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| **U.S. Radiocommunications Sector**  **Fact Sheet** | |
| **Working Party:** ITU-R WP-5B | **Document No:** USWP5B34-XX |
| **Ref:** 5B/208 | **Date:** 5 February 2025 |
| **Document Title:** Reply Liaison Statement to WP 4A regarding Agenda Item 1.2 | |
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| **Purpose/Objective:** The purpose of this document is to respond to WP 4A regarding information pertaining to radiolocation service operating in the 13.75-14 GHz frequency band that is under consideration for Agenda Item 1.2. | |
| **Abstract:** WP 4A sent a liaison statement to WP 5B requesting information on protection criteria and additional characteristics for radiolocation systems that were not currently available. At the November meeting, WP 5B was unable to agree to a reply liaison statement so an extension for providing information was requested at the subsequent SG 5 meeting. This extension was granted by the CPM management team so this document proposes to fulfill this request. | |

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| **Radiocommunication Study Groups** | A blue logo with a black background  Description automatically generated |
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| Received:  Source: Document 5B/208 | **Document 5B/XX-E** |
| **XX April 2025** |
| **English only** |
| **United States of America** | |
| Draft reply Liaison statement to Working Party 4A | |
| **Relevant technical information to support studies under WRC-27 agenda item 1.2** | |

Working Party 5B (WP 5B), as a contributing group to WRC-27 agenda item 1.2, has received a liaison statement from WP 4A (Doc. 5B/208) requesting additional relevant technical information of radiolocation systems under WP 5B’s purview operating on a primary basis in the 13.75-14 GHz frequency band. In the Attachment, the United States proposes a draft reply liaison statement providing a response to this request for information.

**Attachment:** 1

ATTACHMENT

**Working Party 5B**

REPLY LIAISON STATEMENT TO WORKING PARTY 4A

**Relevant technical information to support studies  
under WRC-27 agenda item 1.2**

Working Party (WP) 5B would like to thank WP 4A for its liaison statement 5B/208.

Regarding the request for information on missing parameters for airborne radars, WP 5B would like to note that a revision to Recommendation ITU-R M.1644 has been initiated and can be found in Annex XX to the Chairman’s Report in document 5B/XX. The relevant updates for systems D-F as well as the newly added radar H can be found in the table contained in the attached Annex.

Regarding the request for clarification on percentage of time associated to the protection criteria, WP 5B would like to indicate that currently there is no percentage of time associated to the I/N protection criteria of -6 dB in Recommendation ITU-R M.1644.

WP 5B would like to work in close cooperation with WP 4A and requests to be kept informed of the progress under this Agenda Item as it progresses in WP 4A.

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| **Status:** For action |  |
| **Contact:** [TBD] | **E-mail:** [TBD] |

ANNEX

[Editor’s Note: This table was extracted from 5B/216 Annex 28. The track changes has been included to identify the proposed changes against the current version of Recommendation ITU-R M.1644. It should be noted there are still TBDs that need to be filled out by the proponent at the May 5B meeting.]

TABLE 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristics** | **Radar D** | **Radar E** | **Radar F** | **Radar H**  **Track** |
| Platform type (airborne, shipborne, ground) | Airborne | Airborne | Airborne | Airborne |
| Type of service  Radiolocation: RL  Radionavigation: RN | RL | RL | RL | RL |
| Tuning range (GHz) | Within  13.75-14 | Within  13.75-14 | Within  13.75-14 | Within  13.75-14 |
| Modulation (unmodulated pulses, chirp, phase-code) | Not given | Not given | Not given | Not given |
| Transmitter peak power into antenna (dBW) | Not given | Not given | 40 | Not given |
| Average e.i.r.p. (dBW) | Not given | Not given | 41.4 (nominal) | May be calculated if needed |
| Average e.i.r.p. density at antenna port (dBW/MHz) | May be calculated if needed | May be calculated if needed | May be calculated if needed | 16-40 |
| Peak e.i.r.p. (dBW) | > 40 | > 50 | 71 (nominal) | May be calculated if needed |
| Peak e.i.r.p. density at antenna port (dBW/MHz) | May be calculated if needed | May be calculated if needed | May be calculated if needed | 26-50 |
| Pulse width minimum (ms) | Not given | Not given | 0.6 | Not given |
| Pulse width maximum (ms) | Not given | Not given | Not given | Not given |
| Pulse repetition rate minimum (pps) | Not given | Not given | 1 800 | Not given |

TABLE 1 (*continued* )

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Characteristics** | **Radar D** | **Radar E** | **Radar F** | **Radar H**  **Track** |
| Pulse repetition rate maximum (pps) | Not given | Not given | Not given | Not given |
| Transmit duty cycle, minimum (%) | Not given | Not given | 0.11(2) | Not given |
| Transmit duty cycle, maximum (%) | Not given | Not given | Not given | Not given |
|  |  |  |  |  |
| Phase-coded sub-pulse width (ms) | Not applicable or not given | Not applicable or not given | Not applicable or not given | Not applicable or not given |
| Compression ratio | Not applicable or not given | Not applicable or not given | Not applicable or not given | Not applicable or not given |
| RF emission bandwidth (MHz):  –3 dB  –20 dB | Not given Not given | Not given Not given | Not given Not given | May be calculated if needed |
|  |  |  |  |  |
| Antenna pattern type (pencil, fan, cosecant-quared, etc.) | ITU-R M.1851-2  Equation [9/2 SSL TBD]  Circular polarization | ITU-R M.1851-2  Equation [9/2 SSL TBD]  Circular polarization | ITU-R M.1851-2  Equation [9/2 SSL TBD]  Circular polarization | ITU-R M.1851-2  Equation [10/3 SSL TBD]  Circular polarization |
|  |  |  |  |  |

TABLE 4 (*continued* )

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| --- | --- | --- | --- | --- | --- |
| **Characteristics** | **Radar D** | **Radar E** | **Radar F** | **Radar H**  **Track** | |
| Antenna mainbeam gain(s) (dBi):  Search  Track | >20  >20 | >20  >20 | < 31 search  or track | 17 | 25 |
| Antenna elevation beamwidth (degrees) | 10-15 | 10-15 | 10-15 | 15 | 10 |
| Antenna traverse or azimuthal beamwidth (degrees) | 10-15 | 10-15 | 10-15 | 15 | 10 |
| Beam motion(s) | Programmed search scan  Tracking | Programmed search scan  Tracking | Programmed search scan  Tracking | Tracking | |
| Antenna horizontal scan rate (degrees/s) | Search: not given  Track: follows target | Search: not given  Track:  follows target | Programmed search scan  Tracking | Not applicable | |
| Antenna horizontal scan type (continuous, random, 360°, sector, etc.) (degrees) | Search: not given  Track: follows target | Search: not given  Track: not applicable | Search: not given  Track: not applicable | Track: follows target, not applicable | |
| Antenna vertical scan rate (degrees/s) | Search: not given  Track: not applicable | Search: not given  Track: not applicable | Not applicable | Not applicable | |

TABLE 4 (*end* )

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Characteristics** | | **Radar D** | | **Radar E** | **Radar F** | | **Radar H**  **Track** | |
| Antenna vertical scan type (continuous, random, 360º, sector, etc.) (degrees) | | Search: not given  Track: not applicable | | Search: not given  Track: not applicable | Search: Not given  Track: not applicable | | Not applicable | |
|  | |  | |  |  | |  | |
| Antenna height (m) | | ≤ 15 000 | | ≤ 15 000 | ≤ 15 000 | | ≤ 15 000 | |
| Receiver IF 3 dB bandwidth (MHz) | | 10 | 10 | | 2 | 10 | 10 | 50 |
| Desensitization threshold pfd (dB(W/( m2 × 4 kHz)) | | –145 | | –155 | –156 | | ‒144 | ‒152 |
| Number of systems Geographical area | | Not given  Worldwide | | Not given  Worldwide | Not given  Worldwide | | Not given  Worldwide | |
| Receiver noise level including noise figure (10 MHz bandwidth) | | -129 dBW | | -132 dBW | -132 dBW | | ‒131 dBW | |
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