Results of Ballot on Draft Standard D3.0

Resolution on clauses 15

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Comment/Rationale	Corrected Text	Disposition/Rebuttal
1.	**14.8.2.1 .5.**	**maf**	**T**	**N**	**Total of 20 usec given, then, last sentence states: "Stations can use less time, but not less than 20 usec." This doesn't allow any variance at all!**	**Replace last sentence with this new sentence: "Stations can use less time, but not less than 17 usec."**	
2.	12.3.4.4	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame.	<<add a row in the table with a "Duration" parameter, associated only with the RXVector, that is PHY dependent>>	
3.	**13.1.4.4**	**ch**	**T**	**Y**	**the defintion of aSlot_time here does not match the definition in Figure 47 in subclause 9.2.10 (although the text in 9.2.10 matches the defintion here.** **I think that Figure 47 is correct, aSlot_Time also includse aMAC_Prc_Delay**	Slot_Time is defined as a function of the following the equation: aCCA_Asmnt_Time + aRxTx_Turnaround_Time + aAir_Propagation_Time + aMAC_Prc_Delay.	
4.	**13.1.4.4**	**ch**	**T**	**Y**	**Remove this sentance because there is no reason why this should be fixed - it should be a per PHY value. It is not fixed according to the definition in 13.1.4.19**	~~Air_Propagation_Time is defined as 1 usec.~~	
5.	**13.1.4.6**	**ch**	**t**	**Y**	**Some of the variables in the equation are in nanoseconds, but the final result is in microseconds. Round up or down?**	The following equation is used to derive the RxTx_Turnaround_Time (the resultant value is rounded up to the nearest microsecond):	
6.	13.1.4.6	jz	T	Y	Treating aRxTx_Turnaround_Time as a constant value in the PHY MIB is wrong. Implementations must be allowed a certain amount of "slop" for interframe timings. They must ensure that their frames don't start		

					too soon after a previous frame (or else the intended recipient may not yet be ready to receive), nor too long (or someone else may grab the medium). We need three turnaround time values: minimum, nominal and maximum. Basically, the standard has an idealized notion of a MAC that instantaneously commands the PHY to do something, and the PHY instantaneously responds. Real implementations may not be able to ensure sub-microsecond repeatability in timings. There needs to be a (small) window within which frame transmission can commence. Define this as a list of 3 integers, minimum acceptable turnaround time, nominal, and maximum acceptable turnaround time.		
7.	14.2.3	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that).	<<Change '4095' to '1023' for the LENGTH parameter, and add a row in the table with a "DURATION" parameter, associated only with the RXstart primitive, that has values between 0 and 8191.>>	
8.	14.2.3.1	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that).	<<Change '4095' to '1023' for the LENGTH parameter>>	
9.	14.2.3.2	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be	The DURATION parameter has a value of 0 to 8191. This parameter is used to indicate the number of microseconds the PLCP _PDU is expected to require to be received. If the header error check of a received frame is correct, but the	

					calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that). Insert a new section with this text:	frame is being transmitted at a data rate the STA does not support, a carrier-busy condition shall be generated for the expected duration of the unreceivable PLCP_PDU.	
10.	14.3.2	jz	T	**Y**	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that).	<<Change '12 bits' to '13 bits' for the PLW parameter, and change PSF from '4 bits' to '3 bits'.>>	
11.	**14.3.2, 15.2.2**	**kaf**	**T**	**y**	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 I Frame Synchronous Signal I Call Sign (More than 24 bits) (31bits) (63bits) 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.		**defer implementation of country specific regulation until after the initial release of the draft**
12.	**14.3.2, 15.2.2**	**kaf**	**T**	**y**	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 I Frame Synchronous Signal I		**defer implementation of country specific regulation until after the initial release of the draft**

					Call Sign (More than 24 bits) (31bits) (63bits) 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.		
13.	14.3.2.2 .1	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that). Modify text thus:	The PLCP_PDU Length Word (PLW) is calculated using the PLCP_PDU length passed down from the MAC as ~~a~~ the LENGTH parameter within the PHY_TXSTART.request primitive in the transmitting station. The PLW represents the number of ~~octets contained in the MPDU packet~~ microseconds it will take to transmit the PLCP_PDU. Its valid states are 0000h - 3FFFh, representing counts of zero to ~~4095~~8191 octets. The PLW is transmitted LSB first and MSB last. The PLW is used by the receiving station~~ in combination with the 32/33 coding algorithm~~ to determine the last bit in the packet. It takes into account the 32/33 coding algorithm.	
14.	**14.3.2.2.2** **14.3.2.3** **15.2.3.6** **15.2.4** **7.1.3.7** **16.2.4.6**	**RM**	**e**		**Use consistent descriptions for Polynomials in these section**	**some use** $x^n+x^{n-1}+x^{n-2}$**....** **Others use z transform notation** $z^n+z^{n-1}+z^{n-2}$**....**	**the CRC is represented with X's to indicate it is not a time dependent function whereas the scrambler is time dependent. we recommend to have no action on the comment.**
15.	**14.3.3**	**RM**	**t**	**Y**	**Error Types for RXERROR are not defined or used elsewhere.**	**In figure 63, Change PHY_RXEND.ind, ~~(RXERROR=type)~~RXERROR=error**	
16.	**14.3.3.2.1**	**RM**	**t**	**Y**	**This can be ready as two conflicting specifications, since the PLCP is required to detect a signal present no later than 20 us into the slot with the same performance required if the signal is present 16 usecs**	The PLCP shall be capable of detecting within the slot time an FH PHY conformant signal ~~which is received at the selected antenna up to 20 µs after~~	

					before the end of the slot. The slot time is not 36 usec **Historically this distinction was to recognize that the IFS mechanism in the MAC provided a synchronization mechanism that would provide more time for CCA in a slot than for async operation.** **Standardize on the end of slot reference.**	~~the start of the slot time~~ with the detection performance specified in section **Error! Reference source not found.**. Section **Error! Reference source not found.** specifies detection performance with zero-one sync patterns and with random data patterns. If a start of a transmission is asynchronous with the BSS and arrives after the start of the slot but at least 16 usec prior to the end of the slot, the PLCP shall indicate a busy channel prior to the end of the slot time with the detection performance specified in section **Error! Reference source not found.**.	
17.	**14.3.3.2.1**	**RM**	**t**	**Y**	**Exit from the CCA state machine upon receipt of PHY TX Start must be bounded to preserve system timing.**	If a *PHY_TXSTART.request (TXVECTOR)* is received, the CS/CCA procedure shall exit to the transmit procedure within 1 usec. If a *PHY_CCARST.request* is received, the PLCP shall reset all relevant CS/CCA assessment timers to the state appropriate for the end of a complete received frame. This service primitive is generated by the MAC at the end of a NAV period. The PHY shall indicate completion of the request by sending a *PHY_CCARST.confirm* to the MAC.	
18.	14.3.3.3 .1	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. Add a paragraph at the end of 14.3.3.3.1:	In the event the PSF in a correctly-received PLCP header indicates that the frame is being transmitted at a rate this station does not support, the PHY shall indicate medium busy for the indicated duration of the frame, regardless of the state of the carrier-sense hardware.	
19.	**14.3.3.3.1**	**RM**	**t**	**Y**	**Error Types for RXERROR are not defined or used elsewhere.**	If any error was detected during the reception of the packet, the PLCP shall	

						immediately complete the receive procedure with a *PHY_RXEND.indicate(RXERROR=error=~~error type~~)* to the MAC, and return to the CS/CCA procedure with TIME_REMAINING set to indicate the predicted end of the frame given thebyte/bit count remaining.	
20.	**14.4.2.2, 9.2.1, 9.3.2.2, 9.4, 15,2,3,5**	**vz**	E		On page 72, under 9.2.1 there is a reference to a clause with no number following it. Please identify the clause or subclause number. The same occurs on page 85 under 9.3.2.2, and on page 90 under 9.4, on page 188 under 14.4.2.2, on page 220 under 15.2.3.5.		**text corrected**
21.	**14.4.2.2 ,9.2.1, 9.3.2.2, 9.4, 15,2,3,5**	**vz**	E		On page 72, under 9.2.1 there is a reference to a clause with no number following it. Please identify the clause or subclause number. The same occurs on page 85 under 9.3.2.2, and on page 90 under 9.4, on page 188 under 14.4.2.2, on page 220 under 15.2.3.5.		
22.	**14.6.13, 14.6.14.5 General**	**vh**	E		Scrutinize the whole document on units. In 14.6.13, I found usec in stead of μs and in 14.5.14.5 Khz in stead of kHz		
23.	14.6.14.1	**kaf**	**T**	y	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.		
24.	14.6.14.1	**kaf**	**T**	y	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.		
25.	14.6.14.2	**kaf**	**T**	y	Transmit Power Levels (p.202) Transmit power level regulated in the Ministerial Ordinance is less than or equal to 10mW/MHz, so if this		

					regulation is applied, there will be no problem.		
26.	14.6.14.2	**kaf**	**T**	y	Transmit Power Levels (p.202) Transmit power level regulated in the Ministerial Ordinance is less than or equal to 10mW/MHz, so if this regulation is applied, there will be no problem.		
27.	14.6.14.3	**kaf**	**T**	y	Transmit Power Level Control (p.202) Transmit power level is regulated to less than or equal to 10mW/MHz and antenna gain is regulated to less than or equal to 2.14dBi in the Ministerial Ordinance, so EIRP per 1MHz doesn't exceed 10mW x 2.14dB. 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.		
28.	14.6.14.3	**kaf**	**T**	y	Transmit Power Level Control (p.202) Transmit power level is regulated to less than or equal to 10mW/MHz and antenna gain is regulated to less than or equal to 2.14dBi in the Ministerial Ordinance, so EIRP per 1MHz doesn't exceed 10mW x 2.14dB. 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.		
29.	**14.6.14.4**	**RM**	t		**This is technically not dynamic range.**	**Input Signal ~~Dynamic~~ Range**	
30.	**14.6.14.4**	**RM**	t	Y	**This test will exhibit pattern dependancy**	Transmitter shall pass a spectrum mask test. The duty cycle between Tx and Rx is nominally 50% and the transmit frame length is nominally 400 usec. The adjacent channel power is defined as~~, which is~~ the sum of the power measured in a 1 MHz band. For any source data pattern, the adjacent channel power , shall be either less than -70 dBm or a function of the offset between channel number N and the assigned transmitter channel M. Where, M is the actual transmitted center frequency, and N a channel separated from it by integer numbers of MHz.	

31.	14.6.14. 5	**kaf**	**T**	**y**	Transmit Center Frequency Tolerance (p.203) Transmit Center Frequency Tolerance regulated in the Ministerial Ordinance is within *50ppm.		
32.	14.6.14. 5	**kaf**	**T**	**y**	Transmit Center Frequency Tolerance (p.203) Transmit Center Frequency Tolerance regulated in the Ministerial Ordinance is within *50ppm.		
33.	**14.6.15. 4**	**vh**	**E**		FER is Frame Error Ratio (not rate)		
34.	**14.6.15. 5**	**vh**	**E**		Are you sure about IMp as the correct acronym?		
35.	14.6.15. 7	**kaf**	**T**	**y**	Receiver Radiation (p.204) Receiver Radiation is regulated to less than or equal to 4nW for less than 1GHz, and less than or equal to 20nW for above 1GHz 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.		
36.	14.6.15. 7	**kaf**	**T**	**y**	Receiver Radiation (p.204) Receiver Radiation is regulated to less than or equal to 4nW for less than 1GHz, and less than or equal to 20nW for above 1GHz 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.		
37.	**14.6.2**	**RM**	**e**			North America: Approval Standards: Industry Canada (IC), Canada Documents: GL36 Federal Communications Commission (FCC), USA Documents: CFR47, Part 15, Sections 15.205, 15.209, 15.247. Approval Authority: Industry Canada ~~DOC (Canada)~~, FCC (USA)	

38.	14.6.4	**kaf**	**T**	**y**	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).		
39.	14.6.4	**kaf**	**T**	**y**	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).		
40.	14.6.6	**kaf**	**T**	**y**	Occupied Channel Bandwidth (p.199) There are no descriptions concerning the "Occupied Channel Bandwidth" for 1MHz channel spacing in the Ministerial Ordinance		
41.	14.6.6	**kaf**	**T**	**y**	Occupied Channel Bandwidth (p.199) There are no descriptions concerning the "Occupied Channel Bandwidth" for 1MHz channel spacing in the Ministerial Ordinance		
42.	14.6.7	**kaf**	**T**	**y**	Minimum Hop Rate (p.199) Hop Rate regulated in the Ministerial Ordinance is more than or equal to 10.		
43.	14.6.7	**kaf**	**T**	**y**	Minimum Hop Rate (p.199) Hop Rate regulated in the Ministerial Ordinance is more than or equal to 10.		
44.	**14.6.8**	**amb**	**e**		**Equation for Fx(I) is incorrect there should be aplus sign rather than the ***		
45.	14.6.8	**kaf**	**T**	**y**	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.		
46.	14.6.8	**kaf**	**T**	**y**	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.			
47.	14.6.9	kaf	T	y	Unwanted Emissions (p.200) Unwanted Emissions regulated in the Ministerial Ordinance are less than or equal to 25 micro W for 2458-2471MHz and 2497-2510MHz, and less than or equal to 2.5 micro W for less than 2458MHz or above 2510MHz.			
48.	14.6.9	kaf	T	y	Unwanted Emissions (p.200) Unwanted Emissions regulated in the Ministerial Ordinance are less than or equal to 25 micro W for 2458-2471MHz and 2497-2510MHz, and less than or equal to 2.5 micro W for less than 2458MHz or above 2510MHz.			
49.	14.7.2 14.6.10	RM	t	Y	**These two sections are inconsistent in terminology and content. 14.6.10 specifies a minimum value of deviation, which should occur for an alternating data stream. Section 14.7.2 specifies a nominal 2 FSK modulation index specified over 7 like symbols of .32 and a minimum of .30 under these conditions. The 2 FSK modulation should be fully defined in 14.6.10 in such a way that it does not required redefintion or embellishment in the 4 FSK section.**	**14.6.10** An incoming bit stream at 1 Mb/sec will be converted to symbols as shown in TableXX below: 1 Mbit/sec, 2-GFSK **Symbol Carrier Deviation** 1 1/2 * h2*Fclk 0 -1/2 * h2*Fclk *Note: These deviation values are measured using the center symbol of 7 consecutive symbols of the same value. The instantaneous deviation will vary due to Gaussian pulse shaping. h2, the deviation factor of 2GFSK (measured as difference between frequencies measured in the middle of 0000 and 1111 patterns encountered in the SFD, divided by 1 MHz) will nominally be 0.32. The minimum deviation h2 , obtained for a pattern of 7 alternating symbols		

							will not be less than .22 corresponding to a minimum deviation of 110KHz. ~~The minimum frequency deviation, as shown in~~ **Error! Reference source not found.** ~~below, shall be greater than 110 kHz relative to the nominal center frequency F_c. F_c is the average center frequency of the last 8 bits of the preamble SYNC field, measured as the deviation at the mid symbol. Mid symbol is defined as the point which is mid way between the zero crossings derived from a best fit to the last 8 bits of the SYNC field.~~ Maximum deviation is not specified, but modulation is subject to the occupied bandwidth limits of **Error! Reference source not found.**. 14.7.2 [Delete 1MBPS Deviation Table] Stations implementing the 2 MBPS PHY are required to implement the 1 MBPS PHY with tighter tolerances than for 1MBPS only implementations The deviation factor h2 for 2GFSK (measured as difference between frequencies measured in the middle of 0000 and 1111 patterns encountered in the SFD, divided by 1 MHz) will nominally be 0.32. h2 will be no less than 0.30 (with maximum dictated by regulatory bandwidth requirement). ~~h2, the deviation factor of 2GFSK (measured as difference between frequencies measured in the middle of 0000 and 1111 patterns~~	

						~~encountered in the SFD, divided by 1 MHz) will nominally be 0.32. h2 will be no less than 0.30 (with maximum dictated by regulatory bandwidth requirement).~~ Accordingly, h4 (measured as a difference between the outermost frequencies, divided by 3, divided by 1 MHz) is nominally 0.45*0.32=0.144, and it will be no less than 0.45*0.3=0.135.	
50.	**15,2,3,5 9.2.1, 9.3.2.2, 9.4, 14.4.2.2 ,**	vz	**E**		On page 72, under 9.2.1 there is a reference to a clause with no number following it. Please identify the clause or subclause number. The same occurs on page 85 under 9.3.2.2, and on page 90 under 9.4, on page 188 under 14.4.2.2, on page 220 under 15.2.3.5.		**already corrected comment 20**
51.	**15,2,3,5 9.2.1, 9.3.2.2, 9.4, 14.4.2.2 ,**	vz	**E**		On page 72, under 9.2.1 there is a reference to a clause with no number following it. Please identify the clause or subclause number. The same occurs on page 85 under 9.3.2.2, and on page 90 under 9.4, on page 188 under 14.4.2.2, on page 220 under 15.2.3.5.		**already corrected comment 20**
52.	**15.2.2, 14.3.2,**	**kaf**	**T**	**y**	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 I Frame Synchronous Signal I Call Sign (More than 24 bits) (31bits) (63bits) 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.		**refer to comment 11**

53.	15.2.2, 14.3.2,	kaf	T	y	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 I Frame Synchronous Signal I Call Sign (More than 24 bits) (31bits) (63bits) 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.		**refer to comment 11**
54.	**15.2.3.3 15.2.3.5 15.2.3.6 15.2.6 15.2.7 15.3.4**		T	yes	The intention of the signal field (15.2.3.3) (8 bits, value in 100kb/s quantities) is to make the standard prepared for future developments. Now only 1 and 2 Mb/s is defined. Future DS PHY's might have higher or lower rates (with higher or lower modulation indexes). The RX statemachine defined in fig 84 makes it impossible to design an 802.11 modem which can function in (is migratable to) a future network with other tare transceivers. The figure forces the receiver to reset if a validated PLCP header is out of spec (correct CRC but rate different from 1 or 2 Mb/s). If the preamble of an other rate frame is received (the preamble is send at 1 Mb/s and is Direct Sequence modulated according to 802.11) the modem is reset, meaning that this modem might start to sent his own frame (provided it does not recognize the modulation (e.g. other barker sequence) of the other speed MPDU: so it does not signal CCA active). Result is a collission. To prepare a modem for future developments this modem should not be reset but should defer during the length ofthe MPDU. But this modem is not IEEE	Add alinea in 15.2.7 PLCP Receive procedure (at end): - If the PLCP header is successful, but the indicated rate in the Signal Field is out of 802.11 DS specification, a PHY_RXSTART.indicate will not be issued. But the DSSS PHY shall ensure that the CCA shall indicate a busy medium for the intended duration of the transmitted packet. The intended duration is indicated by the LENGTH field (length * 1 microseconds). - And change the figure 83 accordingly. To accomodate easy interpretation of the Length field in all circumstances the definition of the Length Field should be changed (15.2.3.5): - The PLCP Length field shall be an	**in order to partially process this comment, the requirement to reset the receive state machine upon receipt of an out of spec PLCP header has been made optional. change to section 15.2.7 text and state machine. No changes to the interpretation of the LENGTH field will occur during this meeting.**

					compatible. The reset presciption is not described in the text; and text overrules a figure but nevertheless.... What is the reason to define a 8 bit signal field and make it impossible to use its capabilities in future developments? If a IEEE802.11 modem receives a PLCP header correctly, but has not the capability to receive the MPDU rate as defined in the signal field, it can of course not interoperate but it has all the capabilities to coexist. The only thing really necessary is that the modem defers during the transmission of the other rate MPDU. To repair the inconsistency in the standard the text is proposed. NOTE: the proposed improvements do not effect the MAC at all nor other sections in the standard document.	unsigned 16 bit integer which indicates the number of symbols (1 byte is 8 symbols for 1 Mb/s, 1 byte is 4 symbols for 2 Mb/s; values 4 to 2^16) to be transmitted in the MPDU. The number in the Length field is equivalent to the number of microseconds that the MPDU is intended to last.. - 15.2.3.6 - change 192 bytes in 192 symbols 15.2.6 add after 3rd alinea (....,and TXPWR_LEVEL) - The PLCP header parameter LENGTH is calculated from the TXVECTOR element by multipying with 8 for 1 Mb/s resp. with 4 for 2 Mb/s (bytes to symbol conversion) - 15.3.4 - aMPDU_Max_Lngth: 4 ≤ x ≤ (2^13-1) 15.4.4.2, tabel 55 - LENGTH 4 to 2^13-1	
55.	15.2.3.5	jz	T	**Y**	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will	The PLCP length field shall be an unsigned 16 bit integer which indicates the number of ~~octets (4 to 2^{16} as defined by aMPDU_Max_Lngth_1M or aMPDU_Max_Lngth_2M) to be~~	rejected - it is the optinion of this group that the current draft will function with only 1 and 2 Mbps. Future revisions will address this

					be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that). Modify the section thus:	~~transmitted in~~ microseconds it will take to transmit the MPDU. The transmitted value shall be ~~provided by~~ calculated based on the LENGTH parameter in the TXVECTOR issued with the PHY_TXSTART.request primitive described in clause **Error! Reference source not found.** and the data rate at which the frame will be transmitted. The LSB (least significant bit) shall be transmitted first in time. This field shall be protected by the CCITT CRC-16 frame check sequence described in clause **Error! Reference source not found.**.	issue further.
56.	**15.2.3.6 15.2.4 7.1.3.7 14.3.2.2.2 14.3.2.3 16.2.4.6**	**RM**	**e**		**Use consistent descriptions for Polynomials in these section**	**some use $x^n+x^{n-1}+x^{n-2}$.... Others use z transform notation $z^n+z^{n-1}+z^{n-2}$....**	**duplicate - see previous comment**
57.	15.2.7	jz	T	**Y**	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that). Add a paragraph after the sixth paragraph:	If the SERVICE field of a correctly-received PLCP header indicates that the frame is being transmitted at a data rate the station does not support, no PHY_RXSTART primitive shall be issued, but the PHY shall indicate medium busy for the expected duration of the frame, regardless of the state of the carrier-sense hardware.	rejected because of same comment 54 rejected
58.	15.4.6.2	**kaf**	T	y	Number of Operating Channels (p.243) In the Ministerial Ordinance, operating frequency range is regulated as 2471-2497MHz, but the specified frequency point is not regulated, so it may be better to delete the description of the Japanese frequency.		**rejected - in order to specify a standard whicl must be interoperable among many vendors**
59.	15.4.6.2	**kaf**	T	y	Number of Operating Channels (p.243) In the Ministerial Ordinance, operating frequency range is regulated as 2471-2497MHz, but the specified frequency point is not regulated, so it may be better to		**rejected - in order to specify a standard whicl must be interoperable among many vendors**

					delete the description of the Japanese frequency.		
60.	15.4.6.3	**kaf**	**T**	y	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.		**rejected - in order to specify a standard which must be interoperable among many vendors**
61.	15.4.6.3	**kaf**	**T**	y	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.		**rejected - in order to specify a standard which must be interoperable among many vendors**
62.	15.4.6.5	**kaf**	**T**	y	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. (Receiver Radiation is regulated to less than or equal to 4nW for less than 1GHz, and less than or equal to 20nW for above 1GHz 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.)		**in section 15.4.6.5, the text ... in the USA and Europe will be deleted.**
63.	15.4.6.5	**kaf**	**T**	y	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. (Receiver Radiation is regulated to less than or equal to 4nW for less than 1GHz, and less than or equal to 20nW for above 1GHz in the Ministerial Ordinance. However, the definition of the Receiver		**in section 15.4.6.5, the text ... in the USA and Europe will be deleted.**

					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.)		
64.	15.4.6.7	jz	T	Y	Treating aRxTx_Turnaround_Time as a constant value in the PHY MIB is wrong. Implementations must be allowed a certain amount of "slop" for interframe timings. They must ensure that their frames don't start too soon after a previous frame (or else the intended recipient may not yet be ready to receive), nor too long (or someone else may grab the medium). We need three turnaround time values: minimum, nominal and maximum. Basically, the standard has an idealized notion of a MAC that instantaneously commands the PHY to do something, and the PHY instantaneously responds. Real implementations may not be able to ensure sub-microsecond repeatability in timings. There needs to be a (small) window within which frame transmission can commence. Define this as a list of 3 integers, minimum acceptable turnaround time, nominal, and maximum acceptable turnaround time.		reject - unless there is facility in the infrastructure to dictate to each station what the current slot time and SIFS are, there will be more problems created by some stations not adhering to a common SIFS and slot times.
65.	15.4.7.1	**kaf**	**T**	**y**	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 1MHz.		**editorial change accepted**
66.	15.4.7.1	**kaf**	**T**	**y**	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 1MHz.		**same**
67.	15.4.7.1	**kaf**	**T**	**y**	Transmit Power Levels (p.245) Compliance Document for Japan is not "MPT ordinance 78" but "MPT ordinance 79", whose name is the		**same**

					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 1MHz.		
68.	15.4.7.1	**kaf**	**T**	**y**	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 1MHz.		**same**
69.	15.4.7.3	**kaf**	**T**	**y**	Transmit Power Level Control (p.245) The same comment as 14.6.14.3. (Transmit power level is regulated to less than or equal to 10mW/MHz and antenna gain is regulated to less than or equal to 2.14dBi in the Ministerial Ordinance, so EIRP per 1MHz doesn't exceed 10mW x 2.14dB. 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.)		**see section 15.4.7.1 which refers the implementor to the regulatory bodies**
70.	15.4.7.3	**kaf**	**T**	**y**	Transmit Power Level Control (p.245) The same comment as 14.6.14.3. (Transmit power level is regulated to less than or equal to 10mW/MHz and antenna gain is regulated to less than or equal to 2.14dBi in the Ministerial Ordinance, so EIRP per 1MHz doesn't exceed 10mW x 2.14dB. 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.)		**see section 15.4.7.1 which refers the implementor to the regulatory bodies**
71.	**15.4.7.4**	**RM**	**t**		**Video BW needs to be specified in the transmitter spectrum mask test. It makes a difference whether it is a peak or average measurement.**		**comment accepted. text will be added to specify a video bandwidth of 30 KHz**
72.	15.4.7.5	**kaf**	**T**	**y**	Transmit Center Frequency Tolerance (p.246) The same comment as 14.6.14.5. (Transmit Center Frequency Tolerance regulated in the Ministerial Ordinance is within *50ppm)		**this specification is within the Ministerial restrictions**
73.	15.4.7.5	**kaf**	**T**	**y**	Transmit Center Frequency Tolerance (p.246)		**this specification is within**

					The same comment as 14.6.14.5. (Transmit Center Frequency Tolerance regulated in the Ministerial Ordinance is within *50ppm)		the Ministerial restrications
74.	15.4.7.7	RM	t	Y	For the Ramp down, a second specification is required, e.g. ramp time to -40dBc of 5 usec. Given the 20 usec slot times, failure to control ramp down could allow some implementations to interfere with energy detection in the firts IFS slot.	The transmit power down ramp for 90% to 10% maximum power shall be no greater than 2 usec. The power ramp down to -40dBc shall occur within 5usecs. The transmit power down ramp is shown in Error! Reference source not found.	comment rejected - we specify that the TX/RX turnaround is 10 usec and at the end of the SIFS period the station should be ready to receive
75.	15.2.3.5 15.2.6	WD	T	Y	The intention of the Signal field in the PLCP header, which is currently specified in multiples of 100 Kbps is to make the standard compatible with future developments. This would allow future PHYs, which may utilize different speed and modulation techniques beyond the PLCP header to be coexistant with the current specified PHY, so that such a PHY could operate in the same band. The function of the length field in the PLCP Header is actually two fold. It does at one hand specify the duration of the "Medium Busy" condition, while on the other hand it does specify the octet boundary of the end of the frame, such that the MAC can locate the CRC. In a situation where the receiving station can not decode the data modulation, it is desirable that such a station can still perform the "Medium Busy" function, to allow coexistence between the stations. The current Rx State Machine as defined in figure 84, makes it impossible to design an 802.11 modem for future to be defined rates, and still provide the coexistence function, by defering for such a station for the duration as defined in the correctly received PLCP header. According to the current description the PHY does reset the Rx State Machine when an other then the currently defined 1 and 2 Mbps rates are specified in the PLCP header, although the text	Change the definition of the Length field in section 15.2.3.5: - The PLCP LENGTH field shall be an unsigned 16 bit integer which indicates the number of symbols in units of 1 usec (8 symbols per Byte for 1 Mbps and 4 symbols per Byte for 2 Mbps) Add the following at the end of section 15.2.7: -If the PLCP is received succefully (as indicated by the CRC), then the DSSS PHY shall assure that the CCA indicates a busy medium for the intended duration of the received frame, as indicated by the PLCP LENGTH field in usec. Update figure 84 accordingly, by deleting the Validate PLCP state, and change the "SETUP MPDU RX" state.	see comment #54

					does not say so. **This makes the Signal field specification as it is now useless for migration purposes.** **The suggested change is to modify the PLCP length field definition such that the current specified modems can easily perform the "Medium Busy" function, to allow the coexistence.** **This is achieved by specifying the length field to be in units of the 1 usec symbol rate, rather then in Octets.** **This allows a station to assert the "Medium Busy" for the duration as indicated by the length field, independent of the rate specified in the Signal field.** **The modems that do understand the new rate, can still derive an octet boundary of the bitstream being decoded so that the proper end of the frame is indicated to the MAC.** **This change is completely independent of the MAC, sinse the Octet to time conversion is done in the PHY.**		
1.	16.2.2	jz	T	**Y**	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. The PLCP length can be calculated from the duration and bit-rate in the PLCP header for data rates up to 8 Mbps (for higher rates, certain lengths cannot be unambiguously encoded; we will need to use reserved PSF bits for that).	<<Calling it "DURATION" rather than "LENGTH" would make sense, though it is really an editorial issue>>	
2.	**16.2.2** **16.2.4.3** **16.4**	**mif**	T	**Y**	The IR PHY is the only PHY which has a PLCP header with a **fractional** number of bit times between the end of the SFD and the start of the PSDU. The IR PHY is also the only PHY where the PLCP header is a different physical length in the 1Mbps and 2Mbps cases. The first problem is the 3-slot (750ns) data rate field. There is no stated reason for this field to be a non-integer number of bits in length, but there is an added complication because all transmissions are a non-integer number of microseconds, and the interval between SFD	[1] Change the DR field to be an even number of slots (presumably 4, using a fixed value of zero for the added slot). [2] Adopt a fixed-duration PLCP header for both bit rates — either by using 16-PPM on all fields in the PLCP header or by other differences in header contents to make the durations equal.	

					recognition and the start of the MPDU's Frame Control field cannot be timed with the 1us (or 500ns) timebase. This unnecessarily complicates MAC implementations, requiring a second timebase for what should be the simplest of the PHYs to support (no antenna slots, no RSSI, no carrier detection, etc.; just weird header timing). While the necessary rounding of duration fields, etc. is defined for the MAC, the efficiency impact of adding 1/4 or 1/2 of a bit time to the PLCP header is negligible, whereas the need to handle this separately for the 1Mbps and 2Mbps cases seems unjustifiable. The second problem is that the PLCP header duration is 25us using 4-PPM (for a total PLCP duration of 40us using the 2Mbps rate), but 41us using 16-PPM (for a total PLCP duration of 60us using the 1Mbps rate). There is no provision in the MAC multirate support for different PLCP durations at the two rates. The two STATIC values for the aTX_PLCP_Delay in the IR PHY MIB are a problem unless a given station is constrained to always use a single rate. Even if that single rate provision is enforced, a station sending a directed MSDU to a station whose rate is unknown lacks the information needed to properly set the Duration fields of the outgoing MPDUs. If things are left as currently specified, the Duration fields will have to be set assuming the response (ACK) will be sent with the longer PLCP duration, which will cause the NAV to be set at least 20us too long in non-addressed stations. This may give the pair of communicating stations unfair priority access to the medium, with effect (although not cause) much like the "capture effect" on Ethernet. If the shorter PLCP duration is assumed, the NAV will not protect an ACK sent at the 1Mbps rate. The current MAC multi-rate mechanism (which should work well with the IR PHY because all IR stations are able to receive at 2Mbps) is based on the assumption of a uniform format, uniform duration PLCP header, which is not currently the case for the IR PHY.		
3.	16.2.4.5	jz	T	**Y**	Implement "An Idea" from 96/10 by changing the	The LENGTH field is an unsigned 16	

					meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame. Modify the text thus:	bit integer which indicates the number of ~~octets to be transmitted in~~ microseconds it will take to transmit the PSDU. The transmitted value shall be ~~provided by~~ calculated based on the LENGTH parameter in the the PHY_TXSTART.request primitive as described in Clause ~~9~~12. The LSB (least significant bit) shall be transmitted first in time. This field is modulated and sent in L-PPM format. This field is protected by the CRC described below.	
4.	**16.2.4.6 7.1.3.7 14.3.2.2.2 14.3.2.3 15.2.3.6 15.2.4**	**RM**	e		**Use consistent descriptions for Polynomials in these section**	**some use $x^n+x^{n-1}+x^{n-2}$....** **Others use z transform notation $z^n+z^{n-1}+z^{n-2}$....**	
5.	16.2.5.2	jz	T	Y	Implement "An Idea" from 96/10 by changing the meaning of the "length" in the PLCP header from "number of octets" to "number of microseconds". This ensures that future different-rate PHYs will still be able to indicate to existing PHYs how long the medium will be busy for each frame.	<<The way it is defined in 16.2.5.2(b), it looks like it will be impossible for a station that wasn't built for >2 Mbps operation to detect the whole PLCP header of a >2 Mbps transmission, so maybe my point is moot....>>	
6.	**16.3.3.3**	**RM**	E		**Figure 94, Mask Device Orientation Drawing should be revised to be more generic.**		
7.	**All, 14.6.1.2**	vz	E		In the text of the standard, refer to clauses and subclause (for example, clause 5, clause 6, subclause 6.1, subclause 6.1.1). Do not use the terms "section," "paragraph," etc. (See page 201, under 14.6.1.2, etc.)	Change all	
8.	**14.6.10**	**RM**	e		**clarity**	The minimum frequency deviation for any data pattern, as shown in **Error! Reference source not found.** below, shall be greater than 110 kHz relative to the nominal center frequency F_C. F_c is the average center frequency of the last 8 bits of the preamble SYNC field, measured as the deviation at the mid symbol	

9.	13.1.4.1 1	maf	t	Y	**If equation at 13.1.4.1.1 is understood to have precedence over the value specified in the chart in a phy clause (such as the one found in 12.3.4.), then it would imply that various implementations may have different SIFS times, and this could lead to some receivers missing some of the first bits of preamble, which may impact their ability to properly select an antenna. Resolve the confusion by indicating that the equation must produce a FIXED SIFS value, as found in the table in the PHY clauses.**	**aSIFS_Time equation is given here, but some of the parameters used in this equation for the DSSS PHY type as defined in section 12.3.4 are variable, but the table in 12.3.4 also gives a fixed value for aSIFS_Time. So the text in section 10.1.4.1..1 should be modified to indicate that while the equation is correct, the actual value of aSIFS_Time must add up to equal the value specified in the appropriate PHY clause of the document.**	
10.	13.1.4.1 | 1	ch	t	Y	**Some of the variables in the equation are in nanoseconds, but the final result is in microseconds. Round up or down?**	The following equation is used to determine the SIFS_Time(the resultant value is rounded up to the nearest microsecond):	
11.	13.1.4.1 | 9	ch	T	Y	**There are no units on aAir_Propagation_time, and they need to be nanoseconds to suit the IR PHY**	The parameter aAir_Propagation_Time is the time, in nanoseconds, it takes a transmitted signal to go from the transmitting station to the receiving station.	
12.	14.8.2.1 .22, 14.8.2.1 .23	vh	E		in Table 44 and 45, change 1M bits per second in to 1 (non breaking space) Mbit/s		
13.	13.1.4.5 3	AS	t	y	**Where is the Doze state defined? How is this different from the sleep state? The PMD_PWRMGMT.request primitive (in 14.5.5.9) only provides ON and OFF requests with no option for doze or sleep states.**		
14.	14, 15	kaf	t		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.		
15.	**14, 15**	**kaf**	**t**		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.		
16.	**15, 14**	**kaf**	**t**		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,		

Seq. #	Section number	your ini-tials	Cmnt type E, e, T, t	Part of NO vote	Comment/Rationale	Corrected Text	Disposition/Rebuttal
					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.		
17.	16.4	jz	T	Y	Treating aRxTx_Turnaround_Time as a constant value in the PHY MIB is wrong. Implementations must be allowed a certain amount of "slop" for interframe timings. They must ensure that their frames don't start too soon after a previous frame (or else the intended recipient may not yet be ready to receive), nor too long (or someone else may grab the medium). We need three turnaround time values: minimum, nominal and maximum. Basically, the standard has an idealized notion of a MAC that instantaneously commands the PHY to do something, and the PHY instantaneously responds. Real implementations may not be able to ensure sub-microsecond repeatability in timings. There needs to be a (small) window within which frame transmission can commence. Define this as a list of 3 integers, minimum acceptable turnaround time, nominal, and maximum acceptable turnaround time. The single value of 0 places an unrealistic expectation on implementations, since MAC processing takes finite time in the Real World.		
18.							