

**WiMedia letter to
Info-Communications Development Authority of Singapore
on
Public Consultation Paper
Regulatory Framework for Devices Using Ultra-Wideband
Technology**

The WiMedia Alliance is pleased to submit comments regarding the Draft Regulatory Framework for Ultrawideband Devices as proposed by iDA Singapore. We commend iDA on its diligent work to help bring this new technology to market; the experimental rules for a UWB-Friendly Zone (UFZ) that iDA approved in early 2003 were widely considered progressive and provided valuable stimulus to the UWB/WiMedia community. The WiMedia Alliance looks forward to working with iDA Singapore in continued efforts to improve spectrum capacity, management, and coexistence, and to bringing the benefits of UWB to the consumers and technology community of Singapore.

WiMedia® is the de-facto standard radio platform for ultra-wideband (UWB) wireless networking. With efficient power consumption and high data rates, WiMedia UWB has been selected by the Bluetooth SIG and the USB Implementers Forum as the foundation radio of their high-speed wireless specifications for use in next generation consumer electronics, mobile and computer applications. Over 200 international member corporations and research institutions support the non-profit WiMedia Alliance, developing specifications, certification tests, and educational programs. The WiMedia PHY, MAC, and MAC-PHY Interface specifications have been ratified by ECMA and ISO/IEC, making WiMedia® the only global standard for high rate UWB communications.

The Public Consultation Paper poses eight questions (Q1-8); the WiMedia Alliance would like to respond to each of these in order (R1-8):

Question 1

Q1: 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: Analysis presented at meetings in ITU-R, ECC TG3, IEEE and other venues show conclusively that UWB emissions will not cause significant interference to services such as C-band satellite and radionavigation. The WiMedia Alliance agrees with iDA that the -70dBm/MHz emission limits for those UWB devices without mitigation techniques will adequately protect those services, and that UWB devices employing mitigation techniques can operate at a power spectral density of -41.3dBm/MHz without causing significant interference.

Question 2

Q2: 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: The WiMedia Alliance 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 of merit 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, the WiMedia Alliance has 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.

Question 3

Q3: 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: The WiMedia Alliance agrees that the economic benefits of global deployment of WiMedia’s UWB technology are best realized under license-exempt regulations. This philosophy is consistent with the approach taken in other countries in the world as well as ITU.

Question 4

Q4: 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 has allowed the use of 4.2-4.8GHz without mitigation techniques until some future time. The WiMedia Alliance requests 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 appropriate DAA technology.

Question 5

Q5: 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: The WiMedia Alliance is not developing specifications for vehicular radar device technology, so we have no opinion on this question.

Question 6

Q6: 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: The WiMedia Alliance does not develop specifications for UWB imaging systems, so we do not have an opinion on this question.

Question 7

Q7: 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 WiMedia Alliance does not develop specifications for UWB imaging systems, and does not advocate the use of UWB below 960MHz, so we do not have an opinion on this question.

Question 8

Q8: IDA welcomes views and comments on the proposed licensing fee structure for UWB devices. Please provide supporting reasons to justify your view.

R8: The WiMedia Alliance does not believe licensing fees are appropriate for high volume, globally deployed, consumer devices such as those that will employ WiMedia® 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 Wi-Fi and Bluetooth, are not assessed licensing fees.

Other Comments:**Extension of lower UWB band from 3.4 to 3.1GHz**

R9: The WiMedia Alliance would prefer extending the portion of the band beginning at 3.4GHz downward to 3.1GHz; this is consistent with regulations in the US, EU, and Korea. We do not believe the services in the 3.1-3.4GHz band will be adversely impacted.

Out of band emission limits below 3.4GHz

R10: The suppression limit of -85dBm/MHz at 3.4GHz (or 3.1GHz, as described in R9) is extremely difficult to meet without a transition band; the WiMedia Alliance would prefer to see a transition band where the limit is -70dBm/MHz down to 2.7GHz, then drops to -85dBm/MHz.

This would still protect UMTS at 2.7GHz, but would give the UWB industry emission limits that are more reasonable and practical to measure.

Extension of upper UWB band from 8.5 to 9GHz

R11: The WiMedia Alliance recommends opening the band from 8.5-9GHz. This would harmonize Singapore's regulations with Japan and Korea; we believe the EC is also likely to open this band up for UWB devices.

Increased transmit power in 6-9GHz UWB band

R12: The WiMedia Alliance believes the band from 6-9GHz should be available globally without the need for mitigation techniques. Furthermore, because of the path losses in this band, we believe UWB devices would benefit from additional transmission power. iDA's UFZ regulations allowed power levels of -35dBm/MHz, and we believe this power level is still appropriate for UWB devices between 6-9GHz. We do not believe this additional power level will adversely impact any existing services in this band, and will allow UWB devices to operate at distances substantially equal to those designed for the 3-5GHz band.

Respectfully submitted,
The WiMedia Alliance Worldwide Regulatory Committee