
Item Number: 518

Commentor Name: Klein

Page Number 283

Jay

Line Number: 56

Description of Edit:

Add the following: "Thus the encoder as well as the trellis decoder will have the same initial and ending state for a message block".

Reason for Edit:

Technical accuracy.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Change to; "Thus the encoder will have the same initial and ending state for a message block".

Item Number: 519

Commentor Name: Klein

Page Number 284

Jay

Line Number: 17

Description of Edit:

Change "inserted as the MSB" to "inserted as the LSB"
Remove "the result is a 9(K+R) block of bits, LSB first."

Reason for Edit:

To be consistent with p.59 l.1 which calls for a MSB oriented transport. In most cases it would be easier to add the parity at the end (LSB) of a byte after all bits are collected.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Change should also be reflect in section 3.3.3.2.3

Item Number: 520

Commentor Name: Klein

Page Number 284

Jay

Line Number: 34

Description of Edit:

Remove sentence "Because extended..."

Reason for Edit:

Not useful in a standard document

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 521

Commentor Name: Stambaugh

Page Number 285

Karl

Line Number: 19

Description of Edit:

delete all text and figures from page 285 line 27 to page 286 line 12

Reason for Edit:

this doesn't belong in a standard - it is an implementation tutorial.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 522

Commentor Name: Hunter

Page Number 286

Wayne

Line Number: 15

Description of Edit:

change "Product code" to "product code"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments correct typo

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 523

Commentor Name: Hunter

Page Number 287

Wayne

Line Number: 5

Description of Edit:

change "D22, ...E88" to "D22,....., E88"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments correct typo

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 524

Commentor Name: Stambaugh

Page Number 287

Karl

Line Number: 17

Description of Edit:

no suggestion here

Reason for Edit:

The description of how to shorten a BTC is insufficient to actually implement it. For instance, this line says "Either rows or columns can be removed until....". This does not define anything that an implementer can actually use. For the shortening of codewords to work, the hardware only knows how many bytes are allocated for the whole shortened codeword, which includes both information and parity bytes. From that number, the hardware must be able to calculate exactly how many rows and columns eliminate. The upstream description (section 3.3.3.2.4) must likewise be changed.

Date Received: 10/29/20

Date Resolved:

Comment Type: General

Resolution Status: accepted-modified

Notes: Dave Williams to submit changes as reviewed by the task group as a contribution. Contribution will be published by 8:00 am CST 11/08/2000. Submitted and reviewed by PHY group on 11/09/00 and accepted.

Item Number: 525

Commentor Name: Hunter

Page Number 287

Wayne

Line Number: 63

Description of Edit:

change "purposes of encoding" to "purpose of encoding"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments grammar

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 526

Commentor Name: Klein

Page Number 288

Jay

Line Number: 37

Description of Edit:

Type 2 interleaver does not have a clear description (i.e., k2 parameter)

Reason for Edit:

Clarification

Date Received: 10/29/20

Date Resolved:

Comment Type: General

Resolution Status: accepted-modified

Notes: For clarification, refer to Figure 128.

Item Number: 527

Commentor Name: Aboukarr

Page Number 289

Bakri

Line Number: 16

Description of Edit:

Add a new section with the title "Codes 5, 6 and 7: Convolutional Codes (Optional)" and the following text:
"The inner mother code in these concatenated coding schemes is based on a convolutional code with memory 6 (64 states), rate 1/2. The inner mother code is punctured to derive higher inner code rates, e.g. 2/3, 3/4 and 5/6. An example of a puncturing pattern is given in the following table."

Insert a table with the title "Example of puncturing patterns for the inner convolutional codes 5,6, and 7"

The content of the table is as follows:

Inner code rate	Puncture pattern
2/3	1 0, 1 1
3/4	1 0 1, 1 1 0
5/6	1 0 1 0 1, 1 1 0 1 0

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 528

Commentor Name: Leiba

Page Number 289

Yigal

Line Number: 19

Description of Edit:

Change the first sentence of the paragraph to read, 'The PHY/MAC control portion of the downstream frame shall be encoded with a well known modulation and coding combination designated as TDM Burst Type 1 with DIUC = 0. TDM Burst type 1 uses a fixed set of parameters in order to ensure that all subscriber stations can read the information.'

Reason for Edit:

Define explicitly the MAC DIUC code 0

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Add at the end of 3.2.2.2.9 the following: "This operation mode will be designated as TDM Burst Type 1 (DIUC=0)"

Item Number: 529

Commentor Name: Stambaugh

Page Number 289

Karl

Line Number: 24

Description of Edit:

Insert a new paragraph:
The Reed-Solomon codewords shall not be shortened. Stuff-bytes (FFhex) shall be appended as necessary to the end of the control messages to fill an integral number of codewords.

Reason for Edit:

Defines how to handle the case when there are fewer information bytes than what is carried by a number of codewords.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Add on page 289 line 23 the following: "Stuff-bytes (FFhex) shall be appended as necessary to the end of the control messages to fill up the minimum number of codewords. "

Item Number: 530

Commentor Name: Hunter

Page Number 289

Wayne

Line Number: 29

Description of Edit:

add a definition or explanation of CAZAC sequences

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments CAZAC sequences are used presumably because of special properties they have, but these properties are not mentioned

Date Received: 10/29/20

Date Resolved:

Comment Type: General

Resolution Status: accepted-modified

Notes: Add a reference to a document: A. Milewski, "Periodic Sequences with Optimal Properties for Channel Estimation and Fast Start-Up Equalization" IBM RES. Develop., Vol. 37, No. 5, Sept. 1983 ,pp. 426-431.

Item Number: 531

Commentor Name: Guillemette

Page Number 289

Phil

Line Number: 29

Description of Edit:

insert "(constant amplitude zero auto-correlation)" following the word "CAZAC".

Reason for Edit:

This is the first time the abbreviation is used so it should be expanded.

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 532

Commentor Name: Hunter

Page Number 291

Wayne

Line Number: 53

Description of Edit:

change "QPSK, 16-QAM, (both mandatory) and 64-QAM." To "QPSK, 16-QAM, and 64-QAM (optional)."

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments to co-ordinate these requirements with those of page 270, line 9.

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: rejected

Notes:

Item Number: 533

Commentor Name: Stambaugh

Page Number 291

Karl

Line Number: 61

Description of Edit:

Insert another paragraph:
At the end of each burst, the final FEC encoded message may not end exactly on a PS boundary. If this is the case, the randomizer shall generate random bits as needed to fill the gap between the end of the encoded message and the start of the next burst, which must start on a PS boundary.

Reason for Edit:

QPSK, 16QAM and 64QAM carries either 1, 2 or 3 bytes of data in each Physical Slot (PS). This addition defines what to do between the end of the encoded message and the start of the next burst.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Modify insertion as follows; At the end of each burst, the final FEC encoded message may not end exactly on a PS boundary. If this is the case, between the end of the encoded message and the start of the next burst will be filled with zero bits.

Item Number: 534

Commentor Name: Klein

Page Number 297

Jay

Line Number: 23

Description of Edit:

the "Randomization" item in table 80 should be re-located to be the first element in the table

Reason for Edit:

Match signal flow

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Modify to: the "Randomization" item in table 80 should be re-located to be the second element in the table

Item Number: 535

Commentor Name: Stanwood

Page Number 297

Ken

Line Number: 51

Description of Edit:

Delete the first sentence. Change the start of the next sentence from "When the transmission convergence layer is enabled," to "At the transmission convergence layer"

Reason for Edit:

The TC layer should not be able to be disabled in the uplink. It provides a valuable resynchronization capability. For GPT terminals it is necessary since multiple PDUs from a multitude of connections are concatenated into single burst. Even in GPC mode, the PDU concatenation is defined such that if a CPE is granted back to back allocations for more than one connection, they are concatenated into a single burst which opens the possibility that the PDU from a subsequent connection starts in the middle of an FEC block

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes: To be resolved with the MAC group

Item Number: 536

Commentor Name: Stambaugh
Karl

Page Number 297

Line Number: 55

Description of Edit:

Change "layer bytes are added" to "layer pointer byte is added"

Reason for Edit:

the TC layer adds only one byte now - saying "bytes" is confusing.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes:

Item Number: 537

Commentor Name: Hunter
Wayne

Page Number 297

Line Number: 57

Description of Edit:

change "first MACPDU" to read "first MAC PDU"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments correct typo

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 538

Commentor Name: Stanwood
Ken

Page Number 297

Line Number: 60

Description of Edit:

Change "frame" to "PDU".
On line 63, change "frames" to "PDUs".
On page 298, line 1, change "frame" to " PDU"

Reason for Edit:

Reflect current definition of frame in document.

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 539

Commentor Name: Aboukarr
Bakri

Page Number 299

Line Number: 10

Description of Edit:

Add three (3) additional optional code types to table 81 as follows:
Code Type: 5 (optional) associated with QPSK modulation, Outer code: Reed Solomon over GF(256), Inner Code: Convolutional code rate 2/3
Code Type: 6 (optional) associated with 16 QAM modulation, Outer code: Reed Solomon over GF(256), Inner Code: Convolutional code rate 3/4
Code Type: 7 (optional) associated with 64 QAM modulation, Outer code: Reed Solomon over GF(256), Inner Code: Convolutional code rate 5/6

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 540

Commentor Name: Aboukarr

Page Number 299

Bakri

Line Number: 22

Description of Edit:

Change "types 3 and 4" to "types 3 to 7"

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 541

Commentor Name: Aboukarr

Page Number 299

Bakri

Line Number: 25

Description of Edit:

Change "four" to "seven"

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 542

Commentor Name: Leiba

Page Number 299

Yigal

Line Number: 27

Description of Edit:

Change the value for the protection required to for the RS code to $t=0$ to $t=16$

Reason for Edit:

Compatibility with table 9 (page 71), table 12 (page 76), table 90 (page 311), table 80 (page 297) that define RS correction capability $T=0-16$

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes: Changed to technical.

Item Number: 543

Commentor Name: Aboukarr

Page Number 299

Bakri

Line Number: 40

Description of Edit:

Insert:
(5), (6), and (7) Reed Solomon + Convolutional code (soft decodable):
These optional codes rates 2/3, 3/4 and 5/6 provide good C/N enhancement.

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 544

Commentor Name: Aboukarr

Page Number 299

Bakri

Line Number: 41

Description of Edit:

Change "1-3" to "1-7"

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 545

Commentor Name: Aboukarr

Page Number 299

Bakri

Line Number: 62

Description of Edit:

Change "1 or 2" to "1, 2, 5, 6, or 7"

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: See comment 550.

Item Number: 546

Commentor Name: Hunter

Page Number 302

Wayne

Line Number: 47

Description of Edit:

change "Product code" to read "product code"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments correct typo

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 547

Commentor Name: Hunter

Page Number 303

Wayne

Line Number: 41

Description of Edit:

change "D22, ...E88" to read "D22, ..., E88"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments correct typo

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 548

Commentor Name: Hunter

Page Number 304

Wayne

Line Number: 34

Description of Edit:

change "for the purposes of encoding." to "for the purpose of encoding."

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments correction of grammar

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 549

Commentor Name: Hunter

Page Number 304

Wayne

Line Number: 46

Description of Edit:

change the table heading "(32,24)" to read "(30,24)"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments to be consistent with the aggregate code rate value of 0.608

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes:

Item Number: 550

Commentor Name: Aboukarr

Page Number 305

Bakri

Line Number: 48

Description of Edit:

Add a new section with the title "Codes 5, 6 and 7: Convolutional Codes (Optional)" and the following text:
"The inner mother code in these concatenated coding schemes is based on a convolutional code with memory 6 (64 states), rate 1/2. The inner mother code is punctured to derive higher inner code rates, e.g. 2/3, 3/4 and 5/6. An example of a puncturing pattern is given in the following table."
Insert a table with the title "Example of puncturing patterns for the inner convolutional codes 5,6, and 7"
The content of the table is as follows:

Inner code rate	Puncture pattern
2/3	1 0, 1 1
3/4	1 0 1, 1 1 0
5/6	1 0 1 0 1, 1 1 0 1 0

Reason for Edit:

These code types are introduced in an effort to harmonize IEEE 802.16.1 with ETSI BRAN-HiperAccess.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: For: 2, Against: 7. Rejected.

Item Number: 551

Commentor Name: Hunter

Page Number 305

Wayne

Line Number: 56

Description of Edit:

change "QPSK must be supported, while 16-QAM and 64-QAM are optional" to read "QPSK must be supported, along with 16-QAM while 64-QAM is optional,"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments to be consistent with section 3.1.3.3

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 552

Commentor Name: Lindh

Page Number 305

Lars

Line Number: 57

Description of Edit:

insert TFM

Reason for Edit:

TFM should also be an optional modulation type

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: Due to 555 rejection

Item Number: 553

Commentor Name: Stanwood

Page Number 311

Ken

Line Number: 11

Description of Edit:

delete the Transmission convergence layer row from the table.

Reason for Edit:

The TC layer should not be able to be disabled in the uplink. It provides a valuable resynchronization capability. For GPT terminals it is necessary since multiple PDUs from a multitude of connections are concatenated into single burst. Even in GPC mode, the PDU concatenation is defined such that if a CPE is granted back to back allocations for more than one connection, they are concatenated into a single burst which opens the possibility that the PDU from a subsequent connection starts in the middle of an FEC block

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes: To be resolved with MAC group

Item Number: 554

Commentor Name: Lindh

Page Number 311

Lars

Line Number: 36

Description of Edit:

insert or TFM (optional)

Reason for Edit:

Include TFM in Table 90, summary of the Upstream Physical Layer Parameters

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: Due to 555 rejection

Item Number: 555

Commentor Name: Lindh

Page Number 311

Lars

Line Number: 42

Description of Edit:

Insert the contents of the document IEEE 802.16.1c-00/08
"TFM Modulation for the 802.16.1 Uplink"

Reason for Edit:

IEEE 802.16.1 is an international standard with a potential for world wide adoption. In order to address the residential and SOHO market sector TFM is proposed as an optional modulation scheme for the uplink.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 556**Commentor Name:** Lewis**Page Number** 311

Niclas

Line Number: 44**Description of Edit:**

Suggest only having one roll-off factor defined in order to reduce the number of system parameters. ETSI BRAN has a roll off of 0.3. With this roll off factor the channel size tables would be:

Channel Size	Baud Rate(Mbaud)	Recommended Frame Size	PS/frame
12.5	9.6	2	4800
14	10.75	2	5375
20	15.3	1	3825
25	19.2	1	4800
28	21.5	1	5375
36	27.6	1	6900
40	30.6	0.5	3825
50	38.4	0.5	4800

Reason for Edit:

Reduce number of system configuration parameters

Date Received: 10/29/20**Date Resolved:****Comment Type:** Technical**Resolution Status:** rejected**Notes:**

Item Number: 557**Commentor Name:** Klein**Page Number** 311

Jay

Line Number: 47**Description of Edit:**

Change "the baud rates and RF channel bandwidths have been left somewhat flexible in order to allow service providers..." to "several baud rate options and RF channel bandwidth options are required in order to allow service providers..."

Reason for Edit:

This is more accurate than "somewhat flexible"

Date Received: 10/29/20**Date Resolved:****Comment Type:** Editorial**Resolution Status:** accepted**Notes:**

Item Number: 558**Commentor Name:** Klein**Page Number** 311

Jay

Line Number: 52**Description of Edit:**

Replace the section starting with "The following tables..." and ending with "...0.25, and 0.35." with the following:
"It is recommended that the system will generally support baud rates in the range of 10 to 32 MBaud. Nyquist Root-Raised Cosine pulse shaping with a roll-off factor of 0.15, 0.25 and 0.35 will be used.

The system shall operate on one or more of the recommended channel arrangements presented in the following tables. Although other vendor specific channel sizes and baud rates may also be implemented it is expected that the listed channel arrangements will address the majority of deployment scenarios worldwide.

Note that baud rates are chosen to provide an integer number of PSs per frame. The frame size choice compromises between transport efficiency (i.e. frame overhead) and latency."

Reason for Edit:

Provides a better and clearer guidelines and explanations of choosing channel arrangements

Date Received: 10/29/20**Date Resolved:****Comment Type:** Technical**Resolution Status:** accepted**Notes:**

Item Number: 559

Commentor Name: Leiba

Page Number 313

Yigal

Line Number: 32

Description of Edit:

Delete the paragraph starting with 'In order to satisfy timing requirements for telephony or other CBR applications (T1/E1)...' and ending with '... or an internal oscillator with time stamps coming from the MAC layer at the base station.'
Another option is to make the requirements in this paragraph non mandatory (i.e. replace 'should' by 'may')

Reason for Edit:

Supplying the clock for entities outside the scope of the standard need not be a mandatory part of the standard.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Remove only the following sentence (from line 36) starting with "A time stamp" and ending with "at the base station"

Item Number: 560

Commentor Name: McGregor

Page Number 314

Andy

Line Number: 1

Description of Edit:

Insert after "... algorithm should ..." the following "support at least 15dB dynamic range and"

Reason for Edit:

Clarifies what the minimum requirement on the system is and is compliant with the Coexistence Practice.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: Document currently specifies 40 dB range

Item Number: 561

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 16

Description of Edit:

change "Max. Tx phase noise" to read "Max. Rx phase noise"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
The specification explanation defines the required receiver phase noise performance (note the reference to receiver tracking loop bandwidth), not that of a transmitter.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: referred to group

Notes:

Item Number: 562

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 16

Description of Edit:

insert section to read as follows: "Max. Tx phase noise 10 kHz away (-68 dBc), 100 kHz away (-78 dBc), 1 MHz away (-98 dBc)"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
provide reasonable requirement on transmitter phase noise performance for the base station

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 563

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 22

Description of Edit:

change "Tx symbol Timing accuracy" to read "Tx symbol timing accuracy"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
grammar

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 564

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 31

Description of Edit:

change the text from "10-66 GHz / +/- 5 ppm (including aging and temperature variations)" to read "recommend not less than 5ppm, 10 ppm, or 30 ppm as noted in the following frequency bands: 10 - 19.7 GHz / +/- 5 ppm (including aging and temperature variations), 19.7 - 31.3 GHz / +/- 10 ppm (including aging and temperature variations), 31.3 - 66 GHz / +/- 30 ppm (including aging and temperature variations)"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
provides a workable specification modeled after the US - FCC "part 101" specification for these frequency bands

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 565

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 33

Description of Edit:

change "Spectral Mask" to "Spectral mask"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
grammar

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 566

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 33

Description of Edit:

change "Composite Group delay" to read "Composite group delay"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
grammar

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 567

Commentor Name: Klein

Page Number 314

Jay

Line Number: 37

Description of Edit:

Change "<20% of symbol period for 16-QAM" to "<40% of symbol period 16-QAM"
Change "<10% of symbol period for 64-QAM" to "<20% of symbol period 64-QAM"

Reason for Edit:

Current spec too tight (highly depends on the exact curvature of phase distortion).

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: referred to group

Notes:

Item Number: 568

Commentor Name: Klein

Page Number 314

Jay

Line Number: 42

Description of Edit:

Must increase the "1.0 dB" ptp value

Reason for Edit:

Current spec too tight (highly depends on the exact curvature of amplitude distortion). May force unnecessary pre-equalization as channel distortion will can be greater

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: referred to group

Notes: Defer to Tx/Rx parameter discussion.

Item Number: 569

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 42

Description of Edit:

change "Composite Amplitude" to "Composite amplitude"

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments grammar

Date Received: 10/29/20

Date Resolved:

Comment Type: Editorial

Resolution Status: accepted

Notes:

Item Number: 570

Commentor Name: Klein

Page Number 314

Jay

Line Number: 47

Description of Edit:

Either remove "dynamic range" item or relax (30 dB???)

Reason for Edit:

The standard is more focused on cost reducing the subscriber device. Base station performance declarations should be made only on issues relevant to the subscriber operation. It is assumed that a base station vendor will design it to deal with issues like receiving more than one carrier at once etc.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Modify comment to remove dynamic range requirement

Item Number: 571

Commentor Name: Klein

Page Number 314

Jay

Line Number: 49

Description of Edit:

Insert item "BER performance threshold"
Values:
For 1×10^{-3} : QPSK $-89 + 10 \cdot \log_{10}(R)$, 16QAM $-81 + 10 \cdot \log_{10}(R)$, 64QAM $-74 + 10 \cdot \log_{10}(R)$
For 1×10^{-6} : QPSK $-85 + 10 \cdot \log_{10}(R)$, 16QAM $-77 + 10 \cdot \log_{10}(R)$, 64QAM $-71 + 10 \cdot \log_{10}(R)$
Where R is the RF channel bandwidth in MHz
Values are Receiver input signal level (RSL) in dBm

Reason for Edit:

Missing information in current draft

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Without FEC. Add TBR notation. Add reference diagram for measurement points.

Item Number: 572

Commentor Name: Klein

Page Number 314

Jay

Line Number: 50

Description of Edit:

Delete Item (Receiver equivalent noise floor)

Reason for Edit:

To be replaced by BER performance

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes:

Item Number: 573

Commentor Name: Hunter

Page Number 314

Wayne

Line Number: 58

Description of Edit:

insert a value of "-25 dB" for the requirement on Adjacent channel interference

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments provide a reasonable value for ACI

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 574

Commentor Name: Hunter

Page Number 315

Wayne

Line Number: 11

Description of Edit:

replace "TBD at a later date" with "10 kHz away (-68 dBc), 100 kHz away (-78 dBc), 1 MHz away (-98 dBc)

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments provide reasonable requirement on transmitter phase noise performance for the subscriber station

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes:

Item Number: 575

Commentor Name: Klein

Page Number 315

Jay

Line Number: 35

Description of Edit:

Insert item "BER performance threshold"
Values:
For 1×10^{-3} : QPSK $-89 + 10 \cdot \log_{10}(R)$, 16QAM $-81 + 10 \cdot \log_{10}(R)$, 64QAM $-74 + 10 \cdot \log_{10}(R)$
For 1×10^{-6} : QPSK $-85 + 10 \cdot \log_{10}(R)$, 16QAM $-77 + 10 \cdot \log_{10}(R)$, 64QAM $-71 + 10 \cdot \log_{10}(R)$
Where R is the RF channel bandwidth in MHz
Values are Receiver input signal level (RSL) in dBm

Reason for Edit:

Missing information in current draft

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Without FEC. Add TBR notation. Add reference diagram for measurement points.

Item Number: 576

Commentor Name: Hunter

Page Number 315

Wayne

Line Number: 34

Description of Edit:

Are the last 3 or 4 table entries really minimum performance specifications on the receiver?

Reason for Edit:

Hunter(M), Meyer(O), Robinson(M), Smith(N), Wang(N) team comments
It appears that the last 3 or 4 entries relate to receiver performance characteristics rather than transmitter characteristics

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: referred to group

Notes: Leave for further discussion on Tx/Rx characteristics.

Item Number: 577

Commentor Name: Klein

Page Number 315

Jay

Line Number: 42

Description of Edit:

Change "Adjacent channel interference" to "Adjacent channel interference threshold degradation at $BER = 1 \times 10^{-6}$ "
Add value: $S/I = 0$ dB for 1 dB degradation, $S/I = -4$ dB for 3 dB degradation (assuming similar modulations on adjacent channels) where S/I represents the signal to interferer ratio

Reason for Edit:

Missing information in current draft

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes: Add TBR notation.

Item Number: 578

Commentor Name: Klein

Page Number 315

Jay

Line Number: 44

Description of Edit:

Change "Co-channel interference" to "Co-channel interference threshold degradation at $BER=1 \times 10^{-6}$ "
Add value: $S/I=23$ (QPSK), 30 (16QAM) and 36 (64QAM) dB for 1 dB degradation,
 $S/I=19$ (QPSK), 26.5 (16QAM) and 32.5 (64QAM) dB for 3 dB degradation where
 S/I represents the signal to interferer ratio

Reason for Edit:

Missing information in current draft

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes: Add TBR notation.

Item Number: 579

Commentor Name: Klein

Page Number 317

Jay

Line Number: 47

Description of Edit:

Change "Propagation model" types from "Static" and "Dynamic" to "Type 1", "Type 2". Models should be imported from http://www.ieee802.org/16/phy/contrib/802161pc-00_21.pdf (Falconer & Zhang).
Add the following explanation after table:
Type 0 represents a clear Line of Sight scenario. Type 1 and Type 2 represent typical deployment scenarios with weak multi-path components, 1 being with better conditions.

Reason for Edit:

Missing information in current draft. Pay attention that Type 3 is not imported, as it does not represent a typical scenario.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes:

Item Number: 580

Commentor Name: Marin

Page Number 317

Scott

Line Number: 59

Description of Edit:

Replace "to the antenna output port" with "to the antenna input port."

Reason for Edit:

The "output port" of a transmitter is the radiated signal. Normally transmitter characteristics are measured in watts in the output of the transmitter and input to the transmitter antenna.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes:

Item Number: 581

Commentor Name: Marin

Page Number 318

Scott

Line Number: 4

Description of Edit:

Replace the phrase "as the average power, measured" with the phrase "as the time-averaged power when emitting a signal (excluding off-time between bursts), measured"

Reason for Edit:

More precise and clearly indicates that the average is over time and not frequency. Also indicates that transmitter off time is not included in the time average.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted

Notes: Technical.

Item Number: 582

Commentor Name: McGregor

Page Number 318

Andy

Line Number: 6

Description of Edit:

Use the EIRP limits given in IEEE 802.16.2-00/01r9 section 6.1.1 for both base station, CPE and repeater (if specified). We note that you do not identify values in respect of repeater functionality and recommend that you consider adding such functionality.

Reason for Edit:

Completes TBD text in document.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: Modify to "Use the EIRP limits given in IEEE 802.16.2-00/01r9 section 6.1.1 for both base station and subscriber station"

Item Number: 583

Commentor Name: McGregor

Page Number 318

Andy

Line Number: 13

Description of Edit:

Add text to sections 3.6.3.2 and 3.6.4.4 "Unwanted Conducted Emissions". Suggest taking source material from IEEE 802.16.2-00/01r9 section 6.1.4 and Annex A. Note that "Unwanted Radiated Emissions" are typically dictated by regulators and your text should reference such documents generically.

Consider modifying OOB, Adjacent channel interference, Co-channel interference and Spurious entries in Performance Table on pages 314/315 to point to your sections 3.6.3.2 and 3.6.4.4. Note that the proposed text for these sections cannot be reduced to a simple number for a table.

Reason for Edit:

Completes TBD text in document.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: accepted-modified

Notes: On Table on page 314 modify lines 30 to 34 to read "Follow 6.1.4.1 'Unwanted Emissions Limit of IEEE802.16RP or relevant local regulatory requirements if more stringent"

Item Number: 584

Commentor Name: McGregor

Page Number 320

Andy

Line Number: 7

Description of Edit:

Add new sub-section 3.6.6 Antenna Performance. Suggest taking source material from IEEE 802.16.2-00/01r9 section 6.2. Consider adding new entries in Performance Table on pages 314/315 and Requirements Table on pages 316/317. Note that the Coexistence Practice document states that antenna performance requirements for intra-system usage is likely to be more critical than for inter-system coexistence.

Reason for Edit:

This provides baseline text for current document.

Date Received: 10/29/20

Date Resolved:

Comment Type: Technical

Resolution Status: rejected

Notes: