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| Title | **IEEE 802 Contribution to ITU-R WP 5C Characteristics above 275 GHz** | |
| Date Submitted | **2017-03-14** | |
| Source(s) | IEEE 802 TG 3D | E-mail: [Kuerner@ifn.ing.tu-bs.de](file:///C:\\Users\\sr\\Desktop\\IEEE_Interim_Warschau\\LS_SanDiego\\WP5A\\Kuerner@ifn.ing.tu-bs.de) |
| Re: | ITU-R WP 5C LS requesting information on technical and operational characteristics for systems in the frequency range 275 to 450 GHz (IEEE 802.18-16-0016-00-0000) | |
| Abstract | This document proposes a contribution to ITU-R WP5A regarding the technical and operational characteristics for systems in the frequency range from 275 to 450 GHz. | |
| Purpose | This contribution requests review by the IEEE 802.18 Technical Advisory Group and submittal of a version, revised to suit the TAG, to the IEEE 802 Executive Committee for approval under OM Subclause 8.2.1 as an intended contribution from IEEE to ITU-R Working Party 5C **for submission by IEEE by the deadline of 15 May 2017, 16:00 hours UTC**. | |
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|  | **Radiocommunication Study Groups** | |  |
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| Received: Date 2017  Subject: | | **Document –E** | |
| **Date 2017** | |
| **English only** | |
| Institute of Electrical and Electronics Engineers, Inc. | | | |
| CONTRIBUTION to working party 5C  ON NEW report ITU-R F.[300GHz\_FS\_CHAR] | | | |
| |  | | --- | | Technical and operational characteristics and applications of the fixed service operating in the frequency band 275-450 GHz | | WRC-19 agenda item 1.15 | | | | |

**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 5C invited IEEE to provide information on technical and operational characteristics of their systems operating in the range 275 to 325 GHz.

On 16 March 2016 IEEE 802.15 TG3d has issued a call for proposals targeting at an amendment to IEEE 802.15.3 for switched point-to-point links operating in the frequency bands 252 to 325 GHz. The applications include intra-device communications, close proximity links, wireless links for data centers and front- and backhaul links for cellular networks. Links to the call for proposals and to the supporting documents are included in attachments 1-5 of annex 1.

In its July 2016 meeting, initial proposals have been presented while the final proposal has been presented in the September meeting. The link to the proposals is attached in annex 2.

During the January 2017 meeting, the letter ballot for of the new standard was initiated. The final new standard is expected to be published as an amendment to IEEE 802.15.3 in the beginning of 2018.

Based on the currently not publicly available draft, IEEE 802 TG 3d has reviewed the technical and operational characteristics and proposes the additions and changes to the NEW REPORT ITU-R F.[300GHz\_FS\_CHAR] attached in annex 3.

Please note that the scope of IEEE 802 TG 3d is limited to the frequency range between 252 and 325 GHz. Please further note that, nonetheless, IEEE 802 is also interested in other higher frequency ranges above 325 GHz especially but not limited to similar applications.

**3 Summary**

We applaud the efforts of the participants in WP 5C for undertaking this work and giving IEEE 802 the opportunity to respond to the terahertz related matters in AI 1.15.

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**Annex 1: 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/14/15-14-0310-18-003d-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 2: Proposals presented in IEEE 802.15 TG3d targeting at an amendment to IEEE 802.15.3**

**Attachment 1:** Initial Proposal from TU Braunschweig in July 2016

<https://mentor.ieee.org/802.15/dcn/16/15-16-0481-01-003d-preliminary-proposal-for-thz-phy-in-ieee-802-15-3.pdf>

**Attachment 2:** Initial Proposal from NICT in July 2016

<https://mentor.ieee.org/802.15/dcn/16/15-16-0482-01-003d-preliminary-proposal-for-tg3d-cfp.pdf>

**Attachment 3**: Final Proposal

<https://mentor.ieee.org/802.15/dcn/16/15-16-0595-00-003d-proposal-for-ieee802-15-3d-thz-phy.docx>

**Attachment 4**: Final Proposal - Explanation

[https://mentor.ieee.org/802.15/dcn/16/15-16-0610-00-003d-proposal-for-ieee802-15-3d-thz-phy-explanations.pptx](https://mentor.ieee.org/802.15/dcn/16/15-16-0610-00-003d-proposal-for-ieee802-15-3d-thz-phy-explanations.pptx%20)

**Attachment 5**: Final Proposal – Explanation channelization

<https://mentor.ieee.org/802.15/dcn/16/15-16-0592-00-003d-proposal-for-ieee802-15-3d-channel-assignment-plans.pdf>

**Annex 3: Proposed additions and changes to the NEW REPORT ITU-R M.[300GHz\_FS\_CHAR]**

<https://mentor.ieee.org/802.15/dcn/17/15-17-0181-02-003d-itu-r-wp5c-fixed-draft-report.docx>