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| **Radiocommunication Study Groups** |  |
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| Source: Annex 4 to Doc. 5A/708, Docs. 5A/TEMP/296R1, 297, 315R1  | **Annex 4 to****Document 5A/769-E** |
| **22 May 2023** |
| **English only** |
| Annex 4 to Working Party 5A Chairman’s Report |
| preliminary DRAFT revisions of THE QUESTIONS ASSIGNED TO WORKING PARTY 5A |

Introduction

Working Party 5A currently has 17 Questions assigned to it ([Doc. 5/1(Rev.3)](https://www.itu.int/md/R19-SG05-C-0001/en)), dealing with the amateur services, the land mobile service at and above 30 MHz (except IMT) and wireless access in the fixed service. Some of the Questions are jointly assigned to other working parties of Study Group 5.

Attachment 1 shows a list of the Questions assigned to Working Party 5A with a summary of the proposed updates.

Attachment 2 contains detailed proposals to amend, suppress or update Questions currently assigned to Working Party 5A.

*Work plan:*

29th meeting of WP 5A (May 2023): Elevate to preliminary draft.

30th meeting of WP 5A (September 2023): Elevate to draft and submit to SG 5.

[Attachment 1](#att1): Questions assigned to Working Party 5A.

[Attachment 2](#att2): Proposed amendments to the text of the Questions assigned to Working Party 5A

Attachment 1

Questions assigned to Working Party 5

**Source:** Section 1.1 of [Annex 1](https://www.itu.int/dms_pub/itu-r/md/19/wp5a/c/R19-WP5A-C-0597%21N01%21MSW-E.docx) to [Doc. 5A/597](https://www.itu.int/md/R19-WP5A-C-0597/en)

| **Question No.** | **Title** | **Category** | **Appr. Year** | **Last-Cont** | **Target-year** | **WG 5A--** | **Comment** | **WP 5A proposed action***Note 3* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| [1-6/5](http://www.itu.int/pub/R-QUE-SG05.1) | Interference protection ratios and minimum field strengths required in the land mobile services | S2 | 2015 | 2022 | 2027 | 4 | *Note 1* | **MOD** |
| [7-7/5](http://www.itu.int/pub/R-QUE-SG05.7) | Characteristics of equipment for the land mobile service between 30 and 6 000 MHz | S2 | 2012 | 2022 | 2027 | 4 | *Note 1* | **MOD** |
| [37-6/5](http://www.itu.int/pub/R-QUE-SG05.37) | Digital land mobile systems for specific applications | S2 | 2012 | 2022 | 2027 | 2, 3 | *Note 1**See* [*Att. 2*](#att2) | **MOD** |
| [48-7/5](http://www.itu.int/pub/R-QUE-SG05.48) | Techniques and frequency usage in the amateur service and amateur-satellite service | S2 | 2015 | 2022 | 2027 | 1 | *Note 1* | **MOD** |
| [101-5/5](http://www.itu.int/pub/R-QUE-SG05.101) | Quality of service requirements in the land mobile service | S2 | 2019 | 2022 | 2027 | 2 | *Note 1* | **MOD** |
| [205-6/5](http://www.itu.int/pub/R-QUE-SG05.205) | Intelligent transport systems | S2 | 2019 | 2022 | 2027 | 5 | *Note 2* | **MOD** |
| [209-6/5](http://www.itu.int/pub/R-QUE-SG05.209) | Use of the mobile, amateur and amateur satellite services in support of disaster radiocommunications | S2 | 2019 | 2022 | 2027 | 1, 3 | *Also assigned to WP 5D.MSS aspects are addressed in SG 4 under* [*Question ITU-R 286/4*](http://www.itu.int/publ/R-QUE-SG04.286/en)*See* [*Att. 2*](#att2) | **MOD** |
| [212-4/5](http://www.itu.int/pub/R-QUE-SG05.212) | Nomadic wireless access systems including radio local area networks | S2 | 2012 | 2022 | 2027 | 2, 4 | *Note 1* | **MOD** |
| [215-4/5](http://www.itu.int/pub/R-QUE-SG05.215) | Frequency bands, technical characteristics, and operational requirements for fixed wireless access systems in the fixed and/or land mobile services | S2 | 2012 | 2022 | 2027 | 2, 4 | *Note 1* | **MOD** |
| [238-3/5](http://www.itu.int/pub/R-QUE-SG05.238) | Mobile broadband wireless access systems | S2 | 2019 | 2022 | 2027 | 2, 4 |  | **MOD** |
| [241-4/5](http://www.itu.int/pub/R-QUE-SG05.241) | Cognitive radio systems in the mobile service | S2 | 2019 | 2022 | 2027 | 5 | *Also assigned to WP 5D*. | **MOD** |
| [242-2/5](http://www.itu.int/pub/R-QUE-SG05.242) | Reference radiation patterns of omnidirectional and sectoral antennas for the fixed and mobile services for use in sharing studies | S2 | 2015 | 2022 | 2027 | 4 | *Also assigned to WPs 5C and 5D. Note 1* | **MOD** |
| [250-1/5](http://www.itu.int/pub/R-QUE-SG05.250) | Mobile wireless access systems providing telecommunications for a large number of ubiquitous sensors and/or actuators scattered over wide areas as well as machine to machine communications in the land mobile service | S2 | 2012 | 2022 | 2027 | 5 | *Note 1* | **MOD** |
| [254/5](http://www.itu.int/pub/R-QUE-SG05.254) | Operation of short-range radiocommunication public access system supporting hearing aid systems | S2 | 2014 | 2022 | 2027 | 2 | *Note 1* | **MOD** |
| [256-1/5](http://www.itu.int/pub/R-QUE-SG05.256) | Technical and operational characteristics of the land mobile service in the frequency range 275-1 000 GHz | S2 | 2019 | 2022 | 2027 | 5 |  | **MOD** |
| [261/5](http://www.itu.int/pub/R-QUE-SG05.261) | Radiocommunication requirements for connected automated vehicles (CAV) | S2 | 2019 | 2022 | 2027 | 5 | *Note 2* | **MOD** |
| [263/5](https://www.itu.int/pub/R-QUE-SG05.263)  | Studies related to the further development of RSTT  | S2 | 2022 | 2022 | 2023 | 2 |  | **SUP** |
| NEW | Preliminary draft new Question ITU-R [FUTURE-ITS-CAV]/5 – Studies related to Intelligent Transport Systems, Connected Automated Vehicles and future topics | S2 |  |  |  | 5 | *See* [*Att. 2*](#att2) | **ADD** |
| *Note 1:* Editorially updated by SG 5 in September 2019.*Note 2:* The substance of these Questions is being considered for incorporation into a new Question for the next study cycle (*see* [*Att. 2*](#att2)). Therefore, a subsequent suppression of these Questions is envisaged.*Note 3:* Editorial updates are proposed in accordance with paragraph A2.5.2.4 of [Resolution ITU-R 1-](https://www.itu.int/pub/R-RES-R.1)8. |  |

*For information:*

Categories used to identify the priority and urgency of Questions (*Source:* [*Resolution ITU-R 5-8*](https://www.itu.int/pub/R-RES-R.5-8-2019)):

C: Conference-oriented Questions associated with work related to specific preparations for, and decisions of, world and regional radiocommunication conferences:

C1: very urgent and priority studies, required for the next World Radiocommunication Conference;

C2: urgent studies, expected to be required for other radiocommunication conferences;

S: Questions which are intended to respond to:

– matters referred to the Radiocommunication Assembly by the Plenipotentiary Conference, any other conference, the Council or the Radio Regulations Board;

– advances in radiocommunication technology or spectrum management;

– changes in radio usage or operation:

S1: urgent studies which are intended to be completed within two years;

S2: important studies, necessary for the development of radiocommunications;

S3: required studies, expected to facilitate the development of radiocommunications;

ATTACHMENT 2

Proposed amendments to the text of the Questions
assigned to Working Party 5A and proposed new Question

*Source:* Docs. 5A/TEMP/296R1, 297, 315R1

*Contents:*

|  |  |  |
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| **Title** | **Source****Doc. 5A/TEMP/…** | **Page** |
| Preliminary draft revision of Question ITU-R 37-6/5 – Digital land mobile systems for specific applications | 297 | 5 |
| Preliminary draft revision of Question ITU-R 209-6/5 – Use of the mobile, amateur and the amateur-satellite services in support of disaster radiocommunications | 296R1 | 7 |
| Preliminary draft new Question ITU-R [FUTURE-ITS-CAV]/5 – Studies related to Intelligent Transport Systems, Connected Automated Vehicles and future topics | 315R1 | 9 |

PRELIMINARY DRAFT REVISION OF QUESTION ITU-R 37-6/5[[1]](#footnote-1)

Digital land mobile systems for specific applications

(1978-1982-1992-1995-1997-2007-2012)

The ITU Radiocommunication Assembly,

considering

*a)* that the number of radio stations in the land mobile service is increasing very rapidly;

*b)* that in several geographical areas the growing demand for radio channels in the land mobile service has resulted in a serious congestion in the frequency bands allocated to this service;

*c)* that in order to alleviate this congestion as well as that expected in the future, it is desirable for land mobile services to employ spectrum-saving techniques;

*d)* that improved spectrum efficiency might be achieved, taking into account essential system characteristics like traffic density, grade of service, etc. and costs:

– by making an increased number of traffic channels available within a given bandwidth;

– by optimizing the size of base station coverage areas, to the traffic demand;

– by combining these techniques and others;

*e)* that the digital technology applied in such systems may require channel widths other than those used in the existing land mobile services;

*f)* that systems based on digital technology offer a high degree of privacy and security;

*g)* that these systems may provide capabilities required by specific user groups, of applications such as, private mobile radio, public access mobile radio, utilities, e-Health, public protection and disaster relief, and machine-to-machine communications, etc.;

*h)* that, particularly for systems operating in border areas of neighbouring countries, it is desirable to reach international agreement on certain system characteristics in order to come to maximum usage flexibility,

decides that the following Questions should be studied

1 What are, with regard to frequency efficiency, the optimum characteristics of these systems, taking into account factors like needed system capacity to serve a large number of users, base station coverage area, complexity of equipment, propagation factors and performance objectives?

2 How can these systems meet the user demand and what are the operational requirements?

3 What are the capabilities and facilities offered by these systems that fulfil the requirements of specific user groups, of applications such as private mobile radio, public access mobile radio, utilities, e-Health, public protection and disaster relief, and machine-to-machine communications, etc.?

4 What are the system parameters on which international agreement is desirable to ensure compatibility between systems and/or operation of differing systems in neighbouring coverage areas?

further decides

1 that the results of the above studies should be included in one or more Recommendations, Reports or Handbooks;

2 that the above studies should be completed by 2027.

Category: S2

PRELIMINARY DRAFT REVISION OF QUESTION itu-r 209-6/5

Use of the mobile, amateur and the amateur-satellite services
in support of disaster radiocommunications

(1995-1998-2006-2007-2012-2015-2019)

The ITU Radiocommunication Assembly,

*considering*

*a)* Resolution 136 (Rev. Bucharest, 2022) of the Plenipotentiary Conference, on the use of telecommunications/information and communication technologies for humanitarian assistance and for monitoring and management in emergency and disaster situations, including health-related emergencies, for early warning, prevention, mitigation and relief;

*b)* Resolution 43 (Rev. Kigali, 2022), which instructs the Director BDT, in close collaboration with the Directors of the Radiocommunication Bureau (BR) and the Telecommunication Standardization Bureau (TSB), as well as the relevant regional telecommunication organizations, to continue encouraging and assisting developing countries to implement IMT systems and future networks, to provide assistance to administrations on the use and interpretation of ITU Recommendations relating to IMT, and future networks adopted by both ITU‑R and ITU-T, etc.;

*c)* Resolution **647** **(Rev.WRC-19)** on Radiocommunication aspects, including spectrum-management guidelines, for early warning, disaster prediction, detection, mitigation and relief operations relating to emergencies and disasters;

*d)* that the Tampere Convention on the provision of telecommunication resources for disaster mitigation and relief operations by the Intergovernmental Conference on Emergency Telecommunications (ICET-98) came into force on 8 January 2005;

*e)* that in accordance with No. **25.3** of the Radio Regulations amateur stations may be used for transmitting international communications on behalf of third parties only in case of emergencies or disaster relief. An administration may determine the applicability of this provision to amateur stations under its jurisdiction (**WRC-03**);

*f)* that in No. **25.9A** of the Radio Regulations administrations are encouraged to take the necessary steps to allow amateur stations to prepare for and meet communication needs in support of disaster relief **(WRC-03)**,

*recognizing*

*a)* that when a disaster occurs, the disaster relief agencies are usually the first on the scene using their day-to-day communication systems, but that in most cases, other agencies and organizations may also be involved;

*b)* that in times of disasters, if most terrestrial-based networks are destroyed or impaired, other networks in the amateur and amateur-satellite services may be available to provide basic, on‑site communications capability;

*c)* that important attributes of the amateur services include stations distributed throughout the world that have trained radio operators capable of reconfiguring networks to meet the specific needs of an emergency,

*decides* that the following Question should be studied

What are the technical, operational and related procedural aspects of mobile, amateur and amateur‑satellite services to support disaster warning, mitigation and relief operations?

*further decides*

1 that the results of the above studies should be included in one or more Recommendations, Reports or Handbooks;

2 that the above studies should be completed by 2027;

3 that the above studies should be brought to the attention of the other two Sectors.

Category: S2

PRELIMINARY DRAFT NEW QUESTION ITU-R [FUTURE-ITS-CAV]/5

Studies related to Intelligent Transport Systems,
Connected Automated Vehicles and future topics

(…)

[Editor’s note: Consider shortening question to consider the topic to be considered under future development of ITS]

The ITU Radiocommunication Assembly,

*considering*

*a)* that, around 1.5 billion vehicles exist in the world including trucks and busses;

*b)* that there is a need to integrate various technologies including radiocommunications into land transportation systems;

*c)* that information and radiocommunication technologies are integrated in a vehicle to provide evolving Intelligent Transport Systems (ITS) communication use cases for the purpose of improving traffic management and assisting safer driving;

*d)* that international standards would facilitate the world-wide deployment of ITS and provide for economies of scale in bringing ITS equipment and services to the public;

*e)* that, after the initial standardization of intelligent transport systems (ITS), ongoing enhancements of the ITS specifications have been and will continue to be accommodated over time;

*f)* that the introduction of connected automated vehicles (CAVs) is driven by new types of radiocommunication and sensor technologies;

*g)* that, CAVs have the potential to reduce crashes, thereby reducing traffic fatalities and crash-related injuries;

*h)* that CAVs are being planned to be or are already deployed in various regions;

*i)* that radiocommunications for ITS and CAVs may be implemented in frequency bands allocated to the land mobile service;

*j)* that ITS has evolved over the years and there is continuing evolution both in terms of the technology and use cases;

*k)* [that the Working Party on Automated/Autonomous and Connected Vehicles (GRVA) under the United Nations Economic Commission for Europe (UNECE)] is studying safety regulatory provisions or guidelines related to the dynamics of vehicles, Advanced Driver Assistance Systems, Automated Driving Systems and well as Cyber Security provisions;

*…*

*x)*  that studies were already carried out under Question ITU-R 205-6/5 on Intelligent Transport Systems;

*y)* that studies were already carried out under Question ITU-R 261/5 on Connected Automated Vehicles;

*z)* that under the in force and previous versions of Question ITU-R 205 and Question ITU‑R 261 there were already ITU‑R Reports and Recommendations and Handbooks published on various aspects of Intelligent Transport Systems and Connected Automated Vehicles as listed in *noting* 2 and 3,

*noting*

1 that the Conference developed Recommendation 208 (WRC-19) for harmonization of frequency bands for evolving ITS applications under mobile service allocation;

2that under the in force and previous versions of Question ITU-R 205/5 and Question ITUR-R 261/5, the following ITU-R Recommendations and Reports were already developed: Recommendations ITU-R M.1452, ITU-R M.1453, ITU-R M.1890, ITU-R M.2057, ITU‑R M.2084, ITU-R M.2121 and Reports ITU-R M.2228, ITU-R M.2322, ITU-R M.2444, ITU‑R M.2445; *{Editor´s note: Add report number, once the document is approved}* ITU-R M.[CAV];

3that Volume 4 of the Handbook on Land Mobile contains information about Intelligent Transport Systems,

decides that the following Questions should be studied, taking into account the information available in the already existing ITU publications on ITS and CAV as listed in noting 1, 2 and 3

1 For ITS in general:

• What are the various elements and functions of ITS that require radio communications connectivity between instances?

• What are the overall objectives for ITS with respect to:

– radiocommunication requirements: radio interfaces, reliability, grade of service, etc.;

• What radio-based ITS services and functions might benefit from international standardization?

• What are the radiocommunication and spectrum requirements for each element of ITS including:

– suitable frequency bands; suitable radiocommunication technologies;

– spectrum bandwidth needed?

• To what extent can the evolving mobile telecommunications systems be used to deliver ITS services?

2 For CAV *[Editor’s note: Consider explicitly stating CAV radiocommunication is a part of ITS and where to place that statement]:*

• What are the specific elements of CAV for the items listed in “ITS in general” above?

• Which radiocommunication systems have the capabilities to support connected automated vehicle (CAV) requirements?

3 For the future development of ITS*; [Editor’s note: This decides relates to future topics, but needs further clarification in the September 2023 meeting of what is meant by “future development”]*

• What are the overall objectives and user needs for the future development of ITS, beyond those studied in the work so far by the ITU Radiocommunication Sector

• What are the new use cases and their spectrum requirements – including suitable radiocommunications technologies, frequency bands and bandwidth - associated with the future development of ITS?

• What are the technical and operational issues, including protection criteria, and spectrum-related issues for the future development of ITS?

*further decides*

1 that the existing ITU-R Reports and/or Recommendations as listed in *noting* 2 should be revised and updated with the relevant results of the studies carried out under this question as appropriate;

2 that new results of studies carried out under this question should be included in one or more new ITU-R Recommendation(s) and/or Report(s) as appropriate;

3 that the above studies should be completed by 2027.

Category: S2

1. In the year 2019, Radiocommunication Study Group 5 extended the completion date of studies for this Question. [↑](#footnote-ref-1)