESIMs and M‑ESIMs communicating with non-GSO space stations in the FSS and the current and planned stations of existing services with allocations in the frequency band 12.75-13.25 GHz, ensuring that ESIMs will not call for further protection or cause more interference than existing typical earth stations;  3 the development of the technical conditions and regulatory provisions for the operation of A‑ESIMs and M‑ESIMs communicating with non-GSO space stations in the FSS that operate in the frequency band 12.75-13.25 GHz (Earth-to-space), taking into account the results of the studies outlined in *resolves to invite the ITU Radiocommunication Sector* t*o complete in time for the 2031 world radiocommunication conference* 1 and 2, while ensuring the protection of incumbent services;  4 sharing and compatibility studies for communications between non-GSO space stations in the FSS and ESIMs with respect to the EESS (passive) allocated in the adjacent frequency band referred to in *recognizing* *f)*;  5 studies on the development of a new Recommendation for the network control and monitoring centre functionality for ESIM operation;  6 studies on the responsibility of the entities involved in the operation of the A-ESIMs and M-ESIMs addressed by this Resolution,  *invites administrations*  to participate actively in the studies by sending their contributions to the ITU Radiocommunication Sector,  *invites the 2031 world radiocommunication conference*  to consider the results of the above-mentioned studies and to adopt the necessary measures accordingly. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **140 (Rev.WRC-23)** | Measures and studies associated with the equivalent power flux‑density (epfd) limits in the frequency band 19.7-20.2 GHz | *resolves to invite administrations*  to consider using the relevant ITU-R Recommendations regarding the protection of GSO FSS satellite networks from interference by non-GSO FSS systems as a guideline for consultation between administrations, to fulfil their obligations under No. **22.2** in the frequency band 19.7-20.2 GHz, and in the case where an administration responsible for a non-GSO FSS system requests the application of No. **22.5CA**,  *instructs the Radiocommunication Bureau*  in cases where an administration responsible for a non-GSO FSS system indicates in its coordination request its wish to apply No. **22.5CA** with respect to the epfd↓ limits in Table **22‑1C** in the frequency band 19.7‑20.2 GHz but has not yet reached the necessary agreements, to make a qualified favourable finding with respect to this provision. This provisional finding regarding compliance with epfd↓ limits shall be changed to a definitive favourable finding at the notification stage, only if all explicit agreements from administrations for which epfd limits are exceeded are obtained and an indication thereof is provided to the Bureau within two years from the date of receipt of the coordination request. Otherwise, this provisional finding shall be changed to a definitive unfavourable finding. | − | 3 |
| **143 (Rev.WRC-19)** | Guidelines for the implementation of high-density applications in the fixed-satellite service in frequency bands identified for these applications | *resolves*  that administrations which implement HDFSS should consider the following guidelines:  *a)* make some or all of the frequency bands identified in No. **5.516B** available for HDFSS applications;  *b)* in making frequency bands available under *resolves a)*, take into account:  – that HDFSS deployment will be simplified in frequency bands that are not shared with terrestrial services;  – in frequency bands shared with terrestrial services, the impact that the further deployment of terrestrial stations would have on the existing and future development of HDFSS, and the further deployment of HDFSS earth stations would have on the existing and future development of terrestrial services;  *c)* take into account the relevant technical characteristics applicable to HDFSS, as identified by ITU-R Recommendations (e.g. the most recent versions of Recommendations ITU-R S.524, ITU-R S.1594 and ITU‑R S.1783);  *d)* take into account other existing and planned FSS systems, having different characteristics, in frequency bands where HDFSS is implemented in accordance with *resolves a)* above, and the conditions specified in No. **5.516B**, | − | 6 |
| **144 (Rev.WRC-15)** | Special requirements of geographically small or narrow countries operating earth stations in the fixed-satellite service in the frequency band 13.75-14 GHz | *resolves*  that the administrations of geographically small or narrow countries may exceed the limitations on FSS earth station power flux-density at the low-water mark in No. **5.502** if such operation is in conformance with bilateral agreements with administrations deploying maritime radiolocation systems in the frequency band 13.75-14 GHz, this being in order to provide due consideration to administrations of geographically small or narrow countries, | − | 6 |
| **145 (Rev.WRC-19)** | Use of the frequency band 27.9‑28.2 GHz by high-altitude platform stations in the fixed service | *resolves*  1 that, notwithstanding No. **4.23**, in Region 2 the use of HAPS within the fixed-service allocations in the frequency band 27.9-28.2 GHz shall not cause harmful interference to, or claim protection from, other stations of services operating in accordance with the Table of Frequency Allocations of Article **5**, and, further, that the development of these other services shall proceed without constraints by HAPS operating pursuant to this Resolution;  2 that any use by HAPS of the fixed-service allocation at 27.9-28.2 GHz pursuant to *resolves* 1 above shall be limited to operation in the HAPS-to-ground direction;  3 that the administrations listed in No. **5.537A** which intend to implement systems using HAPS in the fixed service in the frequency band 27.9-28.2 GHz shall seek explicit agreement of concerned administrations with regard to their stations of primary services to ensure that the conditions in No. **5.537A** are met, and those administrations in Region 2 which intend to implement systems using HAPS in the fixed service in these frequency bands shall seek explicit agreement of concerned administrations with regard to their stations of services operating in accordance with the Table of Frequency Allocations of Article **5** to ensure that the conditions in *resolves* 1 are met;  4 that administrations planning to implement a HAPS system pursuant to *resolves* 1 above shall notify the frequency assignment(s) by submitting all mandatory elements of Appendix **4** to the Radiocommunication Bureau for the examination of compliance with *resolves* 3 above,  *invites the ITU Radiocommunication Sector*  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. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3 |
| **147 (WRC-07)** | Power flux-density limits for certain systems in the fixed-satellite service using highly-inclined orbits having an apogee altitude greater than 18 000 km and an orbital inclination between 35° and 145° in the band 17.7-19.7 GHz | *resolves*  that in the band 17.7-19.7 GHz, FSS space stations currently operating in a system of the type described in *considering d)* and for which advance publication information was received by the Radiocommunication Bureau before 5 July 2003, as well as space stations with the same parameters in a future notice for a replacement system, shall continue to be subject to the power flux-density limits:  −115 dB(W/(m2 · MHz)) for  0° ≤ δ < 5°  −115 + 0.5(δ− 5) dB(W/(m2 · MHz)) for  5° ≤ δ ≤ 25°  −105 dB(W/(m2 · MHz)) for 25° < δ ≤ 90°  where δ is the angle of arrival above the horizontal plane in degrees. | − | 3 |
| **148 (Rev.WRC-15)** | Satellite systems formerly listed in Part B of the Plan of Appendix 30B (WARC Orb-88) | *resolves*  that an administration wishing to further extend the notified period of validity of assignments to “existing system(s)” as referred to in *considering c)* shall inform the Bureau accordingly more than three years before the expiry of the notified period of validity and, if the characteristics of that assignment remain unchanged, the Bureau shall amend, as requested, the notified period of validity and publish that information in a special section of the Bureau’s International Frequency Information Circular (BR IFIC),  *instructs the Radiocommunication Bureau*  1 to cancel from the Master Register and the List assignments to “existing system(s)” as referred to in *considering c)* upon expiry of their notified period of validity;  2 to calculate aggregate *C*/*I* of the “existing systems” as referred to in *considering c)* without taking into account the interference between these systems;  3to take the appropriate actions in accordance with *resolves* above. | − | 3 |
| **149 (Rev.WRC-12)** | Submissions from new Member States of the Union relating to Appendix 30B of the Radio Regulations | *resolves*  1 that an administration of a country which has joined the Union as a Member State and does not have a national allotment in the Plan or an assignment in the List stemming from the conversion of an allotment shall have the right to request the Bureau to exclude its territory from the service area of an allotment or an assignment, whereupon the Bureau shall exclude the territory accordingly without adversely affecting the rest of the service area and subsequently recalculate the new reference situation for the Appendix **30B** Plan and List;  2 to urge administrations1 to make utmost efforts to accommodate submissions received from new Member States of ITU.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  1 Those administrations which are the basis of unfavourable findings with respect to submissions from new Member  States. | − | 3 |
| **150 (WRC‑12)** | Use of the bands 6 440-6 520 MHz and 6 560-6 640 MHz by gateway links for high-altitude platform stations in the fixed service | *resolves*  …  *invites*  administrations to consult with the Director of the Radiocommunication Bureau to determine the data elements of HAPS gateway stations necessary for notification and examination of frequency assignments in accordance with the provisions of Article **11** and Appendix **4**,  *instructs the Director of the Radiocommunication Bureau*  to implement this Resolution. | − | 3 |
| **154 (Rev.WRC-15)** | Consideration of technical and regulatory actions in order to support existing and future operation of fixed-satellite service earth stations within the frequency band 3 400‑4 200 MHz, as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1 | *resolves*  1 to recommend that administrations in countries where the frequency band 3 400‑3 600 MHz is allocated on a primary basis to the mobile, except aeronautical mobile, service in Region 1 and identified for IMT in Region 1 ensure compliance of IMT stations with the relevant provisions set forth in the Radio Regulations and apply the relevant coordination procedures before bringing these applications into use;  2 to urge administrations in Region 1, when planning and/or licensing fixed point-to-point, fixed wireless access and IMT systems in frequency bands referred to in *considering b)* above, to take into account the protection needs of existing and planned FSS earth stations within the frequency band 3 400-4 200 MHz, as an aid to the safe operation of aircraft and reliable distribution of meteorological information in some countries in Region 1;  3 to invite administrations in Region 1, taking into account the number of earth stations involved for this particular type of usage, to consider the possibility of licensing the FSS earth stations used for communications as an aid to the safe operation of aircraft and/or distribution of meteorological information on an individual basis and registering them in the MIFR as specific earth stations;  4 to encourage administrations in Region 1 to employ the appropriate mitigation techniques described in the ITU-R publications referred to in *recognizing a)* above;  5 to invite administrations to ensure that the application of these technical and regulatory measures to FSS and the mobile service does not limit the use of the frequency band 3 400-4 200 MHz by other existing and planned systems and services in other countries,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO and WMO. | − | 4 |
| **155 (Rev.WRC-19)** | Regulatory provisions related to earth stations on board unmanned aircraft which operate with geostationary-satellite networks in the fixed-satellite service in certain frequency bands not subject to a Plan of Appendices 30, 30A and 30B for the control and non-payload communications of unmanned aircraft systems in non-segregated airspaces | *resolves*  …  *encourages administrations*  *…*  *invites the 2023 World Radiocommunication Conference*  …  *invites the ITU Radiocommunication Sector*  …  *instructs the Director of the Radiocommunication Bureau*  …  *instructs the Secretary-General*  …  *invites the International Civil Aviation Organization*  … | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **156 (Rev.WRC-23)** | Use of the frequency bands 19.7‑20.2 GHz and 29.5‑30.0 GHz by earth stations in motion communicating with geostationary space stations in the fixed-satellite service | *resolves*  1 that ESIMs communicating with the GSO FSS shall operate under the following conditions:  …  1.5 to this effect, that administration shall submit to the Bureau a commitment for implementation of *resolves* 1.4 above;  …  2 that the administration responsible for the satellite network shall ensure that the ESIMs employ techniques to track the associated GSO FSS satellite and that they are resistant to capturing and tracking adjacent GSO satellites;  3 that the notifying administration for the satellite network within which the ESIMs operate by means of fixed, mobile or transportable terminals shall ensure that they have the capability to limit operations of such earth stations to the territory or territories of administrations having authorized those earth stations and to comply with Article **18**;  4 that administrations authorizing ESIMs shall require the operators to provide a point of contact for the purpose of tracing any suspected cases of interference from ESIMs. | − | 3 |
| **163 (WRC-15)** | Deployment of earth stations in some Regions 1 and 2 countries in the frequency band 14.5-14.75 GHz in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service | *resolves*  that earth stations in Regions 1 and 2 in the frequency band 14.5-14.75 GHz in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall be operated only in the following countries: Algeria, Saudi Arabia, Argentina, Armenia, Azerbaijan, Bahrain, Belarus, Brazil, Bulgaria, Cuba, Egypt, El Salvador, the Russian Federation, Iraq, Jordan, Kazakhstan, Kuwait, Mauritania, Mexico, Morocco, Nicaragua, Norway, Oman, Uzbekistan, Qatar, Kyrgyzstan, Sudan, Turkey, Uruguay and Venezuela; such operation is subject to the technical and operational limitations contained in Nos. **5.509B, 5.509C, 5.509D, 5.509E** and **5.509F**. | − | 3 |
| **164 (WRC-15)** | Deployment of earth stations in some Region 3 countries in the frequency band 14.5-14.8 GHz in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service | *resolves*  that earth stations in Region 3 in the frequency band 14.5-14.8 GHz in the fixed-satellite service (Earth-to-space) not for feeder links for the broadcasting-satellite service shall be operated only in the following countries: Australia, Cambodia, China, Japan, Lao P.D.R., Pakistan, Papua New Guinea, Thailand and Viet Nam; such operation is subject to the technical and operational limitations contained in Nos. **5.509B, 5.509C, 5.509D, 5.509E** and **5.509F**. | − | 3 |
| **165 (Rev.WRC-23)** | Use of the frequency band 21.4‑22 GHz by high-altitude platform stations in the fixed service in Region 2 | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3 |
| **166 (Rev.WRC-23)** | Use of the frequency band 24.25‑27.5 GHz by high-altitude platform stations in the fixed service in Region 2 | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3 |
| **167 (Rev.WRC-23)** | Use of the frequency band 31‑31.3 GHz by high-altitude platform stations in the fixed service | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3 |
| **168 (Rev.WRC-23)** | Use of the frequency band 38‑39.5 GHz by high-altitude platform stations in the fixed service | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution,  *invites the ITU Radiocommunication Sector*  to develop a Recommendation to provide technical guidance to facilitate the implementation of HAPS operations while ensuring the protection of non-GSO FSS earth stations. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3 |
| **169 (Rev.WRC-23)** | Use of the frequency bands 17.7‑19.7 GHz and 27.5-29.5 GHz by earth stations in motion communicating with geostationary space stations in the fixed-satellite service | *resolves*  1 that, for any ESIM communicating with a GSO FSS space station within the frequency bands 17.7‑19.7 GHz and 27.5-29.5 GHz, or parts thereof, the following conditions shall apply:  …  1.2.5 for the application of Part II of Annex 3 as referred to in *resolves* 1.2.2 and 1.2.4 above, BR shall examine the characteristics of aeronautical ESIMs with respect to the conformity with the power flux-density (pfd) limits on the Earth’s surface specified in Part II of Annex 3 and publish the results of such examination in the BR IFIC;  …  7 that, if BR is unable to examine, in accordance with *resolves* 1.2.5 above, aeronautical ESIMs with respect to conformity with the pfd limits on the Earth’s surface specified in Part II of Annex 3, the notifying administration shall send to BR a commitment that the aeronautical ESIMs comply with those limits;  8 that BR shall formulate a qualified favourable finding under No. **11.31** with respect to the limits contained in Part II of Annex 3, if *resolves* 7 is applied successfully, otherwise it shall formulate an unfavourable finding,  *further resolves*  that, should an administration authorizing ESIMs agree to pfd levels higher than the limits contained in Part II of Annex 3 within the territory under its jurisdiction, such agreement shall not affect other countries that are not party to that agreement,  *instructs the Director of the Radiocommunication Bureau*  1 to take all necessary actions to facilitate the implementation of this Resolution, together with providing any assistance for the resolution of interference, when required;  2 to report to future world radiocommunication conferences any difficulties or inconsistencies encountered in the implementation of this Resolution, including whether or not the responsibilities relating to the operation of ESIMs have been properly addressed;  3 to review, if necessary, once the methodology to examine the characteristics of aeronautical ESIMs with respect to conformity with the pfd limits on the Earth’s surface specified in Part II of Annex 3 is available, its findings made in accordance with No. **11.31**,  *invites administrations*  to collaborate for the implementation of this Resolution, in particular for resolving interference, if any,  *invites the ITU Radiocommunication Sector*  to conduct, as a matter of urgency, relevant studies to determine a methodology with respect to the examination referred to in *resolves* 1.2.5 above,  *instructs the Secretary-General*  to bring this Resolution to the attention of the Secretary-General of the International Maritime Organization and of the Secretary General of the International Civil Aviation Organization. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  4 |
| **170 (Rev.WRC-23)** | Additional measures for satellite networks in the fixed-satellite service in frequency bands subject to Appendix 30B for the enhancement of equitable access to these frequency bands | *resolves*  that, as of 23 November 2019, the special procedure described in Attachment 1 to this Resolution shall be applied for the processing of submissions received by BR under Article 6 of Appendix **30B** for conversion of the allotment of an administration into an assignment with modifications outside the envelope of the initial allotment while restricted to providing service to its national territory, designated by test points as contained in the corresponding allotment, a submission by an administration of an additional system the service area of which is limited to its national territory, designated by test points as contained in the allotment, or a submission by an administration acting on behalf of a group of named administrations of an additional system the service area of which is limited to the national territories of the group of named administrations, designated by test points as contained in the allotments, in the frequency bands 4 500-4 800 MHz, 6 725-7 025 MHz, 10.70‑10.95 GHz, 11.20-11.45 GHz and 12.75-13.25 GHz, if requested by an administration or one acting on behalf of a group of named administrations in respect of its submission, as specified in Attachment 1 to this Resolution; additional test points may be submitted inside the national territory of each participating administration provided that they are located on land and within the corresponding national territory, and that the total number of test points, per national territory, including those of the associated allotment, shall not exceed 20,  *further* *resolves*  that, when coordinating networks submitted under these additional measures, administrations, in particular those having satellite networks in process or included in the List with global coverage, exercise the utmost goodwill, and endeavour to overcome any difficulties encountered by the incoming network, in order to accommodate the incoming submission while respecting the underlying principles of No. **9.6** and its associated Rule of Procedure which would apply by analogy to Article 6 of Appendix **30B**; in addressing, in particular, difficulties encountered in coordination due to the issue of potential Earth-to-space harmful interference caused by an incoming network which originates outside the service area of other potentially affected networks, administrations having potentially affected networks with global coverage shall implement, to the maximum extent possible, means to accommodate the incoming network, taking into account actual operating characteristics of the potentially affected networks,  *instructs the Director of the Radiocommunication Bureau*  to provide assistance, if requested by an administration, in the generation of a minimum ellipse as called for in § 3 c) of Attachment 1 to this Resolution. | − | 3 |
| **176 (Rev.WRC-23)** | Studies on the use of the frequency bands 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), or parts thereof, by aeronautical and maritime earth stations in motion in the fixed-satellite service | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on the spectrum needs and technical and operational characteristics of A-ESIMs and M-ESIMs that plan to operate within FSS allocations in the frequency bands mentioned in *considering* *a)*, or parts thereof;  2 studies on sharing and compatibility between A-ESIMs and M-ESIMs communicating with space stationsin the FSS in the frequency bands mentioned in *considering* *a)*,or parts thereof, and the stations of primary services allocated in these frequency bands and in adjacent frequency bands, including passive services in adjacent and near-adjacent frequency bands, in order to ensure protection of, and not impose undue constraints on, those services;  3 the development, for M-ESIMs and A-ESIMs, of the technical conditions for their operation, taking into account the results of the studies above;  4 the development, for M-ESIMs and A-ESIMs communicating with GSO networks and non-GSO systems, of regulatory provisions for their operation, taking into account the results of the studies above;  5 consideration of the results of studies within the ITU Radiocommunication Sector (ITU‑R) for the development of a new Recommendation for the network control and monitoring centre for ESIM operations;  6 studies on the responsibility of the administrations involved in the operations of the A‑ESIMs and M-ESIMs addressed by this Resolution,  *invites the 2027 world radiocommunication conference*  to consider the results of the above studies and take the necessary actions for GSO and non-GSO ESIMs, as appropriate, provided that the results of the studies referred to in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference* are complete and agreed by the ITU‑R study groups. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **205 (Rev.WRC-19)** | Protection of systems operating in the mobile-satellite service in the frequency band 406-406.1 MHz | *resolves*  1 to request administrations not to make new frequency assignments within the frequency bands 405.9‑406.0 MHz and 406.1-406.2 MHz under the mobile and fixed services;  2 that administrations take into account frequency drift characteristics of radiosondes when selecting their operating frequencies above 405 MHz to avoid transmitting in the 406-406.1 MHz frequency band and take all practical steps to avoid frequency drifting close to 406 MHz,  *instructs the Director of the Radiocommunication Bureau*  1 to continue to organize monitoring programmes in the frequency band 406-406.1 MHz in order to identify the source of any unauthorized emission in that frequency band;  2 to organize monitoring programmes on the impact of unwanted emissions from systems operating in the frequency bands 405.9-406 MHz and 406.1-406.2 MHz on MSS reception in the frequency band 406‑406.1 MHz in order to assess the effectiveness of this Resolution, and to report to subsequent world radiocommunication conferences, | − | 3 |
| **207 (Rev.WRC-15)** | Measures to address unauthorized use of and interference to frequencies in the frequency bands allocated to the maritime mobile service and to the aeronautical mobile (R) service | *resolves to invite ITU‑R and ITU‑D, as appropriate*  to increase regional awareness of appropriate practices in order to help mitigate interference in the HF bands, especially on distress and safety channels,  *instructs the Radiocommunication Bureau*  1 to seek the cooperation of administrations in identifying the sources of those emissions by all available means and in securing the cessation of those emissions;  2 when the station of another service transmitting in a frequency band allocated to the maritime mobile service or to the aeronautical mobile (R) service has been identified, to inform the administration concerned;  3 to include the problem of interference to maritime and aeronautical distress and safety channels on the agenda of relevant regional radiocommunication seminars,  *instructs the Secretary-General*  to bring this Resolution to the attention of the International Maritime Organization and the International Civil Aviation Organization for such actions as they may consider appropriate. | − | 3  AND  4 |
| **212 (Rev.WRC-23)** | Implementation of International Mobile Telecommunications in the frequency 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, | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2 |
| **213 (WRC-23)** | Use of high-altitude platform stations as International Mobile Telecommunications base stations in the frequency band 694-960 MHz, or portions thereof | *resolves*  …  5 that administrations intending to implement HIBS systems shall notify, in accordance with Article **11**, the frequency assignments to transmitting and receiving HIBS by submitting all mandatory elements of Appendix **4** to the Radiocommunication Bureau for the examination of compliance with the conditions specified in the *resolves* above;  6 that the notifying administration of HIBS at the time of submission of the Appendix **4** information shall provide a firm, objective, actionable, measurable and enforceable commitment to the Bureau to immediately eliminate unacceptable interference to existing primary services or reduce it to an acceptable level should such interference occur,  *invites administrations*  1 to adopt appropriate frequency arrangements for HIBS in order to consider the benefits of harmonized utilization of the spectrum for HIBS and protection of existing services and systems operating on a primary basis taking into account the *resolves* above and the relevant ITU‑R Recommendations and Reports;  2 to review their entries for the broadcasting service in the Master International Frequency Register in the frequency band above 694 MHz and to remove those no longer required according to Article **8**,  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3 |
| **215 (Rev.WRC-12)** | Coordination process among mobile-satellite systems and efficient use of the allocations to the mobile-satellite service in the 1-3 GHz range | *resolves to invite ITU‑R*  1 to continue its studies on this subject and develop, as a matter of urgency, criteria for determining the need to coordinate and calculation methods for determining levels of interference, as well as the required protection ratios between MSS networks;  2 to study, as a matter of urgency, the use of technically and operationally feasible techniques to allow for improvements in spectrum efficiency in MSS systems,  *further resolves*  1 that ITU‑R studies should be focused on the technical and operational characteristics of systems using spread-spectrum multiple-access techniques that can allow co-frequency, co‑coverage, codirectional sharing but which involve cooperation among systems’ operators to maximize the efficient use of spectrum by multiple MSS systems using such access techniques;  2 that administrations responsible for the introduction of mobile-satellite systems are urged to implement, as practicable, the latest available technologies to improve spectrum efficiency consistent with the requirement to offer viable MSS services;  3 to recommend that administrations be encouraged to use the most advanced technology available when preparing to implement their global MSS systems in the 1-3 GHz range so that they may operate, if necessary, in different frequency bands in different regions, in accordance with the MSS allocations in the 1-3 GHz range decided by WRC‑97. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2 |
| **217 (Rev.WRC-23)** | Implementation of wind profiler radars | *resolves*  1 to urge administrations to implement wind profiler radars as radiolocation service systems in the following bands, having due regard to the potential for incompatibility with other services and assignments to stations in these services, thereby taking due account of the principle of geographical separation, in particular with regard to neighbouring countries, and keeping in mind the category of service of each of these services:  …  *instructs the Secretary-General*  to bring this Resolution to the attention of the International Civil Aviation Organization (ICAO), International Maritime Organization (IMO) and WMO. | − | 4 |
| **218 (WRC-23)** | Use of high-altitude platform stations as International Mobile Telecommunications base stations in the frequency band 2 500-2 690 MHz, or portions thereof | *resolves*  …  2 that administrations intending to implement HIBS systems shall notify, in accordance with Article **11**, the frequency assignments to transmitting and receiving HIBS stations by submitting all mandatory elements of Appendix **4** to the Bureau for the examination of compliance with the conditions specified in the *resolves* above;  3 that the notifying administration of HIBS at the time of submission of the Appendix **4** information shall provide a firm, objective, actionable, measurable and enforceable commitment to the Bureau to immediately eliminate unacceptable interference to existing primary services or reduce it to an acceptable level should such interference occur,  *invites administrations*  to adopt appropriate frequency arrangements for HIBS in order to consider the benefits of harmonized utilization of the spectrum for HIBS and protection of existing services and systems operating on a primary basis taking into account the *resolves* above and the relevant ITU‑R Recommendations and Reports,  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3 |
| **219 (WRC-23)** | Terrestrial component of International Mobile Telecommunications in the frequency band 10-10.5 GHz in Region 2 | *resolves*  1that administrations wishing to implement IMT consider use of the frequency band 10‑10.5 GHz identified for IMT in No. **5.480A** in countries in Region 2, taking into account the most recent versions of relevant ITU‑R Recommendations;  2 that administrations shall take practical measures to ensure that transmitting antennas of outdoor base stations are normally pointing below the horizon when deploying IMT base stations within the frequency band 10-10.5 GHz; the mechanical pointing needs to be at or below the horizon;  3 that the maximum equivalent isotropically radiated power (e.i.r.p.) per base station shall not exceed 30 dB(W/100 MHz) and that the maximum e.i.r.p. per base station for elevation angles higher than 34 degrees shall not exceed 0.5 dB(W/100 MHz);  4 that, for the purposes of protecting the EESS (passive), and considering the conditions under *resolves*3, the total radiated power (TRP) produced per IMT base station operating in the frequency band 10-10.5 GHz shall not exceed −37.9 dB(W/100 MHz) in the frequency band 10.6‑10.7 GHz;  5 that, for the purposes of protecting the EESS (passive), the TRP produced by IMT user equipment operating in the frequency band 10-10.5 GHz shall not exceed −39 dB(W/100 MHz) in the frequency band 10.6-10.7 GHz;  6 that IMT stations within the frequency range 10-10.5 GHz shall be used only for applications of the land mobile service,  *invites the ITU Radiocommunication Sector*  1 to develop harmonized frequency arrangements to facilitate IMT deployment in the frequency band 10-10.5 GHz, taking into account the results of sharing and compatibility studies conducted in preparation for WRC‑23;  2 to continue providing guidance to ensure that IMT can meet the telecommunication needs of developing countries;  3 to develop an ITU Radiocommunication Sector (ITU‑R) Report and/or Recommendation on methodologies for calculating coordination zones around radio astronomy stations operating in the frequency band 10.6-10.7 GHz in order to avoid harmful interference from IMT systems operating in the frequency band 10‑10.5 GHz;  4 to review existing ITU‑R Recommendations/Reports and, as appropriate, to update them or develop new ITU‑R Recommendations to provide information and assistance to the administrations concerned regarding possible coordination measures for fixed-service stations with IMT stations in the frequency band 10-10.5 GHz,  *instructs the Director of the Radiocommunication Bureau*  to bring this Resolution to the attention of relevant international organizations. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) See  Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  4 |
| **220 (WRC-23)** | Terrestrial component of International Mobile Telecommunications (IMT) within the frequency band 6 425‑7 125 MHz | *resolves*  …  3 that administrations wishing to implement IMT in the frequency band 6 700-7 075 MHz shall ensure the protection, continued use and future development of FSS (space-to-Earth) stations through the adoption of site-specific coordination,  *invites administrations*  1 to take into account the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT;  2 to ensure that provisions for the implementation of IMT do not adversely affect the operation of FSS earth stations and their future development;  3 to take all practical steps to protect the radio astronomy service (RAS) from harmful interference in the frequency band 6 650-6 675.2 MHz, which covers spectral lines of importance for current astronomical investigations, in accordance with No. **5.149**,  *invites the ITU Radiocommunication Sector*  1 to develop harmonized frequency arrangements to facilitate IMT deployment within the frequency band 6 425-7 125 MHz;  2 to continue providing guidance to ensure that IMT can meet the telecommunication needs of developing countries;  3 to develop a Recommendation to address methods for the determination of the protection area around a non-GSO earth station in the frequency band 6 700-7 075 MHz from an IMT base station;  4 to update existing ITU‑R Recommendations/Reports or develop new ITU‑R Recommendations/Reports, as appropriate, to provide information and assistance to the administrations concerned on possible coordination of stations in the fixed service with IMT stations in the frequency band 6 425-7 125 MHz;  5 to regularly review, as appropriate, the impact of evolving technical and operational characteristics of IMT systems (including base-station density) on sharing and compatibility with space services, and to take into account the results of these reviews in the development and/or revision of ITU‑R Recommendations/Reports addressing, *inter alia*, if necessary, applicable measures to mitigate the risk of interference into space services;  6 to develop an ITU‑R Recommendation to address methods for the determination of the protection area around existing RAS stations from IMT stations in the frequency band 6 650‑6 675.2 MHz;  7 to update existing ITU‑R Recommendations/Reports or develop new ITU‑R Recommendations/Reports, as appropriate, to provide information and assistance to the administrations concerned on possible coordination of SRS (deep space) stations operating in the band 7 145-7 190 MHz with IMT stations operating in the frequency band 6 425-7 125 MHz,  *instructs the Director of the Radiocommunication Bureau*  to bring this Resolution to the attention of relevant international organizations. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) See  Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  4 |
| **221 (Rev.WRC‑23)** | Use of high altitude platform stations as International Mobile Telecommunications base stations in the frequency bands 1 710‑1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz | *resolves*  …  2 that administrations intending to implement HIBS systems shall notify, in accordance with Article **11**, the frequency assignments to transmitting and receiving HIBS stations by submitting all mandatory elements of Appendix 4 to the Radiocommunication Bureau for the examination of compliance with the conditions specified in the *resolves* above;  3 the notifying administration of HIBS at the time of submission of the Appendix **4** information shall provide a firm, objective, actionable, measurable, and enforceable commitment to the Bureau to immediately eliminate unacceptable interference to existing primary services or reduce it to an acceptable level should such interference occur,  *invites administrations*  to adopt appropriate frequency arrangements for HIBS in order to consider the benefits of harmonized utilization of the spectrum for HIBS and protection of existing services and systems operating on a primary basis taking into account the *resolves* above and the relevant ITU‑R Recommendations and Reports,  *instructs the Director of the Radiocommunication Bureau*  to take all necessary measures to implement this Resolution. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3 |
| **222 (Rev.WRC-23)** | Use of the frequency bands 1 525‑1 559 MHz and 1 626.5‑1 660.5 MHz by the mobile-satellite service, and procedures to ensure long-term spectrum access for the aeronautical mobile-satellite (R) service | *resolves*  …  4 that the notifying administrations of mobile-satellite networks shall ensure that MSS operators carrying non-safety-related traffic yield capacity, as and when necessary, to accommodate the spectrum requirements for distress, urgency and safety communication of GMDSS communications, as elaborated in Articles **32** and **33**, and for AMS(R)S communications within priority categories 1 to 6 of Article **44**; this could be achieved in advance through the coordination process in *resolves* 1, and in the case of AMS(R)S the procedures contained in the Annex to this Resolution shall apply,  *invites*  1 administrations, if they so desire, to have their AMS(R)S traffic requirements submitted to ICAO before the frequency coordination meeting;  2 ICAO to evaluate and, as appropriate, comment on the AMS(R)S traffic requirements received from individual administrations, on the basis of the known global and regional aviation traffic requirements, including the time-scale of regional and global communication requirements,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO. | − | 3  AND  4 |
| **223 (Rev.WRC-23)** | Additional frequency bands identified for International Mobile Telecommunications | *resolves*  1 to invite administrations planning to implement IMT to make available, based on user demand and other national considerations, additional frequency bands or portions of the frequency bands above 1 GHz identified in Nos. **5.341B**, **5.384A**, **5.429B**, **5.429D**, **5.429F**, **5.441A** and **5.441B** for the terrestrial component of IMT; due consideration should be given to the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT, taking into account the services to which the frequency band is currently allocated;  2 to acknowledge that the differences in the texts of Nos. **5.341B**, **5.384A** and **5.388** do not confer differences in regulatory status;  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** for 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** for 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** 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 to continue providing guidance to ensure that IMT can meet the telecommunication needs of developing countries and rural areas;  2to continue providing guidance to administrations planning to facilitate the implementation of IMT in the frequency band 3 300-3 400 MHz, taking into account *considering aj*;  3 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. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2 |
| **224 (Rev.WRC-23)** | Frequency bands for the terrestrial component of International Mobile Telecommunications below 1 GHz | *resolves*  …  5 that in Region 1 (excluding Mongolia) and in the Islamic Republic of Iran, the implementation of stations in the mobile service shall be subject to the applications of procedures contained in the GE06 Agreement; in so doing  *a)* administrations which deploy stations in the mobile service for which coordination was not required, or without having obtained the prior consent of those administrations that may be affected, shall not cause unacceptable interference to, nor claim protection from, stations of the broadcasting service of administrations operating in conformity with the GE06 Agreement; this should include a signed commitment as required under § 5.2.6 of the GE06 Agreement;  *b)* administrations which deploy stations in the mobile service for which coordination was not required, or without having obtained the prior consent of those administrations that may be affected, shall not object to nor prevent the entry into the GE06 plan or recording in the MIFR of additional future broadcasting allotments or assignments of any other administration in the GE06 Plan with reference to those stations;  …  *invites the Director of the Telecommunication Development Bureau*  to draw the attention of the ITU Telecommunication Development Sector to this Resolution. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3  AND  4 |
| **225 (Rev.WRC‑23)** | Use of additional frequency bands for the satellite component of IMT | *resolves*  1 that, in addition to the frequency bands indicated in *considering a)* and *resolves*2, the frequency bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610-1 626.5 MHz, 1 626.5-1 645.5 MHz, 1 646.5-1 660.5 MHz, 1 668-1 675 MHz and 2 483.5-2 500 MHz may be used by administrations wishing to implement the satellite component of IMT, subject to the regulatory provisions related to the mobile-satellite service in these frequency bands;  2 that the bands 2 500-2 520 MHz and 2 670-2 690 MHz as identified for IMT in No. **5.384A** and allocated to the mobile-satellite service in Region 3 may be used by administrations in that Region wishing to implement the satellite component of IMT; however, depending on user demand, it may be possible in the longer term that the administrations decide to use these bands for the terrestrial component of IMT (see the Preamble of the ITU Constitution);  3 that this identification of frequency bands for the satellite component of IMT does not preclude the use of these bands by any applications of the services to which they are allocated and does not establish priority in the Radio Regulations,  *invites ITU‑R*  1 to study the sharing and coordination issues in the above bands related to use of the mobile-satellite service allocations for the satellite component of IMT and the use of this spectrum by the other allocated services, including the radiodetermination-satellite service;  2 to report the results of these studies to a future world radiocommunication conference,  *invites the Director of the Telecommunication Development Bureau*  to draw the attention of the Telecommunication Development Sector to this Resolution. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **229 (Rev.WRC-23)** | Use of the frequency bands 5 150‑5 250 MHz, 5 250‑5 350 MHz and 5 470‑5 725 MHz by the mobile service for the implementation of wireless access systems including radio local area networks | *resolves*  …  *invites administrations*  1 to consider appropriate measures, when allowing the operation of stations in the mobile service using the e.i.r.p. elevation angle mask referred in *resolves*5 above, to ensure the equipment is operated in compliance with this mask;  2 to take appropriate measures, such as the examples in *recognizing* *k)*, to control the number of outdoor stations in the frequency band 5 150-5 250 MHz, if implementing *resolves* 3 above, in order to ensure the protection of incumbent services. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2 |
| **235 (Rev.WRC-23)** | Review of the spectrum use of the frequency band 470-694 MHz or parts thereof for some countries in Region 1 | *resolves to invite the ITU Radiocommunication Sector after this conference and in time for the 2031 world radiocommunication conference*  1 to review spectrum use and needs of applications of broadcasting and mobile services, taking into account *recognizing g)*, within the frequency band 470-694 MHz or parts thereof for countries listed in No. **5.295A**;  2 based on the review referred to in *resolves to invite the ITU Radiocommunication Sector, after this conference and in time for the 2031 world radiocommunication conference*1, to update sharing and compatibility studies for coexistence conditions and develop new studies, as appropriate, taking into account existing primary and secondary services and No. **5.295A**, and to propose technical and regulatory conditions,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of ITU‑R studies:  a) possible regulatory actions, including a review of the allocation of the frequency band 614-694 MHz to the mobile service for countries listed in No. **5.295A**;  b) and then also, a possible regulatory action to protect the RAS to which the frequency band 608-614 MHz is allocated in some countries in Region 1, taking into account the outcomes of *invites the 2031 world radiocommunication conference a)* above,  *further invites the ITU Radiocommunication Sector*  to ensure intersectoral collaboration with the ITU Telecommunication Development Sector in the implementation of this Resolution. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **240 (WRC-19)** | Spectrum harmonization for railway radiocommunication systems between train and trackside within the existing mobile-service allocations | *recognizing*  …  *e)* that the ITU Radiocommunication Sector (ITU-R) is developing an ITU-R Recommendation to facilitate the spectrum harmonization of current and evolving RSTT within the existing mobile-service allocations,  *resolves*  to encourage administrations, when planning for their RSTT, to consider the study results as per *invites the ITU Radiocommunication Sector* 1*,* as well as other relevant ITU-R Recommendations/Reports, with a view to facilitating spectrum harmonization for RSTT, in particular for train radio applications,  *invites the ITU Radiocommunication Sector*  1 to continue development of the ITU-R Recommendation referred in *recognizing e)* addressing spectrum harmonization for RSTT in a timely manner;  2 to further develop and update ITU-R Recommendations/Reports concerning the technical and operational implementation of RSTT, as appropriate,  *instructs the Director of the Radiocommunication Bureau*  to support administrations in their work towards the harmonization of spectrum for RSTT pursuant to *resolves* above,  *invites administrations*  to encourage railway agencies and organizations to utilize relevant ITU-R publications in implementing technologies and systems supporting RSTT,  *invites Member States, Sector Members, Associates and Academia*  to participate actively in the study by submitting contributions to ITU-R,  *instructs the Secretary-General*  to bring this Resolution to the attention of UIC, 3GPP and other relevant international and regional organizations. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  4 |
| **241 (Rev.WRC-23)** | Use of the frequency band 66‑71 GHz for International Mobile Telecommunications and coexistence with other applications of the mobile service | *resolves*  1 that administrations wishing to implement IMT make available the frequency band 66-71 GHz identified in No. **5.559AA** for use by the terrestrial component of IMT;  2 that administrations wishing to implement IMT in the frequency band 66-71 GHz, identified for IMT under the provisions in No. **5.559AA**, which also wish to implement other applications of the mobile service, including other wireless access systems in the same frequency band, consider coexistence between IMT and these applications,  *invites the ITU Radiocommunication Sector*  1 to develop ITU‑R Recommendations and/or Reports, as appropriate, to assist administrations in ensuring the efficient use of the frequency band through coexistence mechanisms between IMT and other applications of the mobile service, including other wireless access systems, as well as between the mobile service and other services;  2 to regularly review, as appropriate, the impact of evolving technical and operational characteristics of IMT systems (including base-station density) and those of systems of space services on sharing and compatibility, and to take into account the results of these reviews in the development and/or revision of ITU‑R Recommendations/Reports addressing, *inter alia*, if necessary, applicable measures to mitigate the risk of interference into space receivers,  *instructs the Director of the Radiocommunication Bureau*  to bring this Resolution to the attention of relevant international organizations. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  4 |
| **242 (Rev.WRC-23)** | Terrestrial component of International Mobile Telecommunications in the frequency band 24.25-27.5 GHz | *considering*  …  *i)* that ITU-R has studied, in preparation for WRC-19, sharing and compatibility with services allocated in the frequency band 24.25-27.5 GHz and its adjacent band, based on characteristics available at that time, and results may change if these characteristics change;  …  *resolves*  …  2 that administrations shall apply the following conditions for the frequency band 24.25-27.5 GHz:  …  *invites the ITU Radiocommunication Sector*  1 to update existing ITU‑R Recommendations or develop a new ITU‑R Recommendation, as appropriate, to provide information and assistance to the concerned administrations on possible coordination and protection measures for the RAS in the frequency band 23.6-24 GHz from IMT deployment;  2 to regularly review, as appropriate, the impact of evolving technical and operational characteristics of IMT systems (including base-station density) and those of systems of space services on sharing and compatibility, and to take into account the results of these reviews in the development and/or revision of ITU‑R Recommendations/Reports addressing, *inter alia*, if necessary, applicable measures to mitigate the risk of interference into space receivers,  *instructs the Director of the Radiocommunication Bureau*  to bring this Resolution to the attention of relevant international organizations. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **243 (Rev.WRC-23)** | Terrestrial component of International Mobile Telecommunications in the frequency bands 37‑43.5 GHz and 47.2‑48.2 GHz | *considering*  …  *h)* that the ITU Radiocommunication Sector (ITU-R) has studied, in preparation for WRC-19, sharing and compatibility with services allocated in the frequency ranges 37-43.5 GHz and 47.2-48.2 GHz and their adjacent frequency bands, based on the characteristics available at that time, and the results may change if these characteristics change;  …  *resolves*  1 that administrations wishing to implement IMT consider use of the frequency band 37‑43.5 GHz, or portions thereof, and the frequency band 47.2-48.2 GHz, identified for IMT in No. **5.550B** and No. **5.553B**, and the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT taking into account the latest relevant ITU‑R Recommendations;  2 that, in order to ensure coexistence between IMT in the frequency bands 37‑43.5 GHz and 47.2-48.2 GHz as identified by WRC-19 in Article **5** and other services to which the frequency band is allocated, including the protection of these other services, administrations shall apply the following condition(s):  2.1 in order to protect the EESS (passive) in the frequency band 36-37 GHz, the following unwanted emissions of IMT stations operating in the frequency band 37-40.5 GHz apply as specified in Table 1 below:  …  2.2 protection of SRS earth stations in the frequency band 37-38 GHz and RAS stations in the frequency band 42.5-43.5 GHz from IMT stations should be facilitated through bilateral agreements for cross-border coordination as necessary;  2.3 protection of and coexistence with fixed-satellite service (FSS) earth stations within the frequency ranges 37.5-43.5 GHz and 47.2-48.2 GHz should be facilitated through bilateral agreements for cross-border coordination as necessary;  2.4 take practical measures to ensure the transmitting antennas of outdoor base stations are normally pointing below the horizon, when deploying IMT base stations within the frequency bands 42.5-43.5 GHz and 47.2-48.2 GHz; the mechanical pointing needs to be at or below the horizon;  2.5 as far as practicable, sites for IMT base stations in the frequency bands 42.5-43.5 GHz and 47.2-48.2 GHz employing values of equivalent isotropically radiated power (e.i.r.p.) per beam exceeding 30 dB(W/200 MHz) should be selected so that the direction of maximum radiation of any antenna will be separated from the geostationary-satellite orbit, within line-of-sight of the IMT base station, by ±7.5 degrees;  3 that IMT stations within the frequency ranges 37-43.5 GHz and 47.2-48.2 GHz are used for applications of the land mobile service,  *invites the ITU Radiocommunication Sector*  1 to continue providing guidance to ensure that IMT can meet the telecommunication needs of the developing countries;  2 to develop ITU‑R Reports and Recommendations, as appropriate, to assist administrations in ensuring coexistence between IMT and BSS and FSS, including HDFSS in accordance with No. **5.516B**, within the frequency ranges 37-43.5 GHz and 47.2-48.2 GHz, as appropriate;  3 to develop a new ITU‑R Recommendation, as appropriate, to provide information and assistance to the concerned administrations on possible coordination and protection measures for the RAS in the frequency band 42.5-43.5 GHz from IMT deployment;  4 to regularly review, as appropriate, the impact of evolving technical and operational characteristics of IMT systems (including base-station density) and those of systems of space services on sharing and compatibility, and to take into account the results of these reviews in the development and/or revision of ITU‑R Recommendations/Reports addressing, *inter alia*, if necessary, applicable measures to mitigate the risk of interference into space receivers,  *instructs the Director of the Radiocommunication Bureau*  to bring this Resolution to the attention of relevant international organizations. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **244 (Rev.WRC-23)** | International Mobile Telecommunications in the frequency band 45.5‑47 GHz | *resolves*  that administrations wishing to implement IMT consider use of the frequency band 45.5-47 GHz, identified for IMT in No. **5.553A**, and the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT taking into account the latest relevant ITU‑R Recommendations,  *invites the ITU Radiocommunication Sector*  to continue providing guidance to ensure that IMT can meet the telecommunication needs of the developing countries in the context of the studies referred to above. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2 |
| **249 (Rev.WRC-23)** | Study of technical and operational issues and regulatory provisions for space-to-space transmissions in the frequency bands 1 518-1 544 MHz, 1 545-1 559 MHz, 1 610‑1 645.5 MHz, 1 646.5-1 660 MHz, 1 670-1 675 MHz and 2 483.5-2 500 MHz | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies of the technical and operational characteristics of different types of non-GSO space stations that operate or plan to operate space-to-space links with GSO networks in the following frequency bands, with the limitation that these space-to-space links only operate in the same direction as the existing MSS allocations:  a) Earth-to-space direction in the frequency bands 1 626.5-1 645.5 MHz and 1 646.5‑1 660 MHz; and  b) space-to-Earth direction in the frequency bands 1 525-1 544 MHz and 1 545‑1 559 MHz;  2 studies of the technical and operational characteristics of different types of non-GSO space stations that operate or plan to operate space-to-space links with non-GSO systems or GSO networks in the following frequency bands, with the limitation that these space-to-space links only operate in the same direction as the existing MSS allocations:  a) Earth-to-space direction in the frequency bands 1 610-1 626.5 MHz and 1 670‑1 675 MHz; and  b) space-to-Earth direction in the frequency bands 1 518-1 525 MHz, 1 613.8-1 626.5 MHz and 2 483.5‑2 500 MHz;  3 studies of sharing and compatibility between space-to-space links in the cases described in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* 1 and 2 and  – current and planned stations of the MSS, taking into account, in particular, recognizing further e) and f);  – other existing primary services allocated in the same frequency bands;  – other existing primary services allocated in adjacent frequency bands; and  – existing passive services allocated in adjacent frequency bands;  in order to ensure protection of other MSS operations and other services allocated in those frequency bands and in adjacent frequency bands, taking into account *recognizing further* *a)* to *m)*;  4 development of technical conditions and regulatory provisions for the operation of space-to-space links in these frequency bands, including MSS (space-to-space) allocations or the addition of inter-satellite service (ISS) allocations, in all or parts of the frequency bands identified in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*1 and 2 above, with the condition that stations operating in an MSS (space-to-space) or ISS allocation shall not cause harmful interference to, or claim protection from, the MSS (space-to-Earth) or MSS (Earth-to-space), while ensuring the protection of other services allocated in those and adjacent frequency bands, taking into account the results of the studies called for in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*1, 2,and 3above,  *invites administrations*  to participate in the studies by submitting contributions to ITU‑R,  *invites the 2027 world radiocommunication conference*  to consider the results of the above studies and take necessary regulatory actions, as appropriate. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **251 (Rev.WRC-23)** | Studies to consider a possible primary allocation in the frequency bands [694-960 MHz, or parts thereof, in Region 1], 890-942 MHz, or parts thereof, in Region 2, and [3 400-3 700 MHz, or parts thereof, in Region 3] to the aeronautical mobile service for the use of International Mobile Telecommunications (IMT) user equipment in terrestrial IMT networks by non-safety applications | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 assessment of relevant AMS scenarios for connectivity for airborne user equipment in IMT networks to be addressed in compatibility and sharing studies;  2 identification of the relevant technical parameters associated with the aeronautical mobile systems to be used for studies;  3 sharing and compatibility studies with existing incumbent services, including in-band and adjacent frequency bands and between neighbouring Regions, to determine the suitability of new primary allocations of the following frequency bands to the AMS, in the countries for which there is an IMT identification, for the use of IMT user equipment by non-safety applications:  – [694-960 MHz, or parts thereof, in Region 1];  – 890-942 MHz, or parts thereof, in Region 2;  – [3 400-3 700 MHz, or parts thereof, in Region 3],  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* by submitting contributions to ITU‑R,  *invites the 2031 world radiocommunication conference*  to consider, based on results of studies, possible allocations on a primary basis of all or part of the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*3 to the AMS, in the countries for which there is an IMT identification, for the use of IMT user equipment in terrestrial IMT networks by non-safety applications, and/or any other regulatory provisions. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **252 (WRC-23)** | Studies on potential new allocations to, and regulatory actions for, the mobile-satellite service in the frequency bands 1 427-1 432 MHz (space-to-Earth), 1 645.5‑1 646.5 MHz (space-to-Earth) (Earth-to-space), 1 880-1 920 MHz (space-to-Earth) (Earth-to-space) and 2 010-2 025 MHz (space-to-Earth) (Earth-to-space) required for the future development of low-data-rate non‑geostationary mobile-satellite systems | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on spectrum requirements, technical and operational characteristics and conditions for non-GSO low-data-rate MSS systems, including mitigation techniques, that allow coexistence of these systems in the same frequency bands;  2 studies on sharing and compatibility between the non-GSO low-data-rate MSS systems and the existing primary services operating in the frequency bands 1 427-1 432 MHz (space-to-Earth), 1 645.5-1 646.5 MHz (space-to-Earth) (Earth-to-space), 1 880-1 920 MHz (space-to-Earth) (Earth-to-space) and 2 010-2 025 MHz (space-to-Earth) (Earth-to-space) and in the relevant adjacent frequency bands, in order to ensure protection of existing services,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2027 world radiocommunication conference*  to consider, based on the results of studies, possible allocations to the MSS and possible regulatory actions in the frequency bands referred to in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **253 (WRC-23)** | Studies on possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on possible allocations to the MSS in the frequency range between 694/698 MHz and 2.7 GHz, taking into account the IMT frequency arrangements addressed in the most recent version of Recommendation ITU‑R M.1036;  2 studies on spectrum requirements and on technical, operational and regulatory matters related to the implementation of the mobile-satellite service for direct connectivity to the IMT user equipment to complement the terrestrial IMT network coverage,  *further resolves*  1 to conduct studies on sharing and compatibility between incumbent services, including in adjacent frequency bands, ensuring the protection of incumbent services in accordance with the Radio Regulations;  2 to study possible technical and operational measures to ensure that the stations in the MSS do not cause harmful interference to, or claim protection from, stations operating in the mobile service,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2027 world radiocommunication conference*  to consider, based on the results of studies, the appropriate regulatory actions, including possible new allocations to the MSS for direct connectivity between space stations and IMT user equipment to complement terrestrial IMT network coverage. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **254 (WRC-23)** | Studies on possible new frequency allocations to the mobile-satellite service in the frequency bands 2 010-2 025 MHz (Earth-to-space) and 2 160-2 170 MHz (space-to-Earth) in Regions 1 and 3 and 2 120-2 160 MHz (space-to-Earth) in all Regions | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on relevant spectrum requirements and technical, operational and regulatory matters for the MSS in connection with possible new allocations to the MSS in the frequency bands 2 010-2 025 MHz (Earth-to-space) and 2 160-2 170 MHz (space-to-Earth) in Regions 1 and 3 and 2 120-2 160 MHz (space-to-Earth) in all Regions;  2 studies on sharing and compatibility of possible new allocations to the MSS in the frequency bands being studied to ensure the protection of existing services allocated on a primary basis, and also in adjacent frequency bands, without adversely affecting those services;  3 studies on possible technical, operational and regulatory measures that ensure the protection of existing services and their continued operation and future development without imposing additional regulatory or technical constraints on those services, while ensuring their protection from harmful interference, when considering possible additional allocations to the MSS,  *invites administrations*  to participate actively in the studies and provide the information required for the studies referred to in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2027 world radiocommunication conference*  to consider, based on results of studies conducted under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*, possible new allocations and associated regulatory conditions for the MSS, while ensuring the protection of existing primary services. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **255 (WRC-23)** | Studies on frequency-related matters for International Mobile Telecommunications (IMT) identification in the frequency bands [102-109.5 GHz, 151.5‑164 GHz, 167-174.8 GHz, 209-226 GHz and 252‑275 GHz] for the future development of IMT | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 the appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* 2, taking into account:  – technical and operational characteristics of terrestrial IMT systems that would operate in those frequency bands, including the evolution of IMT through advances in technology and spectrally efficient techniques;  – the deployment scenarios envisaged for IMT‑2030 systems and the related requirements of high data traffic, such as in dense urban areas and/or at peak times; and  – the needs of developing countries and the time-frame in which spectrum would be needed;  2 the appropriate sharing and compatibility studies, taking into account the protection of services to which the frequency band is allocated on a primary basis for the following frequency bands:  – [102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz],  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* by submitting contributions to ITU‑R,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of studies, the identification of frequency bands for the terrestrial component of IMT; the frequency bands to be considered being limited to part or all of the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* 2. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **256 (WRC-23)** | Sharing and compatibility studies and development of technical conditions for the use of International Mobile Telecommunications (IMT) in the frequency bands 4 400‑4 800 MHz, 7 125-8 400 MHz (or parts thereof), and 14.8‑15.35 GHz for the terrestrial component of IMT | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 the appropriate studies of technical, operational and regulatory issues pertaining to the possible use of the terrestrial component of IMT in the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* 2, taking into account:  – evolving needs to meet emerging demand 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; and  – the time-frame in which spectrum would be needed;  2 sharing and compatibility studies, with a view to ensuring the protection of services to which the frequency band is allocated on a primary basis, including protection of stations operating in international waters or airspace which cannot be registered in the MIFR, without imposing additional regulatory or technical constraints on those services, and also on services in adjacent bands, for the frequency bands:  –4 400-4 800 MHz;  – 7 125-8 400 MHz; and  – 14.8-15.35 GHz,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to ITU‑R,  *invites the 2027 world radiocommunication conference*  to consider, based on results of studies, the identification of frequency band(s):  – 4 400-4 800 MHz, or parts thereof, in Region 1 and Region 3;  – 7 125-8 400 MHz, or parts thereof, in Region 2 and Region 3;  – 7 125-7 250 MHz and 7 750-8 400 MHz, or parts thereof, in Region 1;  – 14.8-15.35 GHz,  for the terrestrial component of IMT. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **331 (Rev.WRC‑12)** | Operation of the Global Maritime Distress and Safety System | *resolves*  …  *resolves further*  that the Secretary-General should ensure that such arrangements and details regarding the area concerned be indicated in relevant maritime publications,  *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,  *instructs the Secretary-General*  to bring this Resolution to the attention of IMO, the International Civil Aviation Organization (ICAO) and the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  4 |
| **339 (Rev.WRC‑07)** | Coordination of NAVTEX services | *resolves*  to invite administrations to apply the procedures established by IMO, taking into account the IMO NAVTEX Manual, for coordinating the use of the frequencies 490 kHz, 518 kHz and 4 209.5 kHz,  *instructs the Secretary-General*  to invite IMO to provide ITU with information on a regular basis on operational coordination for NAVTEX services on the frequencies 490 kHz, 518 kHz and 4 209.5 kHz,  *instructs the Director of the Radiocommunication Bureau*  to publish this information in the *List of Coast Stations and Special Service Stations* (List IV) (see No. **20.7**). | − | 4 |
| **343 (Rev.WRC‑12)** | Maritime certification for personnel of ship stations and ship earth stations for which a radio installation is not compulsory | *resolves*  that administrations wishing to implement special certification for the non‑compulsory sector should implement the certificates contained in the Annex to this Resolution,  *invites ITU‑R*  to develop a Recommendation describing these certificates,  *instructs the Secretary-General*  to bring this Resolution to the attention of the International Maritime Organization (IMO). | − | 2  AND  4 |
| **344 (Rev.WRC-19)** | Management of the maritime identity numbering resource | *noting further*  *a)* that the ITU Radiocommunication Sector (ITU-R) is solely responsible for managing the MMSI and MID numbering resources;  *b)* that ITU-R can monitor the status of the MMSI resource, through regular reviews of the spare capacity available within the MIDs already in use, and the availability of spare MIDs, taking account of regional variations;  *c)* that ITU-R, as a part of the review of MMSI numbering resources, adopted a revision of Recommendation ITU-R M.585 in 2019, removing a provision within the MMSI numbering scheme that set aside three trailing zeros for some categories of mobile-satellite service systems participating in the GMDSS to facilitate the shore-to-ship routing of calls; the provision is no longer necessary and its removal has allowed for the release of reserved MMSI numbering resources,  *resolves to instruct the Director of the Radiocommunication Bureau*  1 to manage allotment and distribution of the MID resource within the MMSI and other maritime identity numbering formats, taking into account:  – Sections II, V and VI of Article **19**;  – regional variations in MMSI use;  – spare capacity within the MID resource; and  – the assignment, management and conservation of maritime identities contained in the most recent version of Recommendation ITU-R M.585, in particular as regards the reuse of MMSIs;  2 to report to each world radiocommunication conference on the use and status of the MMSI resource, noting in particular the anticipated reserve capacity and any indications of rapid exhaustion of the resource,  *invites the ITU Radiocommunication Sector*  to keep under review the Recommendations for assigning MMSIs and other maritime identities, with a view to:  – improving the management of the MID, MMSI and other maritime identity resources; and  – identifying alternative resources if there is an indication of rapid exhaustion of these resources,  *instructs the Secretary-General*  to communicate this Resolution to the International Maritime Organization. | − | 2  AND  3  AND  4 |
| **349 (Rev.WRC-23)** | Operational procedures for cancelling false distress alerts in the global maritime distress and safety system | *resolves*  1 to urge administrations to take all necessary measures to avoid false distress alerts and to minimize the unnecessary burden on rescue organizations which occurs;  2 to urge administrations to encourage the correct use of GMDSS equipment, with particular attention to appropriate training;  3 to urge administrations to implement the operational procedures contained in the Annex to this Resolution;  4 that administrations should take any consequential appropriate action in this respect,  *instructs the Secretary-General*  to bring this Resolution to the attention of IMO. | − | 3  AND  4 |
| **352 (WRC-03)** | Use of the carrier frequencies 12 290 kHz and 16 420 kHz for safety-related calling to and from rescue coordination centres | *resolves*  1 that the carrier frequencies 12 290 kHz and 16 420 kHz be used only for distress, urgency and safety communications, and safety-related calling limited to that to and from rescue coordination centres;  2 that safety-related calling be initiated only after determination that other communications are not present on these frequencies;  3 that safety-related calling be minimized and not cause interference to distress, urgency and safety communications,  *invites administrations*  to encourage the coast and ship stations under their jurisdiction to use digital selective calling techniques,  *instructs the Secretary-General*  to bring this Resolution to the attention of the IMO. | − | 3  AND  4 |
| **354 (Rev.WRC‑23)** | Distress and safety radiotelephony procedures for 2 182 kHz | *resolves*  1 that ships, when in distress or when engaged in urgency or safety-related communications on 2 182 kHz, use the radiotelephony procedures contained in the Annex to this Resolution;  2 that coast stations, in order to maintain communication with non-GMDSS ships that are in distress or engaged in urgency or safety related communications on 2 182 kHz, use the radiotelephony procedures contained in the Annex to this Resolution. | − | 6 |
| **356 (Rev.WRC-19)** | ITU maritime service information registration | *resolves to instruct the Director of the Radiocommunication Bureau*  to maintain online information systems to allow rescue coordination centres to have immediate access to this information on a 24-hour per day, 7-day per week basis,  *invites the ITU Radiocommunication Sector*  to consult on a regular basis 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,  *instructs the Secretary-General*  to communicate this Resolution to IMO, ICAO, IALA and IHO. | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **363 (Rev.WRC-23)** | Improving the utilization of the VHF maritime mobile band | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 studies on sharing and compatibility with incumbent services that are allocated on a primary basis in the same and adjacent frequency bands and studies on spectrum needs, transitional arrangements and possible changes to the VHF maritime mobile band, in order to advance digital voice and data technologies in the MMS, taking into account *recognizing* *b)* and *c)*;  2 compatibility studies, limited to frequencies identified in Appendix **18** for VDES, for a new allocation of the maritime radio navigation service under Article **5** and within the existing MMS to implement R‑Mode,  *invites administrations*  to participate actively in the studies as described in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* and provide the information required for the studies by submitting contributions to ITU‑R,  *invites the 2031 world radiocommunication conference*  1 to consider, based on the results of studies, and within the Radio Regulations, excluding new allocations under Article **5**, possible regulatory changes to advance digital voice and data technologies in the MMS within the VHF maritime mobile band;  2 to consider, based on the results of studies, possible revisions to the Radio Regulations, including new allocations under Article **5**, limited to frequencies identified in Appendix **18** for VDES, for implementation of R‑Mode as a new maritime radionavigation service,  *invites relevant international organizations*  to participate actively in the studies by providing requirements and information that should be taken into account in ITU‑R studies,  *instructs the Secretary-General*  to bring this Resolution to the attention of the International Maritime Organization, International Association of Marine Aids to Navigation and Lighthouse Authorities, Comité International Radio-Maritime and other concerned international and regional organizations. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **364 (WRC-23)** | Coordination of services provided by the NAVDAT system | *resolves*  to invite administrations to apply the procedures established by IMO, taking into account the IMO NAVDAT manual, for coordinating the use of the frequencies 500 kHz and/or 4 226 kHz, and other frequencies which are specified in No. **5.79** and Appendix **15**,  *instructs the Secretary-General*  to invite IMO to provide ITU with information on a regular basis on operational coordination for services provided by the NAVDAT system on the frequencies 500 kHz and/or 4 226 kHz, and other frequencies which are specified in No. **5.79** and Appendix **15**,  *instructs the Director of the Radiocommunication Bureau*  to publish this information in the *List of Coast Stations and Special Service Stations* (List IV) (see No. **20.7**). | See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3  AND  4 |
| **365 (WRC-23)** | Provisional application of the Radio Regulations for the introduction of new geostationary satellite networks into the global maritime distress and safety system | *resolves*  1 that the provisions of this Resolution apply only to the GSO Networks as recognized for use in the GMDSS system identified in *considering b)*;  2 that any identified harmful interference shall be eliminated;  3 that the GSO Networks shall successfully complete coordination of their frequency assignments with the relevant non-GSO systems in *considering further* *b)* in accordance with Articles 9 and 11 prior to the commencement of GMDSS services;  4 that the coordination of frequency assignments used for GMDSS services by the GSO Networks shall only be considered as completed after the corresponding remarks and indication relating to assignments for which an unfavourable finding had led to its recording under No. 11.41 are removed according to No. 11.41B;  5 that a review of the frequency bands in Nos. 5.368,5.372A,Article33and Appendix 15in the Earth-to-space direction for GMDSS shall be conducted at the first world radiocommunication conference following the completion of coordination as referenced in *resolves*3 to determine the relevant frequency band;  6 that the regulatory provisions referred to in *considering c)* shall enter into force as of the date of successful completion and fulfilment of *resolves*1 to5 above,  *urges the administrations responsible for the respective satellite filings*  1 to make the utmost effort to eliminate any harmful interference and engage in frequency coordination with other administrations concerned, in order to complete coordination before WRC‑27;  2 to submit reports on the resolution of any identified harmful interference and on frequency coordination progress to the Radiocommunication Bureau before WRC‑27;  3 to cooperate to address any potential issues related to the coordination of RDSS in the frequency band 2 483.5-2 500 MHz,  *instructs the Director of the Radiocommunication Bureau*  1to report to WRC‑27 the status of the implementation of this Resolution and any potential difficulties;  2to follow, to the extent practical, the progress of frequency coordination between the administrations involved and to take appropriate measures within the mandate of the Bureau in order to assist in the implementation of this Resolution;  3to publish ITU circular letters to confirm that frequency coordination has completed between all relevant administrations in accordance with *resolves*3,  *instructs the Secretary-General*  to bring this Resolution to the attention of the IMO and other relevant international and regional organizations. | − | 1  AND  3  AND  4 |
| **366 (WRC-23)** | Improving the utilization and channelization of maritime radiocommunication in the MF and HF bands, including potential revisions to Article **52** and Appendix **17** | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  studies on possible revisions to the Article **52** and Appendix **17** channel plans to identify additional working channels on an international basis to improve the use of maritime radiocommunication in the MF and HF bands,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of studies, possible revisions to the Article **52** and Appendix **17** channel plans in the maritime mobile MF and HF bands to improve use and efficiency,  *invites administrations*  to participate actively in the studies described in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* and provide the information required for the studies by submitting contributions to ITU‑R,  *invites relevant international organizations*  to participate actively in the studies by providing requirements and information that should be taken into account in ITU‑R studies,  *instructs the Secretary-General*  to bring this Resolution to the attention of IMO and other international and regional organizations concerned. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **405 (WARC-79)** | Relating to the use of frequencies of the aeronautical mobile (R) service | *resolves*  that administrations, individually or in collaboration, take the necessary steps:  1 to make as great a use as possible of higher frequencies in order to lessen the load on the HF aeronautical mobile (R) bands;  2 to make as great a use as possible of antennas of appropriate directivity and efficiency in order to minimize the possibilities of mutual interference within an area or between areas;  3 to coordinate the use of families of frequencies necessary for a given route segment in accordance with the technical principles in Appendix **27** and in the light of the propagation data available, to ensure that the most appropriate frequencies are used with an aircraft at a given distance from the aeronautical station providing service over the route segment concerned;  4 to improve operating techniques and procedures and to use equipment which will make it possible to attain the highest possible efficiency in handling air-ground HF communications;  5 to collect precise data on the operation of their HF communication systems, particularly data having a bearing on technical and operating standards, so as to facilitate re-examination of the Plan;  6 to establish, through regional arrangements, the best method of providing the communications required for any new long-distance international or regional air operation which is not or cannot be accommodated within the system of MWARA and RDARA, in such a manner as not to cause harmful interference to the utilization of frequencies as prescribed in the Plan. | − | 6 |
| **406 (WRC‑23)** | Use of the frequency band 117.975-137 MHz by the aeronautical mobile-satellite (R) service | *resolves*  1 that the notifying administration for the AMS(R)S satellite system authorizing the use of the frequency band 117.975-137 MHz by that system shall take into account relevant ICAO frequency assignment planning procedures in relation to *noting b)*;  2 that, taking into account *resolves* 1, the frequency band 117.975-137 MHz may also be used by AMS(R)S experimental systems during the period of time that the relevant SARPs are being developed and before operational deployment;  3 that the interference from out-of-band emissions of the AMS(R)S space station operating in the frequency band 117.975-137 MHz to adjacent channels of the AM(R)S airborne receiving stations shall not be more than the interference from out-of-band emissions of AM(R)S aircraft stations;  4 that, in accordance with ICAO frequency assignment planning procedures, the identification or selection of channels for use by the AMS(R)S shall:  – take into account the operational deployment of stations operating in the AM(R)S and, when available, the aeronautical mobile (OR) service (AM(OR)S);  – not adversely affect the potential future modifications of AM(R)S channel planning when required;  5 that, in assigning frequencies to stations in the AM(OR)S, the administration needs to take into account the frequencies assigned to the AMS(R)S for which coordination under Nos. **9.14** and **9.15** has been agreed to between both administrations involved in the coordination process;  6 that space stations operating in the frequency band 117.975-137 MHz in the AMS(R)S shall not have out-of-band emissions into the frequency band 137‑138 MHz that exceed a power flux-density of −170 dB(W/(m² · 14 kHz)) at the Earth’s surface;  7 that, in the frequency band 136.8-137 MHz, AMS(R)S space station receivers shall be designed to be resilient to the interference environment resulting from satellite systems operating in the frequency band 137-138 MHz; the power level(s) contained in the Annex to this Resolution and associated percentage(s) of time are to be taken into account in the development of relevant ICAO SARPs,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO and the International Maritime Organization,  *invites the International Civil Aviation Organization*  to take into account this Resolution in the course of developing SARPs for the AMS(R)S and planning the AM(R)S and AMS(R)S in the frequency band 117.975-137 MHz. | − | 4 |
| **411 (WRC‑23)** | Consideration of appropriate regulatory actions to update Appendix **26** in support of modernization of high-frequency spectrum use in the aeronautical mobile (OR) service | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on the introduction of new technologies that enhance performance, including, but not limited to, new classes of emission, wideband systems (see *recognizing c)*, *d)* and *e)*), etc., to the aeronautical mobile (OR) service systems in the frequency ranges considered in Appendix **26**;  2 in order to undertake *resolves to invite ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*1, the definition of the relevant technical and operational characteristics and conduct sharing and compatibility studies with existing aeronautical mobile (OR) service systems and with other incumbent services that are allocated on a primary basis in the same or adjacent frequency bands;  3 based on ITU Radiocommunication Sector (ITU‑R) studies, the identification of any potential modifications to Appendix **26**, without modifying the existing area allotments in *recognizing f)*, and whiletaking into account that the current use of the narrowband systems shall remain unchanged and shall not be impacted nor precluded by the revision of Appendix **26**,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to ITU‑R,  *invites the 2027 world radiocommunication conference*  to consider necessary changes, as appropriate, to Appendix **26**, on the basis of the studies conducted under *resolves* *to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* above. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **413 (Rev.WRC-23)** | Use of the band 108-117.975 MHz by the aeronautical mobile (R) service | *resolves*  1 that any aeronautical mobile (R) service systems operating in the band 108-117.975 MHz shall not cause harmful interference to, nor claim protection from ARNS systems operating in accordance with international aeronautical standards;  2 that any AM(R)S systems planned to operate in the frequency band 108-117.975 MHz shall, as a minimum, meet the FM broadcasting immunity requirements contained in Annex 10 to the Convention on International Civil Aviation for existing aeronautical radionavigation systems operating in this frequency band;  3 that AM(R)S systems operating in the band 108-117.975 MHz shall place no additional constraints on the broadcasting service or cause harmful interference to stations operating in the bands allocated to the broadcasting service in the frequency band 87-108 MHz and No. 5.43 does not apply to systems identified in *recognizing d)*;  4 that frequencies below 112 MHz shall not be used for AM(R)S systems excluding the ICAO systems identified in *recognizing d)*;  5 that any AM(R)S operating in the frequency band 108-117.975 MHz shall meet SARPs requirements published in Annex 10 to the Convention on International Civil Aviation,  *invites ITU‑R*  to study any compatibility issues between the broadcasting service and AM(R)S in the band 108‑117.975 MHz that may arise from the introduction of appropriate digital sound broadcasting systems, described in Recommendation ITU‑R BS.1114,and to develop new or revised ITU‑R Recommendations as appropriate,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO. | − | 2  AND  3  AND  4 |
| **416 (WRC‑07)** | Use of the bands 4 400-4 940 MHz and 5 925-6 700 MHz by an aeronautical mobile telemetry application in the mobile service | considering  …  *b)* that studies have been conducted within ITU‑R concerning the sharing and compatibility of AMT for flight testing with other services in the bands 4 400-4 940 MHz and 5 925-6 700 MHz;  *c)* that based on the results of these studies, in the bands 4 400-4 940 MHz and 5 925‑6 700 MHz, technical and operational measures applied to AMT for flight testing purposes facilitate sharing with other services and applications in these bands;  *resolves*  1 that, in the bands 4 400-4 940 MHz and 5 925-6 700 MHz, administrations authorizing AMT for flight test purposes per Nos **5.440A**, **5.442** and **5.457C** shall utilize the criteria set forth below:  … | − | 3 |
| **417 (Rev.WRC‑15)** | Use of the frequency band 960‑1 164 MHz by the aeronautical mobile (R) service | resolves  1 that any AM(R)S system operating in the frequency band 960-1 164 MHz shall meet SARPs requirements published in Annex 10 to the Convention on International Civil Aviation;  …  instructs the Secretary-General  to bring this Resolution to the attention of ICAO. | − | 3  AND  4 |
| **418 (Rev.WRC-19)** | Use of the frequency band 5 091‑5 250 MHz by the aeronautical mobile service for telemetry applications | resolves  1 that administrations choosing to implement AMT shall limit AMT applications to those identified in noting h) in the frequency band 5 091-5 250 MHz, and shall utilize the criteria set forth in the Annex to this Resolution;  2 that the power flux-density limits in §§ 3 and 4 of the Annex to this Resolution which protect terrestrial services may be exceeded on the territory of any country whose administration has so agreed. | − | 3 |
| **422 (WRC‑12)** | Development of methodology to calculate aeronautical mobile-satellite (R) service spectrum requirements within the frequency bands 1 545-1 555 MHz (space-to-Earth) and 1 646.5-1 656.5 MHz (Earth-to-space) | resolves to invite ITU‑R  to conduct studies on, and develop in one or more ITU‑R Recommendations, a methodology, including clear definitions of input parameters and assumptions to be used, to calculate spectrum requirements within the frequency bands 1 545‑1 555 MHz (space‑to‑Earth) and 1 646.5‑1 656.5 MHz (Earth-to-space) for AMS(R)S communications related to the priority categories 1 to 6 of Article **44**, and to take into account *considering b)* in conducting these studies,  invites  ICAO, the International Air Transport Association (IATA), administrations and other concerned organizations to participate in the studies identified in *resolves* above,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  4 |
| **424** **(Rev.WRC-23)** | Use of Wireless Avionics Intra-Communications in the frequency band 4 200-4 400 MHz | *resolves*  1 that WAIC is defined as radiocommunication between two or more aircraft stations located on board a single aircraft, supporting the safe operation of the aircraft;  2 that WAIC systems operating in the frequency band 4 200-4 400 MHz shall not cause harmful interference to, nor claim protection from, systems of the aeronautical radionavigation service operating in this frequency band;  3 that WAIC systems operating in the frequency band 4 200-4 400 MHz shall comply with the Standards and Recommended Practices published in Annex 10 to the Convention on International Civil Aviation;  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO,  *invites the International Civil Aviation Organization*  to take into account the most recent version of Recommendation ITU‑R M.2085 in the course of development of SARPs for WAIC systems. | − | 3  AND  4 |
| **425 (Rev.WRC-19)** | Use of the frequency band 1 087.7‑1 092.3 MHz by the aeronautical mobile-satellite (R) service (Earth-to-space) to facilitate global flight tracking for civil aviation | resolves  1 that the use of the frequency band 1 087.7-1 092.3 MHz by AMS(R)S systems shall be in accordance with recognized international aeronautical standards;  2 that AMS(R)S systems (Earth-to-space) in the frequency band 1 087.7-1 092.3 MHz shall be designed so that they can operate in the interference environment as described in *considering c)*;  3 that, taking into account *resolves* 2, AMS(R)S use of the frequency band 1 087.7‑1 092.3 MHz shall not constrain administrations which have responsibilities as referred to in *considering h)*,  instructs the Secretary-General  to bring this Resolution to the attention of ICAO. | − | 3  AND  4 |
| **506 (Rev.WRC-97)** | Use by space stations in the broadcasting-satellite service operating in the 12 GHz frequency bands allocated to the broadcasting-satellite service of the geostationary-satellite orbit and no other | *resolves*  that administrations shall ensure that their space stations in the broadcasting-satellite service in these frequency bands are operated in the geostationary-satellite orbit and no other. | − | 6 |
| **507 (Rev.WRC-19)** | Establishment of agreements and associated plans for the broadcasting-satellite service\*  \_\_\_\_\_\_\_\_\_  \*This Resolution does not apply to the frequency band 21.4-22 GHz. | *resolves*  1 that stations in the BSS shall be established and operated in accordance with agreements and associated plans adopted by world (WRCs) or regional (RRCs) radiocommunication conferences, as the case may be, in which all the administrations concerned and the administrations whose services are liable to be affected may participate;  2 that, during the period before the entry into force of such agreements and associated plans, the administrations and the Radiocommunication Bureau shall apply the procedure contained in Articles **9** to **14**,  *invites the ITU Council*  to keep under review the question of WRCs, and/or RRCs, as required, with a view to fixing suitable dates, places and agendas. | − | 3  AND  5 |
| **517 (Rev.WRC-19)** | Introduction of digitally modulated emissions in the high-frequency bands between 3 200 kHz and 26‑100 kHz allocated to the broadcasting service | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  to compile and provide to the future competent WRC referred to in *resolves* 4 the latest available complete statistics on the worldwide distribution of digital HF broadcasting receivers and transmitters,  *invites the ITU Radiocommunication Sector*  to continue its studies on digital techniques in HF broadcasting with a view to assisting in the development of this technology for future use,  *invites administrations*  to encourage the inclusion in all new HF broadcasting transmitters put into service after 1 January 2004 of the capability to offer digital modulation,  *further invites administrations*  1 to assist the Director of the Radiocommunication Bureau by providing the relevant statistical data and to participate in ITU-R studies on matters relating to the development and introduction of digitally modulated emissions in the HF bands between 3 200 kHz and 26 100 kHz allocated to the broadcasting service;  2 to bring to the notice of transmitter and receiver manufacturers the recent results of relevant ITU-R studies on spectrum-efficient modulation techniques suitable for use at HF as well as the information referred to in *considering d)* and *e)*, and encourage the availability of affordable low-cost digital receivers. | See  Doc. [6/1](https://www.itu.int/md/R23-SG06-C-0001/en) | 2  AND  3 |
| **526 (Rev.WRC‑12)** | Future adoption of procedures to ensure flexibility in the use of the frequency band allocated to the broadcasting-satellite service (BSS) for wide RF-band high-definition television (HDTV) and to the associated feeder links | *resolves to invite ITU‑R*  to study the development of future regulatory provisions for BSS (HDTV) to ensure flexibility in the use of the band 17.3-17.8 GHz in Region 2, having regard to the interests of all countries and the state of technical development of this new service,  *instructs the Secretary-General*  to bring this Resolution to the attention of the Council with a view to placing an appropriate item on the agenda of a future world radiocommunication conference. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  5 |
| **528 (Rev.WRC-19)** | Introduction of broadcasting-satellite service (sound) systems and complementary terrestrial broadcasting in the frequency bands allocated to these services within the frequency range 1‑3 GHz | *resolves*  1 that a competent conference should be convened for the planning of the BSS (sound) in the frequency bands allocated to this service in the frequency range 1-3 GHz and the development of procedures for the coordinated use of complementary terrestrial broadcasting;  2 that that conference should review criteria for sharing with other services;  3 that, in the interim period, broadcasting-satellite systems may only be introduced within the upper 25 MHz of the appropriate frequency band in accordance with the procedures contained in Articles **9** to **14**, as appropriate; the complementary terrestrial service may be introduced during this interim period subject to coordination with administrations whose services may be affected;  4 that the calculation methods and the interference criteria to be employed in evaluating the interference should be based upon relevant ITU-R Recommendations agreed by the administrations concerned as a result of Resolution **703 (Rev.WRC-07)** or otherwise,  *invites the ITU Radiocommunication Sector*  to conduct the necessary studies prior to the conference,  *instructs the Secretary-General*  to bring this Resolution to the attention of the ITU Council to consider including in the agenda of a radiocommunication conference the matters addressed above. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  5 |
| **535 (Rev.WRC-23)** | Information needed for the application of Article **12** of the Radio Regulations | *resolves to instruct the Director of the Radiocommunication Bureau*  to consider improvements to the established arrangements for the preparation, publication and dissemination of the information relating to the application of Article **12**, in consultation with administrations and regional coordination groups,  *invites administrations*  to submit their schedules in a common electronic format,  *instructs the Secretary-General*  to consider provision of the necessary funding to enable developing countries to participate fully in the application of Article **12** and relevant radiocommunication seminars. | − | 3 |
| **536 (WRC-97)** | Operation of broadcasting satellites serving other countries | *resolves*  that, in addition to observing No. **23.13**, and before providing satellite broadcasting services to other administrations, administrations originating the services should obtain the agreement of those other administrations. | − | 6 |
| **539 (Rev.WRC-19)** | Use of the frequency band 2 605‑2 655 MHz in certain Region 3 countries by non-geostationary-satellite systems in the broadcasting-satellite service (sound) | *resolves*  1 that any BSS (sound) system using non-GSO orbits brought into operation in the frequency band 2 605‑2 655 MHz in Region 3 shall be operated such that the minimum elevation angle over the service area is not less than 55 degrees, for the purposes of sharing with terrestrial services;  2 that, before an administration notifies to the Radiocommunication Bureau (BR) or brings into use a frequency assignment for a BSS (sound) system using non-GSO satellites in the frequency band 2 630‑2 655 MHz for which complete Appendix **4** coordination information or notification information has been received after 2 June 2000, and in the frequency band 2 605-2 630 MHz for which complete Appendix **4** coordination information or notification information has been received after 4 July 2003, the following regulatory arrangements shall apply:  The following mask of power flux-density (pfd) values at the Earth’s surface produced by emissions from a space station for all conditions and for all methods of modulation shall be used as the basis of the regulatory procedures of this Resolution:  …  These values relate to the pfd and angles of arrival which would be obtained under free-space propagation conditions.  Furthermore:  – for angles of arrival of less than 76° in the pfd mask above, if the limits are exceeded, the notifying administration shall obtain explicit agreement from any administration identified by BR in its examination below;  – for angles of arrival from 76° to 90° in the pfd mask above, the coordination procedure with respect to those administrations identified by BR in its examination below will be that of No. **9.11**;  3 that systems in the BSS (sound) using non-GSO satellites shall be limited to national services unless agreement has been reached to include the territories of other administrations in the service area;  4 that, within the context of this Resolution, an administration listed in No. **5.418** shall not have simultaneously two overlapping frequency assignments, one under that provision, and the other one under No. **5.416**;  5 that, as from 5 July 2003, BR and administrations shall apply the provisions of Articles **9** and **11** taking into account Nos. **5.418**, **5.418A**, **5.418B**, **5.418C** and this Resolution, as revised by WRC-03,  *instructs the Radiocommunication Bureau*  1 when applying *resolves* 2, to use the pfd mask in *resolves* 2; and  – for angles of arrival of less than 76°, identify the affected administrations which have a primary allocation to terrestrial services in the same frequency band and on whose territory the pfd is exceeded, and inform both the notifying and the affected administrations; at the notification stage, the lack of any necessary agreement is considered as non-conformity with No. **11.31**;  – for angles of arrival from 76° to 90°, identify the affected administrations which have a primary allocation to terrestrial services in the same frequency band and on whose territory the pfd is exceeded; and inform both the notifying and the affected administrations; at the notification stage, each notice shall be examined in the application of No. **11.32** and, if appropriate, under No. **11.32A** with respect to the probability of harmful interference that may be caused to assignments for which coordination could not be successfully completed;  2 as from 5 July 2003, to apply *resolves* 5 in its examination of requests for coordination and notifications for any BSS (sound) systems using non-GSO satellites in the frequency band 2 630-2 655 MHz for which complete Appendix **4** coordination information or notification information has been received after 2 June 2000. | − | 3 |
| **543 (Rev.WRC-19)** | Provisional RF protection ratio values for analogue and digitally modulated emissions in the high-frequency broadcasting service | *resolves*  1 that digital modulation in accordance with Resolution **517 (Rev.WRC-19)** may be used in any of the HF bands allocated to the broadcasting service; this accommodation has to be made with the appropriate amounts of protection given to both analogue and digital emissions as described in the Annex to this Resolution;  2 that the protection ratio values described in the Annex be used in the coordination process under Article **12** on a provisional basis;  3 to invite a future competent conference to revise these provisional protection ratio values, as appropriate,  *invites the ITU Radiocommunication Sector*  to continue studies on digital techniques in HF broadcasting with the purpose of revising the RF protection ratio values for analogue and digitally modulated emissions in the HF broadcasting service as described in the Annex to this Resolution. | See  Doc. [6/1](https://www.itu.int/md/R23-SG06-C-0001/en) | 2  AND  3  AND  5 |
| **548 (Rev.WRC-12)** | Application of the grouping concept in Appendices 30 and 30A in Regions 1 and 3 | *resolves*  …  5 that, as from 5 July 2003, in the processing and publication by the Bureau of submissions relating to Regions 1 and 3 under Article 4 of Appendix **30** or **30A** received after 2 June 2000 and the identification of affected administrations in accordance with § 4.1.5, each network in a group is examined separately, without taking into account the other networks in the group. | − | 3 |
| **550 (Rev.WRC-19)** | Information relating to the high-frequency broadcasting service | *resolves to invite the ITU Radiocommunication Sector*  to continue studies on HF broadcasting, taking into account:  – technical and operational factors;  – digital transmissions, including how the introduction of these emissions will affect HF broadcasting requirements and operations,  *invites administrations and Sector Members*  to participate actively in the aforementioned studies by submitting contributions to ITU-R. | See  Doc. [6/1](https://www.itu.int/md/R23-SG06-C-0001/en) | 2 |
| **552 (Rev.WRC-23)** | Long-term access to and development in the frequency band 21.4-22 GHz in Regions 1 and 3 | *resolves*  1 that this Resolution applies to GSO networks in the BSS in the frequency band 21.4-22 GHz;  2 that, for frequency assignments to satellite networks as described in *resolves* 1 for which confirmation of the date of bringing into use under the provisions of Article **11** was not received by the Radiocommunication Bureau (BR) before 18 February 2012 or which were suspended under No. **11.49** at that date, the procedure contained in Annex 1 to this Resolution shall be applied at the time of first bringing into use or when resuming use after a suspension, as appropriate;  3 that, for frequency assignments to satellite networks as described in *resolves* 1 for which confirmation of the date of bringing into use under the provisions of Article **11** was received by BR before 18 February 2012, the provisions of §§ 5 to 8 of Annex 1 to this Resolution shall be applied, as appropriate,  *further resolves*  that the procedures in this Resolution are in addition to the provisions under Articles **9** and **11**,  *instructs the Director of the Radiocommunication Bureau*  to include in his report to future competent world radiocommunication conferences the results of the implementation of this Resolution. | − | 3 |
| **553 (Rev.WRC-23)** | Additional regulatory measures for broadcasting-satellite networks in the frequency band and 21.4‑22 GHz in Regions 1 and 3 for the enhancement of equitable access to this frequency band | *resolves*  that as of 18 February 2012, the special procedure outlined in the Attachment to this Resolution for processing of coordination requests for BSS frequency assignments in Regions 1 and 3 in the frequency band 21.4-22 GHz shall be applied in respect of submissions of administrations meeting the specified requirements in the Attachment. | − | 3 |
| **554 (WRC‑12)** | Application of pfd masks to coordination under No. 9.7 for broadcasting-satellite service networks in the band 21.4-22 GHz in Regions 1 and 3 | *resolves*  1 that coordination of assignments for a broadcasting-satellite service (BSS) space station in Regions 1 and 3 in the 21.4-22 GHz band with respect to other BSS networks is not required if the pfd produced under assumed free space propagation conditions, does not exceed the threshold values shown below, anywhere within the service area of the potentially affected assignment:  …  2 that when the Bureau, under No. **11.32**, conducts its examination of notifications of satellite networks in respect of compliance with the coordination procedures, it shall base its findings on the coordination requirements set by No. **9.7** in Table **5-1** of Appendix **5** as revised by WRC-12 for those networks received under No. **9.30** before 18 February 2012. | − | 3 |
| **558 (WRC-19)** | Protection of implemented broadcasting-satellite service networks in the orbital arc of the geostationary-satellite orbit between 37.2° W and 10° E in the frequency band 11.7-12.2 GHz | *resolves*  1 that this Resolution is applicable only to implemented1 networks with an earth station receiving antenna diameter smaller than 60 cm (40 cm and 45 cm) as outlined in Annex 1 to this Resolution;  2 that frequency assignments associated with an earth station receiving antenna diameter of 40 cm or 45 cm in the networks mentioned in *resolves* 1 above are considered by the Radiocommunication Bureau (BR) as being affected by a proposed new or modified assignment in the List filed at the GSO orbital positions mentioned in Annex 1 to this Resolution, only if the following conditions specified in Annex 1 to Appendix **30** are met:  – the minimum orbital spacing between the wanted and interfering space stations, under worst-case station-keeping conditions, is less than 9°;  – the reference equivalent downlink protection margin corresponding to at least one of the test points of that wanted assignment, including the cumulative effect of any previous modification to the List or any previous agreement, falls more than 0.45 dB below 0 dB, or, if already negative, more than 0.45 dB below that reference equivalent protection margin value;  3 that, for cases when a proposed new assignment in the List is filed within the GSO orbital arc between 37.2° W and 10° E in orbital arc segments that differ from those in Annex 1 to this Resolution, appropriate provisions of Annex 1 to Appendix **30** to determine the need for coordination continue to be applied with respect to relevant frequency assignments of the satellite networks mentioned in *resolves* 1. | − | 3 |
| **559 (WRC-19)** | Additional temporary regulatory measures following the deletion of part of Annex 7 to Appendix 30 (Rev.WRC-15) by WRC-19 | *resolves*  …  *instructs the Director of the Radiocommunication Bureau*  1 to identify the administrations that meet the conditions of § 1 of the Attachment to this Resolution and inform these administrations accordingly;  2 at the request of administrations identified in *instructs the Director of the Radiocommunication Bureau* 1 which have the intention to apply the procedure indicated in this Resolution, to assist and advise them in complying with the conditions described in the Attachment to this Resolution, including the identification of appropriate new orbital positions and frequency channels. | − | 3 |
| **608 (Rev.WRC-19)** | Use of the frequency band 1 215‑1 300 MHz by systems of the radionavigation-satellite service (space-to-Earth) | *recognizing*  *a)* that the ITU Radiocommunication Bureau (ITU-R) carried out studies related to the protection of the radiodetermination systems operating in the frequency band 1 215-1 300 MHz and that these studies should continue pursuant to relevant ITU-R Questions, such as Questions ITU-R 62/5 and ITU-R 217/4, so as to prepare, as appropriate, ITU-R Recommendations;  *b)* that, up to the end of WRC-2000, use of the RNSS in the frequency band 1 215-1 260 MHz was subject only to the constraint that no harmful interference was caused to the radionavigation service in Algeria, Germany, Austria, Bahrain, Belgium, Benin, Bosnia and Herzegovina, Burundi, Cameroon, China, Croatia, Denmark, United Arab Emirates, France, Greece, India, Iran (Islamic Republic of), Iraq, Kenya, Liechtenstein, Luxembourg, North Macedonia, Mali, Mauritania, Norway, Oman, Pakistan, Netherlands, Portugal, Qatar, Serbia and Montenegro\*, Senegal, Slovenia, Somalia, Sudan\*\*, Sri Lanka, Sweden, Switzerland and Turkey, and, furthermore, that No. **5.43** was applied  *resolves*  that no constraints in addition to those in place prior to WRC-2000 (see *recognizing b)*) shall be placed on the use of RNSS (space-to-Earth) frequency assignments in the frequency band 1 215-1 260 MHz brought into use until 2 June 2000,  *instructs the Secretary-General*  to communicate the contents of this Resolution to the International Civil Aviation Organization (ICAO) for such actions as it may consider appropriate, and to invite ICAO to participate actively in the study activity identified under *recognizing a)*. | − | 3  AND  4 |
| **609 (Rev.WRC-07)** | Protection of aeronautical radionavigation service systems from the equivalent power flux-density produced by radionavigation-satellite service networks and systems in the 1 164-1 215 MHz frequency band | *resolves*  1 that in order to protect ARNS systems, administrations shall ensure, pursuant to this Resolution, that the epfd level produced by all space stations of all RNSS systems does not exceed the level −121.5 dB(W/m2) in any 1 MHz band;  …  *instructs the Radiocommunication Bureau*  1 to participate in consultation meetings mentioned under *resolves*6 and to observe carefully results of the epfd calculation mentioned in *resolves*1;  2 to determine whether the pfd level in *recommends* 1 of Recommendation **608 (Rev.WRC‑07)** is exceeded by any subject space station, and to report the findings of this determination to the participants in the consultation meeting;  3 to publish in the International Frequency Information Circular (BR IFIC), the information referred to in *resolves*8 and *instructs the Radiocommunication Bureau*2,  *invites the Radiocommunication Bureau*  to examine the possibility, if needed, of developing software that can be used to calculate the epfd level mentioned under *resolves*1,  *invites administrations*  1 to deal with RNSS intersystem matters, as required, as early as possible;  2 to provide the Bureau and all participants in the consultation meeting with access to appropriate software used to calculate the epfd level mentioned under *resolves*1. | − | 3 |
| **610 (Rev.WRC-19)** | Coordination and bilateral resolution of technical compatibility issues for radionavigation-satellite service networks and systems in the frequency bands 1 164-1 300 MHz, 1 559-1 610 MHz and 5 010‑5 030 MHz | *instructs the Radiocommunication Bureau*  to provide, on request, assistance to administrations operating or planning to operate RNSS systems in the frequency bands mentioned in *considering a)* above, which systems are not subject to coordination under Section II of Article **9**, in securing bilateral agreements with other RNSS systems as early as possible. | − | 3 |
| **612 (Rev.WRC-12)** | Use of the radiolocation service between 3 and 50 MHz to support oceanographic radar operations | *resolves*  1 that, when oceanographic radars are brought into use after 17 February 2012 and notified to the Bureau, the notification shall be in accordance with No. **11.2** of the Radio Regulations and shall contain the station identification (call sign);  … | − | 3 |
| **642 (WARC-79)** | Relating to the bringing into use of earth stations in the amateur-satellite service | *resolves*  1 that when an administration (or one acting on behalf of a group of named administrations) intends to establish a satellite system in the amateur-satellite service and wishes to publish information with respect to earth stations in that system it may:  1.1 communicate to the Radiocommunication Bureau all or part of the information listed in Appendix **4**; the Bureau shall publish such information in a Special Section of its BR IFIC requesting comments to be communicated within a period of four months after the date of publication;  1.2 notify under Nos. **11.2** to **11.8** all or part of the information listed in Appendix **4**; the Bureau shall record it in a special list;  2 that this information shall include at least the characteristics of a typical amateur earth station in the amateur-satellite service having the facility to transmit signals to the space station to initiate, modify, or terminate the functions of the space station. | − | 3 |
| **646 (Rev.WRC-19)** | Public protection and disaster relief | *resolves*  …  *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. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2 |
| **647 (Rev.WRC-19)** | Radiocommunication aspects, including spectrum-management guidelines, for early warning, disaster prediction, detection, mitigation and relief operations relating to emergencies and disasters | *resolves*  1 that ITU-R continue through its study groups to study those aspects of radiocommunications/ICTs that are relevant to early warning, disaster prediction, detection, mitigation and relief operations, taking into account Resolution ITU-R 55;  2 to encourage administrations to communicate to BR the relevant up-to-date administration contact information and, where available, the frequencies or frequency bands for use in emergency and disaster-relief operations;  3 to reiterate to administrations the importance of having up-to-date information referred to in *resolves* 2 above available for use in the very early stages of humanitarian assistance intervention for disaster relief,  *instructs the Director of the Radiocommunication Bureau*  1 to support administrations in their work towards the implementation of Resolution 136 (Rev. Dubai, 2018), as well as the Tampere Convention;  2 to coordinate activities between this Resolution and Resolution **646 (Rev.WRC‑19)** in order to minimize possible overlap;  3 to continue to assist Member States with their emergency communication preparedness activities by maintaining the database3 of information from administrations for use in emergency situations, which includes contact information and optionally includes available frequencies;  4 to facilitate online access to the database by administrations, national regulatory authorities, disaster-relief agencies and organizations, in particular the United Nations Emergency Relief Coordinator, in accordance with the operating procedures developed for disaster situations;  5 to collaborate with the United Nations Office for the Coordination of Humanitarian Affairs and other organizations, as appropriate, in the development and dissemination of standard operating procedures and relevant spectrum-management practices for use in the event of a disaster situation;  6 to collaborate, as appropriate, with the United Nations Working Group on Emergency Telecommunications (WGET) and the radio frequency and radio standards group under the UN Emergency Telecommunications Cluster (ETC) for which the World Food Programme (WFP) is the cluster lead;  7 to take into consideration, and collaborate in, as appropriate, all relevant activities in ITU’s other two Sectors and General Secretariat;  8 to report on progress on this Resolution to subsequent world radiocommunication conferences,  *invites the ITU Radiocommunication Sector*  to continue conducting studies as necessary, in accordance with *resolves* 1 and in support of developing and maintaining appropriate spectrum-management guidelines applicable in emergency and disaster-relief operations,  *invites the Director of the Telecommunication Standardization Bureau and the Director of the Telecommunication Development Bureau*  to collaborate closely with the Director of the Radiocommunication Bureau (BR) to ensure that a consistent and coherent approach is adopted in the development of strategies in response to emergency and disaster situations,  *urges administrations*  to participate in the emergency communication preparedness activities described above and to provide to BR their information and, in particular, up-to-date contact information related to emergency and disaster-relief radiocommunications for inclusion in the database, taking into account Resolution ITU-R 55. | See  Doc. [1/1](https://www.itu.int/md/R23-SG01-C-0001/en) See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **655 (Rev.WRC-23)** | Definition of time scale and dissemination of time signals via radiocommunication systems | *resolves to invite the ITU Radiocommunication Sector*  1 to continue the cooperation with BIPM, the International Committee for Weights and Measures (CIPM) and CGPM, as well as other relevant organizations, concerned industries and groups, and to maintain a dialogue concerning the expertise of each organization;  2 to further study the content and structure of time signals to be disseminated by radiocommunication systems, including wired technologies, using the combined expertise of the relevant organizations,  *resolves*  1 that, until the implementation of continuous UTC (see recognizing g)), UTC as described in Recommendation ITU‑R TF.460‑6 shall continue to apply;  2 that ITU‑R cooperate further with BIPM, CIPM and CGPM in response to the consultation in realizing, to define a new maximum value for the difference between UT1 and UTC and on the implementation date for continuous UTC, possibly in 2035;  3 that ITU‑R conduct studies, as appropriate, related to actions consequential upon *resolves* 1 and 2 to provide new and revised ITU‑R Reports and Recommendations, such as, but not limited to, a revision to Recommendation ITU‑R TF.460‑6;  4 to establish a transition period for implementation and allow for the possibility to disseminate the increased difference between UT1 and UTC via radiocommunication system until 2035, but no later than 2040, in cases where existing equipment cannot be replaced earlier;  5 to maintain the name “UTC” as contained in Recommendation ITU‑R TF.460‑6 when it is revised,  *instructs the Director of the Radiocommunication Bureau*  to report on the progress of this Resolution to WRC‑27,  *invites administrations*  to participate in the studies by submitting contributions to ITU‑R,  *instructs the Secretary-General*  to bring this Resolution to the attention of the International Maritime Organization, the International Civil Aviation Organization, CGPM, CCTF, CIPM, BIPM, the International Earth Rotation and Reference Systems Service, the International Union of Geodesy and Geophysics, the International Union of Radio Science (URSI), the International Organization for Standardization (ISO), the World Meteorological Organization, the International Astronomical Union, the Institute of Electrical and Electronics Engineers and the Internet Engineering Task Force. | See  Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  3  AND  4 |
| **660 (WRC-19)** | Use of the frequency band 137‑138 MHz by non-geostationary satellites with short‑duration missions in the space operation service | *resolves*  1 that the use of the SOS (space-to-Earth) for non-GSO systems with short-duration missions in the frequency range 137-138 MHz shall be limited to the frequency band 137.025-138 MHz;  2 that, in the frequency band 137.025-138 MHz, the power flux-density at any point on the Earth’s surface produced by a space station of non-GSO SOS systems used for short-duration missions in accordance with Appendix **4** shall not exceed −140 dB(W/(m2 · 4 kHz));  3 that administrations wishing to implement the SOS (space-to-Earth) in the frequency band 137.025-138 MHz by means of non-GSO systems for short-duration missions shall ensure compliance with *considering d)*,  *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,  *instructs the Director of the Radiocommunication Bureau*  to present to the next world radiocommunication conference a progress report relating to the implementation of this Resolution. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3 |
| **663 (Rev.WRC-23)** | Studies on possible new additional allocations to the radiolocation service on a primary basis in the frequency range 231.5‑275 GHz, and possible new identifications for radiolocation service applications in frequency bands within the frequency range 275-700 GHz | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 the description of the technical and operational characteristics, including required protection criteria, for those receive-only and active millimetric and sub-millimetric wave RLS systems and applications in the categories listed in *recognizing a)*;  2 studies on globally harmonized spectrum for the RLS, in particular for those millimetric and sub-millimetric wave RLS systems and applications above 231.5 GHz;  3 sharing and compatibility studies (in-band and adjacent bands) for active millimetric and sub-millimetric wave RLS systems and applications with other services in the frequency range 231.5‑275 GHz, while ensuring protection for the current use and further development of the incumbent services allocated to this frequency range;  4 sharing and compatibility studies (in-band and adjacent bands) for RLS applications with EESS (passive), space research service (passive) and RAS applications in the frequency range 275‑700 GHz, while maintaining protection for the passive service applications identified in No.**5.565**;  5 sharing and compatibility studies (in-band and adjacent bands) for RLS applications with fixed service and land mobile service applications in the frequency range 275-450 GHz, as identified in No. **5.564A**,  *invites the 2027 world radiocommunication conference*  1 to determine, based on the results of the ITU‑R studies described in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference,* possible new allocations to the RLS in the frequency range 231.5-275 GHz on a primary basis, considering required regulatory measures, while taking into account and ensuring the protection of the current use and further development of existing services in the frequency bands considered and in adjacent frequency bands;  2 to determine, based on the results of the ITU‑R studies described in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference*,possible identifications of frequency bands in the frequency range 275-700 GHz for use by RLS applications, considering required regulatory measures, while ensuring the protection of the applications identified in Nos. **5.564A** and **5.565** in the frequency bands considered and, as appropriate, in adjacent frequency bands. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **664 (Rev.WRC-23)** | Studies on a possible new primary allocation to the Earth exploration-satellite service (Earth-to-space) in the frequency band 22.55-23.15 GHz | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  studies onspectrum requirements and studies on sharing and compatibility between EESS (Earth-to-space) and the existing services, taking into account *noting a)* to *e)*, while ensuring the protection of these services, using relevant technical and operational parameters of their current and planned use,  *invites administrations*  to participate actively in ITU Radiocommunication Sector (ITU‑R) studies and provide the technical and operational characteristics of the systems involved by submitting contributions to ITU‑R,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of the studies under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*, a new worldwide primary allocation to the EESS (Earth-to-space) in the frequency band 22.55-23.15 GHz,  *invites the Secretary-General*  to bring this Resolution to the attention of the international and regional organizations concerned. | See  [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **673 (Rev.WRC‑23)** | The importance of Earth observation radiocommunication applications | *resolves*  1 to continue to recognize that the use of spectrum by Earth observation applications has a considerable societal and economic value;  2 to urge administrations to take into account Earth observation radio-frequency requirements and in particular protection of the Earth observation systems in the related frequency bands;  3 to encourage administrations to consider the importance of the use and availability of spectrum for Earth observation applications prior to taking decisions that would negatively impact the operation of these applications. | − | 6 |
| **674 (WRC‑23)** | Studies on possible allocations to the Earth exploration-satellite service (passive) in the bands 4 200-4 400 MHz and 8 400-8 500 MHz | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  sharing and compatibility studies to determine the possibility of a future allocation to the EESS (passive) in the frequency bands 4 200-4 400 MHz and 8 400-8 500 MHz,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed in *resolves to invite ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to ITU‑R,  *invites the 2027 world radiocommunication conference*  to examine the results of these studies with a view to considering a new primary allocation in all Regions to the EESS (passive) in the frequency bands 4 200-4 400 MHz and 8 400-8 500 MHz, without protection from existing services in these frequency bands and in adjacent bands. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **675 (WRC‑23)** | Importance of meteorological aids service (space weather) applications | *resolves*  1 that the following definition for space weather shall be used:  *space weather:* natural phenomena, mainly originating from solar activity and occurring beyond the major portion of the Earth’s atmosphere, that impact Earth’s environment and human activities;  2 that space weather sensor systems may operate under MetAids (space weather) allocations;  3 that an active space weather sensor is a system in the MetAids (space weather) by means of which information is obtained by transmission and reception of radio waves;  4 that a receive-only space weather sensor is a system in the MetAids (space weather) by means of which information is obtained by reception of radio waves of natural origin, or by the opportunistic reception of transmissions of other specific radiocommunication services;  5 to recognize the importance of spectrum usage by space weather applications for monitoring space weather phenomena and events that impact services critical to the economy, safety and security of administrations and the populations of their countries;  6 to urge administrations to take into account space weather radio-frequency requirements and in particular protection of the related frequency bands;  7 to encourage administrations to consider the importance of the use and availability of spectrum for space weather applications prior to taking decisions that would negatively impact their operations;  8 that no notification of frequency assignments to a station used for space weather observation be made by administrations under the existing MetAids allocations until a future competent WRC introduces the corresponding allocations to MetAids (space weather) in Article **5**,  *instructs the Director of the Radiocommunication Bureau*  to consider any frequency assignments to space weather sensors that are notified within existing MetAids allocations prior to such a decision being taken by a competent WRC in accordance with *resolves* 8 above as being not in conformity with No. **11.31**. | See Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2 |
| **676 (WRC‑23)** | Prevention and mitigation of harmful interference to the radionavigation-satellite service in the frequency bands 1 164-1 215 MHz and 1 559-1 610 MHz | *resolves to urge administrations*  1 to apply necessary measures to avoid the proliferation, circulation and operation of unauthorized transmitters that cause, or have the potential to cause, harmful interference to RNSS systems and networks operating in the frequency bands 1 164-1 215 MHz and 1 559-1 610 MHz, including possible measures that might need to be taken with respect to *recognizing j)*;  2 to take the following actions to prevent and mitigate harmful interference affecting the RNSS operating in the frequency bands 1 164-1 215 MHz and 1 559-1 610 MHz without prejudice to the right of administrations to deny access to the RNSS, for security or defence purposes:  2.1 to encourage collaboration between spectrum regulators, enforcement authorities and RNSS stakeholders, in particular in the aeronautical and maritime domains;  2.2 to encourage cooperation between aeronautical, maritime and security authorities, as well as spectrum regulators, as appropriate, to address interference risks to RNSS systems that may stem from the activities of these security authorities;  3 to report cases, as the affected administration deems appropriate, of harmful interference to the RNSS, in accordance with Article **15**,  *instructs the Director of the Radiocommunication Bureau*  to provide, on request, assistance to administrations in accordance with No. **13.2**,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO and IMO. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  4 |
| **677 (WRC‑23)** | Use of the frequency range 40-50 MHz allocated to the Earth exploration-satellite service (active) for spaceborne radar sounders | *resolves*  1 that the use of the frequency band 40-50 MHz by the EESS (active) is limited to spaceborne radar sounders, as described in the most recent version of Recommendation ITU‑R RS.2042;  2 that, for the purpose of protecting in-band and adjacent-band services, the following conditions outlined in *resolves* 2.1 to 2.4 shall apply to the EESS (active) in the frequency band 40‑50 MHz when the subsatellite point is located within any of the following areas:  *a)* the spherical cap formed by latitudes between 72 and 90 degrees North;  *b)* the spherical cap formed by latitudes between 60 and 90 degrees South;  *c)* the quadrangle formed by latitudes between 59 and 72 degrees North and longitudes between 25 and 55 degrees West;  2.1 stations operating in the EESS (active) shall transmit within the areas defined in *resolves* 2 for no more than a total of 90 minutes within a 24‑hour period;  2.2 the mean pfd level per spaceborne radar sounder produced at any given point on the surface of the Earth shall not exceed −147 dB(W/(m2 · 4 kHz)), under clear sky propagation conditions, for more than 0.05% of the time within a 24‑hour period;  2.3 the mean pfd level per spaceborne radar sounder produced at any given point on the surface of the Earth shall not exceed −136 dB(W/(m2 · 4 kHz)), under clear sky propagation conditions;  2.4 if more than one spaceborne radar sounder is in operation:  – administrations shall ensure collectively that the pfd limit in *resolves*2.2 is not exceeded for more than 0.1% of the time and shall have consultations accordingly;  – until such consultations enable to ensure compliance with that pfd limit, each system will have to ensure that the limit in *resolves* 2.2 is not exceeded for more than 0.1/*N*% of the time, where *N* is the number of spaceborne radar sounders;  3 that, for the purpose of protecting in-band and adjacent-band services, the following conditions shall apply when the subsatellite point is located outside the areas provided in *resolves*2;  3.1 in order to ensure that the spaceborne radar sounder is not operational or is in mute mode, the peak pfd level per spaceborne radar sounder produced at the surface of the Earth shall not exceed −189 dB(W/(m2 · 4 kHz)), under free-space propagation conditions;  3.2 for the use of the frequency band 40-50 MHz by the EESS (active) for operation of spaceborne radar sounders outside the areas defined in *resolves* 2, if the pfd level of −189 dB(W/(m2 · 4 kHz)) per spaceborne radar sounder produced at the surface of the Earth over the territory of any administration is exceeded, this exceedance is only permitted subject to an explicit agreement obtained;  3.3 stations operating in the EESS (active) in the 40-50 MHz frequency band shall not claim protection from stations operating in the radiolocation service in the frequency bands 42-42.5 MHz in Region 1, 41-44 MHz in countries included in No. **5.161,** and 46-50 MHz in countries included in No. **5.162A**; No. **5.43A** does not apply,  *invites the ITU Radiocommunication Sector*  to regularly review the number and characteristics of spaceborne radar sounders and the application of *resolves*2.4 by Member States concerned,  *instructs the Radiocommunication Bureau*  to ensure the examination of the maximum pfd level given in *resolves*2.3,  *instructs the Director of the Radiocommunication Bureau*  to report to future competent world radiocommunication conferences on the number of EESS satellites in operation in the frequency band 40-50 MHz and on the application of *resolves*2.4 above. | See Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  3 |
| **678 (WRC‑23)** | Use of the frequency band 14.8-15.35 GHz by the space research service (space-to-space) (Earth-to-space) (space-to-Earth) and associated transitional measures | *resolves*  1that, for the purpose of protecting in-band and adjacent-band services, the following conditions outlined in *resolves* 1.1 to 1.6 shall apply to the SRS in the frequency band 14.8‑15.35 GHz:  1.1 any earth station in the SRS operating in the frequency band 14.8-15.35 GHz shall not exceed the power flux-density (pfd) level of −156 dB(W/m2) for more than 2% of the time in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy site observing in the frequency band 15.35-15.4 GHz;  1.2 the pfd produced in the frequency band 15.35-15.40 GHz by a space station of a GSO satellite network in the SRS (space-to-Earth) (space-to-space) shall not exceed the protection criteria specified in Recommendation ITU‑R RA.769-2 for more than 2% of the time, at any radio astronomy site observing in the frequency band 15.35-15.4 GHz;  1.3 the epfd produced in the frequency band 15.35-15.40 GHz by all space stations of a non-GSO satellite system in the SRS (space-to-Earth) (space-to-space) shall not exceed −240 dB(W/m2) for more than 2% of the time in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz at any radio astronomy site observing in the frequency band 15.35-15.4 GHz; the above limit shall be evaluated in accordance with Recommendation ITU‑R RA.1513‑2;  1.4 space stations in the SRS, operating in the space-to-space and Earth-to-space directions, shall not claim protection from stations in the fixed service; No. **5.43A** does not apply;  1.5the pfd produced by a space station in the SRS at any point on the Earth’s surface shall not exceed:  −124 dB(W/(m2 · MHz)) for space-to-space links;  −145.6 dB(W/(m2 · MHz)) for space-to-space links for more than 1% of time within a 24-hour period and  −138 dB(W/(m2 · MHz)) for space-to-Earth links;  1.6 receiving earth stations in the SRS shall not claim protection from stations in the aeronautical mobile service operating in the frequency band 14.8-15.35 GHz within the respective border(s) of neighbouring countries, unless otherwise agreed between the administrations; No. **9.18** does not apply to stations in the aeronautical mobile service,  *instructs the Director of the Radiocommunication Bureau*  that, in reviewing the findings under No. **11.50** of the frequency assignments to a station in the space research service (space-to-space) (Earth-to-space) (space-to-Earth) in the frequency band 14.8‑15.35 GHz, recorded in the Master International Frequency Register (MIFR) prior to 16 December 2023, the Bureau shall review as follows:  *a)* the original date of receipt of the recorded assignment in the MIFR shall be kept;  *b)* the Bureau shall examine each frequency assignment recorded in the MIFR in accordance with No. **11.31**;  *c)* when the examination with respect to No. **11.31** leads to a favourable finding, the assignment shall be upgraded to a primary status;  *d)* when the finding with respect to No. **11.31** is unfavourable, the assignment shall be modified in the MIFR to “for information purposes” and subject to application of No. **8.5**, only if the administration undertakes that it will be operated in accordance with No. **4.4**; otherwise the assignment shall be removed from the MIFR. | See  Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  3 |
| **679 (WRC‑23)** | Use of the frequency bands 18.1-18.6 GHz, 18.8‑20.2 GHz and 27.5-30 GHz by the inter-satellite service | *invites the ITU Radiocommunication Sector*  1 to develop a suitable methodology for calculating the epfd produced by the emissions from operations of all ISS links in the frequency bands 27.5-28.6 GHz and 29.5-30 GHz, within a given non-GSO ISS system, for use by the Bureau in examining whether the system is in compliance with the epfd limits contained in Article **22**, Table **22-2**;  2 to develop a suitable methodology for calculating the epfd produced by the emissions from operations of all ISS links in the frequency bands 18.1-18.6 GHz and 19.7-20.2 GHz, within a given non-GSO ISS system, for use by the Bureau in examining whether the system is in compliance with the epfd limits contained in Article **22**, Tables **22-1B** and **22-1C**,  *instructs the Director of the Radiocommunication Bureau*  1 to take all necessary actions to facilitate the implementation of this Resolution, together with providing any assistance for the resolving of interference, if and when required;  2 to report to future world radiocommunication conferences on any difficulties or inconsistencies encountered in the implementation of this Resolution;  3 to use the methodology given in Annex 2 to this Resolution when assessing compliance with the pfd limits in Article **21**,Table **21-4**;  4 to use the methodology given in Appendices 1 to 3 to Annex 5 to this Resolution when assessing compliance with Annex 5;  5 not to examine, under No. **11.31**, the conformity of non-GSO ISS systems with the provisions of *resolves*3.3 of this Resolution in view of the fact that the detailed characteristics of non-GSO ISS system transmitters are not available;  6 that, until the methodology is developed according to *invites the ITU Radiocommunication Sector* 1 and 2 above, the Bureau shall issue a qualified favourable finding for examination under No. **11.31**; when the methodology is available, the Bureau shall review its finding under No. **11.31**. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) See  Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  3 |
| **680 (WRC‑23)** | Studies on frequency-related matters, including possible new or modified space research service (space-to-space) allocations, for future development of communications on the lunar surface and between lunar orbit and the lunar surface | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies of the spectrum needs of systems in the SRS which may operate on the lunar surface, or systems in lunar orbit communicating with systems on the lunar surface, in the following frequency ranges or portions thereof, taking into account *noting* *a)*, *b)* and *c)*:  – 390-406.1 MHz, 420-430 MHz and 440-450 MHz, limited to outside the SZM  – 2 400‑2 690 MHz, 3 500-3 800 MHz, 5 150-5 570 MHz, 5 570-5 725 MHz, 5 775‑5 925 MHz, 7 190-7 235 MHz, 8 450-8 500 MHz and 25.25-28.35 GHz;  2 studies of the technical and operational characteristics, as well as protection criteria, of systems in the SRS that are planned for operation in the frequency bands in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* 1, as well as protection criteria to be applied for the protection of the radio astronomy service (RAS) and SRS active and passive sensors on the lunar surface and lunar orbit;  3 studies of the propagation considerations for lunar surface systems and lunar-orbiting systems operating in the frequency ranges in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference* 1;  4 studies of sharing and compatibility related to systems in the SRS that are planned for operation in the frequency ranges identified in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference* 1 to ensure protection of:  – radiocommunication services, as specified in *recognizing* *g)* to *n)*, and  – the RAS on the Earth and in the SZM in the same, adjacent or nearby bands;  5 studies of potential new or modified frequency allocations and/or identifications to the SRS with appropriate regulatory provisions, for communications on the lunar surface or in lunar orbit communicating with systems on the lunar surface,  *invites the ITU Radiocommunication Sector*  1 to begin studying, taking into account *considering h)*, future spectrum needs for lunar communications and systems, beyond those identified in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2027 world radiocommunication conference* 1, which may be needed for communications between the Earth, lunar-orbiting spacecraft and the lunar surface;  2 to study whether future radiocommunications in the vicinity of the Moon, as described in *considering* *h)*, can be accommodated within existing space radiocommunication services and whether the regulatory provisions described in the Radio Regulations are sufficient,  *invites administrations*  to participate in the studies by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2027 world radiocommunication conference*  to consider, based on the results of the studies referred to in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*1 to5, new or modified allocations and/or identifications in the SRS in the frequency ranges in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* 1above, or portions thereof,for use in the vicinity of the Moon,  *instructs the Director of the Radiocommunication Bureau*  to report to WRC‑27 on the progress of the studies referred to in *invites the ITU Radiocommunication Sector* 1 and 2 above,  *invites a future competent world radiocommunication conference after WRC‑27*  to consider, if necessary, appropriate regulatory actions based upon the studies called for in *invites the ITU Radiocommunication Sector* 1and 2above. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  3 |
| **681 (WRC‑23)** | Studies of technical and regulatory provisions necessary to protect radio astronomy operating in specific Radio Quiet Zones and, in radio astronomy service primary allocated frequency bands globally, from aggregate radio-frequency interference caused by systems in the non-geostationary-satellite orbit | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on how the interference from unwanted emissions from a single non-GSO satellite system operating in the adjacent and nearby frequency bands in Table 1 affects the operation of RAS stations in frequency bands allocated to the RAS on a primary basis in Table 1;  2 studies on how the aggregate interference from unwanted emissions from multiple non-GSO satellite systems operating in the adjacent and nearby frequency bands in Table 1 affect the operation of RAS stations in frequency bands allocated to the RAS on a primary basis in Table 1;  3 studies on the possible recognition of the RQZs specified in *considering k)* above, based on their characteristics and existing ITU-R studies;  4 studies on how the aggregate interference from single and multiple non-GSO satellite systems affects the operation of RAS stations in the RQZs specified in *considering* *k)*;  5 studies on new coexistence measures between non-GSO satellite systems and RAS stations in the RQZs specified in *considering k)*;  6 studies of methods to calculate the necessary separation distances between gateways of non-GSO systems operating in bands adjacent to or near RAS allocations and RAS stations protected by the RQZs specified in *considering k)*,  *invites administrations*  to participate actively in the studies and provide the technical and operational characteristics of the systems involved and other information required for the studies by submitting contributions to the ITU‑R,  *invites the 2027 world radiocommunication conference*  1 to consider appropriate technical and/or regulatory measures based on the results of the studies mentioned in *resolves* *to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* 1;  2 to consider, if deemed appropriate, based on the studies mentioned in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* 3, 4, 5 and 6*,* potential solutions to characterize the RQZs in *considering k)* in the Radio Regulations and/or in a WRC Resolution,  *instructs the Secretary-General*  to bring this Resolution to the attention of COPUOS and other international and regional organizations concerned. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **682 (WRC‑23)** | Consideration of regulatory provisions and potential primary allocations to the meteorological aids service (space weather) to accommodate receive-only space weather sensor applications in the Radio Regulations | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 studies on spectrum needs and appropriate protection criteria for receive-only space weather sensors, as well as system characteristics, as appropriate, taking into account *noting a)*;  2 sharing and compatibility studies pertaining to potential new primary allocations to MetAids (space weather) in the following frequency bands for receive-only sensors, taking into account *further* *resolves*2:  – 27.5-28.0 MHz;  – 29.7-30.2 MHz;  – 32.2-32.6 MHz;  – 37.5-38.325 MHz;  – 73.0-74.6 MHz;  – 608-614 MHz;  3 studies on possible regulatory provisions of the Radio Regulations to accommodate the possibility for an administration that desires to notify a receive-only space weather sensor station to be included in the Master International Frequency Register,  *further resolves*  1 that no notification of frequency assignments to a station used for space weather observation be made by administrations under MetAids (space weather) until WRC‑27 introduces the corresponding allocations in Article **5**;  2 that any possible new primary MetAids (space weather) allocations to be made under *resolves to invite the* *ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*2 shall not claim protection from, or constrain the future development of, incumbent services in these frequency bands or in adjacent bands,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to ITU‑R,  *invites the 2027 world radiocommunication conference*  to take appropriate actions, including potential new primary receive-only MetAids (space weather) allocations, based on the results of the studies under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*, taking into account *further resolves* 2,  *invites relevant international organizations*  to participate actively in the relevant ITU‑R studies by providing information that should be taken into account in ITU‑R studies,  *instructs the Secretary-General*  to bring this Resolution to the attention of the relevant international organizations. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **683 (WRC‑23)** | Study of technical and operational issues and regulatory provisions to support inter-satellite service transmissions in the frequency bands 3 700-4 200 MHz and 5 925-6 425 MHz for non-geostationary-satellite space stations communicating with geostationary-satellite space stations | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 studies on spectrum requirements, technical and operational characteristics and sharing and compatibility, with incumbent [\*, \*\*, including secondary,] services, taking into account *noting a)* to *i)*, for non‑GSO space stations that operate or plan to operate ISS links with GSO FSS networks in the following frequency bands:  [\* This Region 1 allocation for fixed and mobile services is pending the WRC 23 outcome, and this noting should be revised or removed based on the conclusion of WRC 23 agenda item 1.2/1.3.]  [\*\* These Region 2 identifications for IMT are pending the WRC 23 outcome, and this noting should be revised or removed based on the conclusion of WRC 23 agenda item 1.2.]  *a)* in the Earth-to-space direction in the frequency band 5 925‑6 425 MHz, for transmissions from non‑GSO user space stations operating at lower orbital altitudes, in communication with GSO FSS service provider space stations; and  b) in the space-to-Earth direction in the frequency band 3 700‑4 200 MHz, for transmissions from GSO FSS service provider space stations, towards non‑GSO user space stations;  2 to develop technical conditions and regulatory provisions to ensure protection of other services allocated in those frequency bands for the operation of ISS links taking into account the results of the studies called for in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* 1 above,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector (ITU‑R),  *invites the 2031 world radiocommunication conference*  to consider, based on the results of ITU‑R studies, to support ISS allocations in the frequency bands 3 700-4 200 MHz and 5 925-6 425 MHz, and associated regulatory provisions, to enable links between non-GSO and GSO satellites. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **684 (WRC‑23)** | Studies on possible new allocations to the radionavigation-satellite service (space-to-Earth) in the frequency bands [5 030-5 150 MHz and 5 150-5 250 MHz] or parts thereof | *resolves to invite the ITU Radiocommunication Sector to conduct and complete in time for the 2031 world radiocommunication conference*  1 studies on spectrum requirements and technical and operational characteristics for the RNSS, in particular in the space-to-Earth direction between [5 030 and 5 250 MHz];  2 studies on sharing and compatibility between RNSS and the incumbent services allocated in the frequency range [5 030-5 250 MHz] and the adjacent-band services and studies related to the protection of the RAS in the frequency band 4 990-5 000 MHz, taking into account *recognizing a)*,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of studies, possible allocations to the RNSS (space-to-Earth) in the frequency bands [5 030-5 150 MHz and 5 150-5 250 MHz] or parts thereof,  *invites administrations*  to participate actively in ITU Radiocommunication Sector (ITU-R) 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 international and regional organizations concerned. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **685 (WRC‑23)** | Studies towards frequency allocations for the Earth exploration-satellite service (space-to-Earth) within the frequency range [37.5-52.4 GHz] | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 the review of the existing allocation to the EESS (space-to-Earth) in the frequency band [37.5-40.5 GHz], and sharing and compatibility studies as necessary, in order to determine the feasibility of upgrading this frequency allocation to primary status while ensuring the protection of the primary services;  2 the identification of frequency bands within the frequency range [40.5-52.4 GHz], and sharing and compatibility studies as necessary, in order to determine the feasibility of creating new primary allocations to the EESS (space-to-Earth) in these bands, while ensuring the protection of the primary services,  *invites administrations*  to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of studies, an upgrade of the secondary allocation to the EESS (space-to-Earth) in the frequency band [37.5-40.5 GHz] or possible new worldwide allocations on a primary basis to the EESS (space-to-Earth) in certain frequency bands within the frequency range [40.5‑52.4 GHz],  *instructs the Secretary-General*  to bring this Resolution to the attention of international and regional organizations concerned. | [See CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **686 (WRC‑23)** | Possible secondary allocation to the Earth exploration-satellite service (active) in the frequency bands [3 000-3 100 MHz] and [3 300-3 400 MHz] | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  studies on spectrum needs and studies on the possibility of sharing between the EESS (active) and incumbent radio services in the frequency bands [3 000-3 100 MHz] and [3 300-3 400 MHz],  *invites the 2031 world radiocommunication conference*  to consider the results of studies for a possible new secondary allocation to the EESS (active) for spaceborne SARs in the frequency bands [3 000-3 100 MHz] and [3 300-3 400 MHz], taking into account the protection of incumbent services, and take appropriate action,  *invites administrations*  to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **703 (Rev.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 | *invites administrations*  to submit contributions to the Radiocommunication Study Groups, providing information on practical results and experience of sharing between terrestrial and space radiocommunication services or between space services, which help to bring about significant improvements in coordination procedures, calculation methods and harmful interference thresholds, and thereby to optimize the available orbit/spectrum resources,  *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. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3 |
| **705 (Rev.WRC-15)** | Mutual protection of radio services operating in the frequency band 70-130 kHz | *resolves that administrations*  1 in assigning frequencies to services in the frequency bands 70-90 kHz, 90‑110 kHz and 110-130 kHz, consider the potential mutual impairment to other stations operating in accordance with the Table of Frequency Allocations and apply protective measures;  2 use the relevant ITU‑R Recommendations and encourage the exchange of information between authorities operating radionavigation systems in the frequency band 90-110 kHz and those operating other systems in the frequency band 70‑130 kHz employing emissions of very high stability, to assist in preventing potential interference problems;  3 encourage consultation, both nationally and internationally, between operators of radionavigation systems using the frequency band 90-110 kHz and of other systems using the frequency band 70-130 kHz,  *requests the ITU‑R*  to continue studies in this matter, particularly the development of technical criteria and standards to permit compatible operations within the allocated frequency bands. | − | 2 |
| **712 (WRC-23)** | Studies on compatibility between the Earth exploration-satellite service (passive), the radio astronomy service in certain bands above 76 GHz, and active services in adjacent and nearby frequency bands | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  1 compatibility studies between the EESS (passive) and the corresponding active services in adjacent frequency bands as listed in Table 1 below:  …  2 compatibility studies between the RAS and the active satellite services in certain adjacent and nearby frequency bands listed in Table 2 below with a view to setting the relevant threshold levels for unwanted emissions from any GSO and non-GSO space stations and revising and updating Resolution **739 (Rev.WRC‑19)** accordingly:  …  *invites administrations*  to participate actively in the studies and provide the technical and operational characteristics of the systems involved by submitting contributions to the ITU Radiocommunication Sector,  *invites the 2027 world radiocommunication conference*  1 to determine, based on the results of studies, any required regulatory measures regarding the protection of the EESS (passive) in the frequency bands listed in Table 1 above from unwanted emissions of active services and update Resolution **750** **(Rev.WRC‑19)** accordingly;  2 to determine, based on the results of studies, any required regulatory measures regarding the protection of the RAS in the frequency bands listed in Table 2 above and update Resolution **739** **(Rev.WRC‑19)** accordingly,  *instructs the Secretary-General*  to bring this Resolution to the attention of the international and regional organizations concerned. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **716 (Rev.WRC-23)** | Use of the frequency bands 1 980‑2 010 MHz and 2 170‑2 200 MHz in all three Regions and 2 010-2 025 MHz and 2 160-2 170 MHz in Region 2 by the fixed and mobile-satellite services and associated transition arrangements | *resolves*  …  *invites ITU‑R*  to conduct, as a matter of urgency, further studies, in conjunction with the Bureau, to develop and provide to administrations the necessary tools in a timely manner to assess the impact of interference in the detailed coordination of mobile-satellite systems,  *invites ITU‑D*  to evaluate, as a matter of urgency, the financial and economic impact on the developing countries of the transfer of fixed services, and to present its results to a future competent world radiocommunication conference and/or world telecommunication development conference,  *invites the Director of the Telecommunication Development Bureau*  to implement *invites ITU‑D* by encouraging joint activities between the relevant study groups of both ITU‑D and ITU‑R,  *instructs the Director of the Radiocommunication Bureau*  to submit a report on the implementation of this Resolution to world radiocommunication conferences. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  4 |
| **721 (WRC-23)** | Studies on potential new allocations to fixed, mobile, radiolocation, amateur, amateur-satellite, radio astronomy, Earth exploration-satellite (passive and active) and space research (passive) services in the frequency range 275-325 GHz with the consequential update of Nos. 5.149, 5.340, 5.564A and 5.565 | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 studies on the spectrum needs for the fixed, mobile, radiolocation, amateur, amateur-satellite, radio astronomy, Earth exploration-satellite (passive and active) and space research (passive) services in the frequency range 275-325 GHz;  2 studies on sharing and compatibility between services referenced in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2031 world radiocommunication conference* 1;  3 studies on possible new allocations to services referenced in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2031 world radiocommunication conference*1, while ensuring the protection of passive services in the frequency range 275-325 GHz and adjacent frequency bands, taking into account the frequency bands identified in Nos. **5.564A** and**5.565**, and the results of the studies under *resolves to* *invites the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* 1 and 2,  *invites the 2031 world radiocommunication conference*  based on the results of the studies, to consider potential new allocations in the frequency range 275‑325 GHz for radiocommunication services referenced in *resolves to invite the ITU Radiocommunication Sector* *to complete in time for the 2031 world radiocommunication conference* 1 and update Nos.**5.149**, **5.340**, **5.564A** and **5.565**, as appropriate,  *instructs the Secretary-General*  to bring this Resolution to the attention of the international and regional organizations concerned. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **722 (WRC-23)** | Studies on the coexistence between spaceborne synthetic aperture radars operating in the Earth exploration-satellite service (active) and radiodetermination service in the frequency band [9 200-10 400 MHz] | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 studies on the technical and operational characteristics of SARs in the EESS (active) in the frequency band 9 200-10 400 MHz;  2 studies on the coexistence between SARs operating in the EESS (active) and the radiodetermination service in the frequency band 9 200-10 400 MHz,  *invites administrations*  to participate actively in the studies and provide the information required for the studies listed in resolves to invite ITU‑R *to complete in time for the 2031 world radiocommunication conference* by submitting contributions to ITU‑R,  *resolves to invite the 2031 world radiocommunication conference*  to consider the results of the above ITU‑R studies and take actions, as appropriate. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **726 (WRC-23)** | Possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3‑17.7 GHz and possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, and consideration of equivalent power flux-density limits to be applied in Regions 1 and 3 to non-geostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3‑17.7 GHz | *resolves*  that the studies referred to in invites the ITU Radiocommunication Sector to conduct and complete in time for the 2027 world radiocommunication conference below shall protect radiocommunication services to which the frequency band is allocated on a primary basis, including the fixed and mobile services, in particular assignments to the BSS feeder links contained in Appendix **30A**,  *invites the ITU Radiocommunication Sector to conduct and complete in time for the 2027 world radiocommunication conference*  1 studies on sharing and compatibility between the FSS (space-to-Earth), the BSS (space-to-Earth) and the FSS (Earth-to-space) designated by No. **5.516** in order to consider a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz for Region 3 and to the BSS (space-to-Earth) in the frequency band 17.3-17.8 GHz for Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and without adversely affecting the existing allocations to the FSS (Earth-to-space) designated by No. **5.516**, including assignments to the BSS feeder links contained in Appendix 30A;  2 consideration of the applicability of Region 2 non-GSO FSS epfd limits (see noting e)) pertaining to the frequency band 17.3-17.7 GHz to Regions 1 and 3, so as to ensure the protection of GSO networks,  *invites the 2027 world radiocommunication conference*  to consider the results of the above ITU Radiocommunication Sector (ITU‑R) studies and take necessary actions, as appropriate, with respect to the following issues:  1) a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3‑17.7 GHz for Region 3;  2) a possible new primary allocation to the BSS (space-to-Earth) in the frequency band 17.3‑17.8 GHz for Region 3;  3) ensuring the protection of existing primary allocations in the same and adjacent frequency bands, without adversely affecting the existing allocations to the fixed and mobile services in the frequency band 17.7-17.8 GHz and to the FSS (Earth-to-space) as designated by No. **5.516**, including assignments to the BSS feeder links contained in Appendix **30A**;  4) the application of Region 2 epfd limits to non-GSO FSS systems (as given in *noting e)*) operating in the frequency band 17.3‑17.7 GHz in Regions 1 and 3,  *invites administrations*  to participate actively in the studies described in *resolves to invite the ITU Radiocommunication Sector to conduct and complete in time for the 2027 world radiocommunication conference* and provide the technical and operational characteristics of the systems involved by submitting contributions to ITU‑R. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **729 (Rev.WRC-07)** | Use of frequency adaptive systems in the MF and HF bands | *resolves*  …  4 that assignments for frequency adaptive systems shall be notified to the Bureau in accordance with the provisions of Article **11** and Appendix **4**. | − | 3 |
| **731 (Rev.WRC-23)** | Consideration of sharing and adjacent-band compatibility between passive and active services above 71 GHz | *resolves*  to invite a future competent world radiocommunication conference to consider the results of ITU-R studies referred to in *invites the ITU Radiocommunication Sector* below with a view to taking the necessary action, as appropriate, in order to accommodate the emerging requirements of active services, taking into account the requirements of the passive services, in frequency bands above 71 GHz,  *invites the ITU Radiocommunication Sector*  1 to continue its studies to determine if and under what conditions sharing is possible between active and passive services in the frequency bands above 71 GHz, such as, but not limited to, 116‑122.25 GHz, 174.8-182 GHz, 185-190 GHz and 235‑238 GHz;  2 to study under what conditions passive services operating in allocated frequency bands 100-102 GHz, 148.5-151.5 GHz, 182-185 GHz, 190-191.8 GHz and 226-231.5 GHz are compatible with active services allocated to adjacent bands;  3 to conduct studies to determine the specific conditions to be applied to the land-mobile and fixed-service applications to ensure the protection of EESS (passive) applications in the frequency bands 296-306 GHz, 313-318 GHz and 333-356 GHz;  4 to study means of avoiding adjacent-band interference from space services (downlinks) into radio astronomy frequency bands above 71 GHz;  5 to take into account the principles of burden-sharing to the extent practicable in their studies;  6 to complete the necessary studies when the technical characteristics of the active services in these frequency bands are known;  7 to develop Recommendations specifying sharing criteria for those frequency bands where sharing is feasible,  *instructs the Secretary-General*  to bring this Resolution to the attention of the international and regional organizations concerned. | See  Doc. [1/1](https://www.itu.int/md/R23-SG01-C-0001/en) See Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en)See  Doc. [7/1](https://www.itu.int/md/R23-SG07-C-0001/en) | 2  AND  4  AND  5 |
| **732 (Rev.WRC‑12)** | Consideration of sharing between active services above 71 GHz | *resolves*  1 that appropriate measures should be taken to meet the spectrum requirements for active services for which the technology will be commercially available at a later time;  2 that sharing criteria be developed for co-primary active services in bands above 71 GHz;  3 that the sharing criteria developed should form the basis for a review of active service allocations above 71 GHz at a future competent conference, if necessary,  *invites ITU-R*  to complete the necessary studies and develop ITU‑R Recommendation(s) with a view to presenting, at the appropriate time, the technical information likely to be required as a basis for the work of a future competent conference,  *instructs the Secretary-General*  to bring this Resolution to the attention of the international and regional organizations concerned. | See  Doc. [1/1](https://www.itu.int/md/R23-SG01-C-0001/en) | 2  AND  4  AND  5 |
| **739 (Rev.WRC-19)** | Compatibility between the radio astronomy service and the active space services in certain adjacent and nearby frequency bands | *resolves*  …  6 that the objective of the consultation process in *resolves* 1, 2 and 3 is to achieve a mutually acceptable solution, using as guidance Report ITU-R SM.2091 and any other ITU Radiocommunication Sector Recommendations deemed relevant by the concerned administrations;  7 that BR shall make no examination or finding with respect to this Resolution under either Article **9** or **11**, | − | 3 |
| **741 (Rev.WRC‑15)** | Protection of the radio astronomy service in the frequency band 4 990 5 000 MHz from unwanted emissions of the radionavigation-satellite service (space-to-Earth) operating in the frequency band 5 010-5 030 MHz | *resolves*  1 that in order not to cause harmful interference to the RAS in the frequency band  4 990-5 000 MHz, the pfd produced in this frequency band by any GSO RNSS network operating in the 5 010‑5 030 MHz frequency band shall not exceed −171 dB(W/m2) in a 10 MHz frequency band at any radio astronomy station;  *…*  4 that administrations planning to operate a GSO or a non-GSO RNSS system in the frequency band 5 010‑5 030 MHz, for which complete coordination or notification information, as appropriate, has been received by the Bureau after 2 June 2000, shall send to the Bureau the value of the maximum level of pfd as referred to in *resolves* 1 or the value of the maximum level of epfd as referred to in *resolves* 2, as appropriate. | − | 3 |
| **743 (WRC-03)** | Protection of single-dish radio astronomy stations in Region 2 in the 42.5-43.5 GHz band | *resolves*  …  *invites ITU‑R*  to conduct studies and develop Recommendations to establish the appropriate balance between the percentage of time that GSO satellites operating in the 42-42.5 GHz band exceed the single-dish values in No. **5.551I** at the site of a radio astronomy station and the associated impact on radio astronomy observations.  NOTE 1 − For purposes of No. **5.551H**, No. **5.551I** and *resolves*4 of this Resolution, the radio astronomy stations currently under construction in Sierra Negra, Mexico, 18° 59′ N/97° 18′ W (station Volcan Sierra Negra) and San Pedro de Atacama, Chile, 23° 20′ S/67° 44′ W (station Atacama Large Millimeter Array) to conduct observations in the 42.5‑43.5 GHz band, shall be considered to have been in operation prior to 5 July 2003 if they are notified to the Radiocommunication Bureau before 1 January 2005. | − | 2  AND  3 |
| **744 (Rev.WRC-23)** | Sharing between the mobile-satellite service (Earth-to-space) and the fixed and mobile services in the band 1 668.4‑1 675 MHz | *resolves*  1 that the use of the band 1 668.4-1 675 MHz by systems in the mobile service is limited to transportable radio-relay systems;  2 that administrations operating transportable radio-relay systems should take into account the most recent version of Recommendation ITU-R M.1799, which states that, to adequately protect MSS networks, the e.i.r.p. of transportable radio-relay stations should not exceed −27 dB(W/4 kHz) in the band 1 668.4-1 675 MHz in the direction of the geostationary orbit;  3 that from 1 January 2015 administrations operating such systems in the mobile service shall limit the e.i.r.p. spectral density radiated in the direction of the geostationary orbit by these systems to −27 dB(W/4 kHz) in the band 1 668.4-1 675 MHz;  4 that, in the band 1 670-1 675 MHz, stations in the MSS shall not claim protection from stations in the fixed and mobile services operating in Canada and the United States of America;  5 that *resolves* 1, 2 and 3 do not apply to stations in the fixed and mobile services operating in Canada and the United States of America. | − | 3 |
| **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 | *resolves*  1 that any AM(R)S systems operating in the frequency band 5 091-5 150 MHz shall not cause harmful interference to, nor claim protection from, systems operating in the ARNS;  2 that any AM(R)S systems operating in the frequency band 5 091-5 150 MHz shall meet the SARPs requirements published in Annex 10 of the ICAO Convention on International Civil Aviation and the requirements of Recommendation ITU-R M.1827-1, to ensure compatibility with FSS systems operating in that frequency band;  3 that, in part to meet the provisions of No. **4.10**, the coordination distance with respect to stations in the FSS operating in the frequency band 5 091-5 150 MHz shall be based on ensuring that the signal received at the AM(R)S station from the FSS transmitter does not exceed −143 dB(W/MHz), where the required basic transmission loss shall be determined using the methods described in Recommendations ITU-R P.525-4 and ITU-R P.526-15,  *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,  *instructs the Secretary-General*  to bring this Resolution to the attention of ICAO. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 3  AND  4 |
| **749 (Rev.WRC-23)** | Use of the frequency band 790‑862 MHz in countries of Region 1 and the Islamic Republic of Iran by mobile applications and by other services | *recognizing*  *…*  *k)* that ITU-R initiated studies with a view to developing and completing comprehensive Recommendations and Reports, in accordance with Resolution **224 (Rev.WRC-19)**, which need to take into account the cumulative effect of interference,  *resolves*  1 that, in Region 1:  in accordance with No. **5.316B**, and based on the criteria contained in the Annex to this Resolution, administrations implementing the mobile service in Region 1 shall seek agreement under No. **9.21** with respect to the ARNS in the countries mentioned in No. **5.312**;  2 that for Region 1 and the Islamic Republic of Iran:  2.1 when coordination between administrations is being effected, the protection ratios applicable to the generic case NB contained in the GE06 Agreement for the protection of the broadcasting service shall be used only for mobile systems with a bandwidth of 25 kHz; if another bandwidth is used, the relevant protection ratios are to be found in the most recent version of Recommendations ITU-R BT.1368 and ITU-R BT.2033;  2.2 administrations are invited to take into account, *inter alia*, the results of the sharing studies conducted by ITU-R in response to Resolution **749** (**WRC-07**)\*;  3 that, with respect to adjacent channel interference within the frequency band 790‑862 MHz:  3.1 adjacent channel interference within a given country is a national matter and needs to be dealt with by each administration as a national matter;  3.2 adjacent channel interference should be treated among administrations concerned, using mutually agreed criteria or those contained in relevant ITU-R Recommendations (see also the most recent versions of Recommendations ITU-R BT.1368, ITU-R BT.1895 and ITU-R BT.2033 when sharing with the broadcasting service is concerned), as appropriate,  *invites administrations*  to contribute further to the studies conducted by ITU-R in accordance with *recognizing k)* above,  *instructs the Director of the Radiocommunication Bureau*  to implement this Resolution and to take appropriate actions. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3 |
| **750 (Rev.WRC-19)** | Compatibility between the Earth exploration-satellite service (passive) and relevant active services | *resolves*  1 that unwanted emissions of stations brought into use in the frequency bands and services listed in Table 1 below shall not exceed the corresponding limits in that table, subject to the specified conditions;  2 to urge administrations to take all reasonable steps to ensure that unwanted emissions of active service stations in the frequency bands and services listed in Table 2 below do not exceed the recommended maximum levels contained in that table, noting that EESS (passive) sensors provide worldwide measurements that benefit all countries, even if these sensors are not operated by their country;  3 that the Radiocommunication Bureau shall not make any examination or finding with respect to compliance with this Resolution under either Article **9** or **11**. | − | 6 |
| **751 (WRC‑07)** | Use of the frequency band 10.6‑10.68 GHz | *considering*  …  *g)* that studies have concluded that appropriate sharing criteria applicable to both passive and active services would reduce this interference to a level that would permit passive sensors to operate successfully, while allowing continuing operation of active services in the same band,  *resolves*  1 to urge administrations to take all reasonable steps to comply with the sharing criteria in Tables 1 to 4 contained in Annex 1 to this Resolution when bringing into use stations in the Earth exploration-satellite service (passive), the fixed service and the mobile, except aeronautical mobile, service, noting that EESS (passive) sensors provide worldwide measurements that benefit all countries, even if these sensors are not operated by their country;  2 that the Radiocommunication Bureau shall not make any examination or finding with respect to compliance with this Resolution under either Article **9** or **11**. | − | 6 |
| **752 (WRC-07)** | Use of the frequency band 36‑37 GHz | *considering*  …  *f)* that studies have concluded that appropriate sharing criteria applicable to both passive and active services would reduce this interference to a level that would permit passive sensors to operate successfully in this band, while allowing continuing operation of active services in the same band,  *resolves*  1 that, in order to facilitate sharing between active and passive services in the band 36‑37 GHz, EESS (passive) stations brought into use after the date of entry into force of the Final Acts of WRC‑07 shall comply with the sharing criteria contained in Table 1 of Annex 1 to this Resolution;  2 that, in order to facilitate sharing between active and passive services in the band 36‑37 GHz, stations of point-to-point systems in the fixed service brought into use after 1 January 2012 shall comply with the sharing criteria contained in Table 2 of Annex 1 to this Resolution;  3 that, in order to facilitate sharing between active and passive services in the band 36‑37 GHz, stations of point-to-multipoint systems in the fixed service brought into use after the date of entry into force of Final Acts of WRC‑07 shall comply with the sharing criteria contained in Table 2 of Annex 1 to this Resolution;  4 that, in order to facilitate sharing between active and passive services in the band 36‑37 GHz, stations in the mobile service brought into use after the date of entry into force of the Final Acts of WRC‑07 shall comply with the sharing criteria contained in Table 3 of Annex 1 to this Resolution;  5 that the Radiocommunication Bureau shall not make any examination or finding with respect to compliance with this Resolution under either Article **9** or **11**. | − | 6 |
| **759 (WRC-15)** | Technical studies on the coexistence of the radiolocation service and the amateur, amateur-satellite and radio astronomy services in the frequency band 76‑81 GHz | *resolves to invite the ITU Radiocommunication Sector*  to perform studies to assist administrations in ensuring compatibility between applications of the amateur, amateur-satellite and radio astronomy services and radiolocation service applications in the frequency band 76-81 GHz, taking into account those already completed in Report ITU-R M.2322, and develop ITU-R Recommendations and Reports, as appropriate. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2 |
| **760 (Rev.WRC-23)** | Provisions relating to the use of the frequency band 694‑790 MHz in Region 1 by the mobile, except aeronautical mobile, service and by other services | *considering*  …  *b)* that the ITU Radiocommunication Sector (ITU-R) carried out studies, in accordance with Resolution **232 (WRC‑12)**\*, on compatibility between the mobile service and other services currently allocated in the frequency band 694-790 MHz;  …  *noting*  …  *f)* that ITU-R studies regarding possible solutions for global/regional harmonization of frequency bands and tuning ranges for electronic news gathering (ENG)1 are needed and Resolution ITU-R 59 provides the framework for such studies,  *resolves*  1that use of the frequency band 694-790 MHz in Region 1 by the mobile, except aeronautical mobile, service is subject to agreement obtained under No. **9.21** with respect to ARNS in countries listed in No. **5.312**, in which regard the criteria for identifying affected administrations under No. **9.21** for the mobile service with respect to the ARNS in the frequency band 694-790 MHz are set out in the Annex to this Resolution;  2that, for Region 1 and the Islamic Republic of Iran:  2.1when coordination between administrations is being effected, the protection ratios applicable to the generic case NB contained in the GE06 Regional Agreement for the protection of the broadcasting service shall be used only for mobile systems with a bandwidth of 25 kHz; if another bandwidth is used, the relevant protection ratios are to be found in the most recent versions of Recommendations ITU-R BT.1368 and ITU‑R BT.2033;  2.2administrations are invited to take into account, *inter alia*, the results of the sharing studies conducted by ITU-R;  3that, with respect to adjacent-channel interference between the mobile service in the frequency band 694‑790 MHz and the broadcasting service in the frequency band 470-694 MHz:  3.1adjacent-channel interference within a given country is a national matter and needs to be dealt with by each administration as a national matter;  3.2adjacent-channel interference should be treated among administrations concerned, using mutually agreed criteria or those contained in relevant ITU-R Recommendations (see also the most recent versions of Recommendations ITU-R BT.1368, ITU-R BT.1895 and ITU-R BT.2033, as well as ITU-R M.2090 when sharing with the broadcasting service is concerned), as appropriate,  *invites the ITU Radiocommunication Sector*  1to consider the information received about the implementation of IMT in the frequency band 694-790 MHz and develop ITU-R Reports, as appropriate;  2to pursue studies on the implementation of applications ancillary to broadcasting and programme-making on the basis of Resolution ITU-R 59,  *invites the Director of the Radiocommunication Bureau*  to work, in cooperation with the Director of the Telecommunication Development Bureau, to bring assistance to developing countries wishing to implement the new mobile allocation in order to help these administrations to determine the modifications of the GE06 entries according to their needs,  *invites administrations*  1to provide information to ITU-R about the implementation of IMT in the frequency band 694-790 MHz, including, for example, implementation of measures for interference mitigation;  2to communicate on a bilateral basis in order to eliminate possible cumulative interference, as appropriate;  3to consider the use of applications ancillary to broadcasting and programme-making in those parts of the frequency band 694-790 MHz that are not used for other applications in the mobile service or other primary services,  *instructs the Director of the Radiocommunication Bureau*  to implement this Resolution and to take appropriate actions. | See  Doc. [5/1](https://www.itu.int/md/R23-SG05-C-0001/en) | 2  AND  3  AND  4 |
| **761 (Rev.WRC-19)** | Coexistence of International Mobile Telecommunications and the broadcasting-satellite service (sound) in the frequency band 1 452‑1 492 MHz in Regions 1 and 3 | *instructs the Director of the Radiocommunication Bureau*  1not to examine the pfd limit set forth in *resolves* 1 under No. **9.35** and issue a qualified favourable finding with respect to No. **9.35**, but to perform the full regulatory examination under No. **11.31**, including the review of any qualified favourable findings;  2in applying *resolves* 5 at the coordination stage, to check conformity with the pfd value contained herein during the examination under No. **9.36**:  –if the value is met on the territory of countries which use frequency assignments with the nature of service “IM”, BR shall not identify such administrations with which coordination may need to be effected;  –if the value is exceeded, BR shall identify such administrations with which coordination may need to be effected and in such cases publish the administrations with an additional remark “IM” under No. **9.11**;  3to assist administrations notifying frequency assignments to the BSS (sound) by informing each administration where coordination is required and to inform them that coordination is requested under No. **9.11** and that No. **9.52C** applies in the application of *resolves* 5;  4to investigate under No. **13.6** the technical characteristics and operational parameters of assignments to the BSS (sound) in the frequency band 1 452-1 492 MHz for which the notification information was submitted before 23 November 2019 and which were brought into use by that date;  5to investigate under No. **13.6** the technical characteristics and operational parameters of assignments to base stations in the frequency band 1 452-1 492 MHz identified for IMT in the country submitting the notice with the nature of service “IM” in Regions 1 and 3 for which the notification information was submitted and which were brought into use before 23 November 2019. | − | 3 |
| **762 (WRC‑15)** | Application of power flux-density criteria to assess the potential for harmful interference under No. 11.32A for fixed-satellite and broadcasting-satellite service networks in the 6 GHz and 10/11/12/14 GHz frequency bands not subject to a Plan | *resolves*  …  4that as of 1 January 2017 the Bureau and administrations shall apply this Resolution,  *instructs the Director of the Radiocommunication Bureau*  to include in his report, for consideration by WRC-19, the results and any potential difficulties relating to the implementation of this Resolution.  *[Editor’s note: this part can be considered as obsolete after WRC-19.]* | − | 3 |
| **768 (WRC-19)** | Need for coordination of Region 2 fixed-satellite service networks in the frequency band 11.7‑12.2 GHz with respect to the Region 1 broadcasting-satellite service assignments located further west than 37.2° W and of Region 1 fixed-satellite service networks in the frequency band 12.5-12.7 GHz with respect to the Region 2 broadcasting-satellite service assignments located further east than 54° W | *resolves*  1that, in the frequency band 11.7-12.2 GHz, with respect to §§ 7.1 *a)*, 7.2.1 *a),* 7.2.1 *b)* and 7.2.1 *c)* of Article 7 of Appendix **30**, in determining the need for coordination of a transmitting space station in the FSS in Region 2 with a transmitting space station in the BSS in Region 1 at an orbital position further west than 37.2° W, and with minimum geocentric orbital separation of less than 4.2 degrees between the FSS and BSS space stations, the conditions in Annex 1 to this Resolution apply instead of those contained in Annex 4 to Appendix **30**;  2that, in the frequency band 12.5-12.7 GHz, with respect to §§ 7.1 *a)*, 7.2.1 *a)* and 7.2.1 *c)* of Article 7 of Appendix **30**, in determining the need for coordination of a transmitting space station in the FSS in Region 1 with a transmitting space station in the BSS in Region 2 at an orbital position further east than 54° W and not within its clusters in the Region 2 Plan of Appendix **30**, and with a minimum geocentric orbital separation less than 4.2 degrees between FSS and BSS space stations, the conditions in Annex 2 to this Resolution apply instead of those contained in Annex 4 to Appendix **30**;  3that, except the cases specified in *resolves* 1 and 2, the conditions in Annex 4 to Appendix **30** continue to apply. | − | 3 |
| **769 (WRC-19)** | Protection of geostationary fixed-satellite service, broadcasting-satellite service and mobile-satellite service networks from the aggregate interference produced by multiple non-geostationary fixed-satellite service systems in the frequency bands 37.5-39.5 GHz, 39.5‑42.5 GHz, 47.2‑50.2 GHz and 50.4‑51.4 GHz | *resolves*  …  *invites administrations*  to submit to BR, as necessary, supplemental GSO links, in a format consistent with the generic links in Annex 1to Resolution **770 (WRC-19)**, and in the frequency bands listed in *considering a)*, that are associated with GSO networks,  *invites the Radiocommunication Bureau*  to participate in the consultation meetings in *resolves* 2 as an observer,  *invites the ITU Radiocommunication Sector*  1to carry out studies and develop, as a matter of urgency, a suitable methodology, considering a range of input values and assumptions, including both best and worst case, for calculating the aggregate interference produced by all non-GSO FSS and as appropriate non-GSO MSS systems operating or planning to operate in the frequency bands referred to above co-frequency with GSO FSS, GSO MSS and GSO BSS networks, which may be used to determine whether the systems are in compliance with the aggregate limits specified in No. **22.5M**;  2to carry out studies and develop, as a matter of urgency a methodology to validate supplemental GSO links;  3to study the selection and use of *C*/*N* objectives, and the necessity of specifying one or more *C*/*N* objective points at associated percentages of time, with regard to the GSO link performance;  4to report back to a future world radiocommunication conference, as appropriate, under Resolution **86 (Rev.WRC-07)**,  *instructs the Radiocommunication Bureau*  1to collect and, once a methodology is available, evaluate for validation purposes and provide for information the supplemental GSO links submitted by administrations for frequency assignments associated with GSO networks;  2to provide the consultation meeting, for use in the aggregate calculations, with the validated supplemental GSO links associated with networks brought into use;  3to make available on the ITU website within one month from the closing date of any consultation meeting all information, such as that in Annex 2, referred to in *resolves* 11;  4to exclude the aggregate calculations given in No. **22.5M** as part of a satellite network examination under No. **11.31**. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  5 |
| **770 (Rev.WRC-23)** | Application of Article 22 of the Radio Regulations to the protection of geostationary fixed-satellite service and broadcasting-satellite service networks from non-geostationary fixed-satellite service systems in the frequency bands 37.5‑39.5 GHz, 39.5‑42.5 GHz, 47.2‑50.2 GHz and 50.4‑51.4 GHz | resolves  1that, during the examination under Nos. **9.35** and **11.31**, as applicable, of a non-GSO FSS satellite system with frequency assignments 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), compliance with No. **22.5L** shall be verified using the technical characteristics of generic GSO reference links contained in Annex 1 to this Resolutionand Recommendation ITU‑R S.2157‑0;  2 that frequency assignments to non-GSO FSS systems referred to in *resolves*1 shall receive a favourable finding with respect to the single-entry provision given in No. **22.5L** if compliance with No. **22.5L** is established under *resolves* 1, otherwise the assignments shall receive an unfavourable finding;  3 that, if the Radiocommunication Bureau (BR) is unable to examine non-GSO FSS systems subject to the single-entry provision given in No. **22.5L** due to a lack of available software, the notifying administration shall provide all necessary information sufficient to demonstrate compliance with No. **22.5L** and send BR a commitment that the non-GSO FSS system complies with the limits given in No. **22.5L**;  4 that frequency assignments to non-GSO FSS systems that cannot be assessed under *resolves* 1 shall receive a qualified favourable finding under Nos. **9.35** and **11.31** with respect to No. **22.5L** if *resolves* 3 is satisfied, otherwise the assignments shall receive an unfavourable finding;  5 that, if an administration believes that a non-GSO FSS system for which the commitment referred to in *resolves* 3 was sent has the potential to exceed the limits given in No. **22.5L**, it may request additional information from the notifying administration with regard to compliance with these limits and No. **22.2**, and both administrations shall cooperate to resolve any difficulties, with the assistance of BR, if so requested by either of the parties;  6 that *resolves* 3, 4 and 5 shall no longer be applied after BR has communicated to all administrations via a circular letter that validation software is available and BR is able to verify compliance with the limits in No. **22.5L**,  invites the ITU Radiocommunication Sector  1 to study and, as appropriate, develop a functional description that could be used to develop software for the procedures outlined in *resolves*1 above;  2 to review and, as appropriate, provide updates to the generic GSO reference links in Annex 1 to this Resolution under Resolution **86 (Rev.WRC-07)**,  instructs the Director of the Radiocommunication Bureau  1 to take all necessary measures to facilitate the implementation of this Resolution, in particular to accelerate the development of the validation software;  2 to send, once the validation software as described in *resolves*3 above is available, a letter to administrations having submitted coordination requests and/or notification information for frequency assignments to non-GSO FSS satellite systems for which a qualified favourable finding has been issued under *resolves*4, to offer the possibility to modify, within 90 days following publication of the circular letter referred to in *resolves*6, their associated Appendix **4** parameters, limited to items listed under A.4.b.6*bis*, A.4.b.6.a, A.4.b.7 and A.14, and to retain the protection date of the initial frequency assignments, provided that the modified frequency assignments receive a favourable finding under No. **9.35** or No. **11.31**, as applicable, with respect to No. **22.5L**;  3 to review, once the validation software referred to in *resolves*3 is available, BR’s findings made in accordance with Nos. **9.35** and **11.31** under *resolves* 4. | See Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3 |
| **771 (WRC-19)** | Use of the frequency bands 37.5‑42.5 GHz (space-to-Earth) and 47.2-48.9 GHz, 48.9-50.2 GHz and 50.4‑51.4 GHz (Earth-to-space) by non-geostationary-satellite systems in the fixed-satellite service and 39.5-40.5 GHz (space-to-Earth) by non-geostationary-satellite systems in the mobile-satellite service | *resolves*  1that frequency assignments to non-GSO networks or systems for which the complete notification information has been received by the Radiocommunication Bureau before 23 November 2019 shall be brought into use before 23 November 2022 or the end of the regulatory period set forth in No. **11.44**, whichever date comes earlier;  2that frequency assignments to which resolves 1 applies and that are not brought into use before 23 November 2022 or the end of the regulatory period set forth in No. **11.44**, whichever date comes earlier, shall be suppressed,  *instructs the Radiocommunication Bureau*  to take the necessary actions to implement this Resolution. | − | 3 |
| **775 (Rev.WRC-23)** | Power flux‑density and equivalent isotropically radiated power limits for inclusion in Article 21 for the fixed-satellite, mobile-satellite and broadcasting-satellite services to protect the fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*  the appropriate studies to determine power flux-density (pfd) and equivalent isotropically radiated power (e.i.r.p.) limits to be included in Article **21** for satellite services (fixed-satellite service (FSS), mobile-satellite service (MSS) and broadcasting-satellite service (BSS)) to protect the current and planned fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz,  *invites administrations*  to participate actively in the studies by submitting contributions to ITU‑R,  *invites the 2027 world radiocommunication conference*  to consider, based on the results of studies, the inclusion of pfd and e.i.r.p. limits in Article **21** for the FSS, MSS and BSS to protect the current and planned fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |
| **804 (Rev.WRC-23)** | Principles for establishing agendas for world radiocommunication conferences | *resolves*  1 that recommended agendas for future WRCs shall include a standing agenda item for the establishment of preliminary agendas for subsequent WRCs;  2 that the course of action outlined in this Resolution needs to be taken into account in the preparation of and decision on the agenda of future WRCs;  3 that the principles in Annex 1 to this Resolution need to be taken into account when developing agendas for future WRCs;  4 that the guidance given in Annex 2 to this Resolution needs to be used in developing agenda items for future WRCs and their supporting resolutions;  5 to encourage administrations and regional telecommunication organizations to submit, to the extent practicable, information on possible items/topics for the agenda of future WRCs under the WRC standing agenda item mentioned in *resolves* 1to the second session of CPM,  *invites administrations*  1 to use the guidance in Annex 2 to this Resolution in developing agenda items for future WRCs and their supporting resolutions;  2 to use the template in Annex 3 to this Resolution in proposing agenda items for future WRCs,  *further invites administrations*  to participate in regional activities for the preparation of agendas for future WRCs,  *invites the Radiocommunication Bureau*  to review and provide feedback, to the extent possible, when consulted by administrations on the development of items for the agendas of future WRCs, seeking consistency with relevant provisions of the Radio Regulations and practices of the Bureau. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4 |
| **813 (WRC-23)** | Agenda for the 2027 world radiocommunication conference | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4  AND  5 |
| **814 (WRC-23)** | Preliminary agenda for the 2031 world radiocommunication conference | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1  AND  4  AND  5 |
| **901 (Rev.WRC-15)** | Determination of the orbital arc separation for which coordination would be required between two satellite networks operating in a space service not subject to a Plan | *resolves*  to recommend that a future competent conference review the results of ITU‑R studies on the application of the coordination arc value(s) to other frequency bands and other services, as applicable, and consider their inclusion in Appendix **5**,  *invites ITU-R*  1 to conduct studies on the applicability of the coordination arc concept for space radiocommunication services not yet covered by these Regulations;  2 to recommend, as appropriate, the orbital separation required for triggering inter-service and intra-service coordination concerning the satellite services in frequency bands above 3.4 GHz for geostationary-satellite (GSO) networks not subject to a Plan and not already covered by the coordination arc concept specified in No. **9.7** (GSO/GSO) of Table 5‑1 (Appendix **5**), under items 1) to 8) of the frequency band column, and subject to Section II of Article **9**,  *instructs the Director of the Radiocommunication Bureau*  to report the results of these studies to the RRB once Recommendations are approved, and to the next competent conference. | See  Doc. [4/1](https://www.itu.int/md/R23-SG04-C-0001/en) | 2  AND  3  AND  5 |
| **902 (Rev.WRC-23)** | Provisions relating to earth stations located on board vessels which operate in fixed-satellite service networks in the uplink bands 5 925-6 425 MHz and 14‑14.5 GHz | *resolves*  that ESVs transmitting in the 5 925-6 425 MHz and 14-14.5 GHz bands shall operate under the regulatory and operational provisions contained in Annex 1 and the technical limitations in Annex 2 of this Resolution,  *encourages concerned administrations*  to cooperate with administrations which license ESVs while seeking agreement under the abovementioned provisions, taking into consideration the provisions of Recommendation **37 (WRC-03)**,  *instructs the Secretary-General*  to bring this Resolution to the attention of the Secretary-General of the International Maritime Organization (IMO). | − | 3  AND  4 |
| **903 (Rev.WRC-19)** | Transitional measures for certain broadcasting-satellite/fixed-satellite service systems in the frequency band 2 500‑2 690 MHz | *resolves*  1that, in the frequency band 2 500-2 690 MHz, space stations of satellite networks listed in the Annex to this Resolution shall not exceed the following pfd values:  −152 dB(W/m2) for δ < 5°  −152 + 0.75 (δ − 5) dB(W/m2) for 5° ≤ δ ≤ 25°  −137 dB(W/m2) for δ > 25°  in any 4 kHz band, where δ is the angle of arrival above the horizontal plane; the limits in Table **21-4** do not apply;  2that, for systems other than those addressed in *resolves* 1, No. **5.418** and Resolution **539 (Rev.WRC-19)**, the Radiocommunication Bureau (BR) shall examine any coordination and notification information with respect to the provisions Nos. **9.35** and **11.31** (respectively) for frequency assignments in the FSS or BSS received by BR after 14 November 2007 using the pfd limits for the frequency band 2 500-2 690 MHz in Table **21-4** of Article **21**,  *instructs the Radiocommunication Bureau*  to implement *resolves* 1 and *resolves* 2. | − | 3 |
| **906 (Rev.WRC‑15)** | Electronic submission of notices for terrestrial services to the Radiocommunication Bureau and exchange of data between administrations | *resolves*  1 that administrations are encouraged to accelerate migration to the use of an electronic format and electronic facilities for the submission of notices to the Bureau and for the exchange of coordination data between administrations;  2 that the format established by ITU‑R for electronic notices be considered by administrations for the exchange of information,  *instructs the Director of the Radiocommunication Bureau*  1 to refine, as required, the specification of the electronic format and related software to be used for the submission of notices for terrestrial services;  2 to provide assistance, as required, to any administration in the use of the electronic format for the submission of notices for terrestrial services;  3 to support developing and least-developed countries while deploying electronic facilities for the submission of electronic notices to the Bureau and for the exchange of coordination data between administrations;  4 to include in radiocommunication seminars and regional workshops appropriate training in the use of the electronic format and related software for the submission of notices for terrestrial services. | − | 3 |
| **910 (WRC‑23)** | [Studies on the possible [frequency bands] for [non-beam and beam] wireless power transmission (WPT) to avoid harmful interference to the radiocommunication services caused by WPT] | *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference*  1 technical, operational and impact studies, taking into account the results of already available studies, to consider suitable frequency ranges for harmonized WPT operations;  2 consideration of spectrum matters necessary to ensure the protection of radiocommunication services and the radio astronomy service to which the frequency bands are allocated on a primary and secondary basis, as well as services in the adjacent bands, and those affected by the harmonics,  *invites Member States, Sector Members, Academia, and Associates*  to participate in the studies by submitting contributions to ITU‑R,  *invites the 2031 world radiocommunication conference*  to consider, based on the results of ITU-R studies, the possible frequency bands for WPT on the basis of avoiding harmful interference to the radiocommunication services caused by WPT. | See [CA/270](https://www.itu.int/md/R00-CA-CIR-0270/en) | 1 |

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1. 1 See also Annex 1 to this Resolution. [↑](#footnote-ref-1)