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Datum: 28 February 2018

Comment on "Amendment of Part 15 to Allow Operation in the 95-1,000 GHZ Band"

To whom it may concern,

at Technische Universität Braunschweig, Germany, we have worked on THz Communications for more than 13 years. In this period, we have not only contributed to the scientific community but have also influenced standardization and regulation of THz communication systems for example by leading the Task Group IEEE 802.15.3d. In addition, we also actively contribute to the preparatory work for agenda item 1.15 of the World Radio Conference (WRC) 2019.

With regard to the petition from 2013 to amend part 15 to allow operation in the 95-1,000 GHz band, we would like to bring a few points to your attention for information or action as appropriate:

- Recently, the new standard IEEE 802.15.3d-2017 has been finalized. It is the first wireless communication standard operating at carrier frequencies between 252 and 325 GHz with bandwidths in the range of two to seventy gigahertz. Frequencies beyond 325 GHz may be considered in the future for further extensions of the standard.
- The bands between 252 to 275 GHz are already identified for land mobile and fixed services.
- WRC 2015 decided to establish Agenda Item 1.15 for WRC 2019 (Res. 767 WRC-15) to identify frequency bands for (active) land mobile and fixed services operating in the frequency range 275-450 GHz.
- ITU-R studied applications and the technical and operational parameters of these active services. The new reports ITU-R M.2417 and ITU-R F.2416 have become available. Sharing and compatibility studies with the passive services are still under development in ITU-R WP 1A.
- The ITU-R studies and the IEEE 802 standard assume the use of bandwidths of at least 2 GHz and expect devices to typically use 20 to 50 GHz.
- Preliminary sharing study results of WP 1A indicate e.g. that the frequency range 296-306 GHz cannot be shared. Therefore, the bandwidth below

275 GHz should not be limited to less than 500 MHz in (b)(1)(iii) in order to achieve a continuous bandwidth of 44 GHz.

- The EIRP considered in the ITU-R studies may be lower than the proposed limits in (b)(1)(i)-(ii).
- The ITU-R studies include outdoor deployment of devices though they operate in the passive bands. This is in contradiction to (i).

We appreciate the opportunity to comment on the FCC petition and hope that the unlicensed use of bands especially between 252 to 450 GHz will become possible.

Yours sincerely

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