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Electronic Communications Networks and Services
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RSPG Secretariat

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Per e-mail to **CNECT RSPG** (CNECT-RSPG@ec.europa.eu)

Intel Response to the RSPG16-044 "Draft RSPG Opinion on Spectrum Aspects of Intelligent Transportation Systems"

Ladies and gentlemen,

Intel appreciates RSPG work towards developing Europe's spectrum policy for Intelligent Transport Systems (ITS), which includes both ITS for roads and the next-generation railway communications system (to replace GSM-R). Intel welcomes the opportunity to provide its views on the Draft RSPG Opinion on Spectrum Aspects of Intelligent Transportation Systems.

Recommendations on ITS for Roads 1, 3, and 4: The RSPG draft opinion states that the ITS designation is not a mutual allocation. It also recognizes that the 5875-5905 MHz and adjacent 5855-5875/5905-5925 MHz frequency bands are under study as part of WRC-19 deliberations on WAS/RLAN and the EC Mandate to CEPT on WAS/RLAN extension band. Intel believes it is important to ensure that sufficient spectrum is made available for license-exempt use in the 5 GHz frequency range.

Recommendation on ITS for Roads 2: Intel supports the decision on technology neutrality. Since 1999, cellular technology has evolved three generations from 2G to 3G to 4G – with consumers now using 4G LTE networks – and next generation 5G LTE cellular technology already well underway in the global standards process. Like most innovative technologies in a competitive marketplace, 4G and 5G testbeds and deployments for cellular V2X (Cellular Vehicle-to-Everything, C-V2X) will proceed rapidly and launch even before the global standards process completes. Global industry leaders already are engaged in

aggressive standards efforts and undertaking ambitious testbed timelines to demonstrate next generation cellular technology for safety-critical V2X communications. Indeed, 4G and 5G cellular V2X safety-critical specifications are already underway on an aggressive time-line in the global 3GPP standards body, scheduled to be completed in H1'17[1].

Recommendation on ITS for roads 5: Intel notes that telecom operators have already made significant investments to deploy their networks and will continue to make these investments as they upgrade their networks, thereby enabling support of even more applications. The mobile industry and standardization bodies are addressing ITS: the initial version of C-V2X is already standardized and ready for inclusion into the 3GPP Release 14 to be completed in March 2017. The specified C-V2X technology allows efficient ITS support using cellular mobile networks in licensed spectrum, including direct communication between vehicles and between vehicles and roadside infrastructure using the ITS-designated band in 5875-5905 MHz (5.9 GHz band).

Recommendation on ITS for Roads 6: Intel notes the RSPG support for the use of the 63-64 GHz band for ITS on a shared basis according to the decision ECC/DEC/(09)01. This spectrum is useful for the portable short range communications despite the poor propagation characteristics caused by the proximity to the oxygen absorption peak. The 63-64 GHz band is not ideal for communications between vehicles and infrastructure or for longer range communications between vehicles, especially considering the high mobility of ITS scenarios. Intel believes these applications could be better addressed in the more robust 76-81 GHz ITS band.

Finally, in order to support these processes by the technology-neutral regulatory approach, ETSI should revise the relevant European Norms. The CEPT ECC Decision (08)01[2] should also be updated to facilitate the deployment of state of the art technologies such as 5G and efficient spectrum use for roads and railways.

Sincerely

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[1] http://www.3gpp.org/news-events/3gpp-news/1798-v2x_r1

[2] CEPT/ECC Decision (08)01 on the harmonized use of the 5875-5925 MHz frequency band for Intelligent Transport Systems, http://www.erodocdb.dk/docs/doc98/official/pdf/ECCDec0801.pdf