Comment Resolutions for Approval in IEEE 802.16 Recirculation Ballot #2a (2001-01-10 to 2001-01-20)

Comment # 1 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** **Starting Line Number** **Section** Global

Balloter's Suggested Change:

Change "Mbps" to "Mbit/s

Balloter's Reason:

Correct international unit usage.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 2 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** **Starting Line Number** **Section** Global

Balloter's Suggested Change:

Subscript the "o" in "Bo" globally.

Balloter's Reason:

Consistency and editorial improvement.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 3 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** **Starting Line Number** **Section** Global

Balloter's Suggested Change:

Make the following global changes:

"Base Transceiver Station" to "Base Station"
"Subscriber Transceiver Station" to "Subscriber Station"
"BTS" to "BS"
"STS" to "SS"
"CS" to "BS"
"Hub" to "BS"
"Sub" to "SS" {only when referring to Subscriber Station}
"TS" to "SS"
"RPTS" to "RS"
"RTS" to "RS"
"BTS/Central Station (CS)" to "BS"
"BTS/CS" to "BS"

Accordingly:

Change Definition 3.1.3 to "base station (BS)"
Change Definition 3.1.31 to "subscriber station (SS)"

and delete these Acronyms: CS, RTS, RPTS, TS.

Balloter's Reason:

Simplification, clarity, self-consistency, and consistency with 802.16.1.

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

In sections of the main text (not the appendices) which are not extracts from external documents, harmonise the use of terms and acronyms as follows:
"Base Transceiver Station" to "Base Station"
"Subscriber Transceiver Station" to "Subscriber Station"
"BTS" to "BS"
"STS" to "SS"
"Hub" to "BS"
"Sub" to "SS" {only when referring to Subscriber Station}
"TS" to "SS"
"RPTS" to "RS"
"RTS" to "RS"
"TS/Central Station (CS)" to "BS"
"TS/CS" to "BS"

Reason for Recommendation:

A partial harmonisation is proposed. The possibility to harmonise terms was considered previously but unfortunately was found to be problematic. There are several extracts from other documents, using different terms from those in IEEE 802.16. Thus, we have to keep these alternative terms in our document and relate them to the preferred IEEE terms. Also, in some cases a CS is not the same as a BS (e.g. page 28 line 5). The definition of a base station and a subscriber station need to remain linked to the various different acronyms found in quoted external documents.

Comment # 4 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** **Starting Line Number** **Section** Global

Balloter's Suggested Change:

Change "co-existence" to "coexistence" globally

Balloter's Reason:

consistency of spelling

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

dictionary agrees

Comment # 5 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** **Starting Line Number** **Section** Global

Balloter's Suggested Change:

Chage "co-ordination" to "coordination" everywhere.

Balloter's Reason:

consistency of spelling

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

dictionary agrees

Comment # 6 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 1 **Starting Line Number** 5 **Section** Title

Balloter's Suggested Change:

Change title from:

Recommended Practice for Coexistence of Broadband Wireless Access Systems

to:

Recommended Practice for Coexistence of Fixed Broadband Wireless Access Systems

Need to also update Page 2, Lines 2 and 3.

Balloter's Reason:

More accurate title will reduce confusion among potential users.

Either the current title or this proposed revised title will require a PAR change, since the current PAR title is:

Telecommunications and Information Exchange Between Systems - LAN/MAN Specific Requirements - Coexistence of Broadband Wireless Access Systems

Recommendation: Accepted-Clarified **Recommendation by:** Phil Whitehead

Proposed Resolution:

comment accepted, noting that the reference to lines 2 and 3 is presumed to mean lines 3 and 4.

Make same change on cover sheet.

Page 2, lines 10-11: end sentence with "in fixed broadband wireless access systems."

Reason for Recommendation:

Note: Correction to PAR required

Comment # 7 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 1 **Starting Line Number** 9 **Section** Title Page

Balloter's Suggested Change:

Delete sentence on Lines 9 and 10; replace with:

Sponsor
LAN MAN Standards Committee
of the
IEEE Computer Society

Balloter's Reason:

IEEE format.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 8 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 1 **Starting Line Number** 11 **Section** Title Page

Balloter's Suggested Change:

Add Abstract and Keywords. As as starting point, the Abstract can be developed from Lines 10-14 of Page 2:

This Recommended Practice provides guidelines for minimizing interference in fixed broadband wireless access systems. Pertinent coexistence issues are addressed, and recommended engineering practices provide guidance for system design, deployment, coordination, and frequency usage. This document covers frequencies of 10-66 GHz in general,but it is focused on 23.5-43.5 GHz. If followed by manufacturers and operators, it should allow a wide range of equipment to coexist in a shared environment with acceptable mutual interference.

Balloter's Reason:

IEEE format.

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Insert new text after line 26
"Abstract: This recommended practice provides guidelines for minimizing interference in fixed broadband wireless access (BWA) systems operating in the frequency range 10 to 66 GHz, with particular focus on the range 23.5 to 43.5 GHz. It analyzes coexistence scenarios and provides guidance for system design, deployment, coordination and frequency usage."

Follow with a one line space and then start a new line with :
"Keywords: coexistence, broadband wireless access (BWA), multipoint, radio"

Insert a one line space before continuing the text :
"IEEE Standards Department....."

Reason for Recommendation:

Note: More keywords could be added

Comment # 9 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 2 **Starting Line Number** 6 **Section** Intro

Balloter's Suggested Change:

Delete Lines 6-8.

Balloter's Reason:

Unnecessary and unimportant.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 10 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 2 **Starting Line Number** 13 **Section** 1

Balloter's Suggested Change:

Change lines 10-17 to:

This Recommended Practice provides guidelines for minimizing interference in fixed broadband wireless access systems. Pertinent coexistence issues are addressed, and recommended engineering practices provide guidance for system design, deployment, coordination, and frequency usage. This document covers frequencies of 10-66 GHz in general,but it is focused on 23.5-43.5 GHz. If followed by manufacturers and operators, it should allow a wide range of equipment to coexist in a shared environment with acceptable mutual interference.

Balloter's Reason:

Editorial clarity.

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

It is assumed that the comment refers to the Introduction rather than to section 1.

Comment # 11 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 3 **Starting Line Number** 4 **Section** Participants

Balloter's Suggested Change:

Replace Lines 4-5 with:

This document was developed by the IEEE 802.16 Working Group on Broadband Wireless Access, which is responsible for Wireless Metropolitan Area Network (WirelessMAN[TM]) Standards and Recommended Practices.

At the time the draft of this standard passed Working Group Letter Ballot, the IEEE 802.16 Working Group on Broadband Wireless Access had the following Officers:

Roger Marks, 802.16 Chair
Brian Kiernan, 802.16 Vice Chair
J. Scott Marin, 802.16 Secretary

Louis Olsen served as Vice Chair during the initial development of this document, until September 2000.

At the time the draft of this standard passed Working Group Letter Ballot, the IEEE 802.16 Working Group on Broadband Wireless Access had the following members:

Balloter's Reason:

IEEE format.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 12 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 4 **Starting Line Number** 3 **Section** Acknowledgments

Balloter's Suggested Change:

Move this section to before the "Participants" section. Insert the following text:

This document was developed by the IEEE 802.16 Working Group on Broadband Wireless Access, primarily by its Task Group 2. At the time the draft of this standard passed Working Group Letter Ballot, the leaders of Task Group 2 were:

Philip Whitehead, Task Group 2 Chair
Rémi Chayer, Task Group 2 Vice Chair

J. Leland Langston was the original Task Group 2 Chair, from May 1999 until July 2000. Subsequently, Andy McGregor served as Task Group 2 Chair until November 2000.

Muya Wachira served as Technical Editor of this document, beginning in January 2001. Earlier, Vito Scaringi had served as Technical Editor, bringing the document to its first Working Group Letter Ballot. Yet earlier, Rebecca Chan served as Technical Editor.

Balloter's Reason:

Acknowledgement of leaders.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 13 **Comment submitted by:** Roger Marks Member
Type Editorial **Starting Page Number** 5 **Starting Line Number** 1 **Section** Contents

Balloter's Suggested Change:
Change "Table of Contents" to "Contents".

Balloter's Reason:
IEEE format.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 14 **Comment submitted by:** Barry Lewis Member
Type Technical, Binding **Starting Page Number** 10 **Starting Line Number** 28 **Section** 1.1

Balloter's Suggested Change:
Insert the following second sentence: "The recommendations have been developed and substantiated by analysis and simulations specific to the deployment and propagation environment appropriate to terrestrial BWA inter-system interference experienced between operators licensed for BWA.. "

Balloter's Reason:
To reinforce the basis of the Recommendations and ensure that the context of the work is not open to mis-interpretation.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 15 **Comment submitted by:** Barry Lewis Member
Type Editorial **Starting Page Number** 10 **Starting Line Number** 43 **Section** 1.1

Balloter's Suggested Change:
Delete the existing final sentence.

Balloter's Reason:
The document was based on considerable input from sources other than just 802.16.1.

Recommendation: Rejected **Recommendation by:** Phil Whitehead

Proposed Resolution:
Use amended text described in resolution of Comment 16.

Reason for Recommendation:
Amended text rather than deletion reflects better the Purpose statement in the PAR.

Comment # 16 **Comment submitted by:** Roger Marks Member
Type Editorial **Starting Page Number** 10 **Starting Line Number** 43 **Section** 1.1

Balloter's Suggested Change:
Change sentence in Lines 43-44 to:

This document was developed specifically to address IEEE 802.16 sytems but is intended to be generally applicable to a wide range of broadband wireless systems.

Balloter's Reason:
Editorial; and generalizes the identifier "802.16.1".

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:
Amend sentence starting on line 43 to the following:
"This document was developed using input from IEEE 802.16 and several other sources. It is intended to be generally applicable to a wide range of broadband wireless systems."

Consquential change: on page 0 (Abstract) change 802.16.1 to 802.16.

Reason for Recommendation:
Comment re generaling to 802.16 accepted.
The document is intended to support 802.16 and also to be as generally applicable as possible, so that the widest possible range of inputs has been considered. The revised text is aimed at reflecting this balance of objectives.

Comment # 17 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 11 **Starting Line Number** 16 **Section** 3.1

Balloter's Suggested Change:

The terms and definitions in this section should be compared with those in Recommendation ITU-R F.1399 "Vocabulary of terms for wireless access" and when the same term is in both, the definition from the ITU-R Recommendation should be used as far as possible. The definitions of "wireless access" and "fixed wireless access" and possibly others (e.g., P-MP) should also be included for completeness. See document 802.16l-00/40 for a copy of the latest version of F.1399.

Balloter's Reason:

To maintain consistency with global standards.

Recommendation: Accepted-Clarified **Recommendation by:** Paul Thompson

Proposed Resolution:

Page 11, Line 41: Add at the end of the sentence: "Broadband wireless access usually has connection capabilities higher than the Primary Rate."
Page 16, Line 41: Replace "Duplexing"" with "Duplex";
Page 17 Lines 14 and 19: Replace "Networks" with "Network"

Add definition of "wireless access" as "End-user radio connection(s) to core networks."
Add definition of "fixed wireless access" as "Wireless access application in which the location of the end-user termination and the network access point to be connected to the end-user are fixed."

(Additional changes to the definitions were made as a result of Comment 26.)

Reason for Recommendation:

Note: We should also define "fixed broadband wireless access".

Comment # 18 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 11 **Starting Line Number** 26 **Section** 3.1

Balloter's Suggested Change:

Modify definitions to match those used by 802.16.1:

3.1.3 base station (BS): A generalized equipment set providing connectivity, management, and control of the subscriber station.

3.1.31 subscriber station (SS): A generalized equipment set providing connectivity between subscriber equipment and a BS.

3.1.8 downlink: A flow of information that exists in the downstream.

3.1.34 uplink: A flow of information that exists in the upstream.

Also, add two definitions:

3.1.8 downstream: The direction from a BS to the SS.

3.1.34 upstream: The direction from a SS to the BS.

Balloter's Reason:

Consistency within 802.16, and completeness.

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Comment accepted. Replace Page 11, Lines 27 to 30 with:
"A generalized equipment set providing connectivity, management, and control of the subscriber station.";
Replace Page 15, Lines 12 to 15 with:"A generalized equipment set providing connectivity between subscriber equipment and a Base Station."

Modify definitions of "uplink" and "downlink" as in comment.

Add definitions for downstream and upstream as in comment as new sections 3.1.9 and 3.1.36, but spell out acronyms in definitions.

Reason for Recommendation:

Comment # 19 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 11 **Starting Line Number** 26 **Section** 3.1

Balloter's Suggested Change:

set all defined terms in uppercase

Balloter's Reason:

self-consistency

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Put all defined terms in lower-case, with the exception of acronyms. Start on p11 ln18 instead of p11 ln26.

Reason for Recommendation:

Comment # 20 **Comment submitted by:** Adrian Florea Member

Type Technical, Binding **Starting Page Number** 12 **Starting Line Number** 3 **Section** 3.1.6

Balloter's Suggested Change:

Replace the XPD definition with:
The XPD of an antenna for a given direction is the difference in dB between the peak copolarized gain of the antenna and the cross-polarized gain of the antenna in the given direction.

Balloter's Reason:

Recommendation: Accepted **Recommendation by:** Paul Thompson

Proposed Resolution:

Reason for Recommendation:

Comment # 21 **Comment submitted by:** Lars Lindh Member

Type Technical, Non-binding **Starting Page Number** 12 **Starting Line Number** 9 **Section** 3.1.7

Balloter's Suggested Change:

Change :
"Digital modulation is the process of varying one or more parameters of a carrier wave as a function of two or more finite and discrete states of a signal".

Balloter's Reason:

The definition 3.1.7 of digital modulation implies that the state changes of the carrier are discrete which is usually not the case. The modulator is usually driven by filtered signals so the changes are continuous. I propose the following definition which is given in Federal Standard 1037C: "Digital modulation is the process of varying one or more parameters of a carrier wave as a function of two or more finite and discrete states of a signal".

Here the word "function" will take into account any filtering processes and it is not implied that the state of the carrier will change discretely.

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Augment. Specific change:
Replace Page 12, Lines 9 to 12 with the following:
"Digital modulation is the process of varying one or more parameters of a carrier wave (e.g., frequency, phase, amplitude or combinations thereof) as a function of two or more finite and discrete states of a signal"

Reason for Recommendation:

Comment # 22 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 12 **Starting Line Number** 11 **Section** 3.1.7

Balloter's Suggested Change:

delete "state for"

Balloter's Reason:

the carrier is changed, it's state isn't changed.

Recommendation: Superceded **Recommendation by:** Paul Thompson

Proposed Resolution:

Concur in principle; text changed in response to Comment 21.

Reason for Recommendation:

Comment # 23 **Comment submitted by:** Moshe Ran Member

Type Editorial **Starting Page Number** 12 **Starting Line Number** 29 **Section** 3.1

Balloter's Suggested Change:

Insertion Frequnecy switched division duplexing (FS-DD) A Duplex scheme where uplink and downlink transmissions accur at different times and different frequncies.

Balloter's Reason:

This mode appears in 802.16.1 air interface (MODE B)

Recommendation: Rejected **Recommendation by:** Muya Wachira

Proposed Resolution:

Reason for Recommendation:

This term is not used at all in this document.

Comment # 24 **Comment submitted by:** Adrian Florea Member

Type Technical, Non-binding **Starting Page Number** 12 **Starting Line Number** 41 **Section** 3.1.15

Balloter's Suggested Change:

Insert: with the purpose to increase the network traffic capacity.

Balloter's Reason:

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Add at the end of 3.1.15: "…for the purpose of increasing network traffic capacity."

Reason for Recommendation:

Comment # 25 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 13 **Starting Line Number** 9 **Section** 3.1.17

Balloter's Suggested Change:

Change the" to "that"so sentence reads correctly"

Balloter's Reason:

Sentense is not correct as it is.

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Replace the entire second sentence with:

"For FDD systems, this implies that each operator's base station transmits in adjacent frequency sub-blocks and that their terminals transmit in the corresponding paired sub-blocks."

Reason for Recommendation:

Comment # 26 **Comment submitted by:** Philip Whitehead Member

Type Technical, Non-binding **Starting Page Number** 13 **Starting Line Number** 27 **Section** 3.1.21

Balloter's Suggested Change:

Delete "single base station" and replace with "system" on line 27 and delete "of the base station" on line 28.

Balloter's Reason:

ITU definition of multipoint is more general and includes both PMP and MP-MP architectures.

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Augment with definition from ITU 1399. Specific changes:

Replace Page 13, Lines 27-30 with the following:
"A generic term for Point-to-Multipoint and Multipoint-to-Multipoint and variations/hybrids of these. Multipoint is a wireless topology where a system provides service to multiple subscribers located within the coverage area and the subscribers are in geographically different locations with respect to each other.The sharing of resources may occur in the time domain, frequency domain,or both."

Page 14, Line 24 add the following definition:
"Point-to-Multipoint A system that establishes connections between a single specified point and more than one other specified ponts. In wireless systems, a topology wherein a Base Station simultaneously services multiple, geographically separated Subscribers and each Subscriber is permanently assoicated with only one Base Station."

Page 13, Line 31 after the previous definition add the following definition:
"Multipoint-to-Multipoint See Mesh."

Reason for Recommendation:

Comment # 27 **Comment submitted by:** Zev Bogan Observer

Type Editorial **Starting Page Number** 15 **Starting Line Number** 15 **Section** 3.1.31

Balloter's Suggested Change:

replace "line of site" with "line of sight"

Balloter's Reason:

typo

Recommendation: Superceded **Recommendation by:** Paul Thompson

Proposed Resolution:

Concur, but comment superseded by Comment 18.

Reason for Recommendation:

Comment # 28 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 16 **Starting Line Number** 3 **Section** 3.2

Balloter's Suggested Change:

Change "AdjCH" to "AdjCh" (Line 3)

Change "CoCH" to "CoCh" (Line 23)

Balloter's Reason:

Consistency.

Recommendation: Accepted **Recommendation by:** Paul Thompson

Proposed Resolution:

Reason for Recommendation:

Comment # 29 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 16 **Starting Line Number** 6 **Section** 3.2

Balloter's Suggested Change:

Replace "rate" by "ratio"

Balloter's Reason:

BER is a ratio, not a rate.

Recommendation: Rejected **Recommendation by:** Paul Thompson

Proposed Resolution:

Reason for Recommendation:

While I concur that BER is usually expressed as a ratio (e.g., one part in 10 to power 6), I believe that the common definition of "BER" is "Bit Error Rate."

Comment # 30 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 16 **Starting Line Number** 24 **Section** 3.2

Balloter's Suggested Change:

Change: "Coherent OFDM" to "Coded OFDM"

Balloter's Reason:

COFDM is the acronym for Coded OFDM. All OFDM systems are coherent.

Recommendation: Accepted **Recommendation by:** Paul Thompson

Proposed Resolution:

Reason for Recommendation:

Comment # 31 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 16 **Starting Line Number** 28 **Section** 3.2

Balloter's Suggested Change:

Insert :
(Channel Sepration, in relevant context)

Balloter's Reason:

The acronym CS appears as Channel Sepration in p. 42

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Page 16, Line 28 should change to:
"CS Central Station (Channel Separation in Section 6.1.3.1 only.)"

Reason for Recommendation:

Concur in principle, but not in specific recommendation

Note: comment is taken to have meant p.43, not p.42.

Comment # 32 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 16 **Starting Line Number** 36 **Section** 3.2

Balloter's Suggested Change:

Change "ElectroMagnetic" to "ElectroMagnetic" (Lines 36 and 37).

Balloter's Reason:

spelling correction

Recommendation: Accepted-Clarified **Recommendation by:** Paul Thompson

Proposed Resolution:

On lines 36 and 37, change "ElectroMagnetic" to "Electromagnetic."

Reason for Recommendation:

Comment # 33 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 17 **Starting Line Number** 7 **Section** 3.2

Balloter's Suggested Change:

Delete line 7

Balloter's Reason:

The acronym ICL appears also in line 4

Recommendation: Accepted **Recommendation by:** Paul Thompson

Proposed Resolution:

Reason for Recommendation:

Comment # 34 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 17 **Starting Line Number** 7 **Section** 3.2

Balloter's Suggested Change:

delete line

Balloter's Reason:

is un-needed duplication of line 4

Recommendation: Accepted-Duplicate **Recommendation by:** Paul Thompson

Proposed Resolution:

See Comment 33.

Reason for Recommendation:

Comment # 35 **Comment submitted by:** Adrian Florea Member

Type Editorial **Starting Page Number** 19 **Starting Line Number** 16 **Section** 4.1

Balloter's Suggested Change:

Remove comma after "and".
Replace : "In reviewing these recommendation it should be understood that this document can not guarantee coexistence "protection", without wasting either spectrum or the opportunity for economical deployments" with : "The practical implementation in the field of the present recommenation will assume that some portion of the frequency spectrum (at the edge of the authorized bandwidth) as well as some parts of the service area can not be used for deployment."

Balloter's Reason:

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Remove comma. Replace text with "Practical Implementation within the scope of the current recommendations will assume that some portion of the frequency spectrum (at the edge of the authorized bandwidth), may not be able to be utilized. As well, there may be locations within the service area that cannot be used for deployment

Reason for Recommendation:

The proposed change adds emphasis to the fact that there are coexistence constraints. But two sentences are required to clearly differentiate between frequency and geo. area.

Comment # 36 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 19 **Starting Line Number** 27 **Section** 4.1

Balloter's Suggested Change:

Change "overlaps" to "overlap

Balloter's Reason:

English grammer

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 37 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 19 **Starting Line Number** 31 **Section** 4.1

Balloter's Suggested Change:

Insert the following paragraph:
"As a starting point for the consideration of tolerable levels of interference into BWA systems, ITU-R Recommendation F.758-2 [29] details two generally accepted values for the interference to thermal noise ratio (I/N) for long term interference into fixed service receivers. When considering interference from other services, it identifies an I/N value of -6dB or -10dB matched to the specific requirements of individual systems. This approach provides a method for defining a tolerable limit that is independent of most characteristics of the victim receivers apart from receiver noise figure and has been adopted for this practice document.

The acceptability of any I/N value needs to be evaluated against the statistical nature of the interference environment and in arriving at the Recommendations in this document this evaluation has been carried out for an I/N value of -6dB."

Balloter's Reason:

To provide a useful reference to closely related work in the ITU-R and to help the reader understand the basis of the work undertaken in this document .

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

"Insert the following 2 paragraphs: As a starting point for the consideration of tolerable levels of interference into BWA systems, ITU-R Recommendation F.758-2 [29] details two generally accepted values for the interference to thermal noise ratio (I/N) for long-term interference into fixed service receivers. When considering interference from other services, it identifies an I/N value of –6 dB or –10 dB matched to specific requirements of individual systems. This approach provides a method for defining a tolerable limit that is independent of most characteristics of the victim receiver apart from noise figure, and has been adopted for this practice document.

The acceptability of any I/N value needs to be evaluated against the statistical nature of the interference environment. In arriving at the Recommendations in this document this evaluation has been carried out for an I/N value of –6 dB."

Reason for Recommendation:

Note: See Comment 146 for the Reference [29].

Comment # 38 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 19 **Starting Line Number** 40 **Section** 4.1

Balloter's Suggested Change:

Replace "this document does not find it appropriate" by "it is outside the scope of this document"

Balloter's Reason:

Documents do not find anything ("find it appropriate"), authors do.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 39 **Comment submitted by:** Richard Germon Member

Type Technical, Binding **Starting Page Number** 20 **Starting Line Number** 2 **Section** 4.2

Balloter's Suggested Change:

Suggest changing line 5
..from the neighboring operators transmitters
to
..from transmissions of operators in neighboring areas

p21 line 43 -p22 lin12 Recommendation 8. Suggest delete or clarify.

Balloter's Reason:

Recommendation 1 should clarify that it applies to the co-channel adjacent area scenario (in the same area adj channel scenario some victims will have interference greater than -6dB level due to proximity)._

Recommendtion 8 -no recommendation appears to have been made. It is not clear to me what the recommendation should be__

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Line 5, p20: Make a modified change. Replace the text with "from a transmission of an operator in a neighboring area".Section [Recommendation] 8: p21, line 43 -. following cases, insert the words "analysis and simulation indicate that". p21, line 44- replace the words "usually need "guard frequency"" with "need an equivalent guard frequency". p21, line 45 - eliminate the words "Although not absolutely necessary". p22, line 5- extend the sentence to add "while Section 9 describes some possible interference mitigation techniques". Further add the sentence, "These mitigation techniques include frequency guard bands, recognition of cross polarization differences, antenna angular discrimination, spatial location differences and frequency assignment substitution.". p22, line 7-delete the first sentence and replace by "In most co-polarized cases, where the transmissions in each block are employing the same channel bandwidth, the guard frequency should be equal to one equivalent channel.".

Also add two new sentences, "Where the transmissions in neighbouring blocks employ significantly different channel bandwidths then it is likely that a guard frequency equal to one equivalent channel of the widest bandwidth system will be adequate.However analysis suggests that under certain deployment circumstances this may not offer sufficient protection and that a guard frequency equal to one channel at the edge of each operator's block may be required." p22, line 12-add the additional sentences, "However, in order to minimize interference conflicts and at the same time maximize spectrum utilization, cooperative deployment between operators will be essential. This recommendation strongly proposes that this be the case."

Reason for Recommendation:

This comment(s) is very hard to follow as it is jumping around with a lot of branches. Not sure why Line 5, p20 was binding but I decided to accept it and modify it to singular. I believe that throughout the doc it has been concluded that some one worst case coupling will likely dominate. Deletion of Recommendation 8, p21, line 43 is rejected as this Section represents one of the most significant sections of the document. Clairifiying wording is proposed. Reference to p22, line 12 is not explained. Reference to Recommendation 1 is misplaced. It should have been presented referenced to Recommendation 1. In any event, Recommendation 1 clearly indicates that both CoCh and AdjCh channel interference considerations are under consideration with the objective to control I/N<=-6 dB, whether it be by a C/I estimate or by an a equivalent psdf boundary estimate.

Comment # 40 **Comment submitted by:** Avraham Freedman Member

Type Technical, Non-binding **Starting Page Number** 20 **Starting Line Number** 12 **Section** 4.2

Balloter's Suggested Change:

Insert the bullet:
- The very nature of the MP system is that receviers have to accept interference from transmitters of the same system. Although a good practice would be to reduce the intra-system interference level to be well below the thermal noise level (see Recommendation 6 below), it is expected that it would not always be feasible. The actual level of external interference could be in many cases, higher than the limit stated above and still negligible, or comparable to the inter-system interference. Thus, there is some degree of freedom in interference allocation, which could be used to alleviate the coexistence problem.

Balloter's Reason:

From the recommendations as they are stated, it could be deduced that the trigger limit stated is an absolute limit which cannot be exceeded. Although in section 4.1 it is stated that intra-system interference is ignored (and rightfully so) they have an effect on coexistence coordination, as later on mentioned briely in section 9.

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Add text as: "The very nature of the MP system is that receivers have to accept interference from transmitters of the same system. Although a good practice would be to reduce the intra-system interference level to be well below the thermal noise level (see Recommendation 6 below), it is expected that it would not always be feasible. The actual level of external interference could be in many cases higher than the limit stated above and still be not controlling, or comparable to the operator's intra-system interference. Thus, there is some degree in interference allocation, which could be used to alleviate the coexistence problem."

Reason for Recommendation:

Some typos corrected as well as use if inter-system instead of intra-system.

Comment # 41 **Comment submitted by:** Adrian Florea Member

Type Technical, Binding **Starting Page Number** 20 **Starting Line Number** 34 **Section** 4.2

Balloter's Suggested Change:

Remove recommendation 3

1. each operator has the target to deploy the most efficioent network, given his network architecture and equipment specs. This will assume using the most agrressive frequency reuse which still achieves the required c/i in all conditions/scenarios. This is in contradiction with the recommendation 3
2. "minimum intrasystem interference" is vague and has no practical meaning

Balloter's Reason:

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Line 34, p20, Replace the paragraph with "Each operator is expected to design and deploy his system with the necessary intra-system interference criteria that achieves the operator's system design objectives. However if the operator selects a minimum system design performance criteria, then it should be expected that both the operator and his neighbors would be subject to worst case inter-system exposures. The logic associated with this conclusion is that the same techniques of base station site selection, antenna selection, cell cluster configuration, emission control, etc. that lead to a minimization of intra-system interference should contribute to a minimization of inter-system interference. For example, while an operator's selection of an aggressive frequency re-use plan in conjunction with minimal antenna RPE rejection requirements might achieve the operator's intra-system performance requirements, the impact of this design on joint inter-system coexistence should be taken into consideration. Recommendations 9, 10 and 11 following and the proposed equipment parameters included in Section 6 identify equipment configurations that are expected to facilitate coexistence. While these guidelines cannot guarantee coexistence, they are expected to assist in its achievement. This recommendation strongly proposes that careful consideration be given to these criteria as an aid to facilitating coexistence."

Reason for Recommendation:

Removal of Section 3 is rejected. We all know that the selection of a minimum set of system parameters will be a coexistence disaster in fully deployed systems. Certainly one can be aggressive during the initial stages of deployment. However the recommendation is a warning as to the possible consequences. But I have given them an out. Go ahead and do it - but beware the consequences.

Comment # 42 **Comment submitted by:** Walt Roehr Member

Type Technical, Binding **Starting Page Number** 21 **Starting Line Number** 14 **Section** 4.2

Balloter's Suggested Change:

This is the first place that the 60 km "guard region" is mentioned. At this location the recommendation actually does have the proper "tone": "If you are 60 km from everyone don't worry about coordination". Better would be: "You had darn well better coordinate with your neighbors or else you are going to have to abandon 60 km at the border." But after some more almost alright words in section 7 we get to Section 8 that does not talk in terms of coordination triggers but (page 63, line 24) "by following these guidelines, satisfactory psfd levels will be achived at system boundries." -- these have become the recommended guidelines. Table 8-1, on page 67 compounds the disaster, with the listing of "Spacing for acceptable Performance".

Balloter's Reason:

If this is published as an IEEE802 document you can bet that people selling non-802 radios will geefully pointout to potential customers that the IEEE 802 radios need 60 km of guard space!

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Line 16, p21, Add the following clarification, "Based on typical BWA equipment parameters and an allowance for potentional LOS interference couplings, subsequent analysis indicates that a 60 km boundary distance is sufficient such that coordinaion is not required. At lesser distances, coordination may be required, but it is subject to a detailed examination of the specific transmission path details that may provide for interference link excess loss or blockage. This coordination criteria is viewed to be necessary and appropriate for both systems that conform to this practice document and those that do not comply with this document"

Reason for Recommendation:

Very appropriate and well received comments. I have tried to cover off the Rec 5 comments here. If my modified text is not adequate, then I would welecome an input from the commenter. Comments referencing Sections 7 and 8 need to be dealt with there.

Comment # 43 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 21 **Starting Line Number** 26 **Section** 4.2

Balloter's Suggested Change:

Insert the following sentence between "..below." and "These values":
"The evaluation point for the trigger exceedance may be at either the victim operators licensed area boundary, the interfering operators boundary or at a defined point in between dependant to some extent on the specific geographic circumstances of the BWA licensing."

Balloter's Reason:

The recommendations do not provide information on where to apply the trigger. However section 7 identifies a specific procedure based on one of these options and some annexed alternative co-ordination procedures. All three options in the sentence proposed above are used at various places in the document.

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Insert the following sentence between "..below." and "These values":

"The evaluation point for the trigger exceedance may be at either the victim operator's licensed area boundary, the interfering operator's boundary, or a defined point in between dependant to some extent on the specific geographic circumstances of the BWA licensing."

Reason for Recommendation:

Accept with grammatical modifications.

Comment # 44 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 21 **Starting Line Number** 44 **Section** 4.2

Balloter's Suggested Change:

Delete "usually"

Balloter's Reason:

Strengthens Recommendation 8. The existing text leaves the reader uncertain. The exceptions are adequately covered later in the text.

Recommendation: Accepted-Duplicate **Recommendation by:** Jack Garrison

Proposed Resolution:

See resolution of Comment 39

Reason for Recommendation:

Comment # 45 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 22 **Starting Line Number** 7 **Section** 4.2

Balloter's Suggested Change:

Insert after "..most cases.." the words "where the transmissions in each block are using the same channel spacing,"

Balloter's Reason:

Helps to promote the idea that different guard band widths may be required in different circumstances.

Recommendation: Accepted-Duplicate **Recommendation by:** Jack Garrison

Proposed Resolution:

See resolution of Comment 39.

Reason for Recommendation:

Comment # 46 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 22 **Starting Line Number** 7 **Section** 4.2

Balloter's Suggested Change:

Replace the text .."where the transmissions are of different bandwidth, the guard channel should be equal to the wider channel." with "where channel spacings are considerably different across the frequency block boundary, then one equivalent guard channel may be necessary at the edge of each operator's block."

Balloter's Reason:

The current text is not consistent with section 8.1.10.1.

Recommendation: Accepted-Duplicate **Recommendation by:** Jack Garrison

Proposed Resolution:

See resolution of Comment 39.

Reason for Recommendation:

Comment # 47 **Comment submitted by:** Philip Whitehead Member

Type Editorial **Starting Page Number** 24 **Starting Line Number** 16 **Section** 4.3

Balloter's Suggested Change:

Make System plural ; "Systems"

Balloter's Reason:

Correction of English

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 48 **Comment submitted by:** Barry Lewis Member

Type Technical, Non-binding **Starting Page Number** 24 **Starting Line Number** 22 **Section** 4.3

Balloter's Suggested Change:

In Table 4-1, 3rd column add the words "without co-ordination" to the column heading.

Balloter's Reason:

Clarifies the meaning of the parameter values in this column.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Make requested change.

Make the same change in column 5 of Table 8.1 (p 67).

Reason for Recommendation:

More definitive description for the conditions under which the column entries apply.

Comment # 49 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 24 **Starting Line Number** 22 **Section** 4.3

Balloter's Suggested Change:

In Table 4-1, replace "[54km]" with "60km".

Balloter's Reason:

Square brackets should be removed and 54km is inconsistent with Table 8-1, Pg 67.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Make Change.

Also, on page 25 line 2, change 54 km to 60 km

Reason for Recommendation:

Document Consistency. We are either going to be 60 km or 54 km throughout. Both numbers have been bandied about resulting in some confusion.The Annex B example estimate is 60 km.

Comment # 50 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 24 **Starting Line Number** 22 **Section** 4.3

Balloter's Suggested Change:

In Table 4-1, third column, add "(note 5)" after "CS-CS" in the row referring to PMP hub to PMP hub.

Balloter's Reason:

The substance of note 5 applies to this interference path also.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 51 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 24 **Starting Line Number** 22 **Section** Table 4-1

Balloter's Suggested Change:

take out unneeded hard returns in table elements; remove square brackets from 54 km; why mix terminology "hub" in column 1 and "CS" in column 3?

Balloter's Reason:

appears that this table was not cleaned up before publication

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Take out hard returns, [54] changed to 60 in Comment 49, delete CS-CS in column 3

Reason for Recommendation:

Comment # 52 **Comment submitted by:** Philip Whitehead Member

Type Editorial **Starting Page Number** 24 **Starting Line Number** 22 **Section** Table 4-1

Balloter's Suggested Change:

remove square brackets from "[54km]"

Balloter's Reason:

Square brackets imply the number is not decided

Recommendation: Accepted-Duplicate **Recommendation by:** Jack Garrison

Proposed Resolution:

See resolution of Comment 49

Reason for Recommendation:

Comment # 53 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 25 **Starting Line Number** 6 **Section** 4.3

Balloter's Suggested Change:

In Note 3 replace the final two sentences with the following; "Where channel spacings are considerably different across the frequency block boundary, analysis suggests that one equivalent guard channel may be necessary at the edge of each operator's block."

Balloter's Reason:

Current text is inconsistent with 8.1.10.1

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Make Change with wording as per comment 39. "Where the transmissions in neighbouring blocks employ significantly different channel bandwidths then it is likely that a guard frequency equal to one equivalent channel of the widest bandwidth system will be adequate.However analysis suggests that under certain deployment circumstances this may not offer sufficient protection and that a guard frequency equal to one channel at the edge of each operators may be required."

Reason for Recommendation:

Expanded to ensure that it is clear as to exact guard band requirement.

Comment # 54 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 25 **Starting Line Number** 10 **Section** 4.3

Balloter's Suggested Change:

In Note 4 replace the final two sentences with the following; "Where channel spacings are considerably different across the frequency block boundary, analysis suggests that one equivalent guard channel may be necessary at the edge of each operator's block."

Balloter's Reason:

Current text is inconsistent with 8.1.10.3

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Make Change with wording as per comment 39. "Where the transmissions in neighbouring blocks employ significantly different channel bandwidths then it is likely that a guard frequency equal to one equivalent channel of the widest bandwidth system will be adequate.However analysis suggests that under certain deployment circumstances this may not offer sufficient protection and that a guard frequency equal to one channel at the edge of each operator's block may be required."

Reason for Recommendation:

Expanded to ensure that it is clear as to exact guard band requirement.

Comment # 55 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 26 **Starting Line Number** 3 **Section** 5.1

Balloter's Suggested Change:

Change the last four sentences to:

Within IEEE, Working Group 802.16 is developing standards for PMP systems with hub stations and end user stations communicating over a fully specified air interface. A similar PMP standard is being developed within the "HIPERACCESS" topic within ETSI Project. Coexistence specifications for MWS (which includes the requirements for HIPERACCESS)have been prepared by the ETSI TM4 committee. In addition, a number of proprietary BWA systems exist for which the air interface is not standardized.

Balloter's Reason:

Editorial.

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Change the last four sentences to:
"Within IEEE, Working Group 802.16 is developing standards for PMP systems with base stations and subscriber stations communicating over a fully specified air interface. A similar PMP standard is being developed within the "HIPERACCESS" topic within ETSI Project BRAN. Coexistence specifications for MWS (which includes the requirements for HIPERACCESS) are being prepared by the ETSI TM4 committee. In addition, a number of proprietary BWA systems exist for which the air interface is not standardized."

Reason for Recommendation:

comment accepted with minor amendments:
-harmonization of terms
-inclusion of BRAN (the relevant ETSI project name)
-change of tense (TM4 coexistence work not yet finished)

Comment # 56 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 26 **Starting Line Number** 14 **Section** 5.1.1

Balloter's Suggested Change:

replace final clause of sentence with "providing up to 360 degrees coverage with one or more antennas."

Balloter's Reason:

clarity

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 57 **Comment submitted by:** Richard Germon Member

Type Technical, Binding **Starting Page Number** 26 **Starting Line Number** 30 **Section** 5.1.2

Balloter's Suggested Change:

Delete sentence
"By providing . . . . . and spectrum Efficiency"

Balloter's Reason:

Unsubstantiated claim not relevent to co-existence

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Delete sentence:
"By providing . . . . . and spectrum Efficiency"
Add to end of previous sentence:
"..types, with means for remote alignment."

Reason for Recommendation:

Agree that the claims have not been substantiated (in this document). Remote alignment is, however, an important characteristic which affects coexistence because antenna directions change reguarly to accommodate new subscribers.

Comment # 58 **Comment submitted by:** Richard Germon Member

Type Technical, Non-binding **Starting Page Number** 27 **Starting Line Number** 5 **Section** 5.2

Balloter's Suggested Change:

Delete lines 5 to 8

Balloter's Reason:

Not relevent to co-existence

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Alter text in lines 5 to 8 as follows:
"ICLs may share a common infrastructure, such as the switch, with the PMP system. Additionally, ICL radios may be able to operate under the auspices of the PMP licence."

Reason for Recommendation:

This section describes system components. The text is not all relevant to coexistence but it is informative. ICL radios operating under the PMP licence may have different coexistence characteristics from those which do not, as there may be different regulatory constraints on them.

Comment # 59 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 27 **Starting Line Number** 26 **Section** 5.2

Balloter's Suggested Change:

In figure 1:
Replace "IL" with "ICL"

Balloter's Reason:

The acronym ICL is the one used throughout the document

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 60 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 27 **Starting Line Number** 26 **Section** 5.2

Balloter's Suggested Change:

In figure 1:
Add the notation "G" to the interface line on the vertical system boundary as well

Balloter's Reason:

The STS also have a "G" interface to TE, not only the RTS

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 61 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 27 **Starting Line Number** 26 **Section** Figure 1

Balloter's Suggested Change:

Replace "IL" in figure with "ICL"

Balloter's Reason:

ICL is what's in section 3.2

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 62 **Comment submitted by:** Zev Bogan Observer

Type Editorial **Starting Page Number** 30 **Starting Line Number** 16 **Section** 5.3.1.2

Balloter's Suggested Change:

1. insert "thermal" in "just equals the THERMAL noise floor + the signal tonoise of the receiver"

2. Remove "thermal" from line 19 and line 21. Should read: " The noise floor is.."

3. Adjust noise power density units: either -108dBm/MHz or -138dBW/MHz (line19 twice) line 20 , adjust power density units line 21 , adjust power density units

Balloter's Reason:

Needed for clarity. Noise floor definition includes receiver NF. Error in power density units

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Change sentence starting on line 15 as follows:
"During the designed worst-case rain fade, the level of the desired received signal will fall until it just equals the receiver thermal noise, kTBF, where k is Boltzmann's constant, T is the temperature, B is the receiver bandwidth and F is the receiver noise figure."
Change sentence starting at the end of line 18 as follows:
"The receiver thermal noise is -138 dBW/MHz."
On line 19 change "-138 dBm/MHz" to "-138 dBW/MHz"
Change sentence starting on line 20 as follows:
"Interference of -144 dBW/MHz, 6dB below the receiver thermal noise, would increase the total noise by 1dB to -137 dBW/MHz, or degrade the link budget by 1dB."

Reason for Recommendation:

The wording has been amended further to remove possible confusion between the terms "noise floor" and "thermal noise floor"

Comment # 63 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 30 **Starting Line Number** 19 **Section** 5.3.1.2

Balloter's Suggested Change:

Change all references to "dBm/MHz" to "dBW/MHz" in four places, lines 19 to 21 inclusive.

Balloter's Reason:

Incorrect units.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

See details in Comment 62

Reason for Recommendation:

Comment # 64 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 35 **Starting Line Number** 41 **Section** 6.1.1

Balloter's Suggested Change:

Add references to the reviewed documents mentioned in that line

Balloter's Reason:

Completeness

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

Replace "…from current (July 2000) US FCC, Industry Canada and ITU-R regulations or recommendations were reviewed." in line #40 and 41 by "…from current (July 2000) US FCC (Part 101 section 101.113) Industry Canada (SRSP 324.25, 325.35 and 338.6) and ITU-R regulations and recommendations were reviewed."

Reason for Recommendation:

Comment # 65 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 36 **Starting Line Number** 10 **Section** 6.1.1

Balloter's Suggested Change:

Delete the sentence starting with "They are also" ending with " used in simulation" .lines 10-13

Balloter's Reason:

The sentence appears twice.

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

Delete the two sentences specified.

Reason for Recommendation:

Comment # 66 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 36 **Starting Line Number** 10 **Section** 6.1.1

Balloter's Suggested Change:

The font used for figure and table references leaked out here

Balloter's Reason:

looks sloppy

Recommendation: Accepted **Recommendation by:** Remi Chayer

Proposed Resolution:

Reason for Recommendation:

Comment # 67 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 36 **Starting Line Number** 16 **Section** 6.1.1

Balloter's Suggested Change:

Change sentence "Table 6-1- Comparison of .. .. .. Compares regulatory limits.. ." to:
"Table 6-1 compares the regulatory limit to those used in simulation"

Balloter's Reason:

better readability

Recommendation: Accepted **Recommendation by:** Remi Chayer

Proposed Resolution:

Reason for Recommendation:

Comment # 68 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 38 **Starting Line Number** 14 **Section** 6.1.1.2

Balloter's Suggested Change:

Replace "0" with the right section number.

Balloter's Reason:

"0" is probably erronous.

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

Change "…described in Section 0." in line #14 to "…described in Section 6.1.1.5."

Reason for Recommendation:

Comment # 69 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 38 **Starting Line Number** 14 **Section** 6.1.1.2

Balloter's Suggested Change:

change "Section 0" to proper reference

Balloter's Reason:

there is no section 0

Recommendation: Accepted-Duplicate **Recommendation by:** Remi Chayer

Proposed Resolution:

See Comment #68.

Reason for Recommendation:

Comment # 70 **Comment submitted by:** Walt Roehr Member

Type Editorial **Starting Page Number** 38 **Starting Line Number** 27 **Section** 6.1.1.3

Balloter's Suggested Change:

Change paranthetical to: "see Section 5.2, System Components"

Balloter's Reason:

section 5.2 is where repeaters are discussed

Recommendation: Accepted **Recommendation by:** Remi Chayer

Proposed Resolution:

Reason for Recommendation:

Comment # 71 **Comment submitted by:** George Fishel Member
Type Editorial **Starting Page Number** 39 **Starting Line Number** 8 **Section** 6.1.1.4
Balloter's Suggested Change:
Remove the words Power Control" from the end of the sentence."
Balloter's Reason:
Not needed. Is this the title of the next section?
Recommendation: Accepted **Recommendation by:** Remi Chayer
Proposed Resolution:
Reason for Recommendation:

Comment # 72 **Comment submitted by:** Avraham Freedman Member
Type Editorial **Starting Page Number** 39 **Starting Line Number** 8 **Section** 6.1.1.4
Balloter's Suggested Change:
Delete "Power Control"
Balloter's Reason:
Irrelevant
Recommendation: Accepted-Duplicate **Recommendation by:** Remi Chayer
Proposed Resolution:
See Comment 71.
Reason for Recommendation:

Comment # 73 **Comment submitted by:** Durga Satapathy Member
Type Editorial **Starting Page Number** 39 **Starting Line Number** 8 **Section** 6.1.1.4
Balloter's Suggested Change:
Remove the words " Power Control" at end of line 8.
Balloter's Reason:
Recommendation: Accepted-Duplicate **Recommendation by:** Remi Chayer
Proposed Resolution:
See Comment 71.
Reason for Recommendation:

Comment # 74 **Comment submitted by:** Avraham Freedman Member
Type Editorial **Starting Page Number** 39 **Starting Line Number** 20 **Section** 6.1.1.6
Balloter's Suggested Change:
Change "link" to "links"
Balloter's Reason:
In downstream, there are a number of links to be maintained
Recommendation: Accepted **Recommendation by:** Remi Chayer
Proposed Resolution:
Reason for Recommendation:

Comment # 75 **Comment submitted by:** Avraham Freedman Member
Type Editorial **Starting Page Number** 40 **Starting Line Number** 16 **Section** 6.1.3.1
Balloter's Suggested Change:
Change "see section A.1.2" to "see Annex A, section A.1.2"
Balloter's Reason:
Better readability
Recommendation: Accepted-Modified **Recommendation by:** Remi Chayer
Proposed Resolution:
Change "… see section A.1.2…" in line #16 to "…see Annex A, Section A.1.2 - Single-carrier test". Also, remove the dot following the titles of the sections in page #80, lines #18 and 42.
Reason for Recommendation:

Comment # 76 **Comment submitted by:** Avraham Freedman Member

Type Technical, Non-binding **Starting Page Number** 42 **Starting Line Number** 7 **Section** 6.1.3.1

Balloter's Suggested Change:

Change the first three paragraphs after the Note to read as follows
Within Europe, the following is applicable:
1. In frequency range 1, from 10 to 21.2 GHz, CEPT/ERC Recommendation 74-01 applies, which sets a limit -40 dBm/MHz for a Terminal Station , and -50 dBm/MHz for a Central Station
2. In frequency range 2 (as of 21.1 GHz) , ETSI draft EN 301 390 should be apllied (see below).
3. In grequency range 3 (above 43.5 GHz), CEPT/ERC Recommendation 74-01 should be applied, with the limit of -30 dBm/MHz for both TS and CS.
4. Within +/-250% of the channel a specific spectrum mask applies, which should be taken from the appropriate standard documented by ETSI.

Balloter's Reason:

For a more complete view of the regulations in Europe, covering all frequency ranges of the Recommended Practices

Recommendation: Accepted-Modified **Recommendation by:** Remi Chayer

Proposed Resolution:

Partially agreed. Delete current text in lines #14 to 20 on page #42 and lines #1 and 2 on page #43. Replace by "According to ETSI EN 301 390 V1.1.1 (2000-12) section 4.1.3, the following requirements should be used in Europe:

The CEPT/ERC Recommendation 74-01 shall apply for spurious emissions in the frequency range 9 kHz to 21.2 GHz and above 43.5 GHz."
Also, on same page line #6, change "...shall apply:" to "...shall apply to both Central and Terminal Stations. In this frequency range, where the -40 dBm limit shown in the Figures 9 and 10 apply, allowance is given for no more than 10 discrete (CW) spurious emissions which are permitted to exceed the limit up to -30 dBm."

Also, in lines #1 and 9 on page #43, change "[4]" to "[1]".

Reason for Recommendation:

Reason: It is better to stick as close as possible to the text of the ETSI document to avoid misinterpretation.

Comment # 77 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 46 **Starting Line Number** 1 **Section** 6.2.2

Balloter's Suggested Change:

The symbol should be used within the figures and tables, and not the words "alpha", or "beta"

Balloter's Reason:

Unlike the voting document which is limited to text only, the draft standard can use Greek letters.

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

In Figure 11, Table 6-2, Figure 12, Table 6-3, Table 6-7, Table 6-8 and Table 6-9, change all "alpha" to the Greek symbol for alpha. In Table 6-4, Figure 14, Table 6-5, Figure 15 and Table 6-6, change all "beta" to the Greek symbol for beta. This seems to be a MicroSoft Excel limitation that does not like Greek alphabet.

Reason for Recommendation:

Comment # 78 **Comment submitted by:** Zev Bogan Observer

Type Editorial **Starting Page Number** 52 **Starting Line Number** 9 **Section**

Balloter's Suggested Change:

insert page break after line 8

Balloter's Reason:

move caption to next page

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

Keep captions with their tables.

Reason for Recommendation:

Page breaks will change with edits; there are better means to keep captions with their tables.

Comment # 79 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 53 **Starting Line Number** 10 **Section** 6.1.3

Balloter's Suggested Change:

Add page break to the bottom of page so the title for Table 6-9 is with the table on page 54.

Balloter's Reason:

The title for the table is not with the table.

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

Keep captions with their tables.

Reason for Recommendation:

Page breaks will change with edits; there are better means to keep captions with their tables.

Comment # 80 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 57 **Starting Line Number** 1 **Section** 6.3.1.3

Balloter's Suggested Change:

Change C/N = 14 dB to C/(I+N) = 14 dB

Balloter's Reason:

Better reflects the intent

Recommendation: Accepted-Modified **Recommendation by:** Remi Chayer

Proposed Resolution:

Line 1, p57, Following C/I=19 dB, delete the remainder of the sentence and replace by "and the effective receiver threshold is impaired by approximately 1 dB such that the limiting C/N is now 14 dB."

Reason for Recommendation:

Change rejected as the statement was correct. Improved wording proposed. Actually, a C/N=14 dB + a C/I=20 yields a C/(N+I)=13 dB. If C/I=19 dB, then C/(N+I)=12.8 dB. But I/N=-6 dB is historical and it is not worth quibbling over 0.2 dB.

Comment # 81 **Comment submitted by:** Zev Bogan Observer

Type Technical, Non-binding **Starting Page Number** 58 **Starting Line Number** **Section** 6.3.2.1,6.3.2.2

Balloter's Suggested Change:

The requirement for C/I adj=0B for intersystem interference contradicts Recommendation#8 which requires a guard band between systems. If there is a guard band there is no need to define adj channel for inter-system interference.

Balloter's Reason:

Needs clarification

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer and Jack Garrison

Proposed Resolution:

Make changes as follows: P58, Line 4, Following 6.3.2 , delete the remainder of the sentence and replace by 'Adjacent Channel Desired to Undesired Signal Level Tolerance'.

P58, Lines 5 to 13, Delete the current text and replace by:

'The objective of this requirement is to ensure that an operational receiver is capable of withstanding the exposure of relatively high power adjacent channel carriers. The intent here is to ensure that it is only the unwanted "spillover" emission levels of these carriers that fall into the victim receiver's bandwidth will impact on coexistence and that the victim receiver has been designed so that "breakthrough" of the interference carrier power is not an issue that inhibits coexistence. Further, this requirement must be receptive to "technology evolution" so that future improvements in transmitter unwanted emission suppression are not impeded.

This requirement has a direct impact on coexistence referenced to the estimation of guard band requirements that are discussed extensively elsewhere in this report. The coexistence criteria assumes that only the "spillover" levels of adjacent carrier interference, as defined by NFD, establish the requirements and that the relative signal power of the interference carrier is not an issue. Thus this test can only be indirectly related to the emission level masks and the guard band criteria recommended elsewhere in this report.

The test for this requirement is defined in terms of a Desired Carrier (D) to Undesired Carrier (U) ratio D/U where the U carrier emissions are "clean" and are restricted to be within the frequency range of its specified bandwidth. The D carrier emissions should correspond to the signal characteristics normally expected to be present at the victim receiver input port.

6.3.2.1 Base Station and Subscriber Station D/U Tolerance

The test should be performed with both D and U signals having "like" modulation characteristics and equal transmission bandwidths.

With both the desired D and undesired signals U coupled to the input of the victim D receiver, set the input level of the D signal such that it is 3 dB above the nominally specified BER performance threshold.

6.3.2.1.1 First Adjacent Carrier D/U

Set the U carrier frequency so that it corresponds to a one carrier bandwidth frequency offset and at a D/U = -20 dB.

The measured BER performance of the D receiver should not exceed that specified for nominal threshold performance.

6.3.2.1.2 Second Adjacent Carrier D/U

Set the U carrier frequency so that it corresponds to a two carrier bandwidth frequency offset and at a D/U = -40 dB.

The measured BER performance of the D receiver should not exceed that specified for nominal threshold performance.'

Reason for Recommendation:

Objections noted and accepted. Original text corrected. Noted that the original text would cause confusion.

Comment # 82 **Comment submitted by:** Michael Hamilton Member

Type Editorial **Starting Page Number** 58 **Starting Line Number** 5 **Section** 6.3.2

Balloter's Suggested Change:

First adjacent channel tolerance is specified, although use of adjacent channel is contrary to Recommendation 8. Second adjacent channel tolerance is not specified.

Propose 0dB tolerance for first adjacent channel should be justified.
Propose 0dB tolerace for second adjacent channel.

Balloter's Reason:

Inconistancy between high level recommendation and requirements.

Recommendation: Accepted-Duplicate **Recommendation by:** Remi Chayer and Jack Garrison

Proposed Resolution:

See resolution to Comment 81

Reason for Recommendation:

Comment # 83 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 59 **Starting Line Number** 18 **Section** 7.1.1

Balloter's Suggested Change:

Change the final sentence to read "In addition to the procedure described below, two alternative co-ordination procedures are described in Annexes E (Based on a different I/N) and F (Based on a two tier psfd approach)."

Balloter's Reason:

Provides the reader with a clearer indication that the processes described in the Annexes are alternatives with an indication regarding the basis of the differences.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 84 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 61 **Starting Line Number** 2 **Section** 7.1.2

Balloter's Suggested Change:

A line or two is needed in Table 7-2

Balloter's Reason:

The table is not complete.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

The table borders are incomplete in the distributed PDF draft.

Comment # 85 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 62 **Starting Line Number** 4 **Section** 7.3

Balloter's Suggested Change:

Insert the words "For the purposes of the Recommendations in this document,.. " at the beginning of the second sentence .

Balloter's Reason:

Helps the reader to understand the context of the statements in section 7.3.

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

See Comment 148 for implementation.

Reason for Recommendation:

Comment # 86 **Comment submitted by:** Walt Roehr Member

Type Technical, Non-binding **Starting Page Number** 62 **Starting Line Number** 24 **Section** 7.4

Balloter's Suggested Change:

Delete this entire section.

Balloter's Reason:

Terms such as "Ensure" and "Verify" are too vague. How is the operator to (page 63, line 6) "verify" that there won't be IF cable problems without turning on the radio?

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Delete the complete section text and replace by:

'This section identifies that there will be a need for operators to develop a "turn-on" procedural methodology during transmitter activation, the objectives being the avoidance of inadvertent interference generation. The "turn-on" operator is highly encouraged to communicate with other known operators who may be affected. It is expected that operators will independently develop their "turn-on" procedures but it is outside the scope of this document to provide specifics.'

Reason for Recommendation:

Procedures for confirming coexistence at the deployment field engineering level are likely none of our business. They will differ between organizations. Our competency in this area is questionable and likely incomplete. For example, at Line 6, p63, it would be probably be more appropriate to turn on the receiver first. If it is being impaired, then one might conclude that turning on the transmitter will impair others. Further, any reference to IF is outside the scope of this document. We are only dealing with what occurs at the antenna to air interface. Agreement on issues such as this should be dealt with by operator organizations. However, it is quite valid for our document to responsibly note that transmitter "turn-on" has coexistence implications. It is concluded that the section should remain, but in a constrained fashion as proposed.

Comment # 87 **Comment submitted by:** Adrian Florea Member

Type Editorial **Starting Page Number** 63 **Starting Line Number** 12 **Section** 8

Balloter's Suggested Change:

Move the entire section 8 at the end as an Appendix

Balloter's Reason:

Recommendation: Rejected **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

(1) no reason was given for the change
(2) there is already an appendix containing more details of the simulations.
(3) The results are felt to be of sufficient importance that they should appear in the main body of the document.

Comment # 88 **Comment submitted by:** Roger Marks Member

Type Editorial **Starting Page Number** 63 **Starting Line Number** 39 **Section** 8.1.2

Balloter's Suggested Change:

Change sentence in Lines 39-40 to:

In each frequency band assigned for BWA use, different types of systems may be deployed, some conforming to IEEE 802.16 standards and some designed to other specifications.

Balloter's Reason:

Editorial; and generalizes the identifier "802.16.1".

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 89 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 66 **Starting Line Number** 1 **Section** 8.1.6

Balloter's Suggested Change:

Delete the final sentence and replace with a new paragraph "Further information on both the ISOP method and the IA method can be found in ERC Report 99 [2]."

Balloter's Reason:

Improved accuracy.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 90 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 66 **Starting Line Number** 2 **Section** 8.1.6

Balloter's Suggested Change:

Add reference TO THE Draft CEPT/ERC

Balloter's Reason:

Completeness

Recommendation: Accepted-Duplicate **Recommendation by:** Phil Whitehead

Proposed Resolution:

Resolved by Comment 89.

Reason for Recommendation:

Comment # 91 **Comment submitted by:** Philip Whitehead Member

Type Editorial **Starting Page Number** 66 **Starting Line Number** 2 **Section** 8.1.6

Balloter's Suggested Change:

Add word "report" at end of the sentence

Balloter's Reason:

Missing word from sentence

Recommendation: Accepted-Duplicate **Recommendation by:** Phil Whitehead

Proposed Resolution:

Resolved by Comment 89.

Reason for Recommendation:

Comment # 92 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 67 **Starting Line Number** 1 **Section** 8.1.6

Balloter's Suggested Change:

Table 8-1 and associated notes would be more appropriate in a section with its own heading.

Balloter's Reason:

The table has nothing specifically to do with the ISOP method of 8.1.6

Recommendation: Accepted-Modified **Recommendation by:** Phil Whitehead

Proposed Resolution:

Add new heading after the end of 8.1.6, as follows:
"8.1.7 Simulations and Calculations"
Then add new text as follows:
"The following table summarises the simulations and calculations undertaken for this recommended practice. The most appropriate method has been selected, dependent on the scenario and interference path."
Renumber subsequent sections, as appropriate.

Reason for Recommendation:

Comment # 93 **Comment submitted by:** Zev Bogan Observer

Type Editorial **Starting Page Number** 67 **Starting Line Number** 2 **Section** table 8-1

Balloter's Suggested Change:

line 8/first column in table correct "multiple interferes" to "multiple interferers"

Balloter's Reason:

typo

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 94 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 67 **Starting Line Number** 2 **Section** 8.1.6

Balloter's Suggested Change:

Make the title for Table 8-1 bold and center on page.

Balloter's Reason:

So it's like the rest of the tables in the document.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 95 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 67 **Starting Line Number** 2 **Section** 8.1.6 (sic)

Balloter's Suggested Change:

In Table 8-1, a new row is needed between rows 5 and 6 with the following entries in each column respectively;- Hub to Hub; FDD/TDD; Same area, adjacent frequency; Monte Carlo; 1 guard channel (note 2).

Balloter's Reason:

To reflect recently added contributions detailed in sections 8.1.10.1 and Annex C.13.

Recommendation: Accepted-Clarified **Recommendation by:** Phil Whitehead

Proposed Resolution:

In Table 8-1, add new row between rows 5 and 6 with the following entries in each column respectively;- Hub to Hub; FDD/TDD; Same area, adjacent frequency; Monte Carlo simulation; 1 guard channel (note 2).

Reason for Recommendation:

Accept, adding the word "simulation".

Comment # 96 **Comment submitted by:** Philip Whitehead Member

Type Editorial **Starting Page Number** 67 **Starting Line Number** 2 **Section** Table 8-1

Balloter's Suggested Change:

In column 1, change 8th entry to "Hub to hub (multiple interferers)"

Balloter's Reason:

Correction of English

Recommendation: Accepted-Duplicate **Recommendation by:** Paul Thompson

Proposed Resolution:

Resolved by Comment 93.

Reason for Recommendation:

Comment # 97 **Comment submitted by:** Barry Lewis Member

Type Technical, Binding **Starting Page Number** 67 **Starting Line Number** 8 **Section** 8.1.6 (sic)

Balloter's Suggested Change:

In Note 2 replace the final sentence with the following; "Where channel spacings are considerably different across the frequency block boundary, analysis suggests that one equivalent guard channel may be necessary at the edge of each operator's block."

Balloter's Reason:

To be consistent with 8.1.10.1, .2 and .3

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 98 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 70 **Starting Line Number** 20 **Section** 8.1.10.2

Balloter's Suggested Change:

Replace "Annex C.3" with "Annexes C.3 and C.13"

Balloter's Reason:

Highlights recently added contributions on the issue.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 99 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 70 **Starting Line Number** 36 **Section** 8.1.10.3

Balloter's Suggested Change:

Replace "Annex C.12" with "Annexes C.12 and C.13"

Balloter's Reason:

Highlights recently added contributions on the issue.

Recommendation: Accepted **Recommendation by:** Phil Whitehead

Proposed Resolution:

Reason for Recommendation:

Comment # 100 **Comment submitted by:** Avraham Freedman Member

Type Technical, Non-binding **Starting Page Number** 71 **Starting Line Number** 12 **Section** 9.1

Balloter's Suggested Change:

Add:
"Best results would be obtained if full cooperation and common deployment planning is achieved.

Balloter's Reason:

To stress the importance of cooperation and the possibility to achieve better coexistence and higher networks efficiency with common planning. Operators are usually reluctant to share information with competing operators. It is important they realize that cooperation is a win-win situation.

Recommendation: Accepted-Clarified **Recommendation by:** Remi Chayer

Proposed Resolution:

Add at the end of line 12.

Reason for Recommendation:

Comment # 101 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 71 Starting Line Number 41 Section 9.3

Balloter's Suggested Change:
A page break is needed after line 40.

Balloter's Reason:
So the title of section 9.3 is with the section on the next page.

Recommendation: Accepted-Clarified Recommendation by: Remi Chayer

Proposed Resolution:
Join section title with section.

Reason for Recommendation:
Page breaks will change with edits; there are better means to avoid subtitles at bottom of page.

Comment # 102 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 74 Starting Line Number 39 Section 9.10

Balloter's Suggested Change:
A page break is needed after line 38.

Balloter's Reason:
So the title of section 9.10 is on the next page with the section.

Recommendation: Accepted-Clarified Recommendation by: Remi Chayer

Proposed Resolution:
Join section title with section.

Reason for Recommendation:
Page breaks will change with edits; there are better means to avoid subtitles at bottom of page.

Comment # 103 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 75 Starting Line Number 8 Section 9.10.1

Balloter's Suggested Change:
Change the word stroke" to "strike"."

Balloter's Reason:
Word is spelled wrong.

Recommendation: Accepted Recommendation by: Remi Chayer

Proposed Resolution:

Reason for Recommendation:

Comment # 104 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 78 Starting Line Number 38 Section A.1.1

Balloter's Suggested Change:
Make the title for Figure A.1 bold and center on page.

Balloter's Reason:
The title for other figures are bold and centered in the document.

Recommendation: Accepted-Clarified Recommendation by: Remi Chayer

Proposed Resolution:
In line #38, center the table title and use bold font.

Reason for Recommendation:
Format consistency. Note that comment means Table A.1, not Figure A.1.

Comment # 105 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 80 Starting Line Number 42 Section A.2

Balloter's Suggested Change:
Add a page break after line 41.

Balloter's Reason:
So the title for section A.2 is with the section on the next page.

Recommendation: Accepted Recommendation by: Remi Chayer

Proposed Resolution:
Join section title with section.

Reason for Recommendation:
Page breaks will change with edits; there are better means to avoid subtitles at bottom of page.

Comment # 106 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 84 **Starting Line Number** 9 **Section** C.1

Balloter's Suggested Change:

Change "power flux density (pfd) to "power spectral flux density (psfd)"
Change "pfd" to psfd also in p. 85 line 9 and line 14

Balloter's Reason:

According to the units, and the presented results, it is the psfd which is being presented.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Note: Check document globally for consistency (as in Comment 136). Exclude Annex F per Comment 138.

Reason for Recommendation:

Comment # 107 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 84 **Starting Line Number** 22 **Section** C.1

Balloter's Suggested Change:

Make the title for Figure C.1 bold.

Balloter's Reason:

So it's the same as other figures in the document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 108 **Comment submitted by:** Avraham Freedman Member

Type Technical, Non-binding **Starting Page Number** 86 **Starting Line Number** 1 **Section** C

Balloter's Suggested Change:

The simulation descriptions, in general, do not give enough details. The range of parameters taken in the simulations such as the cell sizes, the sector sizes, frequency sizes, types of antenna etc. The reuslts are overly qualitativc. Few numerical measures (if any) were given. For example, in C.1 instead of "the cumulative distribution curves show negligible exposures.." a numerical indication of how negligible (0.1%, 1%, 10%) would add information to the reader. As those are obviously simulations taken from other other sources, it would be worthwhile to reference the sources, so the intersted reader rpobe further.

Balloter's Reason:

To improve the quality of the annex.

Recommendation: Accepted-Clarified **Recommendation by:** Barry Lewis

Proposed Resolution:

Line 3, p84, Insert the following "For the simulations described in Sections C1 to C3 typical BWA 26 GHz transmission parameters, as identified in Section 6.1.1, were employed. For ITU rain region K, these result in a maximum cell radius of R=3.6 km and a corresponding rain fade margin of 25 dB. A clear sky cell edge ATPC of 15-20 dB was employed for the TS to CS interference analysis. As subsequently identified, unwanted emissions were specified to be -20 dBc at a 1'st adjacent carrier flanking and -49 dBc at a 2'nd adjacent carrier flanking. These values correspond to a numerical integration of the power within the adjacent channel bandwidth based on the ETSI Type B emissions mask specified in [6]. For simulations that take the impact of correlated/uncorrelated rain fading into consideration, the diameter of a rain cell was specified to be 2.4 km. This is in accordance with the rain cell model described in ITU-R recommendation P.452-2 [28]. This model assumes a rain cell to be circular with a uniform rain rate within its diameter. Using this model, the relative rain loss of both a victim and an interference transmission vector can be estimated. The simulations described in Sections C4 to C7 employed comparable transmission criteria to that described above, with the exception that the emissions coupling from a 2'nd adjacent carrier was -54 dBc." ----- New paragraph, insert the following " Both ETSI Point-to-Multipoint Antenna RPE masks [7], [8] and the IEEE RPE masks defined in Section 6.2 were employed in the simulations." -----Delete Lines 13,14,15 p85 and replace with the following " Typically, the simulation results indicate that at CS separation distances of less than 40 km, 7-10% of deployments will require coordination. Beyond 40 km, there were no exposures that exceeded the -114 dBW/MHz/m^2 psfd trigger threshold. These simulations assumed an LOS coupling mechanism of the interference signal vectors. When a distance proportional random blockage algorithm (80% @ 60 km) was added to the simulations, the psfd coordination requirement reduced to 2-4% of the interference exposures at less than a CS separation distance of 40 km. These prior conclusions are of course conditioned on the transmission parameters employed in the simulations. Increased transmit EIRP would have a direct effect on the coordination distance requirements." -------- Line 16, p85, Preceed the existing sentence with the following " The simulation results indicate that, in general, interference coordination requirements have a low senstivity to antenna sidelobe RPE beyond the main lobe. One exception was found to be the ETSI CS1 antenna." ----Line 19, p85, While antennas with excellent sidelobe suppression were not identified as an absolute requirement for this coexistence scenario, they may be a requirement for control of an operators intra-system interference control. However, the specification of these requirements is outside the scope of this document."----------Lines 5,6,7,8. p86, Delete the sentence beginning with "The most severe.....". Line 13, p86, Add the word "parameters" following transmission. ---- Line 14, p87. Following the comma, delete the remainder of the sentence and replace by "based on the transmission geometry that establishes the distance within the rain cell that the interference vector experiences rain attenuation.".---- Lines 23 to 31, p87, Delete all of this section text and replace by:----Comment 1 "The simulation results for a 1'st adjacent flanking (zero guard band) were unsatisfactory. Under clear sky conditions, the C/I impairment was found to be distance dependant and ranged from 2% to 10% at a C/I=19 dB. At a C/I=25 dB, the impairment range extended from 3% to 30%. The impairment was identified to be distance dependent, with the worst cases occuring at small CS-CS separation distances. The minimum separation distance examined was 0.3 km while the maximum was 2 km. Under rain fading conditions, the simulation results became significantly more severe. Here, the simulations identified that in excess of 20% of the exposures would experience a C/I<19 dB and that in excess of 30% of the exposures would experience a C/I< 25 dB. Worst case interference estimates were found to occur at CS separation distances of the order of 0.6R. This is consistent with the simulation conclusions described in Section C.4 following." ---- Comment 2 "As expected, the inclusion of a one carrier bandwidth guard band demonstrates a significant improvement in terms of the probability of C/I impairment. Under rain faded conditions, worst case C/I< 19 dB exposures are less than 2% and for a C/I<25 dB are less than 4%. As with the simulation results described in Section C.1 above, the C/I performance was found to be relatively insensitive to antenna RPE outside the main lobe.".----- Lines 6,7,8,9,10, p89. Delete the existing text and replace by -----Comment 1 "As with the CS to TS case discussed above, interference levels were found to be unsatisfactory in the absence of a guard band. C/I impairment probability was found to be comparable to the results identified in Section C.2 for both clear sky and rain faded system scenarios. Similar to the preceeding discussions, antenna RPE characteristics outside the main lobe did not introduce a significant change in performance estimation results. All of the preceeding excludes consideration of the ETSI CS1 antenna mask as it was not considered subsequent to simulation results described in Section C.1.".

Reason for Recommendation:

Improved detailed description of the simulations as requested. If it can be confirmed that the detailed simulation contributions on which Annex C is based will not be junked to that great contribution bin in the sky, then each set of simulations in Annex C should and can have an explicit contribution reference. However, historically, with standards documents, that is not what happens with contributions. They get trashed and, all you get is what you see; the final output document. So, if in doubt, dump them off the net now.

Comment # 109 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 86 **Starting Line Number** 19 **Section** C.1

Balloter's Suggested Change:

Make title for Figure C.2 bold and move up under figure. Also make text in figure larger so you can read it.

Balloter's Reason:

So it is like the other figures in the document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 110 Comment submitted by: Avraham Freedman Member
Type Editorial Starting Page Number 87 Starting Line Number 15 Section C.2

Balloter's Suggested Change:
delete "based on the geometry and rain loss procedure described in Section 3.0"

Balloter's Reason:
This is probably a reference to another section 3.0, of another document, of which this simulation was copied from.

Recommendation: Accepted-Duplicate Recommendation by: Barry Lewis

Proposed Resolution:
See resolution of Comment 108.

Reason for Recommendation:

Comment # 111 Comment submitted by: Avraham Freedman Member
Type Editorial Starting Page Number 88 Starting Line Number 10 Section C.3

Balloter's Suggested Change:
Rephrase the sentence.

Balloter's Reason:
Figure C.3 does not show any frequency/ polarization model. Section 5.1.2 describes a mesh MP-MP system and does not describe any methodology.

Recommendation: Accepted-Clarified Recommendation by: Barry Lewis

Proposed Resolution:
Line 10 and Line 11, p88, Delete these lines and replace with the following "The simulation analysis assumes that both operators employ equal bandwidth transmissions. Both operators transmissions are assumed to be co-polarized. The NFD selected for a simulation is in accordance with the carrier separation specified for the simulation."----Line 14, page88, Preceed the 1'st sentence with the following "The layout model is as shown on Figure C.3 where it may be noted that the two sets of subscribers likely experience different magnitudes of rain attenuation. Consequently, their ATPC and EIRP will differ as a function of their distance from their serving TS and the adjustmen for rain attenuation."

Reason for Recommendation:

Comment # 112 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 88 Starting Line Number 21 Section C.3

Balloter's Suggested Change:
Move title for Figure C.3 centered under the figure. And make the title for Figures C.3 & C.4 bold. Make text in figures larger so you can read it.

Balloter's Reason:
So the figures are like the other figures in the document.

Recommendation: Accepted Recommendation by: Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 113 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 89 Starting Line Number 20 Section C.4

Balloter's Suggested Change:
Make the title for Figure C.4 bold.

Balloter's Reason:
So the figure is like other figures in the document.

Recommendation: Accepted-Clarified Recommendation by: Barry Lewis

Proposed Resolution:

Reason for Recommendation:
Comment meant to refer to Figure C.5.

Comment # 114 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 89 Starting Line Number 33 Section C.4

Balloter's Suggested Change:
Add page break to bottom of page so title is on the next page.

Balloter's Reason:
So the title is with the next section.

Recommendation: Accepted-Clarified Recommendation by: Barry Lewis

Proposed Resolution:
Join section title with section.

Reason for Recommendation:
Page breaks will change with edits; there are better means to avoid subtitles at bottom of page.

Comment # 115 Comment submitted by: Avraham Freedman Member
Type Editorial Starting Page Number 90 Starting Line Number 15 Section C.5

Balloter's Suggested Change:
Delete the 0.7071's from figure C.6, or give it some meaning.

Balloter's Reason:
No explanation for the number in the figure.

Recommendation: Accepted-Clarified Recommendation by: Barry Lewis

Proposed Resolution:
Re-import diagram from contribution 80216p-00_13.pdf, pg37.

Reason for Recommendation:
The diagram has elements missing compared to the original contribution.

Comment # 116 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 90 Starting Line Number 18 Section C,5

Balloter's Suggested Change:
Make title for Figure C.6 bold.

Balloter's Reason:
So it is like other figures in the document.

Recommendation: Accepted Recommendation by: Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 117 Comment submitted by: Avraham Freedman Member
Type Editorial Starting Page Number 92 Starting Line Number 6 Section C.6

Balloter's Suggested Change:
Define antennas in figure C.7

Balloter's Reason:
The defintion of the antenna "ETSI TS1", or "TM4069" is not clear, especially if the frequency is not mentioned

Recommendation: Accepted-Clarified Recommendation by: Barry Lewis

Proposed Resolution:
Delete references to antennas A and C in Figure C.7.Then on pg 92, line 15, add the following penultimate sentence "The TS antenna patterns considered were drawn from the standard EN301-215-2 [8] and from the work of ETSI WP-TM4 detailed in Annex D." Additionally, in order to complete the reference trail, "[x]" is to be inserted at the end of pg102, line 9 and additionally on pg117, a new line is required "[x] ETSI TR101 853 v1.1.1(2000-10) "Rules for Co-existence of P-P and P-MP systems using different access methods in the same frequency band" where x is the appropriate reference number.

Reason for Recommendation:

Comment # 118 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 92 Starting Line Number 9 Section C.7

Balloter's Suggested Change:
Make title for Figure C.7 bold.

Balloter's Reason:
So it's like other figures in the document.

Recommendation: Accepted Recommendation by: Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 119 Comment submitted by: George Fishel Member
Type Editorial Starting Page Number 93 Starting Line Number 20 Section C.8

Balloter's Suggested Change:
Make title for Figure C.8 Bold.

Balloter's Reason:
So It's the same as all the other figures in the document.

Recommendation: Accepted Recommendation by: Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 120 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 95 **Starting Line Number** 10 **Section** C.9

Balloter's Suggested Change:

Make the title for Figure C9 Bold.

Balloter's Reason:

So it's the same as all the other figures in the document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 121 **Comment submitted by:** Philip Whitehead Member

Type Editorial **Starting Page Number** 95 **Starting Line Number** 14 **Section** C.9

Balloter's Suggested Change:

Add bullet points to the attributes described on lines 14 to 25. Start new line after "D3P1B" on line 16. Start new line after "ITU_R P.676-3" on line 24.

Balloter's Reason:

Makes text easier to read.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 122 **Comment submitted by:** Philip Whitehead Member

Type Editorial **Starting Page Number** 96 **Starting Line Number** 14 **Section** Simulation results

Balloter's Suggested Change:

Remove square brackets from "[40km]"

Balloter's Reason:

Square brackets imply the number is not decided

Recommendation: Accepted-Modified **Recommendation by:** Barry Lewis

Proposed Resolution:

Delete "[40km]" and replace with "35km".

Reason for Recommendation:

Comment # 123 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 98 **Starting Line Number** 39 **Section** C.13

Balloter's Suggested Change:

Change title:
"General scenario, same area, adjacent frequency"

Add:
"This simulation tests a general case of P-MP and mesh systems in the same area, in adjacent frequency bands. It analyzes the cases of PMP CS to PMP CS, PMP TS to PMP TS, High density mesh to PMP CS and high density mesh to another mesh."

Balloter's Reason:

The purpose and scope of the simulation was not clear to the reader.

Recommendation: Accepted-Clarified **Recommendation by:** Barry Lewis

Proposed Resolution:

Add text proposed as first paragraph under heading.

Reason for Recommendation:

Comment # 124 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 99 **Starting Line Number** 28 **Section** C.13

Balloter's Suggested Change:

change "net filter rejection is in line with Figure below"
to "net filter discrimination is in line with Figure C.10 below"

Balloter's Reason:

1. The term net filter rejection is not used in the document.
2. Give reference to the proper figure.

Recommendation: Accepted-Clarified **Recommendation by:** Barry Lewis

Proposed Resolution:

Replace text on line 28 with "In assessing the off-frequency interference levels, the transmitter emission masks of Figure C.10 were assumed, based upon EN301-213 [6] (112MHz systems) although modified for ultimate attenuation."

Page 100, line 2: Delete the figure C.10 title from "NFR curves...." onwards, and replace with "Transmitter masks based on EN 301 213 spectrum masks and –70 dBc floor".

In Figure C.10, replace the y-axis label with "Attenuation (dBc)".

Reason for Recommendation:

Comment # 125 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 100 **Starting Line Number** 1 **Section** C.13

Balloter's Suggested Change:

Change "Net filter Rejection" to Net filter discrimination" in figure C.10
Change NFR to NFD in the title, line 11

Balloter's Reason:

The term NFD is used throughout the document and not NFR

Recommendation: Accepted-Duplicate **Recommendation by:** Barry Lewis

Proposed Resolution:

See resolution of Comment 124. Note: means line 1, not 11.

Reason for Recommendation:

Comment # 126 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 100 **Starting Line Number** 2 **Section** C.10

Balloter's Suggested Change:

Make the title for Figure C.10 and Table C.1 Bold.

Balloter's Reason:

So they are the same as all the other figures and tables in the document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 127 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 100 **Starting Line Number** 9 **Section** C.13

Balloter's Suggested Change:

Table C.1;Insert a new left hand column headed "Channel spacing in each adjacent block" and in the three rows beneath this heading insert the following respectively:- "Identical"; "Non-identical (Ratio 4:1)"; "Non-identical (Ratio 4:1)". Insert the now second column heading "Guard frequency width" and replace the text in the first row beneath this heading with "1 channel spacing equivalent".

Balloter's Reason:

Clarification. The current first column which is not headed, contains a mixture of channel spacing scenarios and guard band widths.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 128 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 102 **Starting Line Number** 6 **Section** D.14

Balloter's Suggested Change:

Change title to D.1

Balloter's Reason:

No reason to start with D. 14

Recommendation: Accepted-Modified **Recommendation by:** Barry Lewis

Proposed Resolution:

Also, on page 106, change D.15 to D.2 and D.16 to D.3.

Reason for Recommendation:

Comment # 129 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 102 **Starting Line Number** 26 **Section** D.1

Balloter's Suggested Change:

Make the title for Figure D.1 bold.

Balloter's Reason:

So it's the same as all the other tables in the document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 130 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 103 **Starting Line Number** 3 **Section** D.1

Balloter's Suggested Change:

So it's the same as all the other tables in the document.

Balloter's Reason:

So it's in the correct place.

Recommendation: Accepted-Clarified **Recommendation by:** Barry Lewis

Proposed Resolution:

Ensure table D.1 is complete on one page.

Reason for Recommendation:

Comment assumed to mean to ensure table D.1 is complete on one page.

Comment # 131 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 105 **Starting Line Number** 1 **Section**

Balloter's Suggested Change:

Remove page 105 from document.

Balloter's Reason:

Nothing on it.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 132 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 106 **Starting Line Number** 15 **Section** D.16

Balloter's Suggested Change:

Delete the section

Balloter's Reason:

Incomplete

Recommendation: Rejected **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Awating input to complete paragraph.

Comment # 133 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 106 **Starting Line Number** 19 **Section** Annex D

Balloter's Suggested Change:

Insert: D.17 Radiocommunications Agency (UK-RA)
The UK-RA has commissioned technical studies dealing with BFWA inter-operator co-existence at 28 and 42GHz. Two reports titled "BFWA co-existence at 28 & 42GHz" and a companion extended study are publically available from the RA Web Site under the Business Unit/Research - Extra-Mural R&D project section (www.radio.gov.uk/busunit/research/extramen.htm.). The work studied the issues from the point of view of a regulator wishing to put in place co-existence guidelines for BFWA operators to be licensed in the UK. It addresses both interference scenarios and provides recommendations for psfd trigger levels and guard frequencies based upon tolerable I/N of -10dB and -6dB.

Balloter's Reason:

Completeness. The annex refers to work carried out by other bodies which can usefully be considered alongside the recommendations and conclusions of the practice document. The UK-RA is another body that has carried out work and has contributed to the practice document.

Recommendation: Accepted-Modified **Recommendation by:** Barry Lewis

Proposed Resolution:

Insert: "D.4 Radiocommunications Agency (UK-RA)
The UK-RA has commissioned technical studies dealing with BFWA inter-operator co-existence at 28 and 42GHz. A report entitled "BFWA coexistence at 28 & 42 GHz" and a companion extended study are publicly available from the RA Web Site under the Business Unit/Research - Extra-Mural R&D project section <http://www.radio.gov.uk/busunit/research/extramen.htm>. The work studied the issues from the point of view of a regulator wishing to put in place coexistence guidelines for BFWA operators to be licensed in the UK. It addresses both interference scenarios and provides recommendations for psfd trigger levels and guard frequencies based upon tolerable I/N of -10 dB and -6 dB.'

Reason for Recommendation:

Comment # 134 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 106 **Starting Line Number** 19 **Section** Annex D

Balloter's Suggested Change:

Insert: D.18 CEPT/ERC
The European CEPT has carried out work within its Spectrum Engineering Working Group concerning the co-existence of FWA cells in the 26/28GHz bands. The completed report, ERC Report 099 [2] , is available from the European Radiocommunication Office at www.ero.dk. The report considers both interference scenarios and concludes with recommendations regarding guard frequencies and separation distances. The concepts of Interference Scenario Occurrence Probability (ISOP) and Interfered Area (IA) feature extensively in the analyses documented.

Balloter's Reason:

Completeness. The annex refers to work carried out by other bodies which can usefully be considered alongside the recommendations and conclusions of the practice document. The CEPT/ERC is another body that has carried out work which has contributed to the practice document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 135 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 107 **Starting Line Number** 4 **Section**

Balloter's Suggested Change:

Correct section headings and add numbers so they are the same as other parts of document ending on page 111.

Balloter's Reason:

So they are the same as other parts of document.

Recommendation: Accepted **Recommendation by:** Barry Lewis

Proposed Resolution:

Reason for Recommendation:

Comment # 136 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 109 **Starting Line Number** 10 **Section** E

Balloter's Suggested Change:

Change "pfd" to "psfd". Also in line 15

Balloter's Reason:

The term psfd is used throughout the document. As this is an imported document, it might be better to add a footnote indicating that pfd in the annex is psfd elsewhere.

Recommendation: Accepted-Clarified **Recommendation by:** Barry Lewis

Proposed Resolution:

Make change requested .

Also, on page 109 line 10 insert the word "Spectral" after "Power"

Note: Check document globally for consistency (as in Comment 106). Exclude Annex F per Comment 138.

Reason for Recommendation:

Comment # 137 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 109 **Starting Line Number** 38 **Section** E

Balloter's Suggested Change:

Provide a reference for Annex X or delete it.

Balloter's Reason:

Annex E refers to Annex X (also in p. 110 l. 3) and Annex 1 (p.110 l.14), which is not part of the document.

Recommendation: Accepted-Clarified **Recommendation by:** Barry Lewis

Proposed Resolution:

Page 109,line 38, replace"given in [Annex X]" with "assumed for the frequency band under consideration.". P110, line 3, replace "detailed in [Annex X]" with "assumed for each frequency band.". P110, line 14, delete "referred in Annex 1" add the word "assumed" before the words "antenna pattern".

Reason for Recommendation:

Comment # 138 **Comment submitted by:** Avraham Freedman Member

Type Editorial **Starting Page Number** 112 **Starting Line Number** 4 **Section** F

Balloter's Suggested Change:

Change pfd with psfd

Balloter's Reason:

The term psfd is used throughout the document. As this is an imported document, it might be better to add a footnote indicating that pfd in the Annex is psfd elsewhere.

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Insert as an additional sentence starting on Line 6:
"The Canadian dual psf metric is identical in principle and value with the dual psfd metric utilized in Recommendation 6 of Section 4.2 and the discussion of Section 7.3 because the Canadian psf metric is always measured in a bandwidth of 1 MHz."

See also Comments 106 and 136.

Reason for Recommendation:

Concur in principle, but not in specific recommended change.

Comment # 139 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 112 **Starting Line Number** 16 **Section**

Balloter's Suggested Change:

Repair left margin and add numbered sections like other parts of document and correct font size of the remainder of Annex F.

Balloter's Reason:

So Annex F is the same as other parts of the document.

Recommendation: Rejected **Recommendation by:** Paul Thompson

Proposed Resolution:

Reason for Recommendation:

Distinct formatting emphasizes the fact that the text referred to is actually an excerpt from the Canadian document. Leave the text as published unless there is another editorially accepted way to denote excerpts.

Comment # 140 **Comment submitted by:** George Fishel Member

Type Editorial **Starting Page Number** 115 **Starting Line Number** 3 **Section** F.1

Balloter's Suggested Change:

Add Figure # F.1 to figure and make bold.

Balloter's Reason:

So it's the same as other parts of the document.

Recommendation: Accepted-Modified **Recommendation by:** Paul Thompson

Proposed Resolution:

Changes to be made:

Page 114, Line 9 should read: "Appendix A [not reproduced]"

Page 114, Line 10 should read: "Appendix B" Then move the text from the top of page 115 into this location and modify as follows: "The process to determine whether coordination is required for cases where a sharing agreement between the licensees has not been concluded. The proposed coordination process is shown in Figure F.1" The caption for Fig F.1 reads "Figure F.1 Proposed coordination process"

Page 114: Delete Line 11.

Reason for Recommendation:

Concur in principle, but not in specific recommendation.

Comment # 141 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 116 **Starting Line Number** 5 **Section** Annex G

Balloter's Suggested Change:

Insert: "Report 099" after "CEPT/ERC.."

Balloter's Reason:

Clarification. Report now formally approved and numbered.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 142 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 116 **Starting Line Number** 37 **Section** Annex G - Ref. [17]

Balloter's Suggested Change:

Replace "7D-9D/68-E" by "9/BL/1" See http://www.itu.int/itudoc/itu-r/draftpub/f/index.html for further details.

Balloter's Reason:

Update the ITU-R document number.

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Change the document number to "ITU -R 9/BL/1 Draft new Rec. F.[Doc.9/2]"

Delete the remaining text on this line so that the begins as "Technical and ..."

Reason for Recommendation:

Comment # 143 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 117 **Starting Line Number** 7 **Section** Annex G - Ref. [20]

Balloter's Suggested Change:

Replace "F.[AD/9D]" by "F.1249-1". See http://www.itu.int/itudoc/itu-r/rec/f/index.html for further details.

Balloter's Reason:

Update the ITU-R Recommendation number.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Comment # 144 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 117 **Starting Line Number** 22 **Section** Annex G - Ref. [28]

Balloter's Suggested Change:

Need to verify what ITU-R Recommendation is really meant here. Recommendation ITU-R P.452 is entitled: "Prediction procedure for the evaluation of microwave interference between stations on the surface of the Earth at frequencies above about 0.7 GHz". Other relevant ITU-R Recommendations might be:

P.838-1 "Specific attenuation model for rain for use in prediction methods"

P.839-2 "Rain height model for prediction methods"

See http://www.itu.int/itudoc/itu-r/rec/p/index.html for further details.

Balloter's Reason:

To use the proper references.

Recommendation: Accepted-Modified **Recommendation by:** Jack Garrison

Proposed Resolution:

Correct reference # is ITU-R P.452-2 with the title as stated in the comment.

Reason for Recommendation:

Comment # 145 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 117 **Starting Line Number** 22 **Section** Annex G

Balloter's Suggested Change:

Insert: "Prediction Procedure for the Evaluation of Microwave Interference between Stations on the Surface of the Earth at Frequencies above about 0.7GHz" in place of "[TBD] Rain cell models."

Balloter's Reason:

Correct title for Recommendation ITU-R P.452

Recommendation: Accepted-Duplicate **Recommendation by:** Jack Garrison

Proposed Resolution:

Use exact title as in Comment 144.

Reason for Recommendation:

Comment # 146 **Comment submitted by:** Barry Lewis Member

Type Editorial **Starting Page Number** 117 **Starting Line Number** 22 **Section** Annex G

Balloter's Suggested Change:

Insert: "[29] ITU-R Recommendation F.758-2 "Considerations in the Development of Criteria for Sharing between the Terrestrial Fixed Service and Other Services."

Balloter's Reason:

Consequential change if the previous comment is accepted.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:

Coupled to Comment 37

Comment # 147 **Comment submitted by:** Jose Costa Member

Type Editorial **Starting Page Number** 117 **Starting Line Number** 23 **Section** Annex G - Ref. [29]

Balloter's Suggested Change:

Add: [29] Recommendation ITU-R F.1399, "Vocabulary of terms for wireless access"

Balloter's Reason:

For completeness.

Recommendation: Accepted-Clarified **Recommendation by:** Jack Garrison

Proposed Resolution:

Add Reference as [30]. Also add a new paragraph at p11, Line15 "Other standards documents [30] employ comparable definitions and acronyms to those that follow. However, while comparable, they are not identical in a number of cases"

Reason for Recommendation:

It is to be understood that the terminology used in this document is not identical to that used by the ITU.

As correct editing practice, reference has to be called in the text.

Comment # 148 **Comment submitted by:** Editor Member

Type Editorial **Starting Page Number** 62 **Starting Line Number** 2 **Section** 7.3

Balloter's Suggested Change:

Remove the comma in line 5 and change "one" to "a level". Change the clause in parenthesis into a separate sentence. Modify the second sentence (combining with Comment 85) to read "For the purposes of the Recommendations in this document, the amount of interference generally considered acceptable or tolerable is a level which produces a degradation of 1 dB to the system's C/N. This degradation is usually taken into consideration during the original link budget exercise."

Balloter's Reason:

The comma is incorrect and destroys the meaning of the sentence.

Recommendation: Accepted **Recommendation by:** Jack Garrison

Proposed Resolution:

Reason for Recommendation:
