

IEEE 802.16 Recirculation Ballot #2a

Approve

70

Approval Ratio

95.9%

Abstain

10

Return Ratio

61.9%

Motion Approved

Yes

Disapprove

3

Condition Met

Yes

Ballots

83

Condition Met

Yes

Votes

73

Member Total

134

Voter

Last Name

First Name

Recirc 2a Vote

1	An	Song	Abstain for lack of time
Original LB#2 Vote	Abstain for lack of time		
2	Arefi	Reza	Approve with no comments
Original LB#2 Vote	Approve with no comments		
3	Arrakoski	Jori	Approve with no comments
Original LB#2 Vote	Approve with no comments		
4	Arunachalam	Arun V.	Approve with no comments
Original LB#2 Vote	Approve with no comments		
5	Avivi	Eli	Approve with no comments
Original LB#2 Vote	Approve with no comments		
6	Baragar	Ian	Approve with no comments
Original LB#2 Vote	Approve with no comments		
7	Baugh	C. R.	Approve with no comments
Original LB#2 Vote	Approve with no comments		
8	Belfiore	Carlos	Approve with no comments
Original LB#2 Vote	Approve with no comments		
9	Benyamin-Seeyar	Anader	Approve with no comments
Original LB#2 Vote	Approve with no comments		
10	Bilotta	Tom	Abstain for lack of time
Original LB#2 Vote	Abstain for lack of time		
11	Buskila	Baruch	Approve with no comments
Original LB#2 Vote	Approve with no comments		
12	Chang	Dean	Approve with no comments
Original LB#2 Vote	Approve with no comments		
13	Chayat	Naftali	Approve with no comments
Original LB#2 Vote	Approve with no comments		

Voter #	Last Name	First Name	Vote
14	Chayer	Rémi	Approve with no comments
Original	LB#2	Vote	Approve with no comments
15	Condie	Mary	Abstain for lack of technical expertise
Original	LB#2	Vote	Abstain for lack of technical
16	Costa	Jose	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding
17	Currivan	Bruce	Approve with no comments
Original	LB#2	Vote	Approve with no comments
18	Dotan	Amos	Approve with no comments
Original	LB#2	Vote	Approve with no comments
19	Eidson	Brian	Approve with no comments
Original	LB#2	Vote	Approve with no comments
20	Eklund	Carl	Approve with no comments
Original	LB#2	Vote	Approve with no comments
21	Falconer	David	Approve with no comments
Original	LB#2	Vote	Approve with no comments
22	Fishel	George	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding
23	Florea	Adrian	Approve with non-binding comments
Original	LB#2	Vote	Disapprove with binding
24	Foster	Robert	Approve with no comments
Original	LB#2	Vote	Approve with no comments
25	Freedman	Avraham	Approve with no comments
Original	LB#2	Vote	Approve with non-binding
26	Garrison	G. Jack	Approve with no comments
Original	LB#2	Vote	Approve with no comments
27	Germon	Richard	Disapprove with binding comments
Original	LB#2	Vote	Disapprove with binding
28	Guillemette	Phil	Abstain for lack of time
Original	LB#2	Vote	Abstain for lack of time
29	Hadad	Zion	Approve with no comments
Original	LB#2	Vote	Approve with no comments
30	Halachmi	Baruch	Abstain for lack of technical expertise
Original	LB#2	Vote	Abstain for lack of technical

Voter #	Last Name	First Name	Vote
31	Hamilton	Michael	Disapprove with binding comments
Original	LB#2	Vote	Approve with non-binding
32	Hosur	Srinath	Approve with no comments
Original	LB#2	Vote	Approve with no comments
33	Hum	Coleman	Approve with no comments
Original	LB#2	Vote	Approve with no comments
34	Hunter	Wayne	Approve with no comments
Original	LB#2	Vote	Approve with no comments
35	Jacobsen	Eric	Approve with no comments
Original	LB#2	Vote	Approve with no comments
36	Jamali	Hamadi	Approve with no comments
Original	LB#2	Vote	Approve with no comments
37	Jorgensen	Jacob	Approve with no comments
Original	LB#2	Vote	Approve with no comments
38	Kang	Inchul	Approve with no comments
Original	LB#2	Vote	Approve with no comments
39	Kasslin	Mika	Abstain for lack of time
Original	LB#2	Vote	Abstain for lack of time
40	Kiernan	Brian	Approve with no comments
Original	LB#2	Vote	Approve with no comments
41	Kitroser	Itzik	Abstain for lack of technical expertise
Original	LB#2	Vote	Abstain for lack of technical
42	Klein	Allan	Approve with no comments
Original	LB#2	Vote	Approve with no comments
43	Klein	Jay	Approve with no comments
Original	LB#2	Vote	Approve with no comments
44	Kolze	Tom	Abstain for other reasons
Original	LB#2	Vote	Abstain for other reasons
45	Kostas	Demosthenes	Approve with no comments
Original	LB#2	Vote	Approve with no comments
46	Langley	John	Approve with no comments
Original	LB#2	Vote	Approve with no comments
47	Leiba	Yigal	Approve with no comments
Original	LB#2	Vote	Approve with no comments

Voter #	Last Name	First Name	Vote
48	Lewis	Barry	Approve with non-binding comments
Original	LB#2	Vote	Disapprove with binding
49	Liebetreu	John	Approve with no comments
Original	LB#2	Vote	Approve with no comments
50	Lindh	Lars	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding
51	Lucas	Fred	Approve with no comments
Original	LB#2	Vote	Approve with no comments
52	Marin	Scott	Approve with no comments
Original	LB#2	Vote	Approve with no comments
53	Marks	Roger	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding
54	McGregor	Andy	Approve with no comments
Original	LB#2	Vote	Approve with no comments
55	Meyer	Ronald	Approve with no comments
Original	LB#2	Vote	Approve with no comments
56	Middleton	Andrew	Approve with no comments
Original	LB#2	Vote	Approve with no comments
57	Monk	Anton	Approve with no comments
Original	LB#2	Vote	Approve with no comments
58	Myers	William	Approve with no comments
Original	LB#2	Vote	Approve with no comments
59	Padan	Uzi	Approve with no comments
Original	LB#2	Vote	Approve with no comments
60	Park	Yunsang	Approve with no comments
Original	LB#2	Vote	Approve with no comments
61	Petry	Brian	Approve with no comments
Original	LB#2	Vote	Approve with no comments
62	Petry	Brian	Approve with no comments
Original	LB#2	Vote	Approve with no comments
63	Ran	Moshe	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding
64	Reible	Stanley	Approve with no comments
Original	LB#2	Vote	Approve with no comments

Voter #	Last Name	First Name	Vote
65	Resheff	Guy	Approve with no comments
Original	LB#2	Vote	Approve with no comments
66	Ribner	David	Approve with no comments
Original	LB#2	Vote	Approve with no comments
67	Robinson	Eugene	Approve with no comments
Original	LB#2	Vote	Approve with no comments
68	Roehr	Walt	Disapprove with binding comments
Original	LB#2	Vote	Disapprove with binding
69	Satapathy	Durga	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding
70	Sater	Glen	Approve with no comments
Original	LB#2	Vote	Approve with no comments
71	Scaringi	Vito	Approve with no comments
Original	LB#2	Vote	Approve with no comments
72	Schafer	David	Approve with no comments
Original	LB#2	Vote	Approve with no comments
73	Shahar	Menashe	Approve with no comments
Original	LB#2	Vote	Approve with no comments
74	Shirali	Chet	Approve with no comments
Original	LB#2	Vote	Approve with no comments
75	Stamatelos	George	Approve with no comments
Original	LB#2	Vote	Approve with no comments
76	Stanwood	Ken	Abstain for lack of time
Original	LB#2	Vote	Abstain for lack of time
77	Thompson	Paul	Approve with no comments
Original	LB#2	Vote	Approve with no comments
78	Trinkwon	David	Abstain for lack of technical expertise
Original	LB#2	Vote	Abstain for lack of technical
79	van Waes	Nico	Approve with no comments
Original	LB#2	Vote	Approve with no comments
80	Wachira	Muya	Approve with non-binding comments
Original	LB#2	Vote	Approve with no comments
81	Whitehead	Philip	Approve with non-binding comments
Original	LB#2	Vote	Approve with non-binding

Voter #	Last Name	First Name	Vote
82	Zeng	Chaoming	Approve with no comments
Original	LB#2	Vote	Approve with no comments
83	Zuniga	Juan-Carlos	Approve with no comments
Original	LB#2	Vote	Approve with no comments

IEEE 802.16 Recirculation Ballot #2a (2001-01-10 to 2001-01-20)

Comment #	2a-1	Roger	Marks	Member		
Type	Editorial	Starting Page Number	Starting Line Number	Section	Global	

Change

In resolution of Comment 3, change "TS/Central Station (CS)" to "BTS/Central Station (CS)" and "TS/CS" to "BTS/CS"

Reason

This makes these two changes in the resolution to be identical to those proposed in Comment 3. I believe that this was the intent of the resolution, since the two terms used in the resolution never appear in the text except with the "B" before them. The resolution as written would result in a double letter B.

Comment #	2a-2	Roger	Marks	Member		
Type	Editorial	Starting Page Number	Starting Line Number	Section	Global	

Change

Change "CS" to "BS" globally, as proposed in Comment 3

Reason

The explanation for leaving the term "CS" is inconsistent. The definition 3.1.3 indicates that they are equivalent. Page 28 line 5 does not truly distinguish the two; for example, Table 4-1 uses "CS" in reference to PMP. In any case, there is no strong reason to make a distinction.

Comment #	2a-3	Muya	Wachira	Member		
Type	Editorial	Starting Page Number	Starting Line Number	Section		

Change

Ballot 1 comment #1 changed "Mbps" to "Mbit/s" and was accepted. Amend the resolution to be: Change the units to "Mb/s". If possible search for symbols for other units for consistency with official IEEE usage.

Reason

According to ANSI/IEEE Std 260.1-1993, American National Standard letter Symbol for Measurement (SI Units, Customary Inch-Pound Units, and Certain Other Units, Table 3, the symbol for bit per second is b/s.

Comment #	2a-4	Muya	Wachira	Member		
Type	Editorial	Starting Page Number	Starting Line Number	Section	Various editorial	

Change

1. page 17 In 13 Replace the word "Radio" with "Radiocommunications Sector"

2. p 58 In 16 replace "&" with "and"

3. p 59 In 26 Replace "Refer to the next section" with "Refer to the section 7.1.2"

4 p 60 In 5 Use proper caption style. In the table, use the same font sizes in all cells for consistency, and center the text.

5. p 61 In 2 In the column headings, move "(m)" to the end of the text to make clear that radio is not 2 meters above clutter

Reason

Correct term

Comment #	2a-5	Jose	Costa	Member		
Type	Editorial	Starting Page Number	16	Starting Line Number	6	Section 3.2

Change

Replace "rate" by "ratio"

Reason

I disagree with the resolution of Comment No. 29. The IEEE Standard Dictionary of Electrical and Electronics Terms (IEEE Std. 100-1996) defines Bit Error Ratio (BER) as follows: "The ratio of the number of bit errors to the total number of bits transmitted in a given time interval. BER may be measured directly by detecting errors in a known signal, or approximated from code violations or framing bit errors. Numerical values of error ratio should be expressed in the form $n \times 10^{-p}$, where p is an integer greater than zero. When n is omitted, the implied value is 1". ITU-T Recommendation E.800 defines Bit Error Ratio (BER) as follows: "The ratio of the number of bit errors to the total number of bits transmitted in a given time interval." Recommendation ITU-R V.662-2 defines Bit Error Ratio (BER) as follows: "For a binary digital signal, the ratio of the number of errored bits received to the total number of bits received over a given time interval". Recommendation ITU-R V.663-1 explicitly deprecates the use of the term "rate" for expressing the proportion of errors in telecommunication and indicates that the term "ratio" should be used instead. hence, IEEE, ITU-T and ITU-R all coincide in Bit Error Ratio (BER).

IEEE 802.16 Recirculation Ballot #2a (2001-01-10 to 2001-01-20)

Comment # 2a-6 Adrian Florea Member
 Type Editorial Starting Page Number 20 Starting Line Number 34 Section 4.2, Comment # 41

Change

Remove recommendation #3

Reason

The recommendation is unclear and redundant. According with the modified text, the recommendation here is that careful consideration be given to recommendations #9, #10, #11 and Section 6.

Comment # 2a-7 Muya Wachira Member
 Type Editorial Starting Page Number 21 Starting Line Number 24 Section 4.2

Change

Make use of units for psfd consistent throughout the document. Currently we have dBW/MHz-m2 , dBW/MHz/m2, dBw/MHz-m2, and dBW/MHz/m2. [sorry, exponents are not registering] I suggest we use (dBW/m2)/MHz, noting that ANSI-IEEE Std 260.1-1993 (section 4.3) and IEEE Std 280-1985(section 3.3) recommend the use of parentheses if more than one slash is used.

Reason

Consistency

Comment # 2a-8 Michael Hamilton Member
 Type Technical, Binding Starting Page Number 24 Starting Line Number 1 Section 6.3.2.2

Change

D/U = -5dB for adjacent channel
 D/U= -20 dB for second adjacent channel

Reason

If the wording of the new text really is intended to indicate that the Undesired carrier level is 20 dB stronger than the Desired carrier, then the new proposal is a dramatic change from the old (although confusing) spec of 0 dB. It is not apparent how the proposed -20 dB D/U ratio is justified and it is a major design consideration.

It is not clear how these levels are justified as "spillover" and if the proposed tolerance has been analyzed, or is intended to apply for all modulation types covered under the 802.16.1 proposal (e.g. 64 QAM).

Comment # 2a-9 Muya Wachira Member
 Type Editorial Starting Page Number 24 Starting Line Number 21 Section 4.3

Change

Change table number from "Table 4-1" to "Table 1", and change all other table numbers in the document to remove hyphenated numbers.

Check also Figure headings and notes for consistency with IEEE Style usage.

Reason

According to IEEE Standards style manual, hyphenated numbers shall not be used except in standards of considerable length. At any rate, we have to be consistent with the figures numbering style, which does not use hyphens.

Comment # 2a-10 Roger Marks Member
 Type Editorial Starting Page Number 28 Starting Line Number 4 Section 5.2

Change

Ensure that lines 3-15 include no definitions but simply refer to the introductory clauses.

Reason

To avoid the possibility of inconsistencies in with the definitions.

Comment # 2a-11 Muya Wachira Member
 Type Editorial Starting Page Number 30 Starting Line Number 23 Section 5.3.1.2

Change

Replace "section 5.2.1 with the correct reference.

Reason

Section 5.2.1 does not exist.

Comment # 2a-12 Barry Lewis Member
 Type Editorial Starting Page Number 42 Starting Line Number 7 Section 6.1.3.1

Change

Delete "CEPT".

Reason

CEPT is a separate body to ETSI. Deletion improves accuracy of text.

IEEE 802.16 Recirculation Ballot #2a (2001-01-10 to 2001-01-20)

Comment # 2a-13 Barry Lewis Member
 Type Editorial Starting Page Number 42 Starting Line Number 7 Section 6.1.3.1

Change

Delete the word "Draft" on lines 7 and 14.

Reason

EN 301 390 has completed the ETSI processes and is therefore no longer a draft. Accuracy improved.

Comment # 2a-14 Robert Whiting Observer
 Type Technical, Non-binding Starting Page Number 49 Starting Line Number 1 Section 6.2.2.1.2

Change

Modify figure 14 and Table 6-5 to end the BTS Elevation Copol Minimum curve at -90 degrees instead of -180 degrees.

Reason

The purpose of the minimum curve is to ensure adequate coverage in the illuminated sector. The region from -90 degrees to -180 degrees is in another sector, which should not be illuminated.

Comment # 2a-15 Walt Roehr Member
 Type Technical, Binding Starting Page Number 67 Starting Line Number 2 Section Table 8-1

Change

Change Heading last column from "Spacing for acceptable performance" to "Seperation at which Coordination is Necessary"

Reason

60 km spacing is NOT "acceptable performance". This is the real essence of my NO vote in original round (comment 34) but unfortunately I tied it to first place 60 km was mentioned, in vain hope that change would ripple through document. It appears that did not happen. With this change I will (reluctantly, because I fear "tone" is wrong elsewhere) change my NO to an Accept.

Comment # 2a-16 Walt Roehr Member
 Type Editorial Starting Page Number 67 Starting Line Number 2 Section Table 8-1

Change

Change "CS" to "Hub" throughout table (5th col).

Change "Co-channel" to Adjacent Area, same frequency" throughout table (3rd col, rows 7,8,9)

Reason

Internal consistency within table. Terms "hub" and adjacent area, same freq " clearer."

Comment # 2a-17 Muya Wachira Member
 Type Editorial Starting Page Number 67 Starting Line Number 2 Section Table 8.1

Change

1)In rows 2, 7, and 8 insert "(note 1)"after CS-CS

2)Change the font in column 1 to be same as other columns

3)In rows 10-13 correct use the same format of "Monte Carlo"as used in rows 2-4

Reason

Item 1 will add clarity. Other items will add consistency

Comment # 2a-18 Muya Wachira Member
 Type Editorial Starting Page Number 76 Starting Line Number 3 Section 9.10.2

Change

1)Place the figure caption below the figure. Make same change globally if applicable.

2)Line 23 Change number for equation from 5 to 7. In the Annexes start with new series of equation numbering e.g. page 82 line 7, equation 7 becomes equation B-1

If possible also use equation editor for equations.

Reason

1)Normal editing practice.

2)Equation 5 is misplaced. There is an eq 6 on page 60.

IEEE 802.16 Recirculation Ballot #2a (2001-01-10 to 2001-01-20)

Comment # 2a-19 Muya Wachira Member
 Type Editorial Starting Page Number 81 Starting Line Number 1 Section A.2

Change

Replace "section 3.1.3" with the correct reference.

Reason

Section 3.1.3 is a definition not discussion

Comment # 2a-20 Barry Lewis Member
 Type Editorial Starting Page Number 81 Starting Line Number 17 Section Annex A

Change

Insert new sub-section:

"A.3 European Conformance Test Standards

ETSI has published a standard, in a number of parts, that deals in detail with the conformance testing procedures for Fixed Wireless Access equipment. EN301-126-2-1 to -5, titled "Fixed Radio Systems; Conformance Testing;", has the following parts:

Part 1: "Point to Multipoint equipment; Definitions and General Requirements"

Part 2 covers FDMA equipment.

Part 3 covers TDMA equipment.

Part 4 covers Frequency Hopping CDMA equipment.

Part 5 covers Direct Sequence CDMA equipment.

Additionally drafting activity on a part 6 is complete catering for Multi-Carrier TDMA equipment.

Copies of the published standards are available for download from the ETSI Web Site."

Reason

Useful supplementary information in the Annex relating to Conformance Testing

Comment # 2a-21 Muya Wachira Member
 Type Editorial Starting Page Number 94 Starting Line Number 7 Section C.8

Change

Replace "(derived in an earlier section of this document)" with "(derived in Annex B of this document)"

Reason

Precision of reference

Comment # 2a-22 Muya Wachira Member
 Type Technical, Non-binding Starting Page Number 95 Starting Line Number 27 Section C.9

Change

Add some clarifying text to explain the assumed antenna cross-section area in arriving at the value -144 dBW/MHz and explain that this is a power spectral density is to avoid misunderstanding.

Insert in section 3.1 a definition of power spectral density as:

power spectral density (psd): The average power per specified bandwidth. It is expressed in units [power/bandwidth] such as Watts/Hz, Watts/MHz, dBW/MHz, etc.

Reason

Since the numerical value of psfd and psd used on different pages is the same, it can lead to misunderstanding if not clarified. On page 84 ln12-13 we start with a trigger pfd (psfd) level of -114 dBW/MHz/m2, which was derived in Annex B. When we come to p94 ln7, we use the same value of -114 dBW/MHz/m2.

IEEE 802.16 Recirculation Ballot #2a (2001-01-10 to 2001-01-20)

Comment # 2a-23 Barry _____ Lewis _____ Member _____
 Type Editorial Starting Page Number 106 Starting Line Number 15 Section D.16

Change

Replace the text in section D.16 (sic) with the following:
 "D.16 Radio Advisory Board of Canada (RABC)

The Radio Advisory Board of Canada (RABC) has also conducted technical studies dealing with operator-to-operator co-ordination issues. A paper was issued as an input to the Industry Canada regulation.

This paper entitled "RABC Pub. 99.2: RABC Study Leading to a Coordination Process for Systems in the 24, 28 and 38 GHz Bands recommends a coordination process using the distance as first trigger and two spectral pfd levels that trigger different actions by the operators.

If the boundary of two service areas is within 60 km of each other, then the co-ordination process is invoked. Two spectral pfd levels are proposed for co-ordination. The first one, level 'A', represents a minimal interference scenario where either licensed operator does not require co-ordination. A second level, 'B', typically 20 dB higher than 'A', represents a trigger for two possible categories: if the interference is above A but below B, then co-ordination is required with existing systems only. If the interference is greater than level B, then co-ordination is required for both existing and planned systems. The table below summarises spectral pfd levels A and B for the three frequency bands.

Frequency Band (GHz)	spectral pfd Level A (dBW/m2 in any 1 MHz)	spectral pfd Level B (dBW/m2 in any 1 MHz)
24	-114	-94
28	-114	-94
38	-125	-105

The much lower spectral pfd levels at 38 GHz are to ensure protection to point-to-point systems (allowed in this band in Canada). The coordination procedure is graphically summarized in the figure at the end of Annex F.

The paper can be found at <http://www.rabc.ottawa.on.ca/english/pubs.cfm> and shows how the values were derived."

Reason

Resolution of comment 132 did not agree to delete clause D.16 (sic) but to complete the section with appropriate text.