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| **Radiocommunication Study Groups** |  |
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| Source: Document 5B/TEMP/38(Rev.1)  Subject: WRC-23 agenda item 9.1, topic a) Resolution **657 (Rev.WRC-19)** |  |
| **20 November 2020** |
| **English only** |
| Working Party 5B | |
| REPLY Liaison statement TO WORKING Party 7C CONCERNING wrc-23 agenda item 9.1, Topic a) WITH A COPY TO ICAO FOR POSSIBLE ACTION | |
| Information for studies on WRC-23 agenda item 9.1, topic a) | |

Working Party (WP) 5B thanks WP 7C for its liaison statement contained in Document [5B/128](https://www.itu.int/md/R19-WP5B-C-0128/en). WP 5B observes that WP 7C seeks information on the technical and operational characteristics in relation to WRC-23 agenda item 9.1, topic a) (space weather sensors).

WP 5B is responsible for the maritime mobile service including the Global Maritime Distress and Safety System (GMDSS); the aeronautical mobile service and the radiodetermination service.

For the radiodetermination service, which includes radiolocation and radionavigation service, the following Recommendations may need to be considered as appropriate:

ITU-R Recommendations

ITU-R [M.1226](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1226) - Technical and operational characteristics of wind profiler radars in bands in the vicinity of 50 MHz

ITU-R [M.1461](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1461) - Procedures for determining the potential for interference between radars operating in the radiodetermination service and systems in other services

ITU-R [M.1464](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1464) - Characteristics of radiolocation radars, and characteristics and protection criteria for sharing studies for aeronautical radionavigation and meteorological radars in the radiodetermination service operating in the frequency band 2 700-2 900 MHz

ITU-R [M.1730](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1730) - Characteristics of and protection criteria for the radiolocation service in the frequency band 15.4-17.3 GHz

ITU-R [M.1796](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1796) - Characteristics of and protection criteria for terrestrial radars operating in the radiodetermination service in the frequency band 8 500-10 680 MHz

ITU-R [M.1802](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1802) - Characteristics and protection criteria for radars operating in the radiolocation service in the frequency band 30-300 MHz

ITU-R [M.1849](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1849) - Technical and operational aspects of ground-based meteorological radars

ITU-R [M.1851](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1851) - Mathematical models for radiodetermination radar systems antenna patterns for use in interference analyses

ITU-R [M.1874](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1874) - Technical and operational characteristics of oceanographic radars operating in sub-bands within the frequency range 3-50 MHz

For the maritime mobile service the following Reports and Recommendations should be taken into account:

ITU-R Recommendations

ITU-R [M.476](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.476) - Direct-printing telegraph equipment in the maritime mobile service

ITU-R [M.493](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.493) - Digital selective-calling system for use in the maritime mobile service

ITU-R [M.540](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.540) -Operational and technical characteristics for an automated direct-printing telegraph system for promulgation of navigational and meteorological warnings and urgent information to ships

ITU-R [M.586](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.586) -Automated VHF/UHF maritime mobile telephone system

ITU-R [M.625](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.625) - Direct-printing telegraph equipment employing automatic identification in the maritime mobile service

ITU-R [M.627](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.627) - Technical characteristics for HF maritime radio equipment using narrow-band phase-shift keying (NBPSK) telegraphy

ITU-R [M.688](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.688) - Technical characteristics for a high frequency direct-printing telegraph system for promulgation of high seas and NAVTEX-type maritime safety information

ITU-R [M.689](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.689) - International maritime VHF radiotelephone system with automatic facilities based on DSC signaling format

ITU-R [M.690](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.690) - Technical characteristics of emergency position-indicating radio beacons (EPIRBs) operating on the carrier frequencies of 121.5 MHz and 243 MHz

ITU-R [M.693](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.693) - Technical characteristics of VHF emergency position-indicating radio beacons using digital selective calling

ITU-R [M.1081](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1081) - Automatic HF facsimile and data system for maritime mobile users

ITU-R [M.1084](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1084) - Interim solutions for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service

ITU-R [M.1173](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1173) - Technical characteristics of single-sideband transmitters used in the maritime mobile service for radiotelephony in the bands between 1 606.5 kHz (1 605 kHz Region 2) and 4 000 kHz and between 4 000 kHz and 27 500 kHz

ITU-R [M.1312](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1312) -A long-term solution for improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service

ITU-R [M.1371](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1371)- Technical characteristics for an automatic identification system using time-division multiple access in the VHF maritime mobile band

ITU-R [M.1467](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1467) - Prediction of sea area A2 and NAVTEX ranges and protection of the A2 global maritime distress and safety system distress watch channel

ITU-R [M.1798](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.1798) - Characteristics of HF radio equipment for the exchange of digital data and electronic mail in the maritime mobile service

ITU-R [M.2010](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.2010) - Characteristics of a digital system, named Navigational Data for broadcasting maritime safety and security related information from shore-to-ship in the 500 kHz band

ITU-R [M.2082](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.2082) - Modifications of Appendix 17 of the Radio Regulations (Frequencies and channeling arrangements in the high-frequency bands for the maritime mobile service) for a possible solution of agenda item 1.13 (Resolution **351 (WRC-03)**)

ITU-R [M.2092](https://www.itu.int/rec/R-REC-M/recommendation.asp?lang=en&parent=R-REC-M.2092) - Technical characteristics for a VHF data exchange system in the VHF maritime mobile band

ITU-R Reports

ITU-R [M.2010](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2010) - Improved efficiency in the use of the band 156-174 MHz by stations in the maritime mobile service

ITU-R [M.2027](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2027) - Engineering guidance for operators to upgrade shore based facilities to operate the global maritime distress and safety system in the A1, A2 and A3/A4 sea areas

ITU-R [M.2084](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2084) - Satellite detection of automatic identification system messages

ITU-R [M.2122](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2122) - EMC assessment of shore-based electronic navigation (eNAV) infrastructure and new draft Standards for data exchange in the VHF maritime mobile band (156-174 MHz)

ITU-R [M.2123](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2123) -Long range detection of automatic identification system (AIS) messages under various tropospheric propagation conditions

ITU-R [M.2127](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2127) - Example of maritime wideband VHF data system

ITU-R [M.2169](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2169) - Improved satellite detection of AIS

ITU-R [M.2231](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2231) - Use of Appendix 18 to the Radio Regulations for the maritime mobile service

ITU-R [M.2287](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2287) - Automatic identification system VHHF data link loading

ITU-R [M.2317](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2317) - VHF data exchange system channel sounding campaign

ITU-R [M.2371](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2371) - Selection of the channel plan for a VHF data exchange system

ITU-R [M.2372](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2372) - Technical assessment of RR Appendix **18** - Channel usage to protect automatic identification system channels and also protect any additional channels that may be allocated to support automatic identification system technology applications

ITU-R [M.2435](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2435) -Technical studies on the satellite component of the VHF data exchange system

ITU-R [M.2443](https://www.itu.int/pub/R-REP-M/publications.aspx?lang=en&parent=R-REP-M.2443) - NAVDAT Guidelines

For the aeronautical mobile service, no ITU-R Reports or Recommendations are available for the frequency bands identified by WP 7C. ICAO is also copied on this liaison statement who may then provide additional information to WP 5B and WP 7C, if information becomes available.

WP 5B would like to mention that it has considered the Administrative Circular [CACE/955](https://www.itu.int/md/R00-CACE-CIR-0955/en) dated 18 September 2020 which encourages administrations to provide their contributions on technical characteristics, operational parameters and protection criteria for services to support the work on relevant WRC-23 agenda items to the contributing Working Parties dealing with these services. WP 5B will take into account any additional information received from the membership related to this administrative circular as well as any other available information in the BR databases together with any information in ITU-R Recommendations and Reports and further liaise with the responsible or contributing groups by the requested deadline.

WP 5B kindly requests WP 7C to be kept informed on the progress of the compatibility and sharing studies under WRC-23 agenda item 9.1, topic a).

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| **Status:** For information and action as needed | |
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