E-Mail received on February 28, 1996 from Mr. Kazushige Fujita Ministry of Posts and Telecommunications, Japan

Note: these comments have been included in the consolidated comments with a no vote, sponsored by Vic Hayes, Chair IEEE P802.11

Dear Mr. Vic Hayes,

Today, I would like to inform you of the current situation concerning my work to review the IEEE draft standard.

As you know, there are two kinds of technical requirements for wireless LAN in Japan.

* One is the mandatory requirements regulated by the Ministerial Ordinance for Regulation of Radio Equipment.
* The other is the voluntary requirements compiled as RCR STD-33A.

The latter was compiled by the Association of Radio Industries and Businesses (ARIB, former name is RCR: Research and development Center for Radio systems), which is the private standardization body. Both requirements are almost the same (RCR STD-33A covers a little more detailed items), so I compared the deference between the IEEE draft standard and the Ministerial Ordinance.

My comments at present are as follows.

14.3.2 Physical Layer Convergence Procedure Frame Format (p.176)
15.2.2 Physical Layer Convergence Procedure Frame Format (p.219)
The frame format described in the draft IEEE standard is different from that regulated by the Ministerial Ordinance. The Japanese frame format is as follows.

Bit Synchronous Signal	Frame Synchronous Signal	Call Sign
(More than 24 bits)	(31 bits)	(63 bits)

Particularly, all R-LAN terminals are regulated to have the Call Sign based on Radio Law, so the difference of the frame format may become a big problem.

14.6.4 Number of Operating Channels (p.197)
There are no descriptions concerning the " Number of Operating Channels " in the Ministerial Ordinance, so the description of the numbers such as "10" or "23" should be deleted. In addition, it may be necessary to change the description in 14.6.5 (Operating Channel Center Frequency).

14.6.6 Occupied Channel Bandwidth (p.199)
There are no descriptions concerning the "Occupied Channel Bandwidth" for 1 MHz channel spacing in the Ministerial Ordinance

14.6.7 Minimum Hop Rate (p.199)
Hop Rate regulated in the Ministerial Ordinance is more than or equal to 10.

14.6.8 Hop Sequences (p.199)
There are no descriptions concerning the " Hop Sequences " in the Ministerial Ordinance, so the description of the Japanese Hop Sequence should be deleted.

14.6.9 Unwanted Emissions (p.200)
Unwanted Emissions regulated in the Ministerial Ordinance are less than or equal to 25 micro W for 2458-2471 MHz and 2497-2510 MHz, and less than or equal to 2.5 micro W for less than 2458 MHz or above 2510 MHz.

14.6.14.1 Nominal Transmit Power (p.202)
Permitted deviation of transmit power regulated in the Ministerial Ordinance is between -80% - +20%. However, it seems that the measuring method is deferent, so it is difficult to judge whether the IEEE standard is adopted to the Ministerial Ordinance or not.

14.6.14.2 Transmit Power Levels (p.202)
Transmit power level regulated in the Ministerial Ordinance is less than or equal to 10 mW/MHz, so if this regulation is applied, there will be no problem.

14.6.14.3 Transmit Power Level Control (p.202)
Transmit power level is regulated to less than or equal to 10 mW/MHz and antenna gain is regulated to less than or equal to 2.14 dBi in the Ministerial Ordinance, so EIRP per 1 MHz doesn't exceed 10 mW x 2.14 dB. However, the definition of the EIRP in the IEEE draft standard is not clear, so it is difficult to judge whether the IEEE standard is adopted to the Ministerial Ordinance or not.

14.6.14.5 Transmit Center Frequency Tolerance (p.203)
Transmit Center Frequency Tolerance regulated in the Ministerial Ordinance is within *50 ppm.

14.6.15.7 Receiver Radiation (p.204)
Receiver Radiation is regulated to less than or equal to 4 nW for less than 1 GHz, and less than or equal to 20 nW for above 1 GHZ in the Ministerial Ordinance. However, the definition of the Receiver Radiation in the IEEE draft standard is not clear, so it is difficult to judge whether the IEEE standard is adopted to the Ministerial Ordinance or not.

15.4.6.2 Number of Operating Channels (p.243)
In the Ministerial Ordinance, operating frequency range is regulated as 2471-2497 MHz, but the specified frequency point is not regulated, so it may be better to delete the description of the Japanese frequency.

15.4.6.3 Spreading Sequence (p.243)
In the Ministerial Ordinance, Spreading rate is regulated as more than or equal to 10, but the spreading sequence is not regulated.

15.4.6.5 Transmit and Receive In Band and Out of Band Spurious Emissions (p.244)
There is no description about the Japanese regulation in the IEEE standard. In Japan, Transmit Out of Band Spurious Emissions are regulated in the Article 7 of the Ministerial Ordinance for Regulation of Radio Equipment as mentioned in 14.6.9, and Receive In Band and Out of Band Spurious Emissions are regulated in the Article 24 of the same Ministerial Ordinance as mentioned in 14.6.15.7.

15.4.7.1 Transmit Power Levels (p.245)
Compliance Document for Japan is not "MPT ordinance 78" but "MPT ordinance 79", whose name is the Ministerial Ordinance for Regulation of Radio Equipment. In addition, I would like to point out that maximum output powers in USA and EUROPE are described as total power, while Japanese one is described as power per 1 MHz.

15.4.7.3 Transmit Power Level Control (p.245)
The same comment as 14.6.14.3.

15.4.7.5 Transmit Center Frequency Tolerance (p.246)
The same comment as 14.6.14.5.

Other Comments
I have some comments other than mentioned as above. Generally, the IEEE draft standard covers much more detailed specifications than the Japanese Ministerial Ordinance or RCR STD-33A. For example, there are no descriptions in the Japanese Ministerial Ordinance or RCR STD-33A concerning section 1-13 of the IEEE draft standard, or in relation to section 13 or 14, there are many items which are described in the IEEE draft standard but not in the Ministerial Ordinance, such as 14.6.10, 14.6.11, 14.6.12, 14.6.13, 14.6.14.4, 14.6.14.6, 14.6.15(except 14.6.15.7), 14.7.2, 14.7.3 (including 14.7.3.1-14.7.3.4), 15.4.6.4, 15.4.6.6, 15.4.6.7, 15.4.6.8, 15.4.6.9, 15.4.6.10, 15.4.7.2, 15.4.7.4, 15.4.7.6, 15.4.7.7, 15.4.7.8, 15.4.7.9 and 15.4.8. So I would like to confirm that the IEEE standard is not mandatory nor obligatory requirements but voluntary ones.

As I wrote at the beginning of this e-mail, these are tentative comments, and I will send you the final comments until 6 March 1996. And I am very happy if you give me some comments about this e-mail before 6 March 1996.

Sincerely yours,

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