Liaison Statement from ETSI ISG THz:

Formation of a new ETSI ISG for Terahertz Communications (THZ)

**Response of IEEE 802**

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IEEE 802 LAN/MAN Standards Committee (IEEE 802 LMSC) 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 in the area 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 for Wireless Specialty Network, followed by transiting the Interest Group to the current IEEE 802.15 Standing Committee THZ (SC THz). As a spin-off of the activities of the IEEE 802.15 IG THz group, IEEE 802 LMSC published IEEE Std 802.15.3dTM-2017 in 2017 - an amendment to IEEE Std 802.15.3-2016, which defines physical layer (PHY) at the frequency range between 252 GHz and 325 GHz for switched point-to-point links and defines 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. Applications targeted with this standard comprise 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 802.15.3-2016TM, which also includes the integration of amendment IEEE Std 802.15.3d-2017TM into the main standard IEEE Std 802.15.3TM. IEEE 802.15 TG3mb is in charge of this project.

**IEEE 802 LMSC inputs to the ISG’s work items**

In the course of the development of IEEE Std 802.15.3dTM-2017 we have 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>

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-2017. This might be of relevance to your work item on “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 abovementioned revision project, all spectrum between 275 GHz and 450 GHz identified by the World Radio Communications Conference (WRC) 2019 is under consideration. On request IEEE 802 might provide ETSI with the revised channel plan once a stable draft of the revised standard is available.

**Conclusion**

IEEE 802 LMSC reiterates its appreciation for ETSI ISG THz sharing its work in this area and believes the planned output of ETSI ISG THz mentioned in the liaison statement is of high interest for us. IEEE 802 LMSC would like to be kept informed on the progress of ETSI ISG THz and get involved in a dialogue with ETSI ISG THz by inviting ETSI ISG THz to present its activities at the next IEEE 802 plenary meeting is scheduled from 9 to 14 July 2023 in Berlin, Germany.

Regards,

By: /s/

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