WiQuest™ The New Frontier of Wireless™

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Subject: Singapore iDA Public Consultation Paper regarding Regulatory Framework for Devices Using Ultrawideband Technology

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Sirs,

WiQuest is a leading fabless semiconductor company that develops complete solutions for the emerging ultrawideband (UWB) market. WiQuest's products are designed to comply with the WiMedia Alliance specifications for Wireless Personal Area Networks (WPAN) as well as for Wireless USB applications. WiQuest is a Contributing member of the WiMedia Alliance and an Adopter Member of the USB Implementers Forum. The WiQuest team includes industry experts with proven track records in the design and manufacturing of high speed wireless OFDM communications systems and brings that recognized expertise to the UWB market. WiQuest was founded in 2003 and is headquartered in Allen, Texas, USA.

We hereby attach for your consideration our response to questions regarding the aforementioned Public Consultation Paper. The Paper poses eight questions (Q1-8) and WiQuest offers response to each of these in order (R1-8). Singapore is historically a forward-looking country and has often quickly embraced new technology that improves the lives of its citizens. We are grateful for the opportunity given to us for providing input into the regulatory decision process and we look forward to the successful deployment of UWB in Singapore in the near future.

Please do not hesitate to contact me, if you require further clarifications or feedback.

Sincerely,

/s

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WiQuest Communications, Inc. Response to
Singapore iDA Public Consultation Paper regarding Regulatory Framework for Devices Using Ultrawideband Technology

Question 1: IDA invites views and comments on the proposal to allow UWB devices to operate in frequency bands which are used for other radiocommunication services such as fixed-satellite (FSS), fixed services (FS) and radionavigation.

R1: Industry analysis presented at meetings in ITU-R, ECC TG3, IEEE and other international standards development organizations show conclusively that UWB emissions will not cause significant interference to services such as C-band satellite and radionavigation. WiQuest concurs with iDA that the -41.3dBm/MHz emission limits for UWB devices without mitigation techniques will adequately protect those services.

Question 2: IDA also seeks views on the possible scenarios of harmful interference from UWB devices to other licensed bands and the possible measures to reduce the risk of interference.

R2: WiQuest does not believe UWB devices are likely to cause "harmful interference" to other licensed bands, especially in outdoor usage. In indoor usage, the only interference potential worth considering is the possible interaction with Broadband Wireless Access (BWA) in the 3.5GHz band. To the extent there is the potential for interference to BWA, organizations such as the WiMedia Alliance have worked closely with other regulators and the WiMax Forum to develop Detect and Avoid (DAA) strategies that effectively manage the possible interference between these systems. With the development of DAA capabilities within WiMedia (and WiQuest), we are confident that spectrum can be released without interference to these BWA services.

Question 3: IDA welcomes views and comments on the proposal to adopt a licence-exempt approach for UWB consumer and business data communication systems which comply with the UWB technical specification and operate with peak emission within the 3400 MHz and 10600 MHz band.

R3: WiQuest strongly agrees that the economic benefits of global deployment of WiMedia's UWB technology is best realized under license-exempt regulations and recommends that Singapore adopt such conditions. This approach is fully consistent with that taken in other countries in the world as well as ITU.

Question 4: IDA further invites comments on the proposal to allow licence-exempt UWB devices implemented with mitigation techniques to operate at a higher peak emission level within the 3400 to 4800 MHz band as compared to generic UWB devices without mitigation techniques.

R4: While operation with mitigation techniques between 3.4-4.8GHz is consistent with most other regulatory requirements in Europe and Asia, every other country to adopt a Regulatory Framework for UWB devices has allowed the use of 4.2-4.8GHz without mitigation techniques until a future date. WiQuest therefore recommends that the 4.2-4.8GHz band be allowed for UWB use at -41.3dBm/MHz without mitigation techniques until the end of 2010. This will allow the UWB industry to work with regulators and other industries to develop the appropriate DAA technologies.

Question 5: IDA welcomes views and comments on the proposal to adopt licence-exemption approach for UWB vehicular radar devices which comply with the UWB technical specification and operate with peak emission within frequency bands 21650 – 29500 MHz and 77000 – 81000 MHz.

R5: WiQuest has no opinion on this question.

Question 6: IDA welcomes views and comments on the decision to license, on a case-by-case basis, the use of UWB imaging systems with peak emission below the 960 MHz or in the 3400 to 10600 MHz band.

R6: WiQuest has no opinion on this question.

Question 7: IDA also seeks comments if licensing conditions are required as further safeguards to existing users in the abovementioned band. If so, please identify and explain the potential interference to the mobile and trunked services from the UWB imaging devices operating in the frequency band below 960 MHz. Please also explain what are the safeguard measures that could be adopted.

R7: The WiQuest has no opinion on this question.

Question 8: IDA welcomes views and comments on the proposed licensing fee structure for UWB devices. Please provide supporting reasons to justify your view.

R8: Similar to our response in question 3, WiQuest does not believe licensing fees are appropriate for high volume, globally deployed, consumer devices such as those that will employ WiMedia UWB technology. No other regulatory agency, including ITU-R, has recommended or implemented licensing fees for these types of devices. Other wireless technologies designed for similar use, such as the international standards for Wi-Fi and Bluetooth, are not assessed licensing fees and there is clear recognition that the market could not bear such fees.

Additional Comments:

A: WiQuest recommends extending the portion of the band beginning at 3.4GHz downward to 3.1GHz. This is consistent with regulations in the USA, EU, and Korea. WiQuest does not believe that incumbent services in the 3.1-3.4GHz band will be adversely impacted with such adoption. This expansion will allow manufacturers to develop products for global markets which will thereby reduce cost and increase adoption for UWB products.

B: The suppression limit of -85dBm/MHz at 3.4GHz (or 3.1GHz, as described in A, previously) is extremely difficult to meet without a transition band approach; therefore, WiQuest recommends the adoption of a transition band where the limit is -70dBm/MHz down to 2.7GHz, then drops to -85dBm/MHz. This would still protect licensed UMTS services at 2.7GHz, and in exchange, would provide the UWB industry emission limits that are more reasonable and also practical to measure.

In conclusion, WiQuest offers the above responses and makes additional recommendations in order to help ensure a more harmonized regulatory regime and so that the Singapore market will quickly benefit from the vast assortment of UWB-based products already being designed for use in other jurisdictions.

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