IEEE P802.11
Wireless LANs
Comments received on WPAN's PAR and 5 Criteria in Letter Ballot 16

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lastname	firstname initials	Voter id
Abramowitz	Jeff	ja
Bagby	David	db
Black	Simon	sb
Boer	Jan	jbo
Chayat	Naftali	nc
Diepstraten	Wim	wdi
Ennis	Greg	ge
Hayes	Victor	vh
Heegard	Chris	ch
Kawaguchi	Dean M.	dk
Nee	Richard van	rvn
O'Hara	Bob	bo
Petrick	Al	ap
Sanwalka	Anil K.	as
Shoemake	Matthew B.	mbs
Tsoulogiannis	Tom	tt
Tuch	Bruce	bt

Seq. #	Clause number	your voter's id code	Cmnt type E, e, T, t	Part of NO vote	Comment/Rationale	Recommended change	Disposition/Rebuttal
1	1.1	ja	e	Y	The need for this technology is not "clear" without a compelling explanation. Wireless PANs have enormous potential in many specific applications aimed at a variety of platforms. Some specific benefits and uses would be useful to make this apparent.	Rewrite section	
2	1.3	ja	e	Y	The PAR needs to address the fact that Bluetooth is a likely industry defacto standard.	Rewrite section to include positioning relative to Bluetooth	
1	NA	mbs		Y	I do not believe that the applications addressed by this proposed PAR are significantly different from the applications that are already addressed by the current 802.11 standard and the emerging high rate standard. I do not believe that the reduction of cost that this PAR anticipates is a reality. With high levels of integration, the price points that will soon be achieved by the current 802.11 standards do not leave much cost to save.	Resolve that the findings of the WPAN study group do not warrant a new standard or addition to the current standard, and dissolve the WPAN study group.	
1	NA	ch		Y	The 2.4 GHz band is an unregulated band, thus the current 802.11 standard has been designed to tolerate noise from other users. However, enabling other standards to significantly interfere with the current 802.11 standard is nonsensical. The markets addressed by the current 802.11 standard and the target markets of the WPAN PAR are not significantly different.	Having determined that there is no need for a new PAR in the area investigated by the WPAN study group, terminate the WPAN study group.	

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1	1.2	AS	T	Y	In the first paragraph of clause 1.2, document 161r4 states that in a MAC working group (802.11) there shall be only one MAC. This seems to me to require that for a WPAN supplement for 802.11 to be approved it has to 100% MAC compatible. Any changes to the MAC would have to be migrated to all other 802.11 MAC devices.	Change the compatibility statement to indicate that: The WPAN PHY will be interoperable with at least one of the 802.11 PHYs, and The WPAN MAC will be a strict subset of the 802.11 MAC (the 802.11 MAC may need to be modified to add features required by WPAN).	
1		BT	T	yes	The new standard should be coexistent and interoperable with the current 802.11 standard. In the PAR this requirement is not stated.	Add interoperability and coexistence requirement to existing IEEE802.11 standard to the PAR.	
1		ap	E		Spelling error "futher"	change to "further"	
1	general	ge	T	Y	The WPAN standard must allow for data to be exchanged with an 802.11 node that implements the FH PHY and the 802.11 MAC.	Make this a requirement	
1		WDI	T	yes	The PAR for this new standard should state the requirement to be coexistent and interoperable with the current 802.11 standard.	It should be stated in the PAR that interoperability and coexistence with the existing IEEE802.11 standard is a requirement.	

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1	6	TT		Y	The scope described states that only co-existence is required. If this is to be an 802.11 extension then some form of interoperability is required given that equivalent PHY's are used. Since co-existence with existing 802.11 LANs is deemed a "critical" success factor then this implies there must be the ability to be able to decode up to the end of the PLCP header. This would allow the duration of the frame to be decoded and a deferral done until the end of the frame. Since co-existence is a two way street, it is then equally vital that 802.11 defer to WPAN traffic, otherwise the WPAN network would always fail in the presence of a busy 802.11 network. This means that the PHY's for WPAN and for 802.11 must be very similar in modulation and channel allocation to allow this to happen. Simple energy detection is not sufficient to ensure co-existence. Since the PHY's are similar then this leaves the MAC as the only source of simple co-existence instead of interoperability. It was discussed how a subset of the 802.11 MAC can be used to simplify the implementation and reduce the cost of WPAN device, yet still allow SOME level of interoperability with an existing 802.11 device. Yet the PAR does not mention interoperability. I believe the interoperability goal should be stated in the PAR, otherwise a lot of time may be wasted with draft WPAN standards that are not 802.11ish and will most probably fail at the working group or Sponsor level.	State in scope that a level of interoperability sufficient to transfer data between a WPAN device and an 802.11 device will be possible.	

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1 cont'd.	6	TT		Y	I don't think this body should encourage the development of an incompatible MAC standard which this PAR seems to do. I don't understand the reluctance of committing to a course of action that will allow SOME interoperability with existing devices. If it can't be done or if a totally different MAC is desired for reduced cost or other reasons, then this should not be under 802.11. Does it make sense to have two MACs that aren't interoperable be part of the same 802 standard?		
1	1.1.c	nc	E	No	In 1.1.c, Balanced costs (LAN versus attached stations) the statement "Wireless Personal Area Network (WPAN) connectivity costs will be a small percentage of the target devices e.g., PDA/HPCs, printers, microphones, speakers, bar code readers, sensors, displays, Pagers, and Cellular & PCS Phones" is not substantiated. Use a more realistic language.	For example, say: "The standard for Wireless Personal Area Network (WPAN) will be developed with the aim that the connectivity costs will be a reasonably small fraction of the cost of the target devices e.g., PDA/HPCs, printers, microphones, speakers, bar code readers, sensors, displays, Pagers, and Cellular & PCS Phones"	

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1	General	DB		y	These documents are a mess. They appear to me to be a classic case of doing a document just to see if one can meet the minimum requirements to get by. In my view the documents are so seriously deficient they should never have been sent out for ballot. For example: 1) They do not call out a defined need for WPAN devices (no defined user group, no market segmentation, no examples of industry need). 2) They do not identify any market uniqueness (as required) – in fact there already exist at least two other RF based technologies that the proposers have indicated would probably meet their needs (BlueTooth and HomeRF) – but they do address these technologies as part of the justification. 3) None of the criteria put forward are quantified. Vague opinions are offered in the criteria document about needs for WPAN stuff. The total lack of quantified, verifiable information is inadequate. I doubt that any VC firm would invest in a business plan based on this level of justification/motivation. The establishment of an additional part to 802.11 is an expensive exercise – consider the manpower involved in meetings and ballots alone. 4) The documents do not comply with requirements already placed on the study group by 802.11 (re interoperability, which I personally would deem a requirement). I have heard this 2nd hand but can not verify it as the minutes of the relevant meetings are not yet available. While this is the fault of the 802.11 management rather than the study group, because of the timing of the letter ballot I am forced to vote No until such time as the relevant meeting minutes are available.		

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1.	PAR 6	BO	T	Y	**The scope is not specific enough as to the work to be done, namely maintaining interoperability with existing 802.11 products.**	Include statements in the scope that make it clear that the work to be done is to revise and extend 802.11 MAC and FH or DS PHY so that interoperability is maintained while meeting the requirements of a PAN.	
2.	PAR 7	BO	T	Y	**The purpose does not state that interoperability will be maintained with current 802.11 products.**	Include statements in the purpose that make it clear that interoperability with current 802.11 product is necessary.	
3.	PAR Additional Explanation Notes	BO	T	Y	**Include a clear definition of the level of interoprability that is to be attained between the WPAN and current 802.11 products.**	Add a definition of interoperability for the purpose of this proposed standard.	
4.	5C 1.2	BO	T	Y	**This clause must include a definition of interoperability.**	Include the definition of the level of interoperability that will be attained between WPAN and existing 802.11 devices.	
5.	5C 2	BO	T	Y	**This clause must be revised to include discussion of interoperability.**	Since interoperability with 802.11 is now a part of the WPAN, include that in this discussion of coexistence.	

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1	1.5.3	sb	t	N	**I have two issues with the PAR and five criteria, neither of which shall cause me to vote NO. However I believe both are serious enough such that they are likely to be EXCOM questions:** **1) The five criteria address distinct identity among 802 standards, but not among the other relevant standards cited in the PAR. I would have thought a line of two about Bluetooth is really required here. I think the differences to .11 and HomeRF are clearer.** **2) The PAR does not make it clear to me whether a new MAC is being proposed. I may have just missed this in which case I apologize. However, I strongly urge you to make best use of the .11 MAC. Profile it strongly with a new PICS to suit.**	**Suggest you at least have a verbal answer for these points just in case.**	
1		RvN	T	yes	**It is not clearly stated in the PAR that the new standard will be interoperable with the existing IEEE802.11 standard.**	**Add interoperability to existing IEEE802.11 standard to the PAR.**	
1	6	Dk	T	Y	The statement "The proposed WPAN Standard will be developed to ensure coexistence with all 802.11 Networks" is not in line with what the 802.11 voted on in the November plenery. The group directed the study group to provide <u>interoperability</u> with the existing 802.11 MAC and one of the PHY's.	Change statement to "The proposed WPAN Standard will be developed to provide some level of interoperability with the existing 802.11 MAC and one of the 2.4 GHz PHY's.	
1		JBo	T	yes	**The new standard should be coexistent and interoperable with the current 802.11 standard. In the PAR this requirement is not stated.**	**Add interoperability and coexistence requirement to existing IEEE802.11 standard to the PAR.**	

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1		VH	T	Yes	The PAR does not specify the scope in a way that the IEEE can determine what the work will encompass. It is needed to specify the functionality so that the work can be compared with other projects (existing or future).	Specify on a separate sheet what the scope is. Include such functionality as data rates, transfer types (asynchronous or isochronous), coverage area, interoperability with other standards and so on.	
2		VH	T	Yes	The PAR does not require isochronous service as a requirement. From work in industry consortia, one can see that there is a requirement for isochronous services. If the WPAN PAR does not specify isochronous services, it will soon be rendered obsolete.	Include Isochronous service in the scope of the PAR.	
3		VH	T	Yes	The PAR does not cater for the requirement that 802.11 passed in a motion during the November 99 meeting: Motion 15: to have the 802.11 working group endorse the WPAN SG's decision to create an 802.11 MAC Lite & corresponding PHY layers based on a interoperable derivative of the 802.11 MAC & PHY layer., aproved with 33-6-5	Add the requirement for interoperability and the level of interoperability to the scope of the PAR	