Project	**IEEE 802.16 Broadband Wireless Access Working Group <http://ieee802.org/16>**
Title	**Minutes of the IEEE 802.16.2 Meeting of November 6 - 9, 2000**
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Re:	Minutes of Meeting #10
Abstract	This provides a record of TG2 activities at the meeting in Tampa, Fl.
Purpose	N/A
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IEEE 802.16.2

Minutes of the November 6 – 9, 2000 Meeting

Rémi Chayer
Harris Corporation
Vice-Chair TG2

Andy McGregor
Nortel Networks
Co-chair TG2

Monday November 6, 2000

The meeting was called to order by the Chair (Andy McGregor) at 16:20 hours.

The agenda proposed by the Chair was approved after adding a "New Chairman" item. See Appendix I.

It was noted that the WCA had issued several substantive comments and the TG hoped that someone would represent WCA to help the TG understand the rationale of the comments and resolve them satisfactorily.

For the detailed review of the comments, refer to Appendix II.

The group clarified some of the comment resolutions from the October 25 – 26 meeting at the request of the Editor. After discussion, the TG changed their resolution to comments #65 and #79.

Meeting closed by the Chair (Andy McGregor) at 17:57 hours.

Tuesday, November 7, 2000

Meeting called to order at 08:25 hours.

The resolution of the WCA comments was postponed to the afternoon to allow WCA representatives to attend.

Comments from Scott Marin, Barry Lewis, Jack Garrison and Andy McGregor were resolved.

The draft proposal to revise the Working Group PARs (IEEE 80216-00/21) was reviewed and accepted by the TG.

Addressing of the explicit WCA comments started in the afternoon:

- The TG asked WCA what was the source of the comments - they are comments from WCA members that were discussed during conference calls. The WCA Engineering Committee had a meeting in which they approved the comments to be submitted to the IEEE 802.16 TG2. Two sets of comments were prepared - the general comments with no specific change advocated and the specific comments, which had explicit revised text.

- Comment 161: There was no consensus on the trigger distance, therefore a vote of members was held on changing the 60 km distance to 16 km. Results of the vote is
  9 against the change, 0 abstention, 0 for the change.

Meeting closed at 18:55 hours.

Wednesday, November 8, 2000

Meeting called to order by the Chair at 08:20 hours.

Addressing of the remaining WCA comments continued:

A contribution from Leland Langston with Acronyms was agreed to be imbedded by the editor.

A contribution from Leland Langston with minor editorial comments was accepted in block.

Verbal comments (#193 and #197) were accepted.

Andy McGregor volunteered to generate an explanatory graphic and text as an example of using the Out-of-band emission limits (section 6.1.4.1).

The chair closed the meeting at 15:50 hours.

November 9, 2000

Meeting called to order by the Chair (Andy McGregor) at 08:30 hours.

Comment from Jay Ramasastry that we should reference the BWA Handbook from the ITU-R JRG 8A-9B. The decision is that it should be presented as a comment during the ballot (next round of comments). In the meantime, the chair will contact Jose Costa to ask him for a liaison providing a copy of the handbook.

Also, Jay Ramasastry feels that there was not enough input from the US Operators and that the document should consider the point-to-point cases. The team recommended that Jay requests a new work item to our committee. The exact way to handle it will depend on future discussions (inclusion in a next release of the document, a new document, etc.). Adding such information in the current document would delay its release, and is not acceptable.

Comment 117: Comment was withdrawn.

Andy McGregor presented an explanatory graphic and text as an example of using the Out-of-band emission limits (section 6.1.4.1). This was accepted.

The document release schedule was updated with minor changes. Major deadlines are unchanged.

Following the resignation of Andy McGregor as co-chair of the TG2, the task group proposes Philip Whitehead as the new co-chair, Leland Langston remaining the other co-chair.

Reviewed the “thank you” letters to Industry Canada, RABC and WCA. Also reviewed the letter to Dr. Macchi, Chair of ETSI TM4 requesting the authorization to include sections of ETSI documents in our recommended practice. Reviewed the draft TG2 presentation to the closing plenary. These were accepted.

Meeting closed at 14:00 hours.

Appendix I TG2 Agenda

•Update to Ottawa resolutions
•Comment Resolution (77)
  –Andy McGregor / IEEE Project editor (4+6)
  –Jack Garrison (1)
  –Barry Lewis (1)
  –Scott Marin (30)
  –WCA (13+22)
  –TG2 Discussion
•PAR Maintenance
•Joint TG1/TG2(PHY) meeting on "TG2 comments to TG1" (Wed 8am-9.30)
•WG Ballot
  –Review Timeline & Procedure for WG Ballot (Nov 15-Dec 24)
•Teleconference / Interim meeting early January? (Recirc Jan 8-19)
  –Review Draft Motion for WG Ballot
  –Review updated pre-Rev10 doc (goal: on Server by Noon Thursday)
•Discuss Sub-11 Coexistence Practice
•Any other Business – new chairman

Appendix II Comment Resolution

Ref#	LastName	FirstName	Memb	Page	Line	Type	Brief Description	Resolution
Start of Written Comments to Oct 25/26th Meeting								
1	Chan	Rebecca	O	30		T	replace text in 6.1.1.1 with text in comment	Changes accepted but need rev. number of the document in reference
2	Chan	Rebecca	O	31		T	replace text in 6.1.1.2 with text in comment	Changes accepted but need rev. number of the document in reference
3	Chan	Rebecca	O	92		T	Replace text under the subheading “Industry Canada” with text in Comment	Changes accepted
4	Chan	Rebecca	O	99		T	Create new Annex F with text in Comment	Changes accepted but change the section title to "Industry Canada Coordination Process". Need Annex E title changed to refer to UK coordination process
5	Whitehead	Phil	M			T	add new CS-CS text 802162c-00/20.pdf	Changes accepted
6	McGregor	Andy	M	34	16	T	Insert the paragraph in comment immediately following the (2) sub-heading	Changes accepted
7	McGregor	Andy	M	53	3	T	Add text in comment after line 3	Changes accepted but add another sentence stating that the case where an operator uses multiple channel sizes has not been studied.
8	McGregor	Andy	M	62	12	T	Replace “EIRP” with “Power spectral densities”	Changes accepted
9	McGregor	Andy	M	62	32	T	Add new sentence in comment at end of paragraph	This subject should go in section 9.5 and in 9.7.1. Wording should be: "Careful planning is required for co-sited antennas".
10	McGregor	Andy	M	2	13	E	Delete “-“ following “Annex D”	Accepted
11	McGregor	Andy	M	7	28	E	Insert “regulations” after “local” in text “In the event that local and/or ITU Radio Regulations …”	Accepted
12	McGregor	Andy	M	7	33	E	Delete “s“ in “publications” as only one doc is listed	Delete the whole word "publications" and replace with colon.
13	McGregor	Andy	M	10	20	E	replace text around Bom, Bou, Bol as per comment	Accepted
14	McGregor	Andy	M	10	27	E	Insert “total mean” before “power” as in “… = 99.8333% of total mean power.”	Accepted
15	McGregor	Andy	M	10	34	E	Replace “main emission” with “authorized bandwidth” in “These emissions occur both above and below the main emission”	Accepted
16	McGregor	Andy	M	11	9	E	Delete “at all frequencies over the entire band”	Use "over the specified band" instead
17	McGregor	Andy	M	12	7	E	Insert new acronym “Bo occupied bandwidth”	Accepted
18	McGregor	Andy	M	12	12	E	Replace “CEP” with “CEPT”	Accepted. Add "...Européenne…Postes..." and in English, remove the accents.
19	McGregor	Andy	M	13	26	E	Insert new acronym “TS terminal station”	Accepted
20	McGregor	Andy	M	13	33	E	Insert “do not” after “waves” in “Electromagnetic waves respect the same geographic… boundaries …”	Delete whole sentence instead.
21	McGregor	Andy	M	13	39	E	Move “e.g. PCS and cellular phone” to follow “RF transmitters” Change “is” to “are” Change section reference to 9.10 So that text reads “… intentional (e.g. RF transmitters, like PCS and cellular phones) and unintentional (e.g. radiated spurious) sources, which are addressed in Section 9.10.”	Delete "(e.g. PCS and cellular phones)" instead. Accepted Section 9.10 instead of Section 0. Remove radiated spurious and add fluorescent lights and electrical machines. Accepted are instead of is. Also remove the words" In the real world.." Change last sentence in first paragraph to " Coexistence issues between multiple operators are therefore inevitible."
22	McGregor	Andy	M	14	23	E	Delete “[marshalled]”	Accepted
23	McGregor	Andy	M	15	3	E	Delete “in (b)”	Accepted. Also remove "above".
24	McGregor	Andy	M	15	8	E	Insert “,” before and after “which was used to substantiate the –6 dB value”	Accepted comment. Additionally, in the same sentence, change acknowledge to investigate, prediction to assessment and suggests to predicts. Add interference at end of the sentence.
25	McGregor	Andy	M	15	18	E	Insert “,” after “cooperative initiative was made”	Rejected. Remove last sentence "In some regulatory...promote coexistence.
26	McGregor	Andy	M	15	20	E	Change text to read “… deploy his own system for the maximum use of frequency (i.e. use …” Change text to read “… must be employed to facilitate minimum intra-system interference, will contribute …” Change text to read “Even the maximum use of frequency in a system does not guarantee coexistence.”	Modify sentences to: "Each operator should design and deploy their system for minimum intra-system interference. The logic behind this Recommendation is that the same techniques of base station site selection, pattern management and emission control that are employed to facilitate minimum intra-system interference should contribute to its coexistence with other systems. Recommendations 9, 10 and 11 below and in Section 6 provide recommended antenna performance, spectral masks and maximum EIRP from the vantage point of coexistence. These guidelines however do not guarantee coexistence" Delete:"Even the most...resolution of coexistence issues."
27	McGregor	Andy	M	16	21	E	Change text to read “… described in Annexes D, E and F.”	Accepted
28	McGregor	Andy	M	17	10	E	Change text to read “… co-location of FDD base station emitters be considered before trying to improve emission masks.”	Change last sentence to: "For cases where no guard band is provided, it is recommended that co-location of harmonized base station emitters be considered before trying to improve emission masks." Throughout the paragraph, make "emission" singular. On first line, change from provided to described.
29	McGregor	Andy	M	17	12	E	Change text to read “Utilize maximum control of subscriber EIRP in accordance …	Change to: "Limit maximum EIRP in accordance with recommendations in Section 6.1.1 and use subscriber power control in accordance with recommendations in Section 6.1.2." Change in last sentence from …are believed to… to … should...

30	McGregor	Andy	M	23	1	E	In Figure 3, the “Out-of-Channel Interferer” graphic has disappeared in changing from a color figure to a B&W figure – re-insert curve In Figure 3, the word “interfere” should be changed to “interferer” (two changes) In description below figure and in many locations throughout document, the word “interfere” should be changed to “interferer” – recommend selective use of “global replace” command	Accepted
31	McGregor	Andy	M	26	22	E	Delete “It would be useful to solicit contributions on this topic.”	Accepted
32	McGregor	Andy	M	30	1	E	Delete second decimal place from numbers in column 3 of Table 2. Insert “+” before “13.5” in row 3	Accepted
33	McGregor	Andy	M	30	7	E	Insert “for this Practice” as follows “… in coexistence simulations for this Practice are as follows:”	Accepted
34	McGregor	Andy	M	32	1	E	Replace sections 6.1.1.3 and 6.1.1.4 with text in comment	Change the title of 6.1.1.3 to "Repeater Station". Remove 6.1.1.4 heading. 6.1.1.5 and following will be renumbered.
35	McGregor	Andy	M	33	3	E	Replace paragraph “Therefore, IILS radios … Section 4.1)” with the following: “Therefore IILS should follow the recommendations in section 6.1.1.2.”	Rejected
36	McGregor	Andy	M	34	14	E	Insert “transmit” as follows “… to an absolute transmit level below …”	Change sentence to: "Attenuation greater than 50+10logB0 dB is not required. An absolute transmit level below 70 dBW/MHz is not required.
37	McGregor	Andy	M	35	4	E	Emphasize the sub-heading “Note: Unwanted Emission in Europe” by use of sub-heading or bold or underlined styles.	Accepted (highlight note by making a more preminent heading)
38	McGregor	Andy	M	30	7	E	Insert “for this Practice” as follows “… in coexistence simulations for this Practice are as follows:”	withdrawn - same as #35
39	McGregor	Andy	M	37	4	E	Insert “the” as follows “… consider the antenna radiation pattern …”	Accepted
40	McGregor	Andy	M	30	7	E	Insert “for this Practice” as follows “… in coexistence simulations for this Practice are as follows:”	withdrawn - same as #35
41	McGregor	Andy	M	46	4	E	Delete “a” from “… for harsher environments e.g. hurricane-prone areas, a more robust antenna systems may be required.”	Accepted
42	McGregor	Andy	M	47	3	E	Delete sub-heading “6.2.4.4 Additional Consideration”	Accepted (remove 6.2.4.4 and its label)
43	McGregor	Andy	M	48	7	E	Replace “minimum” with “planned” in “The minimum allowable degradation in the receiver …” Same change on line 18	Resolved by Comment #96
44	McGregor	Andy	M	48	14	E	Replace “… paragraphs recommend …” with “… paragraph recommends …”	Delete last sentence of paragraph 1 in 6.3.1.2
45	McGregor	Andy	M	50	13	E	correct spelling of “boundary” and “elevation”	Accepted.
46	McGregor	Andy	M	50	31	E	Tables 11 and 12 should NOT split across page boundary.	Accepted
47	McGregor	Andy	M	30	7	E	Insert “for this Practice” as follows “… in coexistence simulations for this Practice are as follows:”	withdrawn - same as #35
48	McGregor	Andy	M	52	8	E	Replace final sentence with “The following sections examine power levels in further detail.”	Accepted
49	McGregor	Andy	M	52	15	E	Delete phrase “… and the process as in Section or Figure[x] should be followed.”	Accepted
50	McGregor	Andy	M	52	18	E	Replace “Section [x]” with “Section 7.1”	Accepted
51	McGregor	Andy	M	55	7	E	Change “System” to “Systems”	Accepted
52	McGregor	Andy	M	55	10	E	Insert “(see section 5.3)” as follows “… interference mechanisms operating simultaneously (see section 5.3).”	Accepted
53	McGregor	Andy	M	58	22	E	Change the final sentence to read: “Effective frequency re-use between cells will demand the use of antennas whose intra-system requirements can provide satisfactory inter-system interference levels.”	Accepted
54	McGregor	Andy	M	59	30	E	Correct spelling of “interferes” to “interferers” (two places) Similar correction on p60, lines 20/21	Accepted
55	McGregor	Andy	M	62	28	E	Change first sentence to read: “In practice, sector antennas using FDD that are directed to the same sector should be co-located.”	Accepted. Change first sentence to "In practice, sector antennas that are directed to the same sector may be co-located." and last sentence to" ….should be typically 60 to 100dB."
56	McGregor	Andy	M	64	26	E	Replace “Due to the nature of lightning …” with “Since the nature of lightning …” Delete “no” in “… do not prevent no failures …”	Accepted
57	McGregor	Andy	M	65	8	E	In the first paragraph, replace “achieve” with “comply with”, replace “most of the” with “many”, replace “in” with “for”, replace “that” with “in which” and delete “in”	Accepted. In addition, delete "most" in front of stringent. Last sentence of first paragraph should read: "The product should be able to achieve the emission and immunity requirements within its specific entry, and also for the environment in which the product is intended to be used".
58	McGregor	Andy	M	75	1	E	Annexes C, D and E have several sub-sections and needs sub-heading numbers to organize the flow of the text and needs to have the figures numbered.	Accepted. Sub-headings to be added and tobe shown in TOC
59	McGregor	Andy	M	78	27	E	Complete reference to input document.	Accepted. Remove last sentence "Futher details……(ref.[])"
60	McGregor	Andy	M	RC9	7	E	Insert “(ref D.11 – D.15)” following “The documents . . “.	Accepted.
61	McGregor	Andy	M	RC F		E	Change “exert” to “excerpt”	Accepted.
62	McGregor	Andy	M	RC F	8	E	Insert “(ref D.13)” following “SRSP 324.25” Change “SRSP328.35” to “SRSP325.35”, insert “(ref D.14)” following “SRSP 325.35” Insert “(ref D.15)” following “SRSP 338.6” Change “RSS 134” to “RSS 191”, insert “(ref D.12)” following “RSS 191”	Accepted

63	RABC		N	68	2	E	Insert the following text as the initial paragraph in Annex A, indicating the baseline source for the text. "The following text is based on the test and measurement procedures recommended in Canadian standard RSS-191 (ref D12)."	Accepted.
64	RABC		N	68	2	E	ref D.12	withdrawn. Same as item 63
65	RABC		N	72	2	E	Insert the following text as the initial paragraph in Annex B. "The following text is based on the coordination procedures recommended in Canadian RABC report 99/2 (ref D26)."	Rejected - TG2 made several changes to text
66	RABC		N	74	21	E	Delete column 4 "PSFD B" from the Table and remove "A" from "PSFD A" in column 3 of the Table.	Accepted. But in addition remove all of the calculations from 30-40GHz in Annex B.
67	Lewis	Barry	M	10	1	E	Definition of "Mesh" required in section 3.1. Proposal: "A wireless network topology known also as multipoint to multipoint, in which a number of subscriber terminal stations within a geographic area are interconnected and can act as repeater stations, in a manner that allows facilitates a variety of routes between the core network and any subscriber terminal station. There are no base stations in the conventional point to multipoint sense."	Accepted. But change proposed text by deleting 'terminal' in two places and remove 'facilitates'.
68	Lewis	Barry	M	13	33	E	the words "do not" are missing after the second word at the start of the paragraph.	Already taken care of from ref.20
69	Lewis	Barry	M	14	32	E	Alternative first sentence: "Adopt a "6dB below receiver thermal noise in the victim receiver criterion" as being a value of interference from any of the neighbouring operators individual transmitters which is "acceptable"". In the second paragraph, delete "…each other operator."	Accepted. But also remove 'from' on second paragraph.
70	Lewis	Barry	M	15	10	E	If Recommendations 2, 6 and 7 apply only to the "Co-ch" scenario then this needs to be made clear.	Accepted. Recommendation 2 add the words " To encourage this behaviour **for co-channel interference**, the document…." . For Recommendation 6,7 the words to be added to the beginning " This recommendation applies to co-channel cases only."
71	Lewis	Barry	M	16	4	E	Replace "in Canada" with "by some administrations" in the last line of Recommends 6 and in the last line of 7.3, with a reference to the appropriate annex.	Accepted.
72	Lewis	Barry	M	16	22	T	Alternative text for the first sentence; For same area/ adjacent channel interference cases, deployments will usually need "guard frequency" between systems operating in close proximity and in adjacent frequency blocks. Although not absolutely necessary, it is convenient to think of the "guard frequency" in terms of "equivalent channels" related to the systems operating at the edges of the neighbouring frequency blocks. The amount of "guard frequency" depends on a variety of factors such as "out of block" emission levels and in some cases is linked to the probability of interference in given deployment scenarios. Section 8 provides insight into some methods that can be employed to assess these situations. In most cases deployment will usually need one guard channel……."continue with the existing text .	Accepted.
73	Lewis	Barry	M	18	3	E	It is not clear why p-mp subscriber stations are not mentioned. Is it because only the dominant interference path are mentioned? Alternatively should the entries in Table 1 be amended to read " Mesh or Subscriber Stations"?	Accepted. Add to note 1 "the PMP subscriber case is not usually dominant"
74	Lewis	Barry	M	19	1	E	Move sections 5 to 5.3.1 to between sections 3 and 4.	Rejected.
75	Lewis	Barry	M	20	8	E	Add "(Mesh)" after the existing heading.	Accepted.
76	Lewis	Barry	M	24	12	E	it would be useful for reader comprehension to convert the noise floor figures and interference levels into dBW/MHz for consistency with other parts of the document.	Accepted. But the -132dBW/MHz to -144dBW/MHz
77	Lewis	Barry	M	25	1	E	highlight "Case A" , "Case B" etc.. through to "Case G" at the start of the relevant paragraphs	Accepted. bold 'Case A to H '
78	Lewis	Barry	M	30	1	T	Start the first sentence with; "The regulatory limits are significantly higher …..etc to available equipment". Amend the second sentence to read " They are also significantly higher than those utilised by the coexistence simulations which considered reasonable cell sizes, link budgets and availabilities and were the basis for the recommendations contained in this Practice. Table 2 compares regulatory limits to those used in simulation." Amend the final sentence in this paragraph to read "Typical parameters used……etc" The final paragraph is confusing when the sections 6.1.1.1 and 6.1.1.2 are read. In this paragraph the document suggests that "much lower EIRPs" be used (than the regulatory limits) and then the document actually recommends the regulatory power limits albeit with some caveats. I suggest that we recommend the levels suggested by the simulations and make the higher powers the exception with suitable caveats.	Rejected.first sentence change. Accepted second second and final sentence change. Reject last paragraph change.
79	Lewis	Barry	M	49	17	E	Is the penultimate paragraph still true considering the guard frequency recommendations?	accept. delete paragraph
80	Lewis	Barry	M	50	25	E	5th paragraph should refer to Table 11 rather than specific values for PSFD. Delete the text in brackets at the end of this 5th paragraph – Table 11 refers.	Accepted. Change last paragraph " …or equal as stated in Table 11, averaged…" Delete the last sentence that is in brackets.

81	Lewis	Barry	M	52	10	T	Is the text in section 7.2 still relevant given the text in Recommendation 8?	Accepted. Remove all in section 7.2, except for the last 3 lines"As stated in Rec….."
82	Lewis	Barry	M	53	11	E	The psfd limit can be applied in different ways that affect the probability of interference and two examples are given in Annexes..	Accepted.
83	Lewis	Barry	M	55	6	E	Add bullet points in the appropriate places to help clarity for the reader.	Accepted.
84	Lewis	Barry	M	57	6	E	The actual title for the CEPT/ERC report is; "Preliminary Report on the analysis of the coexistence of two FWA cells in the 24.5-26.5 GHz and 27.5-29.5 GHz bands"	Accepted. Make reference to Bibliography and remove all words after CEPT/ERC (last sentence)
85	Lewis	Barry	M	61	16	E	Section 9.2; Propose the following clarification added to the end of the existing third paragraph; "…when located in adjacent areas and enable site sharing when located in the same area but in adjacent frequency blocks."	Accepted. But also change 'FDD' to 'Harmonized'. And delete proposal "…but in adjacent frequency blocks."
86	Lewis	Barry	M	72	1	E	In several places the text needs editorially tidying to reflect the latest structure of the document. For example, the section headed "20-30 GHz" mentions pfsd A and processes described above. These processes are in other annexes now. Propose: Delete the offending text. The next section needs to be headed "30 – 43.5GHz" for consistency with the frequency ranges elsewhere in the document. The text needs to reflect this change also. Towards the end of the Annex, the last main paragraph includes text suggesting an arbitrary further 10dB of interference that can be tolerated. Is there any basis for this? Proposal: This text and the table of psfd values appear specific to the Industry Canada process and therefore should be included in the appropriate annex that details the examples of psfd limit application.	Accepted. First comment. Rejected second comment (30-40GHz), already deleted from ref.66.
87	Lewis	Barry	M	75	1	T	In several places there is a reference to results of simulations. Can some of these be added to the document. They would add to the readers understanding of the statistical nature of some of the results providing insight into nature of the "coexistence problem".	Rejected. Already removed all reference from document, and it is concluded that there is sufficient information.
88	Lewis	Barry	M	95	1	E	Propose that the Industry Canada procedure should be in the same annex E as the UK RA procedure example. For the same reasons mentioned above in Comment 71, this annex should be re-titled so as not to appear "administration specific" (– since sometimes we change our minds!!) Proposed title for Annex E: Examples of two alternative applications of psfd limits to the same frequency / adjacent area scenario from two administrations.	Rejected – using separate Annexes – see #4.
89	Lewis	Barry	M	94	1	E	In the "Industry Canada" section is the reference to figure 2 (same area/adjacent frequency) still appropriate?	Already resolved.
90	Lewis	Barry	M	95	1	E	Annex E (see comment 90 regarding title)	Rejected – see #88.
End of written inputs at Oct 25/26th meeting								
91	Wachira	Muya	M	16	7	E	Change "24,26,28GHz" to "24, 26 and 28 GHz". Change "38,42GHz" to "38 and 42 GHz"	accepted
92	Kostas	Demos	M	26	41	E	Delete sentence "As long as…of the victim."	accepted
93	Garrison	Jack	M	33	11	E	In 6.1.2.1, change 15 dB of range to 15 dB of dynamic range	accepted
94	Garrison	Jack	M	34	7	E	Change to : "Unwanted emissions spectral density at the input to the antenna port should be attenuated by…	accepted
95	Wachira	Muya	M	35/3(	4	E	Put a note saying that the use of CS in the extract and Figures 8 and 9 refers to channel separation	accepted
96	Garrison	Jack	M	47	26	E	add phrase first sentence: The simulations performed in support of the recommendations included in this practice document assumed an interference signal level not exceeding 6dB below the receiver noise floor causing a noise floor degradation of 1dB. This was chosen as...acceptable manner (from last sentence of 6.3.1.1). Leave "The following...for interference." Delete second paragraph in 6.3.1.1 and 6.3.1.2	accepted
97	McGregor	Andy	M	50	7	E	Replace "the following coordination process" by "a coordination process". Put a period after "…should be employed". Delete everything after "employed". New sentence: Two coordination processes are described in Annexe E and F.	accepted
98	Kostas	Demos	M	57	last	E	Ensure table stays on one page	accepted
99	Kostas	Demos	M			E	Remove all TG2 input doc references (as in section 9.5)	accepted
100	Kostas	Demos	M	16	9	E	In recommendation 6 ,change 'average' to 'typical' in two places.	accepted
101	Kostas	Demos	M	18	23	E	In section 4.2 Note 3 and 4, the words "The authors believe.." are to be changed to " It is concluded…"	accepted
102	Kostas	Demos	M	19	28	E	Section 5.1 change the words to " A similar PMP standard is being generated….., which will produce…"	accepted
103	Scaringi	Vito	M	57	10	E	Remove last column from Table 13 & editorial note.	accepted
104	Scaringi	Vito	M	77	1	E	Annex C, change title to of Hub to Subscriber (CS to TS)	accepted
105	McGregor	Andy	M	54	7	E	Section 7.4, 5th paragraph, change '….local…' to 'operational'. And take out the square brackets.	accepted
106	Wachira	Muya	M			E	Global change to figure and table. To remove title when making reference to a table or figure, and keep standard font.	accepted

107	McGregor	Andy	M	12	7	E	Add BER and ATPC to acronyms	accepted
108	Kostas	Demos	M	14	3	E	Section 4.1; paragraph 3, change '…,which we believe...' to ' … and…'. Replace '… a prerequiste for achieving a suitable…' to '..an important factor for the …'. Change '…contains no concept of…' to ' …cannot guarantee…'.	accepted
109	Kostas	Demos	M	14	5	E	Section 4.1;paragraph 3, change 'coexistence “protection.” That is because, during the document’s preparation, there emerged no single set of Recommendations that guaranteed coexistence without squandering either spectrum..' to ' coexistence “protection”, without wasting either spectrum....'.	accepted
110	TG2			14	11	E	Section 4.1; paragraph 3, change; ' The consequence of these decisions is that coexistence, then, becomes as much a state of mind as it is a technological activity, relying heavily on the good-faith collaboration between spectrum holders for economical solutions to be implemented.' to ' Coexistence will rely heavily on the good-faith collaboration between spectrum holders for economical solutions to be implemented.'	accepted
111	TG2			14	7	E	Section 4.1; paragraph 3 , remove the sentence ' ' Moreover, it would be… in deployments.' Move the sentence ' I support of … patterns,etc.' after paragraph 5.	accepted
112	TG2			14	17	E	Section 4.1paragraph 4 change territory to territories.	accepted
113	TG2			14	19	E	Section 4.1 change paragraph 5 to " Coexistence issues may arise simultaneously from both scenarios as well as from multiple operators having the same scenario. Section 9 provides interference mitigation measures, which can be utilized to solve coexistence problems. Because of the wide variation in the distribution of users/base stations, radio emitter/receiver parameters, localized rain patterns and the statistics of overlapping emissions in frequency and time, it is impossible to prescribe in this document which of the mitigation measures are appropriate to resolving a particular coexistence problem. In the application of these mitigation measures, there should be an identification of individual terminals or groups of terminals for modification rather than the imposition of pervasive restrictions.	accepted
114	TG2			17	19	E	Recommendation 12; change first sentence ' … incorporate..' to '… should be…'. Insert the word 'recommendation' before ITU-R in the (e.g…)	accepted
115	McGregor	Andy	M	15	29	E	Replace text in Recommendation 4 with new text In the resolution of coexistence issues, in principle, incumbents/first movers should have the same status as operators who deploy at a later time. In resolving coexistence issues, it is legitimate to weigh the capital investment an incumbent operator has made in his system. It is also legitimate to weigh the capital investment an incumbent operator must make for a change due to coexistence versus the capital investment costs that the new operator will incur. Additionally, both the incumbent and new operator must be willing to share relevant parameters about their systems and to constructively participate in the application of interference mitigation measures. The logic behind this Recommendation is that some coexistence problems cannot be resolved simply by modifications to the system of a new entrant into a region. Rather, they require the willingness of an incumbent to make modifications as well. It is recognized that this Recommendation is especially challenging in the AdjCh scenario where the overlapping territories means the incumbent and the late-comer may be competing for the same clients. The reality of some spectrum allocations are such that Ac	accepted
End of TG verbal inputs at Oct 25/26th meeting								
Start of Written Comments to Nov 6-9th Meeting								
116	McGregor	Andy	M	9	28	T	Insert definitions in comment for harmonized and synchronized transmissions in section 3.1	Insert the following: 3.1.xx harmonized transmissions This is when two operators use a compatible frequency bandplan (FDD) or time slot structure (TDD) such that the base stations from two operators can share an antenna site, so as to minimize interference. For FDD systems this implies the both operators have base-station transmit in adjacent sub-blocks and terminal transmit in the corresponding paired blocks. For TDD systems, harmonization implies frame, slot and up/down direction synchronization. 3.1.yy synchronized transmissions This implies both operators use the same frame, slot and up/down direction synchronization. That is the same TDD frame structure (same frame length, timeslot positions and base-transmit timeslots) and also that the timing of the frames is closely aligned, so that emissions from slot 1 on operator 1 only overlap with slot 1 of operator 2, etc

117	McGregor	Andy	M	28	23	T	Add a new subsection in comment at the end of section 5.3.1: 5.3.1.4 FDD and TDD Coordination	Withdrawn
118	McGregor	Andy	M	15	29	T	Replace the text for Recommendation 4 with the following:	Withdrawn - covered by comment 115
119	McGregor	Andy	M	73	21	T	At the TG2 Interim meeting, the Annex B subsection on “30-40 GHz” was deleted. It is recommended that the text in the comment be inserted in place of the original text.	accept
120	McGregor	Andy	M	100	2	E	The Bibliography should be marked as Annex G. Why do the Bibliography items D1 to D27 have the prefix “D”? If this is because they were once in Annex D, then they should be updated with their new location e.g. Annex G. This will also impact the location of any cross-reference within the document.	agreed
121	McGregor	Andy	M	1	1	E	Change the running footer to read: “Copyright © 2000 IEEE. All rights reserved. This is an unapproved IEEE Standards Draft, subject to change.”	agreed
122	McGregor	Andy	M	68	1	E	All Annexes should be labelled explicitly as Informative.	agreed
123	McGregor	Andy	M	68	1	E	All figures and tables in annexes should be numbered and numbering resets within each annex.	agreed
124	McGregor	Andy	M	1	1	E	All notes should be clearly delineated from normative text. Notes are informative text.	agreed
125	McGregor	Andy	M	1	1	E	Any text or diagrams taken from outside sources need the permission from the copyright owner. NOTE the boilerplate on official IEEE 802.16 contributions typically provides this permission, but may need to check on the status of extracts from ETSI documents.	check with Roger for ETSI
126	Garrison	Jack	M	28	23	T	Use the content of contribution IEEE 802.16.2c-00/21 to make a new subsection “5.3.1.5 Likelihood of Multiple Interferers” or in section 6.3.1 Add a suitable cross-reference to this section at other points in the document e.g. in Recommendation 1.	agreed - insert in 6.3.1 with change increase to decreases in 3rd last paragraph. In paragraph 2, secttion 2 change "interferror's" to "interferers". Add extra sentence: There will be detailed differences for an operators specific equipment and frequency band. These can be readily estimated by an operator based on his own system parameters.
127	Lewis	Barry	M	60	11	T	Use the content of contribution IEEE 802.16.2c-00/22 as content for section8.1.10	agreed - change "should be implemented" to "may be necessary" in 3 places. Add "without harmonization" in two places Add graphics+text to Annex C
128	Marin	Scott	M	8	26	E	change "base transceiver station" to "base station (BS)"	accepted. Also added an explicit indicate that it is a symonym for BTS, CS and Hub.
129	Marin	Scott	M	8	47	E	after "broadband wireless access" insert "(BWA)"	agreed. Do for all definitions for which we have an acronym,
130	Marin	Scott	M	8	50	E	global change "BTS" to "BS" and "STS" to "SS"	rejected as felt we need to accept dual use
131	Marin	Scott	M	8	59	E	insert new paragraph "Central Station". The term central station is used (e.g. page 20, line 41), but it's unclear what a central station is or why it's different than a BS. If a BS is the same as a central station, then globally replace central station with BS.	resolved by comment #128
132	Marin	Scott	M	9	27	E	after "frequency division duplex" insert "(FDD)"	resolved by comment #129
133	Marin	Scott	M	10	59	E	after "out-of-band emission" insert "(OOB)"	resolved by comment #129
134	Marin	Scott	M	10	60	G	Insert: While the OOB definition as written is often used as the practical definition of OOB for some radio services, the ITU Radio Regulations (S1.144) define OOB as "Emission on a frequency or frequencies immediately outside the necessary bandwidth which results from the modulation process, but excluding spurious emissions."	Resolve by global change of "out-of-band" to "out-of-block"
135	Marin	Scott	M	11	4	E	Change "power control" to "automatic transmit power control (ATPC)	accepted
136	Marin	Scott	M	11	15	E	after "flux density" insert "(PSFD)"	resolved by comment #129
137	Marin	Scott	M	11	17	E	global change "Watts/MHz/m^2" to "Watts/MHz-m^2"	rejected as original is mathematically correct, due to left-right precedence of operators
138	Marin	Scott	M	11	42	E	change "subscriber transceiver station" to "subscriber station (SS)"	accepted. Also added an explicit indicate that it is a symonym for STS, TS, terminal.
139	Marin	Scott	M	11	53	E	after "division duplex" insert "(TDD)"	resolved by comment #129
140	Marin	Scott	M	11	41	E	Insert two new sentences: While the above definition is commonly used in practice, the ITU Radio Regulation (S.145) define spurious emission as follows: "Emission on a frequency or frequencies what are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions."	Insert two new sentences: While the above definition is commonly used in practice, the ITU Radio Regulation (S.145) define spurious emission as follows: "Emission on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions."
141	Marin	Scott	M	12	20	E	change "BTS Base Transceiver Station" to "BS Base Station"	add BS, SS
142	Marin	Scott	M	12	31	E	insert new acronym, "C/(N+I) Carrier to noise and interference ratio."	agreed
143	Marin	Scott	M	12	39	E	change "Carrier Wave" to "Continuous Wave"	agreed
144	Marin	Scott	M	12	55	E	Change "IL" to "ICL"	agreed - global change needed
145	Marin	Scott	M	13	30	E	Change "RPT" to "RS" or "RPTS"	agreed - global change needed to "RPTS"
146	Marin	Scott	M	13	32	E	change "STS Subscriber Transceiver Station" to "SS Subscriber Station"	resolved by comment #141
147	Marin	Scott	M	14	23	E	go back and add "CoCH" and "AdjCH" to the acronym list	agreed
148	Marin	Scott	M	12	53	E	insert new acronym, "I/N Interference to noise ratio"	agreed - use "Interference to Thermal Noise ratio"

149	Marin	Scott	M	14	49	E	Change "Adopt a "6 dB below receiver thermal noise in the victim receiver criterion" as being a value of interference from each interfering station, which is "acceptable." to "Adopt an I/N criteria of -6 dB. Interference, from a transmitting station, that causes an I/N less than -6 dB is considered acceptable."	Resolved. Add to end of first sentence in Rec 1 (i.e. I/N = -6 dB). And move end-quote from after "criterion" to after "receiver"
150	Marin	Scott	M	14	55	E	change "... 1 dB degradation in his receiver sensitivity from each of the operators." to "... 1 dB degradation, i.e. the difference in dB between C/N and C/(N+I)."	Resolved. add "i.e. the difference in dB between C/N and C/(N+I)" to the end of the second last sentence in paragraph one.
151	Marin	Scott	M	14	58	E	Change sentence "In some regard, the -6 dB value becomes the definition of "coexistence." to "In some regard, an I/N of -6 dB becomes the criterion for "coexistence."	accept
152	Marin	Scott	M	14	60	E	change "..., an operator may have a -6 dB contribution from multiple CoCh and AdjCh operators." to "..., a victim receiver may have a interference contributions from multiple CoCh and AdjCh transmitting stations each causing an I/N of -6 dB and the aggregate interference causes an I/N of greater than -6 dB.	Change text to: Depending upon the particular deployment environment, an operator's receiver may have interference contributions from multiple CoCh and AdjCh operators. Each operator should include design margin in his system, which is capable of simultaneously accepting the compound effect of interference from all other relevant operators.
153	Marin	Scott	M	15	3	E	every place the -6 dB is used, should be adjusted to state that the I/N is -6 dB.	agreed, but check context in specific cases
154	Marin	Scott	M	15	45	E	change phrase "incumbents/first movers" to "operators who deploy early"	rejected - OK as is
155	Marin	Scott	M	18	56	E	change "harmonised" to "coordinated" or "standard"	rejected as harmonized is new definition
156	Marin	Scott	M	22	20	E	change "which is dominated by increasingly severe" to "which exhibits occasional but increasingly severe"	accept
157	Marin	Scott	M	24	14	E	change "A simple way to introduce a margin for interference into the link budget is to increase the noise floor by a factor which accounts for the additive interference that will be considered as additional noise." to "A way to account for interference is to determine the quantity C/(N+I)."	accept
158	Arefi	Reza	M	14	35	T	Replace the text with the following. Recommendation 1 : Adopt a "6 dB below receiver thermal noise in the victim receiver criterion " as being a value of interference from the interfering operators, which is "acceptable." The document recommends this value in recognition of the fact that it is not practical to insist upon an "interference-free "environment. Having once adopted this value, there are some important consequences: Each operator acknowledges that he is willing to accept a 1 dB degradation in his receiver sensitivity from the operators. Depending upon the particular deployment environment, an operator may have a cumulative –6 dB contribution from multiple CoCh and AdjCh operators. Each operator should include design margin in his system which is capable of simultaneously accepting the compound effect of interference from all other relevant operators, at the -6 dB level. The design margin in (b)above should be included preemptively at initial deployment, even if the operator in question is the first to deploy in a region and is not experiencing interference. All parties should recognize that, in predicting signal levels, which result in the -6 dB interference value, it is difficult to be precise in including the aggregating effect of multiple terminals, the effect of uncorrelated rain, etc. The actual degradation in performance and the value of signal level below receiver noise in the victim receiver, need to be further studied in order to assure that high performance, high availability, BWA networks can be deployed with sufficient operational flexibility.	resolution: remove "any of" from line 2, resulting in "… from the neighbouring …"
159	Arefi	Reza	M	15	11	T	Replace the text with the following. Recommendation 2 : [Each operator should take the initiative to collaborate with other known operators prior to initial deployment and at every relevant system modification. This recommendation should be followed even if an operator is the first to actually deploy in a region.] To encourage this behavior, the document introduces the concept of using specific received interference signal level (dBm) values to "trigger " different levels of initiatives taken by an operator to give notificationto other operators. If power spectral flux density values (psfd)are specified as trigger values, a translation methodology is utrilized (as given in Annex YYY) to convert the received signal levels into psfd values. The specific trigger values and their application to the two deployment scenarios are discussed in Recommendations 5 and 6 below and in Section 7.In some regulatory environments, the fact that the "triggers " were properly analyzed and that the proper cooperative initiative was made can be used as evidence of operating in good faith to promote coexistence.	rejected - consensus that "psfd" is the correct metric

160	Arefi	Reza	M	15	21	T	Replace the text with the following. Recommendation 3 : Each operator should design and deploy his own system for the maximum amount of frequency reuse The logic behind this Recommendation is that the same techniques of base station site selection,antenna pattern management and emission control that must be employed to facilitate aggressive frequency reuse within a system will contribute to its coexistence with other systems. Recommendations 9,10 and 11 below and in Section 6 provide recommended minimum antenna patterns, spectral masks and maximum EIRP from the vantage point of coexistence. These do not, however, guarantee coexistence. Even the most dense frequency reuse system does not guarantee coexistence. However, starting from a foundation of a “better ” engineered system can facilitate the later resolution of coexistence issues. Coexistence requirements will need to be carefully balanced with the operational and performance flexibility requirements of BWA networks.	issue resolved by earlier comment
161	Arefi	Reza	M	16	1	T	Replace the text with the following. Recommendation 5 : No coordination is needed in any direction if the transmitter is greater than 16 km from either the service area boundary or the neighbor ’s boundary (if known)in that direction.	no consensus. Vote 9 for original text, 0 for new text
162	Arefi	Reza	M	16	5	T	Replace the text with the following. Recommendation 6: Recommendation 2 above introduced the concept of using interference signal levels (dBm) and/or power spectral flux density “triggers ” as a stimulus for an operator to take certain initiatives to collaborate with his neighbor. The coordination trigger values (see Annex B)of –127 dBW/MHz/m2 (24,26,28GHz bands) and –127 dBW/MHz/m2 (38,42GHz bands)are employed in this document, in the initiative procedure described in Recommendation 7 below. These values were derived as that power spectral flux density values which, if present at an average base station antenna and average receiver, would result in approximately the – -6 dB interference value cited in Recommendation 1.It should be emphasized that the trigger values are useful only as thresholds for taking certain actions with other operators; they do not make an absolute statement as to whether there is, or is not, interference potential. Several administrations have permitted significant deployment of point-to-point links as well as point-to-multipoint systems, with psfd trigger levels of -127 dBW/MHz/m2at 38 GHz band.	added "point-to-multipoint" in line 6 and change the last sentence to Where there is significant deployment of point-to-point systems as well as point-to-multipoint systems and protection of the point-to-point systems is mandated, tighter psfd trigger levels will be appropriate (e.g. –125 dBW/MHz/m2 at 38 GHz band is applied by some administrations to protect point-to-point links) Similar changes will be needed to section 7.3
163	Arefi	Reza	M	16	19	T	Replace the text with the following. Recommendation 7: Apply the “triggers ” of Recommendations 5 and 6 prior to deployment and prior to each relevant system modification. Should the trigger values be exceeded, then the operator should try to modify the deployment to meet the trigger, and failing which the operator should coordinate with the affected operator.	already resolved by earlier comments
164	Arefi	Reza	M	16	25	T	Replace the text with the following. Recommendation 8 : For same area /adjacent channel interference cases, deployment will usually benefit by having one guard channel between nearby transmitters. Where the transmissions are of different bandwidth, the guard channel could be equal to the wider channel. Where administrations do not require guard channels, the affected operators may reach agreement on how the guard channel is apportioned between them. However, setting aside a full or portion of a guard channel is not a requirement, as long as the emission mask requirement at the band edge is met. Careful and intelligent frequency planning and/or use of orthogonal polarization will significantly alleviate the need for this guard channel.	In line 9 add "channel" Editorial changes to final sentence to read: It is possible that by careful and intelligent frequency planning, coordination and/or use of orthogonal polarization or other mitigation techniques, all or partial use of this guard channel may be achieved.
165	Arefi	Reza	M	16	33	T	Replace the text with the following. Recommendation 9: Utilize antennas for the base station and subscriber terminals at least as good as shown in Section 6.2.The coexistence simulations which led to the Recommendations contained herein revealed that a significant part of coexistence problems are the result of main-beam interference. The side lobe levels of the Base Station antennas are of a significant, but secondary influence. The sidelobe levels of the subscriber antenna are of tertiary importance. In the context of coexistence, therefore, antennas, such as those presented in Section 6.2 are sufficient. It should be emphasized that utilizing antennas with sidelobe (and polarization)performance better than the minimum will not degrade the coexistence performance and, in fact, are an effective mitigation technique for specific instances. In many cases, intra-system considerations may place higher demands on antenna performance than those required for inter-system coordination.	line 3, change "most" to "a majority of" line 10, change "will" to "may"

166	Arefi	Reza	M	17	1	T	Replace the text with the following. Recommendation 10 : The utility of emissions masks for controlling adjacent channel coexistence issues is strongly dependent upon the separation of the two emitters in space and in frequency. In the case where there is large spatial separation between emitters, the opportunity exists for an interfering emitter to be much closer to a receiver than the desired emitter. This unfavorable range differential can overwhelm even the best emissions mask. Likewise, emissions masks are most effective when at least 1 guard channel exists between allocations. The emissions mask presented in Section 6.1.4 is most appropriate for the case where there is one guard channel between allocations and a modest separation of emitters. For cases where there no guard band is provided, it is recommended that co-location of emitters be considered before trying to improve emission masks. For operating frequencies above 15 GHz, the FCC Technical Rules already contain an emission mask requirement. This mask is more than adequate for adjacent channel coexistence.	Resolved. Add "A=" to the equation (1) in section 6.1.4.1
167	Arefi	Reza	M	17	13	T	Replace the text with the following. Recommendation 11 : Utilization of EIRP and Subscriber Power control in accordance with Section 6.1.1 and 6.1.2,respectively, can be of help in meeting the coexistence criterion. The interests of coexistence are served by reducing the amount of EIRP emitted by base station, subscriber and repeater terminals.	in line 5, change "recommended" to "Proposed"
168	Arefi	Reza	M	17	20	T	Replace the text with the following. Recommendation 12 : It will not be necessary to engage in extensive calculations if the received interference signal level at the service boundary is specified in dBm. However, in order to reconcile with psfd values prescribed by several regulatory regimes, it is useful to translate the psfd values into signal levels (dBm). This translation methodology is provided in Annex YYY (to be developed). In conducting analyses to predict power spectral flux density, the following considerations may be taken into account: · Path loss to a point on the border -Clear air (no rain)plus relevant atmospheric absorption -Intervening terrain blockage · For the purpose of calculating psfd trigger compliance level, the psfd level at the service area boundary should be the maximum value which occurs at some elevation point up to 500 m above local terrain elevation. · The actual electrical parameters (e.g.,EIRP, antenna patterns, etc.) Clear sky propagation (maximum path length) conditions should be assumed.	Change sentence 1 to: In conducting analyses to predict power spectral flux density and for coordination purposes, the following should be considered: add to bullet 2: Equations 8 and 9 in Annex B can be used to calculate the psfd limits. start bullet 4 with: · Clear sky propagation (maximum path length) conditions should be assumed. Delete "and rain fading statistics"
169	Arefi	Reza	M	17	33	T	Delete or significantly modify the model in section 4.2. The need for guard bands should be eliminated. Spacing for acceptable performance is subjective.	Resolved by adding the following text "This subsection and Section 8, indicate some of the models, simulations and analysis used in the preparation of this Recommended Practice. While a variety of tools can be used, it is suggested that the scenarios studied below be considered when coordination is required." . Change title in section 4.2 to " Suggested Guidelines...." Inserted new title to recommendations " Section 4.2 Recommendations". Delete text, last sentence before recommendation 1.
170	Arefi	Reza	M	50	15	T	In section 7.1.1 paragraph 3, replace the word “shall” with “should be” or restructure the sentence to incorporate this concept.	agreed
171	WCA		N	72		T	Annexes need to be updated and Recommendations need to be revised: There are several inconsistencies in the coexistence document. Some of these are: · The recommended values and suggestions are inconsistent with the analyses and assumptions contained in the Annexes; · The analyses in some of the Annexes are inconsistent with the FCC and ITU rules and recommendations. The FCC rules are in full operation and a full review of those technical rules, and related regulatory rules, is required in the presence of U.S. 38.6-40.0 GHz licensees before changes should be recommended. Similarly, coordination with the ITU format needs to be more fully discussed. · Several assumptions used in the analyses are not representative of operational broadband fixed wireless systems; and · There is no methodology provided in the document to assist the operators to translate psfd values into dBms.	Origional comment rejected. It is intended to be resolved by comment #183. Additional changes: deleted first sentence in Annex B. Add text in Recommendation #6 "It is recommended that the national regulators specify the applicable trigger values for each frequency band, failing which the following values may be adopted."
172	WCA		N	18		T	Make the necessary change: Please note that the assumption of very low remote terminal (subscriber) height with respect to very high hub (central station) radio height is not valid. This is not the case in many real world situations, and has an impact on the distance-spacing requirements provided in this section. So, the example is not representative enough.	Rejected comment,not related to section 4.2, but made changes to Annex B, last paragraph, 3rd sentence to ". Subscribers, on the other hand, tend to be situated at lower altitudes which reduces the probability of LOS (due to obstacles/clutter) to adjacent area systems.
173	WCA		N	19		T	Make the necessary change: There are situations where direct end-user-to-end-user traffic does exist. This factor should not be ignored when making assumptions about the network.	Accepted. Delete last two sentences in paragraph one in Section 5.0

174	WCA		N	20		T	Make the necessary change: Assumption is made that hubs always provide 360-degree, omni-directional coverage. This should be changed to, “up to 360 degrees of coverage.” Also note that inter-cell links cannot usually be “in-band.” They often will have to be low-frequency wireless links in order to support the inter-hub distances. The assumption may not be generic, and only an exception.	Accepted. Add the words 'up to' in section 5.1.1 paragraph 1. Changes to Section 5.2, paragraph 2, 2nd sentence "Inter-cell Links (ILs) may, in some cases, use in-band point to point (PTP) radios that provide a wireless backhaul capability between base stations at rates ranging from DS-3 to OC-3."
175	WCA		N	25		T	Make the necessary change: Assumption is made that all PTP systems use uplink power control. This is not the case. Many PTP and some PMP radios that are currently in use do not have this feature. Power control cannot be made a requirement, but an option only.	Resolved by adding "PMP" in section 5.3.1.3.1 Case B, 3rd sentence.
176	WCA		N	25		T	The statistical interference model needs to be updated to be more accurate. Although this section provides a good description of the available interference sources individually, not enough attention is provided to discussing the effects of all interference scenarios occurring concurrently. No explanation is given as to whether the interference is statistically additive. There should be an estimation that is more accurate. In addition, there is no reason to believe that all interferers would not be statistically additive: there are possibly multiple interferers emanating from multiple sources (PMP, PTP, satellite) from multiple paths. They will be statistically additive. Noted here again: One interferer at 6 dB below noise floor increases the noise floor 1 dB. Two interferers, each at 6 dB below noise floor, increases noise floor 2 dB. Three interferers, each at 6 dB below noise floor, increases noise floor 2.5 dB. Five interferers, each at 6 dB below noise floor, increases noise floor 3.5 dB. Ten interferers, each at 6 dB below noise floor, increases noise floor 5.5 dB.	Resolved by comment #158
177	WCA		N	30		T	Recalculate the target EIRP spectral density values, and provide a range of values based on assumptions. The numbers used to generate the target EIRP spectral density numbers are not valid. Specifically, STS antenna gains can be significantly higher than those stated: up to 44 dBi for 2-ft. dishes. Moreover, smaller beamwidth sector antennae can have gains up to 23 dBi. Since power spectral density EIRPs are provided, then power level densities for other bandwidths than 28 MHz should be provided as well (e.g., 50 MHz channel bandwidth for 39 GHz band, or subsequent subchannel bandwidth, e.g., 10 MHz).	Resolved by comment #167
178	WCA		N	33		T	Information on equipment specifications should include appropriate disclaimers. It should be mentioned that the parameters are typical examples of equipment parameters used to analyze the interference environment. Recommendations concerning equipment specifications for such items as power control fall well outside the scope of this document.	Resolved . Add the sentence "Simulation results described in other sections of this document demonstrates that such a range is necessary in order to facilitate coexistence." in section 6.1.2.1.
179	WCA		N	49		T	State the CW requirement and cite the source of information. Where does the CW interference requirement come from?. What is the source of this information?	Resolved . Delete section 6.3.3
180	WCA		N	51		T	Delete all discussions on using radio horizon as the distance trigger, and use a more reasonable model that results in 16 km as the distance trigger. We fail to see the logic in using radio horizon distance as a distance trigger. This factor does not take into account propagation or radio equipment characteristics, and therefore results in a highly conservative value of 60 km. Section 7.1.2 states that “propagation effect, and power flux density levels” should be used to determine the coordination trigger distance, but they are ignored: the only factor in deciding this distance appears to be the radio horizon.	Resolved . By vote in comment #161
181	WCA		N	52		T	All text implying requirement on operators to provide network coverage maps, etc., should be deleted. Requiring operators to provide network coverage maps to competitors is not a standard procedure, for obvious reasons. Indeed, the FCC does not impose such a requirement on broadband fixed wireless operators in the U.S.	Resloved by comment #81
182	WCA		N	64		T	Make the necessary change. It should be noted that the IFL cables transmit more than just the IF payloads; control and telemetry information and mains power are also transmitted at other frequencies as well.	Withdrawn

183	WCA		N	72		T	Use radio equipment parameters that are representative of BWA networks. Mention how PSFD B is derived. Include a caveat stating that psfd may not be the appropriate coordination trigger. Refer to a new Annex YYY (to be developed) that will provide the methodology to translate psfd values into signal level (dBm) values, and vice versa. The radio equipment specifications used in Annex B are not representative of what current technology supports. For example, the typical receiver noise figure of 6 dB is not a representative number, many radios currently in use have noise figures up to 10 dB, and in some cases of older equipment, 12 dB. In the psfd calculations for the 20-30 GHz range, a distance of 60 km was used, which we have already stated is not an appropriate number to use. In the 30-40 GHz range analysis, inappropriate specifications were used: hub antenna gains can be as high as 23 dBi, remote antenna gains can reach 44 dBi, and noise figures can exceed 10 dB. As a result, not only do we feel that the Interference Objectives stated in the table on page 74 are incorrect, but that the psfd values are inappropriate as well (We used the ITU WRC-2000, GSO, maximum, low-angle psfd value of –127 dBW/MHz/m2. -127 dBW/MHz/m2 -8 dB (difference in gain from m2 to 2-ft. dish antenna) -3 dB (conversion between circular-to-rectangular polarization) -1 dB (atmospheric loss) +30 dB (dBW to dBm) +11 dB (typical PMP bandwidth of 12.5 MHz) +11 dB (I/N) = -87 dBm. This is the same value we propose in our comments to NSMA.	Resolved by comment #66
184	WCA		N	76		T	Indicate where the results indicated here are used in the report. Simulation results indicate that 40 km is a good hub-to-hub spacing, but this number is not used elsewhere when proper spacing requirements are provided.	Withdrawn. Not a dominant case.
185	WCA		N	89		T	Modify Annex D to indicate all findings based on ITU-R Recommendations or delete it. Annex D does not refer to any findings based on ITU recommendations. Annex D “Work of Other Bodies” should be deleted. The relevant works of other bodies may be referenced and contained in the bibliography, however the inclusion of text in an Annex implies an endorsement of the external works. In particular, the regulations created by Industry Canada are not applicable to operators in the UK or the US. Likewise, if such references are to be maintained, a thorough effort should be made to include language from the FCC and similar agencies from other countries.	Withdrawn.
186	WCA		N	95		T	Radio specifications and parameters should be more representative of BWA networks, in Annex E. We feel again that the radio specifications provided in Annex E are not valid numbers and may in part be based on radio path availability that do not coincide with requirements of high density BWA networks.	Withdrawn
187	WCA		N	15	32	T	Recommendation 4 : Delete. This recommendation goes beyond the intended purpose of a standard to specify inter-system co-existence criteria. Such policy issues as the current recommendation that “the incumbent/first-to-deploy carrier should have equal responsibility with carriers that deploy systems at a subsequent time,” are outside the scope of this organization. Further, this idea is at odds with current FCC and NSMA ideology. Forcing an incumbent operator to alter its existing network design while maintaining service to its customers could not be feasibly achieved. Moreover, the recommendation that operators should share all relevant system design parameters to its competitors is not a commercially acceptable proposition and is also outside the scope of work of this group.	Resolved . Delete 2 nd paragraph in section 4.1 recommendation 4. Change first sentence to "In the resolution of coexistence issues, in principle, incumbents/first movers should coordinate with operators who deploy at a later time.
188	WCA		N	32	26	T	Make necessary changes: Section 6.1.1.5 describes a “typical” in-band point-to-point link in the 28 GHz band, makes assumptions regarding the specific parameters, then draws a conclusion that all “In-band Inter-cell link stations” should meet or exceed this power spectral density number. This section does not take into account transmitters in other frequency bands or with other modulation schemes or bandwidths. This type of radio is not a BWA system and each deployment of such a system will have to be evaluated on its own merits and specific technical parameters.	Resolved. Delete all existing text and add new text "When point-to-point IILS are employed, if the recommendations for STS EIRP and Unwanted Emissions provided in Sections 6.1.1.2 and 6.1.4.1, respectively, are followed, the co-existence environment described elsewhere in this Recommended Practice should apply. If an operator elects to utilize an IILS which does not conform to the foregoing recommendations, one should be sensitive to situations where co-existence issues can arise. "

189	WCA		N	54	19	T	Make necessary changes. Section 8 describes the use of statistical simulations to predict the probability of interference; this is uncommon in frequency coordination arts; no specific, commonly available and consistent tools are available for engineers to economically set up and run simulations. Neighboring engineers should have reasonable access to standardized tools. This section provides only encouragement to run simulations, and does not add significant value to the recommended practice. This section should be deleted.	Resolved . Add text in section 8.1 "The following subsections indicate some of the models, simulations and analysis used in the preparation of this Recommended Practice. While a variety of tools can be used, it is suggested that the scenarios studied below be considered when coordination is required. "
190	WCA		N	72	1	T	Make necessary changes. Annex B, “Power Spectral Flux Density (psfd) calculations contains some of the most valuable information in a BWA spectrum engineering practice. In this section of the document, step-by-step calculations are described which engineers can apply to specific real or proposed designs. In the current form, however, the Annex makes assumptions about specific frequencies, transmit powers and antenna gains and then draws conclusions for broad ranges of frequencies. As a specific example, the calculation given on page 72 assumes an operating frequency of 27272 MHz (wavelength = 0.011) and a receive antenna gain of 20 dB. From this example, a conclusion is drawn for the frequency range of 20 to 30 MHz. Without changing other parameters, the variation in frequency results in a 2 dB difference in the calculated psfd. An assumption that the victim receiver will have an antenna gain of 20 dB is perhaps conservative when considering typical hub antenna gains offered today, but this is after all an assumption and a guess. Engineers should use the best available information and should not as standard practice blindly assume an arbitrary antenna gain. This same fault of assumption and conclusi	already resolved, therefore withdrawn.
191	WCA		N	75	1	T	Make necessary changes. Annex C “Description of Calculation and Simulation Methods” should be deleted. While interesting and potentially useful to some operators, these results do not provide operators or engineers with guidance regarding how precisely to conduct a standard, repeatable simulation that would be mutually understood and agreed to by multiple parties in a coordination effort. Relevant works such as this should be externally published and referenced in the bibliography.	Resolved by the comment #189
192	WCA		N	34	8	T	Make necessary changes. In section 6.1.4.1 and other locations, quoted excerpts from draft CEPT or ETSI documents should be deleted as the referenced documents are not approved. References to other standards or documents should contain adequate information to refer the reader to the alternate text and not seek to duplicate the information.	Rejected, has been approved by the IEEE project editor
End of written inputs to Nov 6-9th meeting								
193	Langstom	Leland	M	31	20	E	reference to section 6.1.2 within section 6.1.1.2 needs fixing	Resolved. Change 1st paragraph ,last sentence in section 6.1.1.2 to "Power control is recommended for unfaded conditions, as described in Section 6.1.2. "
194	Langstom	Leland	M	12	7	E	add acronyms to Section 3.2 according to list from Crosspan	Accepted
195	Langstom	Leland	M			E	make global editorial changes according to Crosspan contributions	Accepted
196	McGregor	Andy	M	35	4	E	to add an example of a spectrum emission mask in section 6.1.4.1	Accepted
197	Arefi	Reza	M	37	20	E	change "paper" to "document" in section 6.2.2.1, second paragraph.	Accepted
End of all inputs to Nov 6-9th meeting								