



Radiocommunication Study Groups

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Working Party 5A

LIAISON STATEMENT TO UNECE WORKING PARTY ON AUTOMATED/AUTONOMOUS CONNECTED VEHICLES (GRVA)

Connected Automated Vehicles

International Telecommunication Union – Radiocommunication sector (ITU-R) Working Party (WP) 5A would like to introduce itself to UNECE WP on Automated/Autonomous Connected Vehicles (GRVA). ITU-R WP 5A addresses the radio communication issue of Land Mobile Service and is responsible for studies related to the Land Mobile Service and wireless access including RLANs (Radio Local Area Networks). Within WP 5A, Working Group (WG) 5A-5 addresses the issues pertinent to new technology, such as ITS (Intelligent Transport Systems), CAV (Connected Automated Vehicles) and MTC (Machine Type Communications).

In the past, WP 5A developed Question [ITU-R 205-6/5](#) on Intelligent Transport Systems and Question [ITU-R 261/5](#) on Radiocommunication requirements for connected automated vehicles (CAV).

Under the Question [ITU-R 205-6/5](#), WP 5A developed ITU-R Recommendations and Reports:

- Recommendation [ITU-R M.1890](#) provides the objectives and radio requirements of ITS. This Recommendation establishes a framework or foundation for subsequent studies and output that are technology (such as dedicated short-range communications (DSRC), collision avoidance radar, or ITS millimetre wave radiocommunication) or application specific. Dedicated short range communications, a fundamentally unique application to ITS, uses non-voice radiocommunication techniques to transfer data over short distances between a roadside infrastructure and mobile units.
- Recommendation [ITU-R M.1453](#) describes the technical and operational characteristics of DSRC for ITS applications in the 5 725-5 875 MHz (5.8 GHz band) industrial, scientific and medical (ISM) band.
- Recommendation [ITU-R M.1452](#) covers vehicular collision avoidance radar operating in the 76-77 GHz and 77-81 GHz bands, as well as integrated millimetre wave radiocommunication systems for ITS applications in the 57-66 GHz range for vehicle-to-vehicle radiocommunications and radiocommunications between the vehicle and roadside infrastructure.
- Recommendation [ITU-R M.2057](#) provides system characteristics of automotive radars operating in the frequency band 76-81 GHz for intelligent transport systems applications.

- Recommendation [ITU-R M.2084](#) recommends specific radio interface standards and technical specifications for vehicle-to-vehicle and vehicle-to-infrastructure communications, which includes two-way communications between vehicle and infrastructure, for ITS applications. The technical characteristics described in this Recommendation are based on current ITS applications in the mobile service.
- Recommendation [ITU-R M.2121](#) provides guidance on harmonized frequency bands to be used by ITS and encourages administrations to use harmonized frequency bands for ITS applications.
- Report [ITU-R M.2228](#) provides characteristics, requirements and status of advanced ITS radiocommunications in various countries.
- Report [ITU-R M.2444](#) provides examples of arrangements for ITS deployments in certain regions and countries to assist administrations in their planning for deployment of ITS within their jurisdictions and to assist in improving traffic management and safe driving.
- Report [ITU-R M.2445](#) addresses the usages of ITS radiocommunication applications, such as vehicle-to-infrastructure, vehicle-to-vehicle, vehicle-to-pedestrian communications for traffic safety related and traffic efficiency applications as well as electronic tolling systems and automotive radars for collision avoidance in ITU Member States. This report identifies current and planned usage of ITS technologies, frequency bands, status of standardization, applications and deployments in ITU Member States.

Beside ITS, under the Question [ITU-R 261/5](#), WP 5A is currently developing Report ITU-R M.[CAV] “*Connected Automated Vehicles (CAV)*” ([Annex 16](#) to [Doc. 5A/708](#)), which addresses radio communication aspects of CAV, such as descriptions of communication methods, use cases and radiocommunication systems for CAV, as well as radiocommunication requirements and spectrum needs for CAV. The scope of this Report is focused on the ad-hoc, short range radiocommunication for ITS among vehicles, and among vehicles and infrastructure. The target completion date of the draft Report is May 2023.

Working Party 5A believes that ITU-R Report ITU-R M.[CAV] may be of interest to UNECE WP on Automated/Autonomous Connected Vehicles.

Working Party 5A would appreciate being kept informed of the developments related to ITS and CAV in UNECE WP on Automated/ Autonomous and Connected Vehicles.

The next meeting of ITU-R WP 5A has been scheduled to be held in 9 to 18 May 2023. The deadline for input contribution is 16:00 hours, 2 May 2023.

Status: For information and action, if any

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