Liaison Statement from IEEE 802 LAN/MAN Standards Committee to ETSI Industry Specification Group on Terahertz Communications (ETSI ISG THz)

Date: 17 March 2023

To: Thomas Kürner   Chair, ETSI ISG THz
            Mate Boban   Vice Chair, ETSI ISG THz

From: Paul Nikolich   Chair, IEEE 802 LAN/MAN Standards Committee

Subject: Liaison reply to ETSI ISG THz Liaison Statement

Dear Thomas and Mate,

IEEE 802 LAN/MAN Standards Committee (IEEE 802 LMSC)[1] thanks ETSI for sharing their work on the formation of a new Industry Specification Group (ISG) on Terahertz Communications (THz) and the encouragement for a continual exchange on the topic of THz Communications.

THz work in IEEE 802 LMSC

IEEE 802 LMSC has been working on THz Communications since 2008, when an Interest Group (IG) THz was formed in the IEEE 802.15 Working Group (Wireless Specialty Networks), followed by transitioning the Interest Group to the current IEEE 802.15 Standing Committee THz (SC THz). IEEE Std 802.15.3d^{TM}-2017 was subsequently developed as an amendment to IEEE Std 802.15.3-2016, and specifies physical layer (PHY) operation in the frequency range between 252 GHz and 325 GHz for switched point-to-point links. The 802.15.3d^{TM}-2017 standard also specifies two PHY modes that enables data rates of up to 100 Gb/s using eight different bandwidths between 2.16 GHz and 69.12 GHz. Targeted applications include wireless backhaul/fronthaul links, wireless links in data centers as well as short-range applications such as kiosk downloading, intra-device and close-proximity communication. In 2022, IEEE 802 LMSC initiated a project to revise IEEE Std 802.15.3-2016^{TM}, which also includes the integration of amendment IEEE Std 802.15.3d-2017^{TM} into the main standard IEEE Std 802.15.3^{TM}. This integration work is ongoing in the IEEE 802.15 Task Group 3mb.

IEEE 802 LMSC inputs to the ISG's work items

During the development of IEEE Std 802.15.3d^{TM}-2017 we published a Channel Modeling Document (CMD) and an Applications Requirements Document (ARD). These documents are accessible under the following links:
https://mentor.ieee.org/802.15/dcn/14/15-14-0310-19-003d-channel-modeling-document.docx
https://mentor.ieee.org/802.15/dcn/14/15-14-0304-16-003d-applications-requirement-document-ard.docx

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[1] This document solely represents the views of IEEE 802 LMSC and does not necessarily represent a position of either the IEEE or the IEEE Standards Association.

Both documents may contain useful information relevant for the initial work items of ETSI ISG THz "On the identification of use cases for THz communication systems" and "Channel Measurements and modelling in THz Bands" mentioned in the liaison statement.

The figure below shows the THz Channelization of IEEE Std 802.15.3d^{TM}-2017. This might be of relevance to your work item on the "Identification frequency bands of interests for THz communication systems".
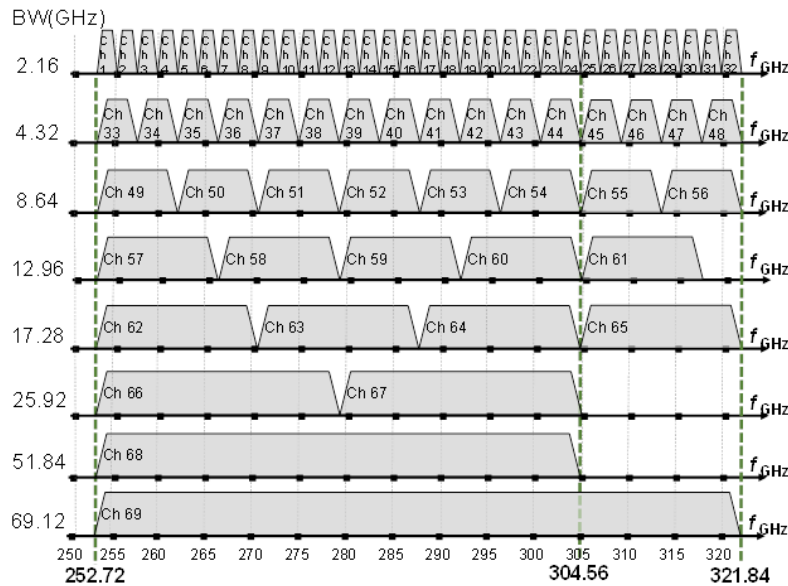
Furthermore, IEEE 802 LMSC wants to inform ETSI ISG THz that in the framework of the above mentioned revision project, all spectrum between 275 GHz and 450 GHz identified by the World Radio Communications Conference (WRC) 2019 is under consideration. Upon request, IEEE 802 can provide ETSI ISG THz with the revised channel plan once a stable draft of the revised standard is available.

Conclusion

IEEE 802 LMSC reiterates its appreciation to ETSI ISG THz for sharing its work in this area and believes the planned output of ETSI ISG THz as described in the liaison statement is of high interest. IEEE 802 LMSC would like to be kept informed on the progress of ETSI ISG THz and pursuant to that, extends an invitation to you, or another ETSI ISG THz representative, to present the ETSI ISG THz activities at the next IEEE 802 plenary meeting[2], which is scheduled from 9 to 14 July 2023 in Berlin, Germany.

Respectfully submitted

By: /ss/.
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[2] Paid registration is required to attend the IEEE 802 plenary meeting. A fee waiver may be requested in advance for consideration.