- **Q1: Do you have any comments on the drafting of the Proposed Regulations?**

  ASECAP believes that RLAN hotspots in vehicles deserve special regulatory attention, since vehicles cross borders. RLAN hotspots may be fixed in the vehicle or integrated into a mobile phone. They pose a risk to road charging and the enforcement of drive and rest times and weight controls for trucks, hence road safety. The problem can be addressed by avoiding the 5.795-5.815 MHz frequency bands for hotspots in vehicles and using the output power foreseen under the short-range device decision of 25mW in the 5.725-5.875 MHz frequency bands. Such an arrangement would enable RLAN access points to serve the interior of vehicles, without causing interference to road related radio services and would not require legislative changes.

- **Q2: Do you have any comments on the proposed technical parameters?**

  Radio Local Area Networks, also known as RLAN, are used to wirelessly transmit data. RLAN is also referred to as WLAN or through the brand Wi-Fi. RLAN are far spread in business as well as consumer environments. RLAN devices are tailored to indoor environments. RLAN mainly uses the 2.4 GHz frequency band, secondarily in parts of the 5GHz frequency band. Manufacturers of RLAN devices are asking for more frequency band for their services and aim to make their devices mobile.

  Radio spectrum is a limited resource and the upper 5 GHz frequency band that RLAN manufacturers are looking at is already populated with short-range devices, usually small consumer devices, serving a broad range of purposes, such as baby-phones, garage openers, video links (drones, webcams, etc.). They operate on a policy of mutual non-interference and transmit at low power levels, since they only cover their immediate vicinity.

  There is a group of short-range devices that serve public purposes such as road charging, controlling working hours of lorry drivers, or checking that lorries are not overloaded, hence improve road safety and are used for law enforcement. These short-range devices operate on the 5.8 GHz frequency band and are called Transport and Traffic Telematics devices, or TTT.
  The CEPT, composed of Europe's radio regulators, has studied the issue and concluded that RLAN causes radio interference with TTT and hence requires mitigation measures, if deployed in the same frequency band.

  TTT are designed to be sufficiently robust against existing threats of interference. Deploying RLAN in the 5 GHz frequency band, outside buildings and in a mobile context, in cars for example, can only be done when complying with certain parameters, such as reducing output power when operating the frequency bands that TTT use or avoiding certain slices of frequency band when being used in vehicles.

  RLAN hotspots in vehicles deserve special attention from a radio regulation point of view, since vehicles cross borders. Spectrum allocation varies from country to country, spectrum allocation for vehicle hotspots has to be harmonised across the EU.

  Transport and Traffic Telematics (TTT) devices are short range devices as specified in the Short Range Device Decision 2006/771/EC, as using the 5.795-5.805 MHz frequency band and ERC Recommendation 70-03, which covers additionally the 5805-5815 MHz frequency band. This recommendation has been adopted in most European countries, including the UK.

In September 2013 the European Commission issued a mandate to the CEPT to analyse the use of RLAN in the 5.350-5.470 MHz and 5725-5925 MHz frequency. In January 2016 the CEPT published ECC Report 244 on the co-existence and concluded that RLAN interferes with incumbent systems and mitigation measures would need to be introduced.

Current plans introducing RLAN above 5.725 MHz at a transmission strength of 200mW are of concern to ASECAP, particularly if the RLAN access points are planned to be mobile, either installed in vehicles or in mobile phones. Tests in Spain have demonstrated that an output level of 200mW creates significant interference with road charging transactions. This transmission strength goes beyond what is foreseen in current regulation (25mW) and will interfere with the collection of road tolls, as well as the enforcement of road safety rules.
ASECAP cautions against the introduction of RLAN access points into vehicles. Vehicles and mobile access points cross borders, the interference they cause hence impacts differently on different countries.

In the context of the EU and TTT, ASECAP recommends not using mobile RLAN access points in the 5.795-5.815 MHz frequency band and limiting the output strength to 25mW in the surrounding 5.725-5.875 MHz frequency bands. This allows the smooth collection of road charges and the enforcement of road safety rules, whilst allowing RLAN access points in vehicles.

Background Information

Around 28 million road tolling (TTT-DSRC) OBUs are in use today, communicating with more than 20.000 transceivers (beacons) in Europe for tolling purposes. The majority of European countries have practical implementations of road tolling equipment either as nationwide road tolling equipment or local road tolling equipment (major bridges, individual toll roads or city toll system). The revenue for all kinds of tolling are 29 billion EUR and the TTT based tolling is a substantial part of this. There are also other road toll operators which are not members of ASECAP. In summary, revenues from TTT road toll systems are an important income to build and maintain road infrastructure in Europe. Besides the existing entry in the EC Decision for SRDs for the frequency range 5.795-5.805 MHz, most countries in Europe did also allocate 5.805-5.815 MHz based on ERC/REC 70-03 for road tolling applications.

There are also more than 1.000 small systems implemented throughout Europe over the last 15 to 20 years which are operated in individual buildings, pre-dominantly in parking garages, which are not strictly speaking “road tolling” systems. Other known implementations outside of pure road tolling are found at ferry operators. These applications operate under a more relaxed national regulatory regime.

Commission Implementing Regulation (EU) 2016/799 implementing Regulation (EU) No 165/2014 lays down the requirements for the construction, testing, installation, operation and repair of tachographs and their components. Directive (EU) 2015/719 [i.24] lays down the maximum authorised dimensions in national and international traffic and the maximum authorised weights in international traffic.