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| **World Radiocommunication Conference (WRC‑15) Geneva, 2–27 November 2015** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| PLENARY MEETING | **Addendum 24 to Document 62-E** |
|  | **16 October 2015** |
|  | **Original: Chinese** |
|  | |
| China (People’s Republic of) | |
| Proposals for the work of the conference | |
|  | |
| Agenda item 10 | |

10to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention,

Introduction

Agenda item 10 requests WRC‑15 to recommend to the Council items for inclusion in the agenda for WRC‑19, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences.

Proposals

China proposes to add three items under agenda item 1 of WRC‑19, and proposes the suppression of Resolution 808 (WRC‑12).

Details are set out in the following pages and relevant annexes.

ADD CHN/62A24/1

Draft New Resolution [CHN-A10-WRC‑19\_AGENDA] (WRC‑15)

Agenda for the 2019 World Radiocommunication Conference

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that, in accordance with No. 118 of the ITU Convention, the general scope of the agenda for a world radiocommunication conference should be established four to six years in advance and that a final agenda shall be established by the Council two years before the conference;

*b)* Article 13 of the ITU Constitution relating to the competence and scheduling of world radiocommunication conferences and Article 7 of the Convention relating to their agendas;

*c)* the relevant resolutions and recommendations of previous world administrative radio conferences (WARCs) and world radiocommunication conferences (WRCs),

recognizing

*a)* that WRC‑15 has identified a number of urgent issues requiring further examination by WRC‑19;

*b)* that, in preparing this agenda, some items proposed by administrations could not be included and have had to be deferred to future conference agendas,

resolves

to recommend to the Council that a world radiocommunication conference be held in 2019 for a maximum period of four weeks, with the following agenda:

1 on the basis of proposals from administrations, taking account of the results of WRC‑15 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the bands under consideration, to consider and take appropriate action in respect of the following items:

1.1 to consider spectrum related matters and possible regulatory actions to support the next generation radiocommunication systems between train and trackside, in accordance with Resolution **[CHN-B10-NEW A.I.\_RAILWAY] (WRC‑15)**;

1.2 to consider possible frequency requirements and regulatory procedures for protecting the automatic identification system (AIS) and supporting novel devices using AIS technology, in accordance with Resolution **[CHN-C10-NEW A.I.\_NOVEL AIS] (WRC‑15)**;

1.3 to consider identification of frequency bands for IMT in portion(s) of the frequency range between 22 and 86 GHz including possible additional allocations to the mobile service on a primary basis in accordance with Resolution **[CHN-D10-NEW A.I.\_IMT\_ABOVE\_6GHZ] (WRC‑15)**;

*[Editor’s note: The above three agenda items and their order will be determined by WRC‑15, and relevant draft new Resolutions are provided in the annexes to this document, taking into account that administrations or a group/groups of administrations may propose other agenda items.]*

2 to examine the revised ITU‑R Recommendations incorporated by reference in the Radio Regulations communicated by the Radiocommunication Assembly, in accordance with Resolution **28 (Rev.WRC‑03)**, and to decide whether or not to update the corresponding references in the Radio Regulations, in accordance with the principles contained in Annex 1 to Resolution **27 (Rev.WRC‑12)**;

3 to consider such consequential changes and amendments to the Radio Regulations as may be necessitated by the decisions of the conference;

4 in accordance with Resolution **95 (Rev.WRC‑07)**, to review the resolutions and recommendations of previous conferences with a view to their possible revision, replacement or abrogation;

5 to review, and take appropriate action on, the Report from the Radiocommunication Assembly submitted in accordance with Nos. 135 and 136 of the Convention;

6 to identify those items requiring urgent action by the Radiocommunication Study Groups in preparation for the next world radiocommunication conference;

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

8 to consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution **26 (Rev.WRC‑07)**;

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

9.1 on the activities of the Radiocommunication Sector since WRC‑15;

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

9.3 on action in response to Resolution **80 (Rev.WRC‑07)**;

10 to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention,

resolves further

to activate the Conference Preparatory Meeting,

invites the Council

to finalize the agenda and arrange for the convening of WRC‑19, and to initiate as soon as possible the necessary consultations with Member States,

instructs the Director of the Radiocommunication Bureau

to make the necessary arrangements to convene meetings of the Conference Preparatory Meeting and to prepare a report to WRC‑19,

instructs the Secretary-General

to communicate this Resolution to international and regional organizations concerned.

SUP CHN/62A24/2

RESOLUTION 808 (WRC‑12)

Preliminary agenda for the 2018 World Radiocommunication Conference

**Reasons:** This Resolution is no longer required after WRC‑15.

Annex 1

ADD CHN/62A24/3

draft NEW RESOLUTION [CHN-B10-NEW A.I.\_RAILWAY] (WRC‑15)

Consideration of spectrum-related matters and possible regulatory   
actions to support the next-generation radiocommunication   
system between train and trackside

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that radiocommunication systems between train and trackside constitute core infrastructure providing safety-related and operational functions for train control and operations, including passenger services;

*b)* that the existing GSM-R system, which is a narrowband radiocommunication system between train and trackside, is unable to meet future demands for broadband and high-data-rate multimedia applications for train safety data transmission and dispatching commands;

*c)* that some international (such as [UIC](http://www.uic.org/)) or regional (such as [ERA](http://www.era.eu/)) organizations have begun to study new technologies for the next-generation radiocommunication system between train and trackside;

*d)* that ITU‑R is conducting studies on train-to-ground communications in high-speed environments;

*e)* that although radiocommunication systems between train and trackside are important to ensuring the safety of railway transportation, passengers and their property, there is no specific radio-spectrum management framework in ITU‑R for such systems;

*f)* that establishing a radio-spectrum management framework for the next-generation radiocommunication system between train and trackside would reduce the difficulty of radio-frequency coordination in border areas, promote the development of industrial railway chains and reduce the cost of cross-border railway transportation,

recognizing

*a)* that the deployment of the next-generation radiocommunication system between train and trackside for purposes of train control and operations involves huge infrastructure investment;

*b)* that the next-generation radiocommunication system between train and trackside could integrate train control and operations through efficient deployment and frequency use;

*c)* that the frequency band below 1 GHz has good radio-propagation characteristics, that higher frequency bands such as millimetre wave can be used for broadband transmissions, and that these bands might be suitable for next-generation radiocommunication between train and trackside;

*d)* that some administrations currently use the frequency bands 140-150 MHz, 300-470 MHz and 700-900 MHz for train control and operations, including passenger services;

*e)* that timely compatibility studies for the next-generation radiocommunication system between train and trackside are important and necessary,

resolves to invite WRC‑19

to consider, based on the results of ITU‑R studies, possible regulatory actions to support the next-generation radiocommunication system between train and trackside, taking account of protection requirements for systems operating in accordance with existing allocations,

resolves to invite ITU‑R

to study the working scenarios and spectrum requirements for the next-generation radiocommunication system between train and trackside, taking into account the activities of other international and/or regional organizations,

invites Member States, Sector Members, Academia, and Associates

to participate actively in the study by submitting contributions to ITU‑R.

**Reasons:** A draft new Resolution is proposed to support the WRC‑19 agenda item for the next-generation radiocommunication system between train and trackside.

APPENDIX TO ANNEX 1

***Subject:*** Proposal for a new agenda item for WRC‑19

***Source:*** People’s Republic of China

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| ***Proposal:*** To propose a new agenda item for WRC‑19, i.e. to consider spectrum-related matters and possible regulatory actions, to support the next-generation radiocommunication system between train and trackside. | | |
| ***Background/reason:***  1 Train control and operations are the mainstay of railway transportation and safety. Radiocommunication systems between train and trackside constitute core infrastructures for train control and operations, including passenger services. Existing systems, for example the GSM‑R (GSM for Railway), mainly provide voice and low-speed data applications.  2 In order to meet future demands with respect to train control and operations, including passenger services, some international or regional organizations have begun to study new technologies for the next-generation radiocommunication system between train and trackside. For instance, ITU‑R WP 5A is conducting related studies on train-to-ground communications in high-mobility environments, including radio-propagation characteristics and other key issues. During the 11th ERTMS (European Railway Traffic Management System) World [Conference](http://ertms-conference2014.com/assets/SESSION-PRESENTATIONS/S7/Evolution-of-the-railways-communication-system-UIC-conf-April-2014PP-CS.pdf) in 2014, the International Union of Railways (UIC) released a roadmap for the next-generation radiocommunication system, which aims to offer safety-related and operational functions for train control. The European Railway Agency (ERA) has completed its assessment of the working plan for the next-generation radiocommunication system.  3 Radiocommunication systems between train and trackside are important to ensuring the safety of railway transportation, passengers and their property. However, there is no specific spectrum management framework for these systems in ITU‑R. If the framework could be established globally or regionally, it would help to reduce the difficulty of radio-frequency coordination in border areas, promote the development of industrial railway chains and reduce the cost of cross-border railway transportation.  4. In view of this, taking also into account the development and frequency requirements of radiocommunication systems between train and trackside, China is of the view that a new agenda item for WRC‑19 should be established to consider spectrum requirements and possible regulatory actions, with a view to supporting the next-generation radiocommunication system between train and trackside. | | |
| ***Radiocommunication services concerned:*** Mobile service | | |
| ***Indication of possible difficulties:*** Studies on sharing between the next-generation radiocommunication system between train and trackside used for train control and operation including passenger services and existing mobile communication systems may be required. | | |
| ***Previous / ongoing studies on this issue:***  ITU‑R WP 5A Report ITU‑R M.[RAIL.LINK] | | |
| ***Studies to be carried out by:***  ITU‑R SG 5 | ***with the participation of:***  Member States, Sector Members, Academia, and Associates | |
| ITU‑R study groups concerned: | | |
| ***ITU resource implications, including financial implications (refer to CV 126):***  ITU‑R SG 5 usually has meetings once a year. | | |
| ***Common regional proposal:*** Yes | | ***Multicountry Proposal:*** No  ***Number of countries:*** |
| ***Remarks*** | | |

Annex 2

ADD CHN/62A24/4

Draft New Resolution [CHN-C10-NEW A.I.\_NOVEL AIS] (WRC‑15)

Consideration of possible frequency requirements and regulatory procedures for protecting the automatic identification system and supporting novel   
devices using automatic identification system technology

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that the automatic identification system (AIS) is a proven technology for maritime safety applications, providing identification functions, safety of navigation functions, aids to navigation, locating signals and data communications;

*b)* that there is a need to recognize and identify objects in the maritime environment for safety of navigation, such as fishing nets, towed unpowered ships and barges, derelict ships, floating ice, wave-gliders and drifting buoys;

*c)* that devices using AIS-like technologies which are already on the market have been developed for safety purposes, and their number is expected to increase in the future;

*d)* that these devices need unique identifiers which are different from those used by personal or ship-borne equipment;

*3)* that these novel devices are for transmission only, and not for alerting purposes,

recognizing

*a)* that ships complying with the International Convention for the Safety of Life at Sea (SOLAS), 1974 (as amended) and other ships equipped with automated radiocommunication systems, including AIS, digital selective calling (DSC) and/or other alerting devices of the Global Maritime Distress and Safety System (GMDSS) should be assigned maritime mobile service (MMS) identities (MMSIs) in accordance with Annex 1 to Recommendation ITU‑R M.585;

*b)* that the purpose and integrity of AIS as stated in the requirements of SOLAS Chapter V should be protected;

*c)* that maritime identities used for some other maritime devices for special purposes should be assigned as specified in Annex 2 to Recommendation ITU‑R M.585;

*d)* that a possible new type of richer identification is needed for potentially huge quantities of novel devices of these types,

further recognizing

*a)* that the majority of novel devices using AIS technology are operating in frequency bands of AIS 1 and AIS 2, and are to some extent occupying the MMSI resources for ship stations or aids to navigation;

*b)* that because of the lack of proven standards for these novel devices, evaluation of their impact on the functioning of AIS used for the safety of navigation (especially for search and rescue activities equipped with AIS-search and rescue transmitters (AIS-SARTs)) is required;

*c)* that the possible additional channel(s) might be considered within existing MMS frequency bands;

*d)* that the increasing use of these novel devices calls for related regulatory studies,

noting

*a)* that WRC‑12 designated channels in Appendix **18** of the Radio Regulations for experiments and testing for the future new AIS applications or systems;

*b)* that ITU‑R Working Party 5B is studying a future new maritime identification scheme,

resolves to invite WRC‑19

to consider, based on the results of ITU‑R studies, the need and possible regulatory procedures, including spectrum requirements and identifications, for novel devices using AIS technology, within the bands allocated to the MMS,

invites ITU‑R

to conduct the necessary studies for WRC‑19 to determine the regulatory requirements, and possible frequency bands, for novel devices using AIS technology, provided that there is no harmful impact on the integrity of AIS and GMDSS functions,

invites ITU‑R members

to contribute to these studies,

instructs the Secretary-General

to bring this Resolution to the attention of the International Maritime Organization (IMO), International Civil Aviation Organization (ICAO), International Electrotechnical Commission (IEC), International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA), and International Maritime Radio Association (CIRM), as well as of other international and regional organizations concerned.

**Reasons:** A draft new Resolution that supports the proposed WRC‑19 agenda item for AIS.

APPENDIX TO ANNEX 2

***Subject:*** Proposal for a new agenda item for WRC‑19

***Source:*** People’s Republic of China

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| --- | --- |
| ***Proposal:*** To consider possible frequency requirements and regulatory procedures for protecting the general automatic identification system (AIS) and supporting novel devices using AIS technology, in accordance withResolution **[CHN-C10-NEW A.I.\_NOVEL AIS] (WRC‑15)** | |
| ***Background/reason:***  1 The automatic identification system (AIS) is a proven technology for global maritime safety applications, providing identification, safety of navigation, aids to navigation, locating signals and data communication functions. The frequency bands corresponding to AIS 1 and AIS 2 used as locating signals by AIS-SARTs are listed in Appendix **15** of the Radio Regulations. These frequencies are distress and safety frequencies for radiocommunications for the Global Maritime Distress and Safety System (GMDSS). Protection for the AIS VHF Data Link (VDL) is indispensable.  2 The need to recognize and identify free-floating objects such as fishing nets, towed unpowered ships and barges, derelict ships, floating ice, wave-gliders and drifting buoys, for safety of navigation or other purposes, is resulting in a growing number of novel devices using AIS technology on the market, and their number is expected to increase in the future.  3 A contribution to the 14thsession of ITU‑R Working Party 5B (WP 5B) expressed concerns regarding the allotment and management of identities for these novel devices. During the discussions, some administrations questioned *the appropriateness of using channels AIS 1 and AIS 2 of Appendix* ***18*** *of the Radio Regulations for various novel devices freely floating in the water, but not associated with a person or ship.*  4 A rough survey shows there to be very similar trends with respect to these applications in China. And it is noted that the novel devices might have an adverse impact on safety applications of AIS in the following ways:  1) these novel devices are using frequency bands AIS 1 and AIS 2, occupying and threatening the resources of AIS VDL;  2) identities might be assigned randomly to these novel devices without any harmonized regulation in some situations, causing MMSIs for ship stations or aids to navigation to be occupied;  3) there is no proven standard for these novel devices to enable regulation of their key technical specifications such as transmitter power, data structure, package length and reporting interval, which can serve to show whether their impacts on AIS used for safety of navigation, especially on search and rescue using AIS-search and rescue transmitters (AIS-SARTs), are satisfactory;  4) the lack of harmonized operational and regulatory requirements for these novel devices might cause confusion when reading information from electronic nautical charts (ENCs), leading to the misunderstanding or misidentification of objects and hence to a potential adverse impact on the safety of navigation.  5 For the purposes of protecting the VDL and conserving maritime identity resources and protecting AIS used for safety purposes, while at the same time supporting the increasing applications of maritime novel devices, it is proposed that ITU‑R conduct, in time for WRC‑19, the necessary studies to determine the regulatory requirements and potential frequency bands for novel devices using AIS technology, on condition that there be no harmful impact on the integrity of AIS and GMDSS functions.  6 It is obvious that the VHF maritime mobile band should be within the candidate frequency bands associated with the study. There are some previous and ongoing studies by ITU‑R on technical requirements and identifications, including recommendations and reports, such as:  – Recommendation ITU‑R M.1371-5, “Technical characteristics for an automatic identification system using time division multiple access in the VHF maritime mobile frequency band”, 2014;  – Recommendation ITU‑R M.585-7, “Assignment and use of identities in the maritime mobile service”, 2015;  – Report ITU‑R M.2285-0, “Maritime survivor locating systems and devices (man overboard systems) - An overview of systems and their mode of operation”, 2013;  – Report ITU‑R M.2231-1, “Use of Appendix 18 to the Radio Regulations for the maritime mobile service”, 2014;  – Working document towards a draft new Report on MMSI formats ITU‑R M.[FUTURE MMSI], 2011.  7 In the study on WRC‑15 agenda item 1.16, it is agreed that for new applications using AIS technology, transferring those data transmission functions that are not associated with the core elements of safety of navigation for ships to other frequency bands than AIS 1 and AIS 2 may be beneficial in terms of protecting the integrity of GMDSS, AIS VDL and other emergency purposes.  8 The maritime community has foreseen the need for future new applications or devices. Besides the wide-band candidate frequency bands for VHF Data Exchange, WRC‑12 designated a new channel 2006 in RR Appendix **18**, and indicated that *in the maritime mobile service, this frequency is reserved for experimental use for future applications or systems (e.g. new AIS applications, man over board systems, etc.)*.  9 On the other hand, most of the maritime automated radiocommunication systems, including AIS, DSC and/or alerting devices of the GMDSS are now assigned MMSIs according to the most recent version of Recommendation ITU‑R M.585. The expected surge in new maritime applications and novel devices drives an urgent need for studies as to whether the existing MMSI scheme is appropriate and capable of accommodating the potential huge number of future applications and devices. A task relating to a new MMSI scheme is ongoing within ITU‑R WP 5B.  10 In conclusion, it is necessary and urgent to study the possible regulatory requirements, including the potential frequency bands and identification schemes, for novel devices globally harmonized for the purpose of protecting the AIS and promoting the safety of navigation.  11 Through those studies, the existing and future applications and devices using AIS technology can be categorized. Reports and/or recommendations can be developed or revised, some of which can be incorporated by reference in the Radio Regulations as Recommendation ITU‑R M.585. Certain provisions and/or Appendix **18** might need revisions to ensure the protection of AIS and the promotion of safety of navigation. | |
| ***Radiocommunication services concerned:*** Maritime mobile service, mobile service | |
| ***Indication of possible difficulties:***  To harmonize the candidate frequency bands for the novel devices, and development of a new MMSI system | |
| ***Previous/ongoing studies on the issue:***  Recommendation ITU‑R M.1371-5, Recommendation ITU‑R M.585-7;  Report ITU‑R M.2285‑0, Report ITU‑R M.2231-1, Working document towards a draft new Report on MMSI formats ITU‑R M.[FUTURE MMSI] | |
| ***Studies to be carried out by:***  ITU‑R SG 5 WP 5B | ***with the participation of:***  Member States, Sector Members, Academia, and Associates. |
| ***ITU‑R study groups concerned:*** SG 5 | |
| ***ITU resource implications, including financial implications (refer to CV 126):***  ITU‑R SG 5 WP 5B usually has biannual meetings, each lasting two weeks. | |
| ***Common regional proposal:***  Yes | ***Multicountry proposal:*** No  ***Number of countries:*** |
| ***Remarks*** | |

Annex 3

ADD CHN/62A24/5

Draft New Resolution [CHN-D10-NEW A.I.\_IMT\_ABOVE\_6GHZ] (WRC‑15)

Studies on frequency-related matters for IMT identification including possible additional allocations to the mobile service on a primary basis in a portion or portions of the frequency range between 22 and 86 GHz for the future development of IMT for 2020 and beyond

The World Radiocommunication Conference (Geneva, 2015),

considering

*a)* that International Mobile Telecommunications (IMT) systems have contributed to global economic and social development as the main method of providing mobile broadband applications;

*b)* that IMT systems are now evolving to provide diverse usage scenarios and applications such as enhanced mobile broadband, massive machine type communications and ultra-reliable and low latency communications;

*c)* that ITU‑R addressed the framework and overall objectives of the future development of IMT for 2020 and beyond in Recommendation ITU‑R M.2083, enabling a gigabit-per-second user data rate and high quality of user experience (QoE) provided by a wide contiguous bandwidth in higher frequency bands above 6 GHz;

*d)* that the technical feasibility of IMT in bands above 6 GHz is addressed in Report ITU‑R M.2376;

*e)* that it may be required to study additional spectrum requirements to meet the gigabit-per-second user data rate, high quality of user experience (QoE) and user demands in dense urban areas and/or in peak times;

*f)* that ITU‑R developed a work plan, timeline and process and required deliverables for the IMT-2020 development in order to transform the above framework and overall objectives into the reality of IMT systems, which are expected to be deployed from the year 2020 onwards;

*g)* that ITU‑R has commenced studies on the propagation characteristics in higher frequency bands above 6 GHz;

*h)* that ITU‑T has initiated the study of network standardization for IMT for 2020 and beyond;

*i)* that adequate and timely availability of spectrum and supporting regulatory provisions is essential to realizing the objectives in Recommendation ITU‑R M.2083;

*j)* that harmonized worldwide bands and harmonized frequency arrangements for IMT are highly desirable in order to achieve global roaming and the benefits of economies of scale;

*k)* the requirement to protect existing services when considering frequency bands for possible additional allocations to any service,

noting

*a)* that Question ITU‑R 229/5 seeks to address the further development of IMT;

*b)* that IMT encompasses IMT-2000, IMT-Advanced and IMT-2020 collectively, as described in Resolution ITU‑R 56-2;

*c)* that Resolution ITU‑R [IMT.PRINCIPLES] addresses the principles for the process of development of IMT for 2020 and beyond,

recognizing

*a)* that timely availability of spectrum is important to support the future development of IMT;

*b)* that it is more promising to secure contiguous wide bandwidth in the higher frequency ranges;

*c)* the use of relevant parts of the spectrum by other radiocommunication services, many of which involve significant investment in infrastructure or represent significant societal benefit, and the evolving needs of those services;

*d)* that no additional regulatory or technical constraints should be imposed on services to which the band is currently allocated on a primary basis;

*e)* that the preamble to the Radio Regulations provides objectives which read:

*– to facilitate the efficient and effective operation of all radiocommunication services; and*

*– to provide for and, where necessary, regulate new applications of radiocommunication technology,*

resolves to invite ITU‑R

1 to study spectrum demands associated with the capabilities required for development of IMT-2020, taking into account:

– evolving needs, e.g. very high data rates, to satisfy the user demand for IMT;

– situations with high data traffic demands, e.g. in dense urban areas and/or in peak times;

– the technical and operational characteristics of IMT systems in the high frequency range, including the evolution of IMT through advances in technology and spectrally-efficient techniques and their deployment;

– the time-frame in which spectrum would be needed;

2 to study the frequency bands 22-22.55 GHz, 39-40 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz for IMT, taking into account the results of the studies under *resolves to invite ITU‑R* 1, and, to the extent practicable, the need for harmonization,

further resolves

1 to accelerate development and completion of the technical and operational characteristics required to carry out sharing and compatibility studies involving the systems referred to as IMT-2020;

2 that the studies referred to in *resolves to invite ITU‑R* 2 include sharing and compatibility studies with services already having allocations on a primary basis in the bands listed above and their adjacent bands, as appropriate, taking into account potential mitigation techniques that may need to be employed by IMT systems;

3 to invite WRC‑19 to consider the results of the above studies and take appropriate actions,

encourages Member States, Sector Members, Academia, and Associates

to participate in the studies by submitting contributions to ITU‑R.

**Reasons:** A draft new Resolution that supports the proposed WRC‑19 agenda item for the future development of IMT for 2020 and beyond.

APPENDIX TO ANNEX **3**

***Subject:*** Proposal for a new agenda item for WRC -19

***Source:*** People’s Republic of China

|  |  |
| --- | --- |
| ***Proposal:***  To consider identification of frequency bands for IMT in a portion or portions of the frequency range between 22 and 86 GHz, including possible additional allocations to the mobile service on a primary basis in accordance with Resolution [CHN-D10-NEW A.I.\_IMT\_ABOVE\_6GHZ] (WRC‑15); | |
| ***Background/reason:***  Today’s world is powered by information: the opportunities created by the development of information and communication technology (ICT) have become one of the main contributing factors driving the evolution of society in recent decades.  In 2020 and beyond, wireless communication applications will expand and penetrate into new market segments such as smart grid, e-health, intelligent transport systems (ITS), traffic control and safety. These new market segments and the need for further enhanced mobile broadband applications are expected to bring higher requirements (e.g., very high data rates, large numbers of connections, ultra-low latency and high reliability) compared to those addressed in today’s IMT application areas.  In order to address these higher requirements, future IMT technologies should have the capability to be operated in wider bandwidths while providing higher spectral/areal efficiency. Considering hardware implementation complexity in modern smart mobile devices and to maximize data delivery efficiency, it would be desirable to use contiguous wide bandwidth, to address these requirements. In principle, it is more promising to secure contiguous wide bandwidth in high frequency ranges than in low frequency ranges. In future IMT, bandwidths to support different usage scenarios, such as enhanced mobile broadband, ultra-reliable and low-latency communications and massive machine type communications, would vary. For those scenarios requiring several hundred megahertz up to at least 1 gigahertz, there would be a need to consider wideband contiguous spectrum above 6 GHz.  With these motivations, ITU‑R Working Party 5D has finalized a draft new ITU‑R Recommendation on “IMT Vision – Framework and overall objectives of the future development of IMT for 2020 and beyond” and a draft new ITU‑R Report on “Technical feasibility of IMT in bands above 6 GHz”. In addition, research is taking place at the global/regional/national levels for future mobile communications, emphasizing the possible use of higher frequency bands. It is expected that the bands above 6 GHz can be utilized for future IMT technologies.  Considering the above background, it is believed that higher frequency bands will be critical and important for future IMT development with very high capacity, and it is therefore proposed to consider identification of IMT in the higher frequency bands above 6 GHz, including possible additional allocations to the mobile service on a primary basis, taking into account the results of sharing and compatibility studies already performed in ITU‑R. | |
| ***Radiocommunication services concerned:***  Mobile service and other services already allocated in the frequency bands to be studied. | |
| ***Indication of possible difficulties:***  Establishing sharing conditions between IMT and other existing applications of incumbent services. | |
| ***Previous/ongoing studies on the issue:***  Some studies have already been finalized and are now ongoing in ITU‑R WP 5D. These finalized studies include, among others:  Report ITU‑R M.2320,  Recommendation ITU‑R M.2083 (Document [5/199](http://www.itu.int/md/R12-SG05-C-0199/en)),  Report ITU‑R M.2376 (Document [5/208](http://www.itu.int/md/R12-SG05-C-0208/en)),  Report ITU‑R M.2370 (Document [5/202](http://www.itu.int/md/R12-SG05-C-0202/en)). | |
| ***Studies to be carried out by:***  ITU‑R WP 5D, TBD | ***with the participation of:***  Member States, Sector Members, Academia, and Associates. |
| ***ITU‑R study groups concerned:***  ITU‑R study groups, depending on which frequency bands or ranges would be selected. | |
| ***ITU resource implications, including financial implications (refer to CV 126):***  Studies associated with this proposed new agenda item should normally be carried out within the ITU‑R procedures and planned budget. | |
| ***Common regional proposal:***  No | ***Multicountry proposal:*** No  Number of countries: |
| ***Remarks*** | |

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