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SINGAPORE TELECOMMUNICATIONS LIMITED

RESPONSE TO IDA CONSULTATION PAPER – PROPOSED REGULATORY FRAMEWORK AND STANDARDS FOR INTELLIGENT TRANSPORT SYSTEM (ITS) IN THE 5.9 GHZ (5.875 – 5.925 GHZ) FREQUENCY BAND.

Question 2
IDA seeks views and comments on the proposed 5.875 – 5.925 GHz (5.9 GHz) ITS service band plan

1. While the IDA has indicated that the proposed 5.875 – 5.925GHz (5.9GHz) frequency range, it is important to highlight that the same frequency range has been identified and widely adopted for fixed satellite services (FSS) and maritime satellite services (MSS) in most countries in the South East Asia and the Asia Pacific regions.

2. In addition, almost all geostationary satellites within the visible arc (35°E ~170°E) of Asia Pacific operates in this frequency range to provide telecommunications and backhaul services for data, voice and video broadcasting services to overcome the critical rain fade issue associated with satellite communications. Hence, the harmonisation of this frequency range for ITS services within ASEAN and Asia Pacific is critical and is expected to be challenging.

3. In Singapore, the proposed frequency range and radio frequency (RF) emissions levels of ITS that overlaps with the FSS and MSS is likely to cause potential interference to a certain extent. In United States, Canada, Europe, Korea, Japan and Australia, we would like to highlight that there has been no deployment to date and most countries have reserved its official decision on the proposed frequency range using DSRC technology. In view of the above, we requested that the existing FSS and MSS should be protected and the co-existence with FSS and MSS shall be tested prior to initial implementation of ITS in Singapore.

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4. Due to Singapore's small geographical size and relatively size of its public transportation system and car population, we are uncertain whether it is really necessary to allocate 7 x 10MHz channels for ITS. We would request that the IDA review the requirement for ITS to ensure the efficient utilisation frequency resource for the implementation of ITS in Singapore. IDA's review should include actual computation and analysis to assess the actual number of channels needed for ITS and the frequency bandwidth required for each channel.

Question 4
IDA seeks views and comments on the frequency reassignment for existing services(s) such as fixed services and fixed satellite services, that are residing within the 5.875 – 5.925 GHz band, to facilitate the introduction of ITS; or alternatively, whether the existing services could be operate on a non-protection basis

5. As mentioned above, the frequency range of 5.875 – 5.925 GHz has been widely adopted for FSS and MSS in most countries in the South East Asia and the Asia Pacific regions. Any frequency re-assignment and/or removal of protection on the use of the frequency for FSS and MSS will be challenging and has implications in terms of the commercial and legal liability obligations for the satellite operator(s) and service provider(s) to the existing users whether in term of migration and/or degradation of services quality. Hence, we do not recommend frequency reassignment for existing services or the removal of protection on the use of the frequency for FSS and MSS.

6. In additional, the proposal to reserve the frequency range for ITS will affect Singapore's teleport business as it will limit satellite operators' ability to offer satellite telemetry, tracking and control (TT&C) services and land earth station operation services to its regional customers using teleports located in Singapore.

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Question 5

IDA seeks views and comments on the allocation of interim guard bands, i.e. 5830 - 5855 MHz and 5925 – 5945 MHz, to promote better harmonised spectrum usage between the initial emerging ITS applications and other existing service(s); or alternatively, whether these existing services in the mentioned guard bands could operate on a non-protection and non-interference basis.

7. The allocation of interim guard bands will help mitigate interference between the initial emerging ITS applications and other existing service(s). Whether existing service(s) could operate on a non-protection and non-interference basis with ITS, actual interference studies need to be conducted to assess the feasibility of coexistence of existing service(s) with ITS.

Question 8

IDA seeks views and comments on the proposed "technical Specification of Dedicated Short-Range Communications (DSRC) standards for Intelligent Transport Systems (ITS)"

8. The spectrum limits for DSRC are very high especially from 5875 MHz onwards. On correlating these power level In Table 1 of the proposed Technical Specification, it is noted that the power class D has a communication range of up to 1 km. This may interfere with existing service(s) in the event that the ITS is operating in close proximity to existing service(s); resulting in service degradation/outages. Hence, we request that the existing FSS and MSS be protected and the co-existence with FSS and MSS should be tested prior to initial implementation of ITS in Singapore.