IEEE 802.16 Working Group on Broadband Wireless Access

http://WirelessMAN.org

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Dr.-Ing.Jamshid Khun-Jush, Chairman, ETSI BRAN
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Dear Jamshid,

Thank you for your letter (BRAN29d120/IEEE L802.16-02/17) of 5 July 2002 requesting that 802.16a review the recent or updated ETSI BRAN HIPERMAN decisions with a view to adopting them in our own P802.16a draft. We appreciate the ongoing liaison between our two groups and attach the results of our review. We respectfully request that HIPERMAN reconsider its decisions on those items on which we do not have agreement.

Please note that we have also decided to add a Convolutional Turbo Code option to all of the PHY specifications in P802.16a. We are about to issue Draft 5 and hope to soon enter it into IEEE 802 Sponsor Ballot.

On a personal note, we enjoyed seeing you at the 802 meetings last week. On behalf of the 802.16 Working Group, I want to send you our best wishes in your "retirement" from your position as Chair of ETSI BRAN. We have enjoyed working with you over the past few years and are sorry to see you stepping down. We look forward to working with your successor and continuing our progress towards the convergence of our two standards for global benefit.

Best Regards,

Dr. Roger B. Marks
Chair, IEEE 802.16 Working Group on Broadband Wireless Access

cc: Paul Nikolich, Chair, IEEE 802 LAN/MAN Standards Committee
        Jay Klein, IEEE 802.16 Liaison to ETSI BRAN
        Marianna Goldhammer, IEEE 802.16 Liaison to ETSI HIPERMAN

ATTACHMENT: REVIEW OF ETSI BRAN REQUESTS TO AMEND 802.16a DRAFT 4 (P802.16a/D4-2002)

(Ref: Liaison Letter BRAN29d120/IEEE L802.16-02/17**)**

1. **HIPERMAN decided that it rejects the new optional OFDMA permutation for AAS (the permutation formerly rejected as OFDMA2 PHY) as it fails to discern its technical merits.**

   IEEE 802.16a rejected this proposal and the adjacent carrier permutation will therefore remain in the IEEE P802.16a Draft Standard.

   The OFDMA adjacent carrier permutation scheme is an important element of the Adaptive Antenna System (AAS) option within our Draft Standard. Your many members who also attend IEEE 802.16 WG meetings will be aware of the extensive discussion and technical contributions on this topic over the past year or more. When used in combination with TDD, other diversity techniques or for broadband channels, it can offer significant improvements in coverage, link reliability and cell capacity and reductions in processing complexity. We also note that the adjacent carrier permutation is entirely consistent with the ETSI BRAN decision on "clustered" sub-channelization for the OFDM PHY. The IEEE 802.16a Task Group reaffirms its long-standing support for the AAS option for all PHYs, and particularly for the recently consolidated OFDMA PHY and its options.

   A range of PHY options are necessary in order to meet the full range of market requirements for broadband wireless access, including the OFDMA AAS implementation and adjacent carrier permutation which addresses some significant application and deployment scenarios where the additional coverage, reliability and capacity is particularly beneficial. The technical experts on OFDMA AAS within IEEE 802.16 offer to send a representative to the next HIPERMAN meeting to describe / discuss the technical merits if this would help with your re-consideration.

2. **To upgrade the working assumption on the sub-channelization enhancement for the OFDM PHY, which we notified you of in our previous letter, to a decision. The necessary changes are documented in BRAN29d116r1**

   Under reconsideration, this proposed option failed to gain sufficient support within IEEE 802.16.

3. **To adopt the editorial restructuring of the draft according to BRAN29d040 (containing the same changes as C802.16a-02/67).**

   IEEE 802.16 has adopted C802.16a-02/67 as the basis for the proposed P802.16a/D5 Draft and all the resolved comments from D4 will be adapted and integrated into the restructured draft.

4. **To change the trellis termination to "zero-tail" at the end of each allocation, rather than tail-biting per OFDM symbol.**

   Under reconsideration, this proposed option failed to gain sufficient support within IEEE 802.16.

5. **To allow the frame duration for PMP to vary between 4 and 20 ms as a multiple of OFDM DL symbols, rather than create a number of fixed values.**

   IEEE 802.16 has rejected the HIPERMAN proposal for determining frame duration, and has retained the current minimum value of 2ms and maximum value of 10ms.

6. **To make various minor corrections as documented in BRAN29d116r1**

   Ten items were accepted, some with minor modifications, and two were rejected. Details are provided below. They are numbered as per BRAN 29d116r1:

4. Add in section 8.3.3.3.1:
In FDD mode, a HFDD terminal will not receive data before the start of a new frame, after it has transmitted.
Accepted

5. Add in section 8.3.3.3.2.2.3:
Subsequent AAS bursts shall include a short preamble.
Accepted

6. Accepted .

7. Delete in table 259, the line with the Frame Duration Code.
Accepted

8. Replace in 8.3.3.2.4.2 the first sentence with:
"Rate_ID's, which indicate modulation and coding to be used in the first DL burst immediately following the FCH, are shown in Table 214."
Fix also for OFDMA
Accepted

9. Renumber FEC Code Type in Table 260 for OFDM to make them consistent with table 214:
0=QPSK(RS+CC) _
…
5=QAM-64(RS+CC) _
Fix also for OFDMA
Add also CTC numbers for all PHYs
Accepted

10. Delete the row defining the Cyclic Prefix in Table 260.
Accepted

11. Under Table 220, add to the description of "Length":
"The minimum value of the Length parameter shall be 6."
Accepted

12. Delete in Table 221 the parameter Allocation_Start_Time.
Rejected

13. Replace in sections 8.3.3.2.7.2 and 8.3.3.2.7.3 "message" by "OFDM DL preamble"
Replace "message" with "DL preamble" for SCa as well.
Accepted

14. In Table 227, change offset into duration and change definition into:
Duration
  The duration indicates the duration, in units of OFDM symbols, of the burst. The first burst starts from the Allocation_Start_time.
remove 14 from the UCD burst profile encodings
State somewhere that the CP defined in the DCD shall also be used on the UL.
Accepted