FORVIA
HELLA

To
Telecom Regulatory Authority of India
Attn. Shri Akhilesh Kumar Trivedi
Advisor (Networks, Spectrum & Licensing)
New Delhi – 110 002
India

November 14th, 2023

Subject: Comments on consultation paper No. 21/2023 "Consultation Paper on Open and De-licensed use of Unused or Limited Used Spectrum Bands for Demand Generation for Limited Period in Tera Hertz Range"

Dear Shri Akhilesh Kumar Trivedi,

the company HELLA is a German supplier of automotive components with more than 35,000 employees in more than 35 countries including India.

For improving traffic safety and driving comfort, we develop and manufacture automotive radar sensors in the frequency range 76-81 GHz.

We are happy to read that India is considering to open the frequency band 77-81 GHz for automotive radar sensors and have the following comments to your respective consultation:

On your question 4 (Whether there is a need for permitting license-exempt operation in 77-81 GHz band for automotive radar applications?):

- Further improving traffic safety is a goal that is pursued by many countries and is expressed in increased requirements for mandatory safety features in new vehicles (see for example the latest EU regulation 2019/2144 on type-approval requirements for motor vehicles) and is also expressed in increased requirements for 5-star ratings in NCAP tests (see for example EuroNCAP roadmap 2030).
- Further improving driving comfort up to more automated driving is appreciated by many car buyers and is therefore a goal pursued by many car manufacturers.
- For realizing increased safety and increased comfort, vehicles must be equipped with sensors which detect the surrounding. Here, since several years radar sensors mounted on the exterior of a vehicle have proven to be useful sensors with a good

performance / price ratio. Because of that, the number of vehicles equipped with such radar sensors is increasing, and also the number of radar sensors used on a single vehicle is increasing.

- But to operate an increasing number of radar sensors on the roads with limited mutual interference, additional frequency spectrum must be available. Here, many countries have already opened frequency spectrum above 77 GHz for automotive radar sensors (Brazil, Canada, China, EU, Japan, USA, …).
- To achieve the same future safety and comfort improvements also in India, HELLA proposes that India also opens the frequency range 77-81 GHz for automotive radar.

On your question 5 (In case it is decided to permit license-exempt operations in the 77-81 GHz band for automotive radar applications, what should be the terms and conditions including technical parameters for permitting licensed-exempt operations in this frequency band?):

- For the range 77-81 GHz in India, HELLA proposes to allow the same e.i.r.p. as is already allowed in India for the range 76-77 GHz, namely: **e.i.r.p. RMS = max. 5W (37 dBm)**.This max. value is reasonable because it is consistent with the international limit for human exposure to radiation of max. 1 mW/cm² applied at 20 cm distance and averaged over time.

In case of questions on our comments and on our proposal, please do not hesitate to contact us.

Respectfully submitted,

i.V. HLUBBE1

Digitally signed by HLUBBE1
Date: 2023.11.14 14:38:55 +01'00'

Bernhard Hlubek

Design and Development Driver Assistance Systems