

Project	IEEE 802.16 Broadband Wireless Access Working Group < http://ieee802.org/16 >	
Title	Draft Minutes of meeting of Coexistence Task Group at session #19, Calgary	
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Re:	Coexistence task group activities in session # 19	
Abstract	N/A	
Purpose	To provide a record of the meeting	
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Draft Minutes of meeting of Coexistence Task Group

20-24 May, Calgary.

- Chaired by Phil Whitehead, Radiant Networks Plc
- Minutes prepared by Phil Whitehead

Monday 20th May

1. The meeting was called to order at 14.25
2. The draft agenda was modified and unanimously accepted
3. A tentative schedule was agreed for the week.
4. The draft minutes of session #18 were unanimously approved.
5. PW reported on the status of the TG2 work. This was the fifth formal meeting of the group. A set of draft system parameters to be used in coexistence simulations and calculations was prepared at meeting #15. These have been used as the basis for a number of coexistence simulations, carried out and presented at sessions #16, 17 and 18. Simulation work is nearly completed, except for the 2.5GHz band, where there is no input.
6. It was noted that the lack of input for 2.5GHz requires a revision of the TG activity. A number of options were discussed. Provisionally, the TG members indicated a preference to complete the amended recommended practice without the 2.5GHz content, in order to allow the remaining, substantial work to proceed to conclusion. This may need a PAR change, requiring agreement of the WG and SEC. A request to amend the PAR can be delayed until the July meeting. It was unanimously agreed to defer a final decision until the next meeting.
7. Input papers from Jack Garrison providing simulations for the 10.5GHz and 3.5 GHz band were reviewed (02/12, 02/13, 02/14, 02/15). The discussion on 02/15 was curtailed and postponed until the next day. Agreed conclusions from each of these contributions are recorded in the output document "interim conclusion from simulations revision 1"
8. An input papers from Phil Whitehead (02/18) was reviewed. This provides an analysis of interference from a PMP system into a multi – link PP system, co-channel case. An error in the conclusions was noted (should read ".....multiple interfering BSs....". The agreed conclusions from this paper recorded in the output document "interim conclusion from simulations revision 1"
9. Session closed for the day at 18.00

Tuesday 21st May 2002

10. The meeting opened at 08.45
11. A further review of contribution 02/14 from Jack Garrison took place. This deals with diffraction losses for over the horizon paths at 3.5 GHz and 10.5 GHz. GJG agreed to produce further results for lower system

- spacing of approximately 30km, to improve guidance to operators on the nearest practical co-channel system spacing.
12. A further review of contribution 02/15 from Jack Garrison took place. This deals with interference from BS to SS at 10.5GHz, taking account of rain fading. Agreed conclusions from this contribution are recorded in the output document “interim conclusion from simulations revision 1”
 13. A review of contribution 02/17 from Jack Garrison took place. This is an addendum to 02/15, dealing with the BS to BS and SS to BS interference cases. Agreed conclusions from this contributions are recorded in the output document “interim conclusion from simulations revision 1”
 14. A review of a new input paper from Jack Garrison (not yet uploaded) took place. This deals with SS to BS interference at 10.5GHz. The final text is not complete but it was possible to reach agreed conclusions. These are recorded in the output document “interim conclusion from simulations revision 1”. GJG agreed to complete and upload the formal contribution within the next few days.
 15. A review of contribution 02/23 from Jack Garrison took place. This deals with BS to BS interference at 10.5 GHz. Agreed conclusions from this contributions are recorded in the output document “interim conclusion from simulations revision 1”. It was noted that NFD values used are “typical” and practical values could be significantly better, thus improving coexistence. Ultra linear PA design would be effective (only required at a TDD BS).
 16. A review of contributions 02/25 and 02/26 from Barry Lewis took place. These are related papers, dealing with the complex problem of interference between PMP systems and PP links. The PP links are assumed to have “protected” status in this analysis. The work is based on ETSI report TR 101 853, but develops the calculations in much more detail. After considerable discussion, Barry Lewis agreed to revise the papers to include a set of considerations and conclusions, based on the discussions.
 17. A review of contributions 02/19, 02/20, 02/21 and 02/22 from Phil Whitehead took place. These papers deal with various interference scenarios between PMP systems and PP links. Some of the papers address the same issues as 02/25 and 02/26 but using a slightly different methodology. Some agreed conclusions are recorded in the output document “interim conclusion from simulations revision 1”. The remainder (where they overlap with 02/25 and 02/26) were deferred until completion of the revised documents.
 18. The meeting closed at 17.00

Wednesday 22nd May 2002

19. Meeting opened 09.15
20. PW summarized the work so far, for several new participants.
21. Remi Chayer presented RABC-FWA-PTP. This is a Canadian document proposing a pfd limit at the boundary between service areas of a PMP system and a PP system with protected status. The pfd limit is a “trigger” for coordination. It was agreed that certain elements of this document could usefully be referred to in the recommended practice (e.g. in the section on “work of other bodies”).
22. Remi Chayer presented SRSP-303.4. This is another Canadian document (standards system radio plan) dealing with block edge requirements for 3.5 GHz band systems. It also provides a useful example of an antenna specification for a 3.5 GHz SS. It was agreed that certain elements of this document could usefully be referred to in the recommended practice (e.g. in the section on “work of other bodies”).
23. Remi Chayer presented RSS 192 (Canadian 3.5GHz regulations). This document provides a reference standard for 3.5 GHz equipment. There is an equivalent ETSI TM4 specification. It was agreed that certain

- elements of this document could usefully be referred to in the recommended practice (e.g. in the section on “work of other bodies”).
24. Reza Arefi presented a revised paper, showing the impact of adaptive antennas on coexistence in a 3.5 GHz system. The scenario presented was for the co-channel adjacent area case, with an adaptive antenna used at the BS of one system and conventional sector antenna used in the other system. The interferer is an SS and the victim is the BS with the adaptive antenna. The paper concludes that an adaptive beam forming antenna can in some circumstances reduce the required co-channel spacing between systems. However, a small number of cases in the Monte Carlo simulation have high values of interference that must be mitigated by some means (pointing restrictions, avoidance in time, channel changing etc.).
 25. Reza Arefi presented a paper 02/29 as a proposal for text for the “mitigation” section of part 3 of the amended recommended practice. Some small adjustments to the text were agreed. It was agreed that then analysis of BS to BS interference should be completed before the conclusions were adopted as draft text. Reza agreed to complete the necessary analysis in short order.
 26. Barry Lewis presented revised and additional information relating to papers 02/25 and 02/26. These arrive at guidelines and conclusions which should assist operators deploying PP links within interfering range of PP systems. It was particularly noted that adjacent channel operation would be very constrained in terms of acceptable locations and pointing directions of PP links, whilst a guard channel between frequency blocks reduces the coordination difficulty significantly. With small modifications, the revised text was agreed. Barry Lewis agreed to upload the revised contributions as formal input documents.
 27. A review of outstanding actions took place, following which the meeting temporarily adjourned to allow off-line working by participants on several topics (simulations, text for the recommended practice and revised input documents)
 28. At 16.30 a review of progress on the various tasks took place, following which the meeting closed at 16.45, to fit the timing of the social event hosted by Wi-LAN.

Thursday 23rd May 2002

29. The meeting opened at 08.55
30. Jack Garrison’s final papers were reviewed. Agreed conclusions are recorded in the output document “interim conclusion from simulations revision 1”.
31. Barry Lewis’s revised papers 02/25, 02/26 were reviewed and agreed conclusions were recorded in the output document “interim conclusion from simulations revision 1”.
32. Reza Arefi’s further paper on BS to BS interference was not yet available. The conclusions have therefore been postponed (probably until session # 20)
33. The working document v1.3 was reviewed and updated, in the light of the now completed simulation work. A marked up version 1.4 was produced detailing editorial assignments to various TG members. It was agreed to upload this document as a new contribution and output from session#19.
34. It was noted that TG2 membership is now at a minimum to complete the project. An editor is urgently needed for the ballot phase. Reza Arefi indicated that he is likely to volunteer as editor, but not until the next meeting.
35. The paper “interim considerations from simulations” was updated to include all the conclusions from the now completed simulations. It was agreed to upload this as an output document from the meeting.
36. The timeline was reviewed. The overall timescale still appears to be feasible, although details of the various steps in the ballot process may need to be adjusted to fit in with key IEEE committee approval dates.
37. The draft minutes were provisionally agreed and will be uploaded as a draft record of the meeting.

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38. A review was made of the draft closing report. After a number of small modifications, the report was unanimously accepted.

39. There being no other business, the meeting was adjourned at 15.15

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