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| **Radiocommunication Study Groups** |  |
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| Received: 9 May 2017Subject: WRC-19 agenda item 1.15 | **Document 5A/375-E** |
| **9 May 2017** |
| **English only** |
| Institute of Electrical and Electronics Engineers, Inc. |
| CONTRIBUTION to working party 5AON NEW report itu-r M.[300GHz\_MS\_CHAR] |
| Technical and operational characteristics and applications of the land mobile 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 5A 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 M.[300GHz\_MS\_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 5A 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\_MS\_CHAR]

<https://mentor.ieee.org/802.15/dcn/17/15-17-0180-02-003d-itu-r-wp5a-mobile-draft-report.docx>

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