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| **Radiocommunication Study Groups** |  |
| **INTERNATIONAL TELECOMMUNICATION UNION** |  |
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| Received:  |  |
| **xx March2016** |
| **English only** |
| Institute of Electrical and Electronics Engineers, Inc. |
| draft liaison statement to working party 1A ON NEW REPORT ITU-R SM.2352-0 |
| Copy for information to Working Parties 5A, 5C, 7C and 7D |
| Technology trends of active services in the band above 275 GHz |

**1 Source information**

This contribution was developed by IEEE Project 802®, the Local and Metropolitan Area Network Standards Committee (“IEEE 802”), an international standards development committee organized under the IEEE and the IEEE Standards Association (“IEEE-SA”).

The content herein was approved for submission by the IEEE 802.15™ Working Group for WPAN, the IEEE 802.18 Radio Regulatory Technical Advisory Group, and the IEEE 802 Executive Committee, in accordance with the IEEE 802 policies and procedures, and represents the view of IEEE 802.

**2 Discussion**

WP 1A informed IEEE 802 that,since the bands 275-325 GHz are identified for the passive services by No. **5.565** of the Radio Regulations (RR), new studies are needed to review RR No. **5.565** for use of these bands by active services in the future. WP 1A further informed IEEE 802 that, since the band 252-275 GHz is also allocated to the mobile and fixed services, the additional contiguous bandwidth of 23 GHz could be utilized for terahertz communications. WP 1A also extended an invitation to provide information on spectrum requirements and technical and operational characteristics of IEEE 802 technology operating in these bands or other bands to Working Parties 5A and 5C to be used for sharing studies.

IEEE 802 has initiated a sharing study between passive and active services. Although the results are still in discussion within the IEEE 802.15 Working Group, IEEE 802 is providing links in Attachments 1-3 in Annex 1 as preliminary information that may be useful for sharing studies.

IEEE 802 has reviewed the frequency range 252-275 GHz as well as 275-325 GHz and agreed to conduct studies on theses frequency bands for terahertz applications which utilize a contiguous bandwidth of 73 GHz.

On 16 March 2016 IEEE 802.15 TG3d has issued a call for proposals targeting an amendment to IEEE 802.15.3 for switched point-to-point links operating in the frequency bands 252-325 GHz. The links to the call for proposal with supporting documents are included in Attachments 1-5 of Annex 2.

Since all the detailed technical and operational characteristics will not be finalized until after the publication of the amendment, IEEE 802.15 TG3d has issued a Call for Contribution in its September 2015 meeting to request further contributions on the details of technical and operational characteristics available from current research projects in these frequency ranges. The call and the responses are summarized Attachment 1-3 in Annex 3. Please note that IEEE 802 is also interested in other frequency ranges above 325 GHz..

When IEEE 802 has made significant progress in the technical studies in these frequency ranges, the results above 325 GHz, as well as in the frequency range 252-325 GHz, will be sent to WP 1A.

**3 Summary**

We applaud the efforts of the participants in WP 1A for undertaking this work and giving IEEE 802 the opportunity to respond to terahertz related matters.

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**Annex 1: Sharing studies with passive services presented to the IEEE 802.15 Interest Group THz in the period 2010 to 2012**

**Attachment 1:** Doc.: IEEE 802.15-15-10-0829-00-0thz

<https://mentor.ieee.org/802.15/dcn/10/15-10-0829-00-0thz-sharing-between-active-and-passive-services-at-thz-frequencies.ppt>

**Attachment 2:**  Doc.: IEEE 802.15-15-12-0101-00-0thz

<https://mentor.ieee.org/802.15/dcn/12/15-12-0101-00-0thz-will-thz-communication-interfere-with-passive-remote-sensing.pdf>

**Attachment 3:** Doc.: IEEE 802.15-15-12-0324-00-0thz

<https://mentor.ieee.org/802.15/dcn/12/15-12-0324-00-0thz-interference-between-thz-communications-and-spaceborne-earth-exploration-services.pdf>

**Annex 2: Call for Proposals and supporting documents**

**Attachment 1:** Call for Proposals

<https://mentor.ieee.org/802.15/dcn/15/15-15-0936-04-003d-tg3d-100g-call-for-proposals.docx>

**Attachment 2:** Application Requirements Document

<https://mentor.ieee.org/802.15/dcn/14/15-14-0304-16-003d-applications-requirement-document-ard.docx>

**Attachment 3:** Technical Requirements Document

<https://mentor.ieee.org/802.15/dcn/14/15-14-0309-20-003d-technical-requirements-document.docx>

**Attachment 4:**  Channel Modeling Document

<https://mentor.ieee.org/802.15/dcn/14/15-14-0310-19-003d-channel-modeling-document.docx>

**Attachment 5:** Evaluation Criteria Document

<https://mentor.ieee.org/802.15/dcn/15/15-15-0412-13-003d-evaluation-criteria-document.docx>

**Annex 3: Call for contributions addressing information on spectrum requirements and technical and operational characteristics of systems operating in the band 252 to 325 GHz and adjacent bands for sharing studies**

**Attachment 1:** Call for contributions

<https://mentor.ieee.org/802.15/dcn/15/15-15-0733-01-003d-call-for-contributions-for-the-response-to-itu-r-wp1a.docx>

**Attachment 2:** Response from H2020 iBROW

<https://mentor.ieee.org/802.15/dcn/16/15-16-0034-00-003d-input-from-the-horizon-2020-ibrow-project-to-the-tg3d-call-for-contributions-to-the-response-on-the-liaison-statement-from-itu-r-wp1a.docx>

**Attachment 3:** Response from BMBF-VIP-Terapan

<https://mentor.ieee.org/802.15/dcn/16/15-16-0082-01-003d-input-from-the-terapan-project-to-the-tg3d-call-for-contributions-to-the-response-on-the-liaison-statement-from-itu-r-wp1a.docx>