

FORD *ET AL.* V. NEO WIRELESS LLC
IPR2023-00763 (U.S. Pat. No. 10,447,450)

Patent Owner Neo Wireless LLC
Oral Argument Demonstratives
June 10, 2025

Parham Hendifar
Lowenstein & Weatherwax LLP

Exhibit 2040
IPR2023-00763

Claims Are Challenged Under A Single Ground Based On The Combination Of Park And IEEE 802.16-2004

III. Ground 1: Claims 7 and 11 are unpatentable over Park and 802.16-2004

As will be demonstrated in the following paragraphs, Park and 802.16-2004 teach or suggest every element of the challenged claims. The '450 Patent purports

Petitioner's Sole Ground Fails For Two Independently Sufficient Reasons

1. **Petitioner Fails To Show A “Mobile Device Configured To” Perform The Claimed Limitations Under The Plain And Ordinary Meaning Of “Mobile Device” In This Field**
2. Petitioner Fails To Show A Segment Comprising N Time-Frequency Resource Units, “Where N = 2, 4 Or 8.”

Summary Of Standards And Systems Cited By Petitioner

IEEE 802.16-2004

Reference forming Ground 1

- “This standard specifies the air interface of **fixed** broadband wireless access.”

Ex. 1006 [802.14-2004] 004

- A “major weakness is that it **does not support mobility**.”

Ex. 2025 [Cooklev-Book] 332

IEEE 802.16(e)

Not Part of any Ground

- Developed later “to **support mobile subscribers**.”

Ex. 2025 [Cooklev-Book] 22

- “**devot[ed] one part** of the superframe **for fixed stations** and **one part for mobile stations**.”

Ex. 2025 [Cooklev-Book] 331; Ex. 2024 [Cooklev-1st-Depo.] 71:3-6.

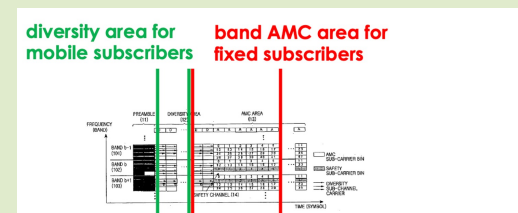
Park

Reference forming Ground 1

- Discloses an IEEE 802.16(e) frame.

Ex. 2023 [Alberth-2nd-Decl.] ¶ 81

- Divides the frame into **AMC (fixed)** and **diversity (mobile)** areas



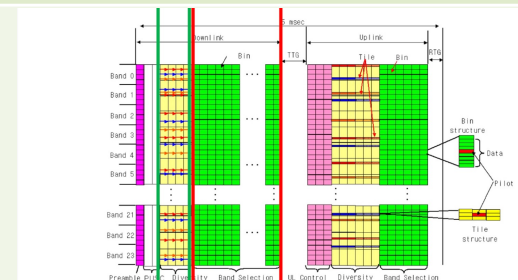
WiBro

Not Part of any Ground

- Is based on IEEE 802.16(e).

Ex. 2023 [Alberth-2nd-Decl.] ¶ 82

- Divides the frame into **AMC (fixed)** and **diversity (mobile)** areas



Independent Claim 7 Requires A “Mobile Device Configured To” Perform Limitations [1], [2], [3]

Patent No.: US 10,447,450 B2

7. A mobile device in a wireless packet system using a frame structure of multiple frames for transmission, each frame comprising a plurality of time intervals, each time interval comprising a plurality of orthogonal frequency division multiplexing (OFDM) symbols, and each OFDM symbol containing a plurality of frequency subcarriers, the mobile device configured to:

receive an identifier from a base station in a cell in which the mobile device is operating; and
receive a signal containing information from the base station over a segment of time-frequency resource, the segment having a starting time-frequency coordinate and the segment comprising N time-frequency resource units within a time interval, each unit containing a set of frequency subcarriers in a group of OFDM symbols, where N=2, 4, or 8; and
recover the information from the received signal using the starting time-frequency coordinate and N in conjunction with the received identifier.

[c] the mobile device configured to:

[1] receive an identifier from a base station in a cell in which the mobile device is operating; and

[2(a)] receive a signal containing information from the base station over a segment of time-frequency resource,

[2(b)] the segment having a starting time-frequency coordinate and the segment comprising N time-frequency resource units within a time interval,

[2(c)] each unit containing a set of frequency subcarriers in a group of OFDM symbols,

[2(d)] where N=2, 4, or 8; and

[3] recover the information from the received signal using the starting time-frequency coordinate and N in conjunction with the received identifier.

High Level Roadmap: Petitioner Fails To Show A “Mobile Device Configured To” Perform The Claimed Limitations

Claim 7: “Mobile Device Configured To” Perform Limitations [2b], [2d], [3]

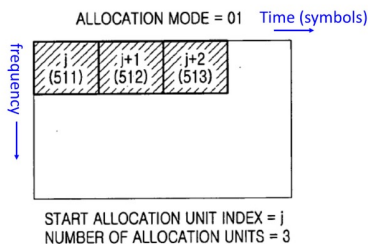


Petitioner Fails To Show A “Mobile Device Configured To” Perform Park Embodiments

Petitioner Relies On Park Embodiments For Limitations [2b], [2d], [3]

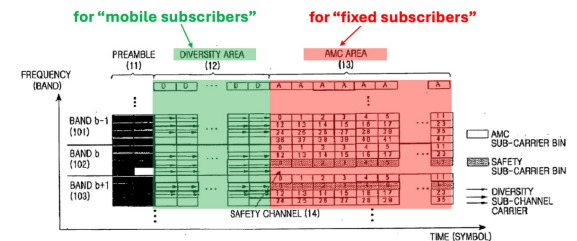
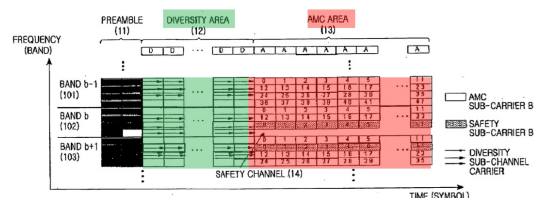
Park Embodiments Are For Resource Allocation In The AMC Area Of Frame

AMC Area Of Frame Only Supports Fixed Devices Even In Mobile Systems



Park

[0043] According to the present invention, to indicate resource allocation information of an AMC area, allocation



**Same In WiBro
Same In 802.16(e)**

Petitioner Relies On “Allocation Mode 01” In Park Embodiments For Limitations That A “Mobile Device” Must Be Configured To Perform

Patent No.: US 10,447,450 B2

[c] the mobile device configured to:

[1] receive an identifier from a base station in a cell in which the mobile device is operating; and

[2(a)] receive a signal containing information from the base station over a segment of time-frequency resource,

[2(b)] the segment having a starting time-frequency coordinate and the segment comprising N time-frequency resource units within a time interval,

[2(c)] each unit containing a set of frequency subcarriers in a group of OFDM symbols,

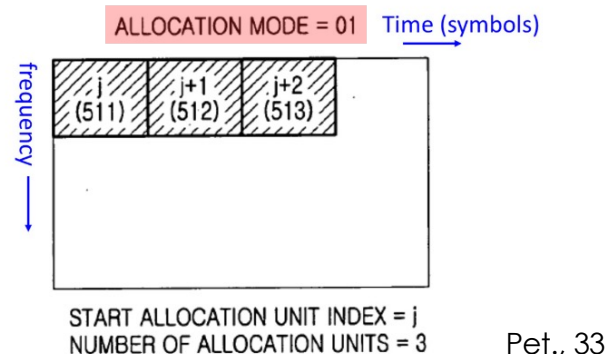
[2(d)] where $N=2, 4, \text{ or } 8$; and

[3] recover the information from the received signal using the starting time-frequency coordinate and N in conjunction with the received identifier.

PETITION

Specifically, in Park’s “allocation mode ‘01’,” Park’s “allocation region” (i.e., segment) has: (1) an “index value of the start allocation unit” (i.e., a one-dimensional starting time-frequency coordinate) that identifies the start of the allocation region and; (2) the total number of allocation units (i.e., N time-frequency resource units). Park [0066] (“In the allocation mode ‘01’, the corresponding

Pet., 32-33



Park discloses using a DL-MAP IE message with revised syntax to communicate the parameters the mobile device will use to recover the information from the received signal. Cooklev Decl. ¶¶ 78-96, 192-196. Park illustrates an

Pet., 45

Park “Allocation Mode 01” Embodiment Allocates Resources Within The AMC Area Of The Frame

Park

[0013] DL(/UL)-MAP IE (Information Element) used for indicating resource allocation information of the AMC area in such a resource allocation structure is defined in Table 95(101) of the Institute of Electrical Engineers (IEEE) 802.16-2004 standard.

[0055] Table 2 shows DL(/UL)-MAP IE (Information Element), which indicates resource allocation information of the AMC area according to an embodiment of the present invention.

[0043] According to the present invention, to indicate resource allocation information of an AMC area, allocation units having mutually different sizes and shapes are defined and the total resource region is indexed per each allocation unit, thereby indicating the resource allocation information allocated to each subscriber through a predetermined allocation unit and index information of a corresponding allocation unit.

Undisputed: Park Embodiments Allocate Resources Within The AMC Area Of The Frame

DECLARATION OF TODOR COOKLEV

159. In Park, the indexed total resource region is the “AMC area” for which the allocation information is provided via the DL-MAP, as described above.

Ex. 1003 [Cooklev-1st-Decl.] ¶ 159

in Park (which, as described above relates to AMC), the resource allocation unit

Ex. 1003 [Cooklev-1st-Decl.] ¶ 189

showing an “OFDMA frame with multiple zones”). As Park indicates, its improvements to 802.16-2004 relate to the application of the DL-MAP IE (highlighted in blue) to the optional AMC zone (highlighted in orange).

Ex. 1003 [Cooklev-1st-Decl.] ¶ 115

DL-MAP IE. Park Table 1, Table 2; 802.16-2004 at Table 97. As described above, Park teaches that DL-MAP IE is used to allocate resources resource information in the AMC area. Park [0013]. Park also teaches that the “Nep code” and “Nsch

Ex. 1003 [Cooklev-1st-Decl.] ¶ 206

Park Embodiments Index The AMC Area Of Frame And Inform The User Of The Portion Of The AMC Area Allocated To The User

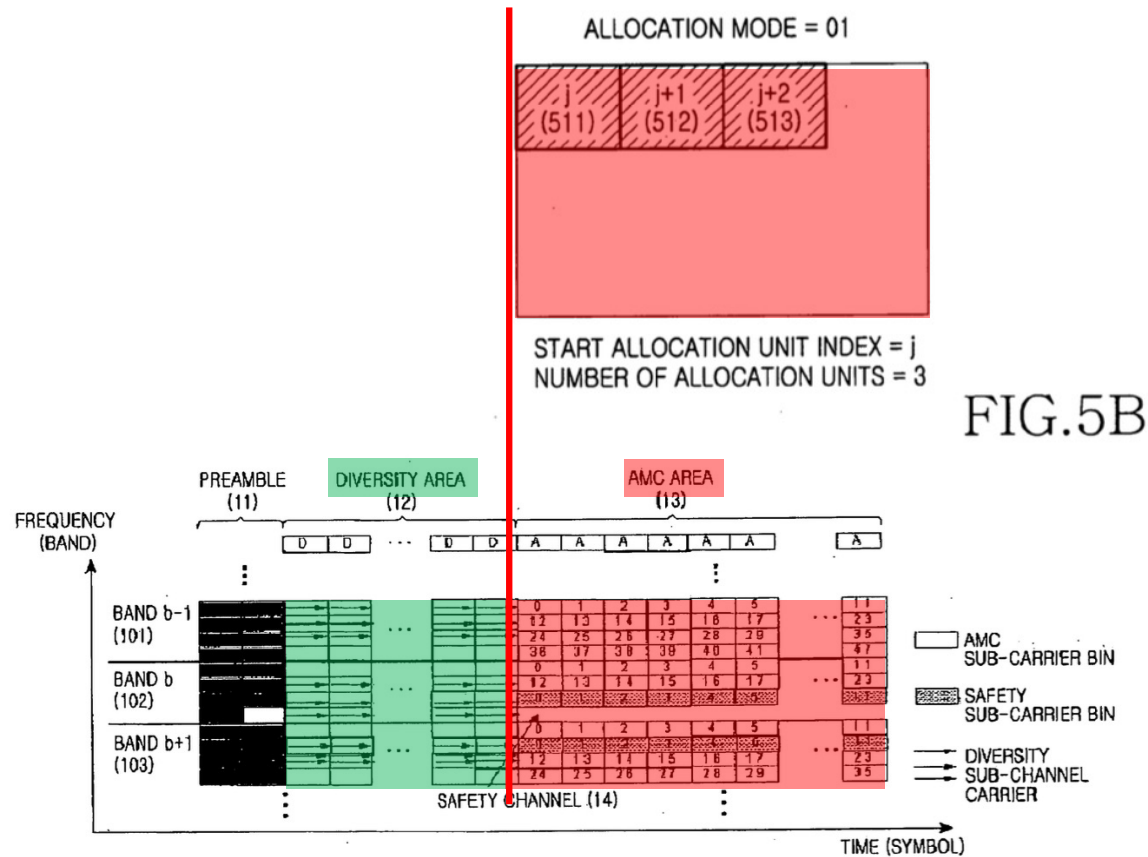


FIG.1
Park

Table-97 Of IEEE 802.16 Standard That Park Modifies Is For Resource Allocation In The AMC Area Of The Frame

DECLARATION OF TODOR COOKLEV

60. Park even incorporates Table 97 of 802.16-2004 into its specification, in the form of Table 1 as a starting point. Park [0013]-[0015], Table 1; *see also* 802.16-2004 at 110-111 (Table 97). Park refers to this table as “Table 95,” but a

Ex. 1003 [Cooklev-DecI.] ¶ 60

802.16™

Table 97—H-ARQ Compact_DL-MAP IE format for band AMC

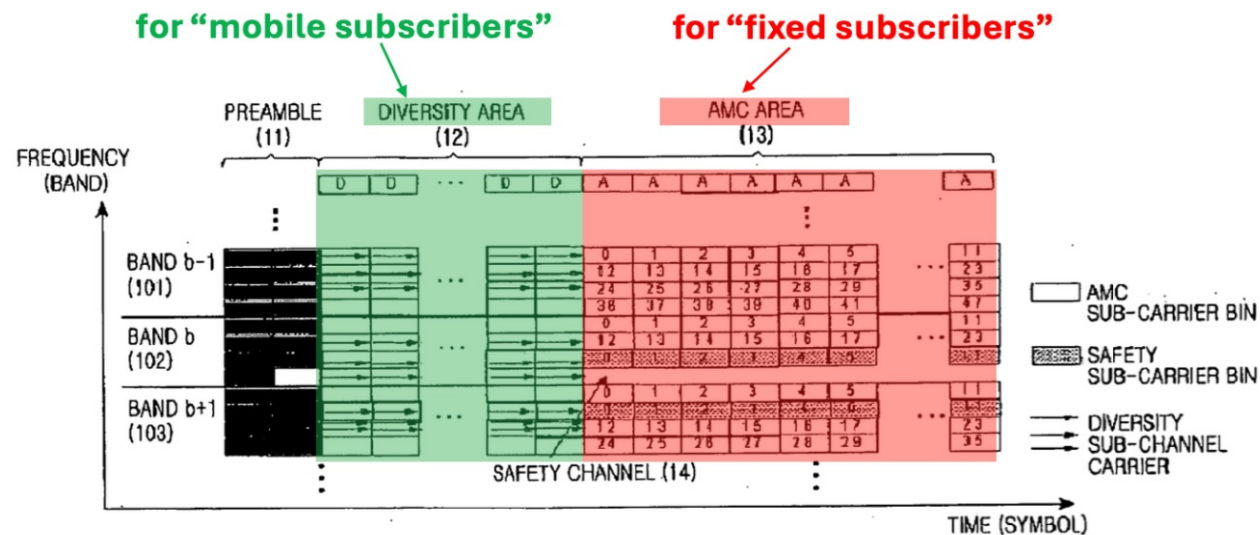
Syntax	Size	Notes
Compact_DL-MAP_IE () {		
DL-MAP Type =1	3 bits	
<i>reserved</i>	1 bit	Shall be set to zero
RCID_IE	<i>variable</i>	
<i>N_{EP} code</i>	4 bits	Code of encoder packet bits (see 8.4.9.2.3.5)
<i>N_{SCH} code</i>	4 bits	Code of allocated subchannels (see 8.4.9.2.3.5)
Nband	Nb-Band bits	Number of bands, 0 = use BITMAP instead
if (Nband == 0) {		
Band BITMAP	Nb-BITMAP bits	<i>n</i> -th LSB is 1 if <i>n</i> -th band is selected
} else {		
for (<i>i</i> =0; <i>i</i> < Nband; <i>i</i> ++)		
Band Index	Nb-Index bits	Band selection.

Ex. 1006 [802.15-2004] 110

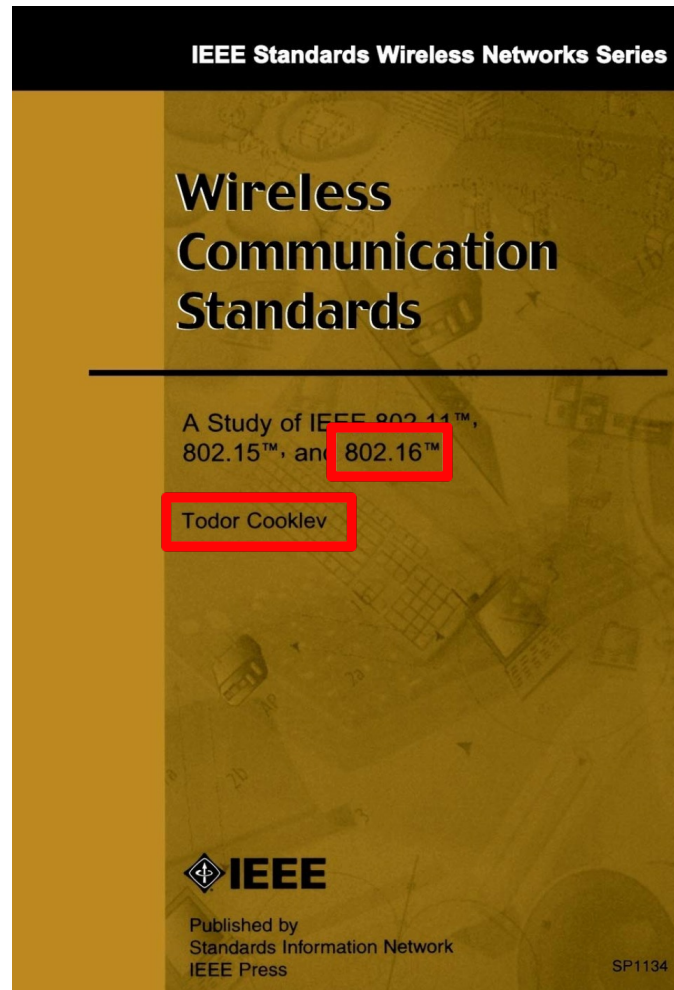
Park: AMC Area Of Frame Only Supports “Fixed Subscribers”

Park

[0011] The preamble area 11 is used for base station discrimination, channel estimation, synchronization information and system information transmission. The diversity area 12 is used for allocating resources for mobile subscribers, and the AMC area 13 is used for increasing the transmission speed through a frequency-selective adaptive modulation for fixed subscribers.



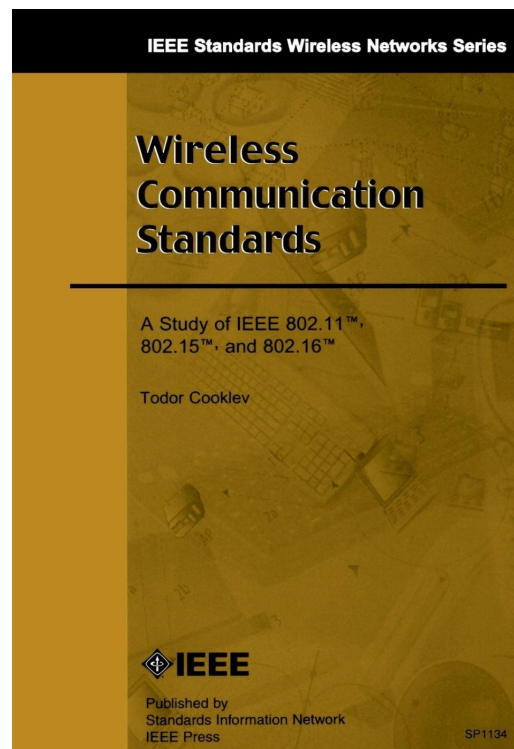
Petitioner's Expert, Dr. Cooklev, Authored A Reference Book On The IEEE 802.16 Standard



Petitioner's Expert's Book: "To Support Mobility," The Frame Is Divided Into Two Parts, "Devoting" One Part "For Fixed Stations"

to-multipoint. Another initiative within IEEE 802.16 is to support mobility. Task Group 802.16e was established to support this technology [B30], [B97], [B99], [B131]. The solution that will be developed by 802.16e will likely be devoting one part of the superframe for fixed stations and one part for mobile stations. The

Ex. 2025 [Cooklev-Book] 331

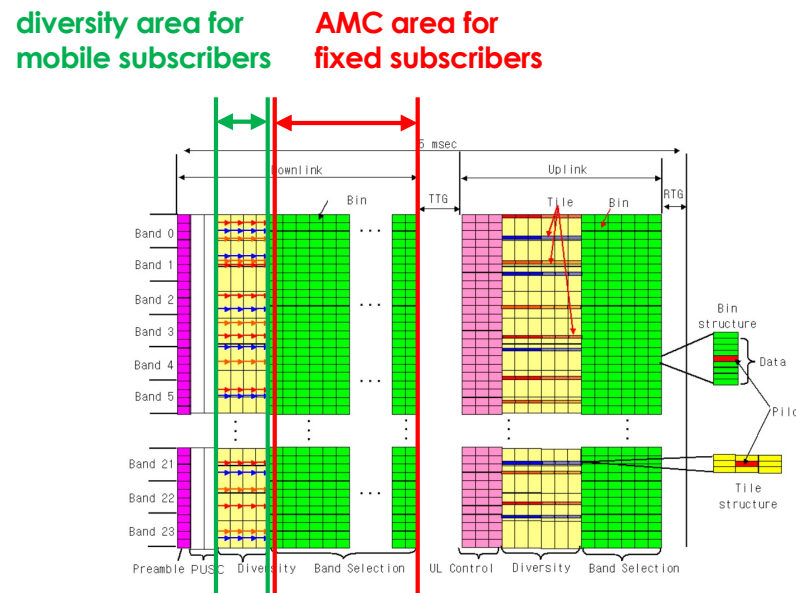


WiBro, Referenced By Park, Also Divides The Frame Into Two Areas, One For Mobile Stations And One For Fixed Stations

Capacity Analysis Considering Channel Resource Overhead for Mobile Internet Access(WiBro)

selection and diversity. Fixed wireless indoor service is supported with band selection mode to maximize multi-user scheduling gain by utilizing channel selectivity for stationary users. And mobile wireless outdoor service is supported with diversity mode to maximize wideband frequency diversity and temporal diversity gain for mobile users. Also, various

Ex. 2027 [WiBro-Article] 2



Petitioner's Expert: WiBro And Park Both Divide The Frame Into Two Areas, With AMC Used For Fixed Users

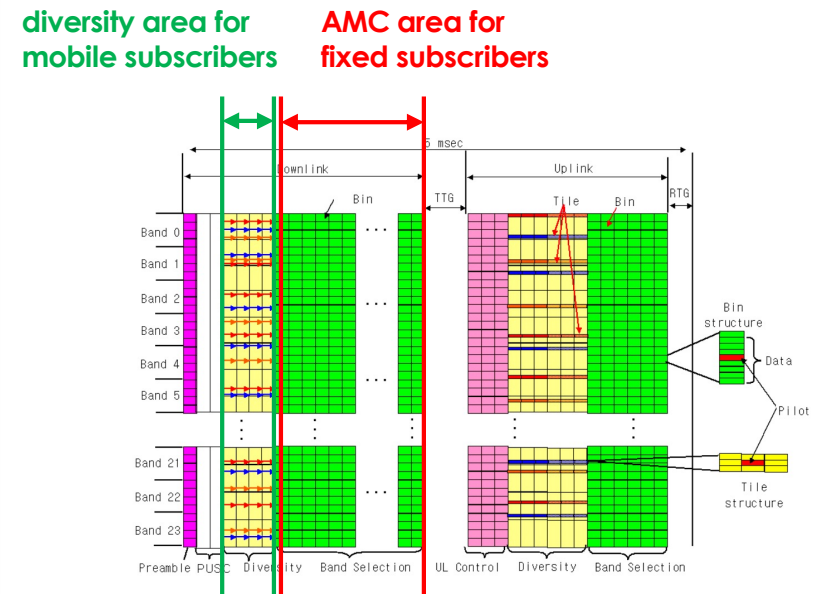
DEPOSITION OF TODOR COOKLEV

A. If you look at Figure 1, we see a figure. This figure is consistent with Figure 1 of Park.

And we see there is a -- and I think earlier we were -- we were talking about different zones. So we see at the bottom -- at the bottom we see a -- so there is a diversity zone. This diversity zone is the zone dedicated to mobile users.

There is a zone that here it's referred to as band selection. This is the zone that is for fixed users.

So now this -- so you were asking about that passage. And if we look, fixed wireless is supported with band selection mode. So I think here band selection mode is that -- is that part of the frame called "band selection." That's for stationary users.



Ex. 2024 [Cooklev-1st-Depo.] 107:24-108:18

All Evidence Confirms: Frame Is Divided To Diversity Area For Mobile Stations And AMC Area For Fixed Stations

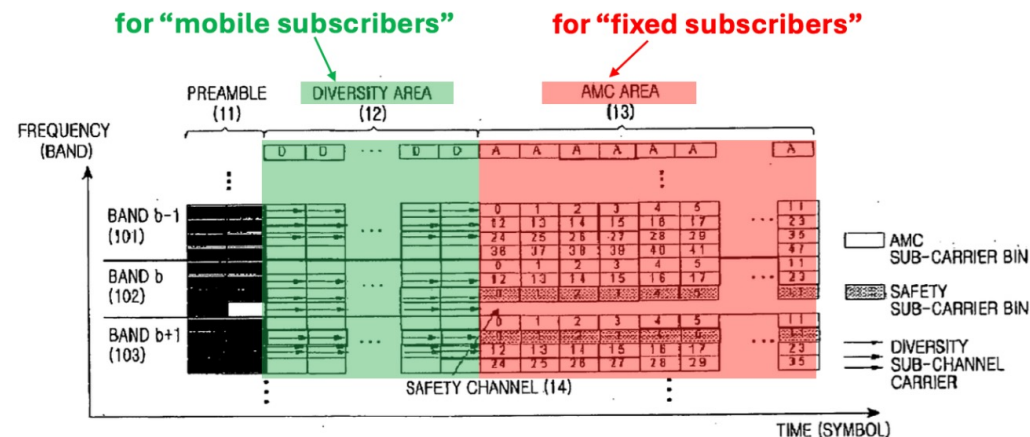
Park	Petitioner's Expert	WiBro
Ex. 1005 [Park] [0007] ("FIG.1 is a view illustrating a frame structure of a WiBro stands for Wireless Broadband (WiBro) system or an IEEE802.16 system applied to an OFDMA system.") Ex. 1005 [Park] [0011] ("The diversity area 12 is used for allocating resources for mobile subscribers, and the AMC area 13 is used for increasing the transmission speed through a frequency-selective adaptive modulation for fixed subscribers.")	Ex. 2025 [Cooklev-Book] 331 ("The solution that will be developed by 802.16e will likely be devoting one part of the superframe for fixed stations and one part for mobile stations.") Ex. 2024 [Cooklev-1st-Depo.] 71:3-6 ("Q. is your proposed likely solution was the solution ultimately adopted by 802.16(e)? A. I think, yes.")	Ex. 2027 [WiBro-Article] 1-2. ("Fixed wireless indoor service is supported with band selection mode And mobile wireless outdoor service is supported with diversity mode") Ex. 2024 [Cooklev-1st-Depo.] 107:24-108:18. ("This figure is consistent with Figure 1 of Park. ... This diversity zone is the zone dedicated to mobile users. There is a zone that here it's referred to as band selection. This is the zone that is for fixed users.")

Even In A System That Also Supports Mobile Users, Park Embodiments Are For The AMC Area That Is For Fixed Users

Park

[0011] The preamble area 11 is used for base station discrimination, channel estimation, synchronization information and system information transmission. The diversity area 12 is used for allocating resources for mobile subscribers, and the AMC area 13 is used for increasing the transmission speed through a frequency-selective adaptive modulation for fixed subscribers.

[0043] According to the present invention, to indicate resource allocation information of an AMC area, allocation

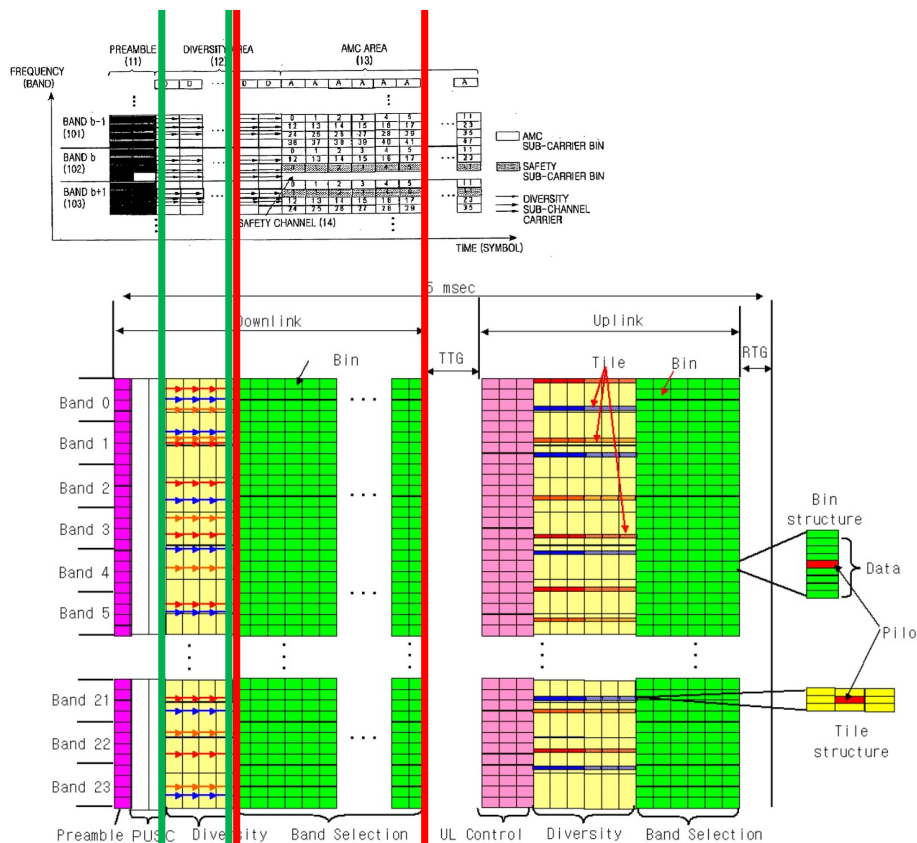


Petitioner's Reference To IEEE 802.16(e) And WiBro Does Not Disclose A "Mobile Device" That Practices The Claims

Park, WiBro, 802.16(e): The AMC Region Of Frame To Which Park Embodiments Apply Is Only For Fixed Subscribers

diversity area for
mobile subscribers

AMC area for
fixed subscribers



Ex. 1005 [Park] Figure 1 (IEEE 802.16(e) frame)

Ex. 2027 [WiBro-Article] Figure 1 (WiBro frame)

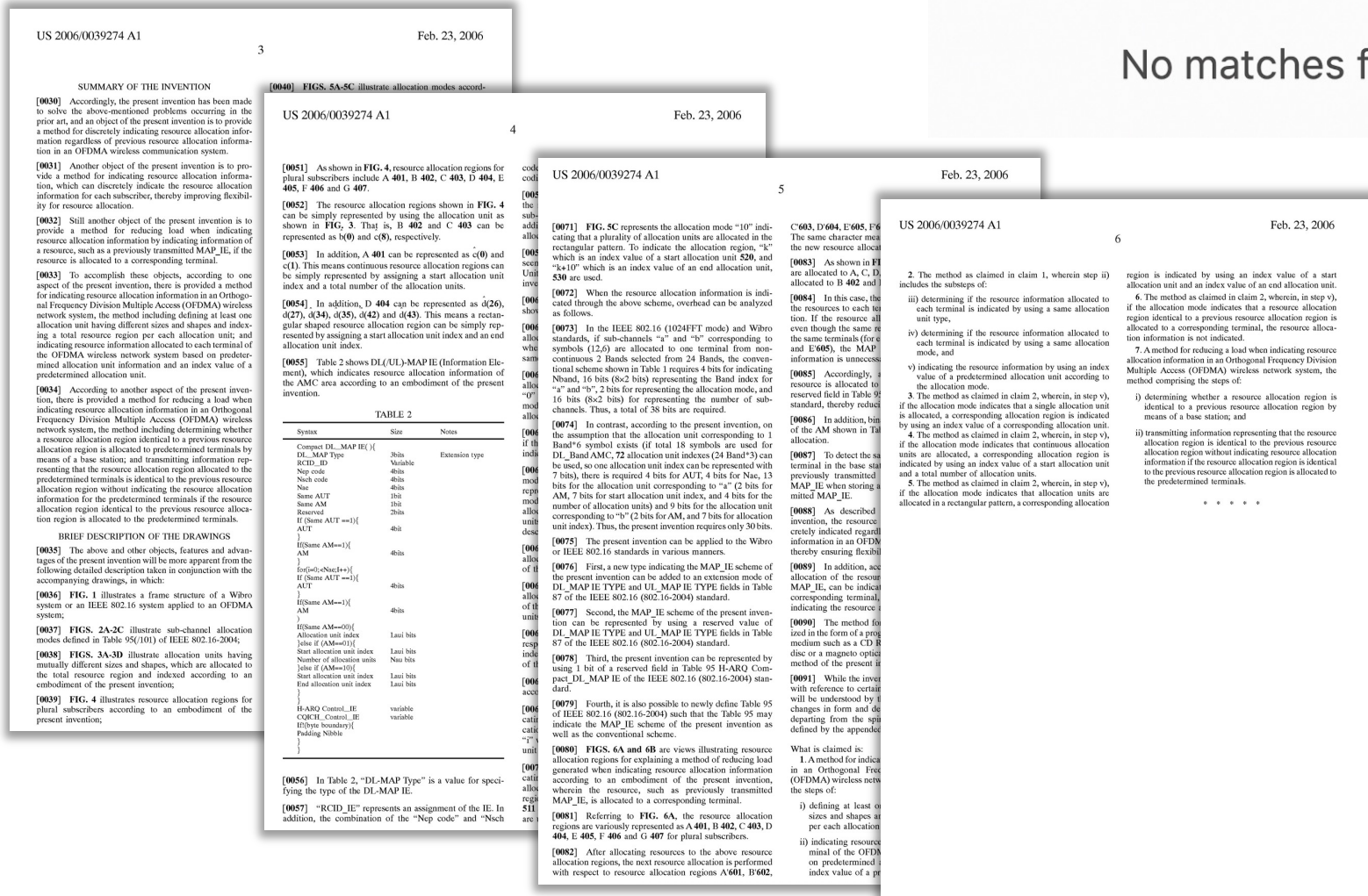
Park Never Refers To Subscribers In Its Embodiments As “Mobile”

Park

Q mobile



No matches found.

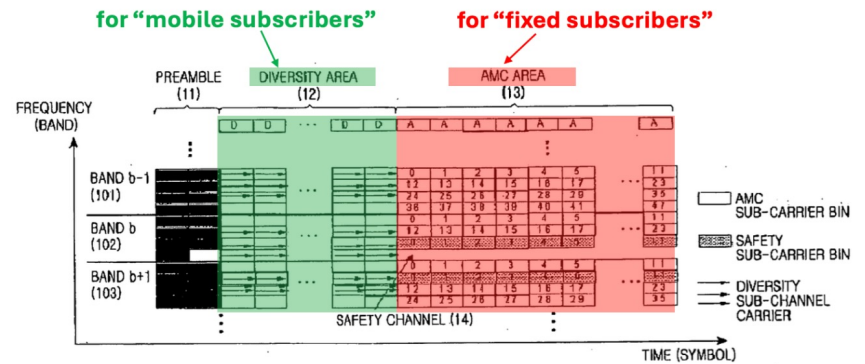


Reference To “Mobile Communication Systems” In “Related Art” Does Not Say Park Embodiments Apply To Mobile Devices

Park

[0004] 2. Description of the Related Art

[0005] Next-generation mobile communication systems will transmit data with superior quality at a high transmission rate to provide subscribers with various improved multimedia services. Recent studies are being conducted on an Orthogonal Frequency Division Multiple Access (OFDMA) scheme to make it possible for the next-generation mobile communication systems to meet the above expectations.



Park's Efficiency Improvements For Fixed Devices Is Relevant To Mobile Communication Systems Because They Have To Support More Users

Implementing Park Embodiments In 802.16-2004 Does Not Disclose Or Render Obvious The Claimed “Mobile Device”

DECLARATION OF TODOR COOKLEV

77. A POSA would have considered it obvious to implement Park using 802.16-2004. Park discloses an improvement to resource allocation in “[n]ext

Ex. 1003 [Cooklev-1st-Decl.] ¶ 77

Even If 802.16-2004 Supported Mobile Users, Which It Does Not, Park’s Embodiments Apply To Fixed Stations In A Mobile System

IEEE 802.16-2004 Is Expressly Clear That Its Subscriber Stations Are Fixed (Stationary), Not Mobile

IEEE Standards

IEEE Std 802.16™-2004
(Revision of IEEE Std 802.16-2001)

802.16™

IEEE Standard for
Local and metropolitan area networks

**Part 16: Air Interface for Fixed
Broadband Wireless Access Systems**

IEEE Computer Society
and the
IEEE Microwave Theory and Techniques Society

Sponsored by the
LAN/MAN Standards Committee



3 Park Avenue, New York, NY 10016-5997, USA

Abstract This standard specifies the air interface of fixed broadband wireless access (BWA) systems supporting multimedia services. The medium access control layer (MAC) supports a primarily point-to-multipoint architecture, with an optional mesh topology. The MAC is structured to support multiple physical layer (PHY) specifications, each suited to a particular operational environment. For operational frequencies from 10–66 GHz, the PHY is based on single-carrier modulation. For frequencies below 11 GHz, where propagation without a direct line of sight must be accommodated, three alternatives are provided, using OFDM, OFDMA, and single-carrier modulation. This standard revises and consolidates IEEE Std 802.16-2001, IEEE Std 802.16a™-2003, and IEEE Std 802.16c™-2002.

Ex. 1006 [802.16-2004] 001 (Title)

Ex. 1006 [802.16-2004] 004 (Abstract)

The Different, Later IEEE 802.16(e) Added Support For Mobility To The IEEE 802.16-2004 Standard Relied Upon By Petitioner



DECLARATION OF WILLIAM P. ALBERTH JR.

68. The IEEE 802.16 family of standards (including 802.16-2004) did not support mobile devices until version 802.16e, approved on December 7, 2005. *See* Ex. 1014 [802.16e] 3. This is confirmed by, for example, another article authored

Roger Mark, Chair Of 802.16 Working Group, Has Authored Articles Confirming 802.16-2004 Did Not Support Mobile Users

BIOGRAPHIES

TOPICS IN BROADBAND ACCESS

IEEE Standard 802.16: A Technical Overview of the WirelessMAN™ Air Interface for Broadband Wireless Access

Carl Eklund, Nokia Research Center

Roger B. Marks, National Institute of Standards and Technology

Kenneth L. Stanwood and Stanley Wang, Ensemble Communications Inc.

ROGER B. MARKS [F] (marks@nist.gov) is with NIST, Boulder, Colorado. In 1998 he initiated the effort that led to the IEEE 802.16 Working Group on Broadband Wireless Access, chairing it since inception. He served as technical editor of IEEE Standards 802.16-2001 and 802.16.2-2001. He received his A.B. in physics in 1980 from Princeton University and his Ph.D. in applied physics in 1988 from Yale University. Author of over 80 publications, his awards include the 1995 IEEE Morris E. Leeds Award (an IEEE Technical Field Award) and the Broadband Wireless Hall of Fame. He developed the IEEE Radio and Wireless Conference and chaired it from 1996 through 1999.

Ex. 2020 [Eklund-Article] 107 (Biographies)

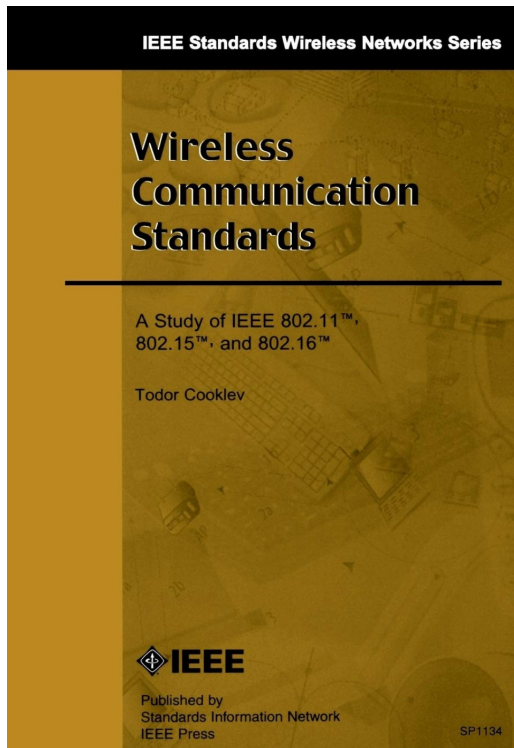
Roger Mark: The Different, Later IEEE 802.16(e) Added Support For Mobility To The IEEE 802.16-2004 Standard

*Roger B. Marks, José M. Costa,
and Brian G. Kiernan*

In late 2002, the WG began a new project to amend IEEE Std 802.16 again, this time to add support for mobile terminals. The work, which brought in a large number of participants and new technology ideas, led to the approval of another amendment, IEEE Std 802.16e, in 2005. This amendment expanded the IEEE 802.16 fixed-access system into a combined fixed and mobile system, allowing a single base station (BS) to support both fixed and mobile terminals. Important new features included handover, sleep and idle modes, more robust security, and closed-loop MIMO. Support continued for each the three lower-frequency PHY modes, but the OFDMA mode was made “scalable” with the addition of new subcarrier counts (128, 512, and 1,024) intended for use in narrower channels.

Ex. 2022 [Marks] 74

Petitioner's Expert's Book Confirms: 802.16-2004 Did Not Support Mobile Users



IEEE 802.16's major weakness is that it does not support mobility. While originally mobility was not required, recently demand has been increasing for mobile broadband wireless access. Within IEEE 802, there are two efforts to provide mobile BWA systems. First, IEEE 802.16 has created a task group to explore how to modify IEEE 802.16 so that it supports mobility. Also, a separate

Ex. 2025 [Cooklev-Book] 332

d) IEEE 802.16e, being developed at present to support mobile subscribers

Ex. 2025 [Cooklev-Book] 22

to-multipoint. Another initiative within IEEE 802.16 is to support mobility. Task Group 802.16e was established to support this technology [B30], [B97], [B99],

Ex. 2025 [Cooklev-Book] 331

Petitioner's Expert's Book Confirms: Support For Mobile Users Was Added In The Different, Subsequent IEEE 802.16(e)

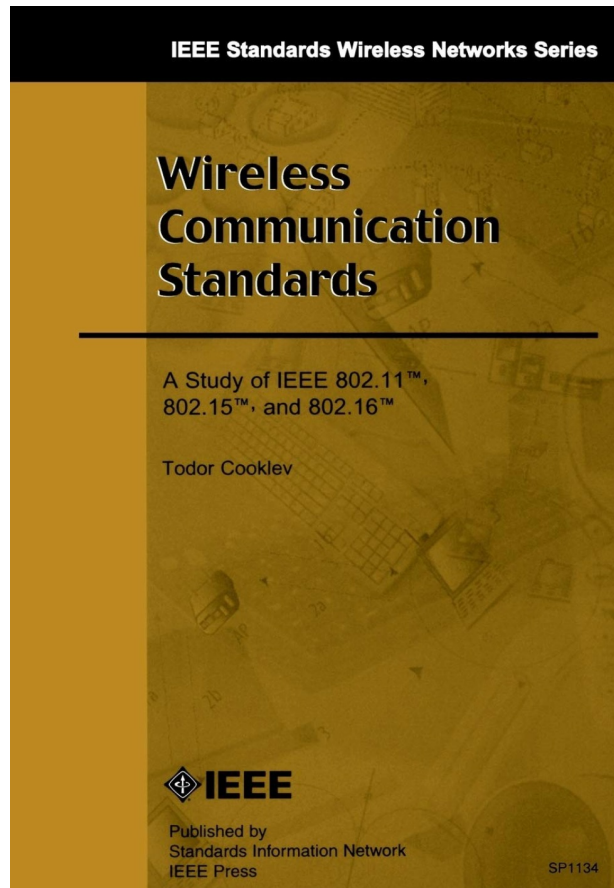


Table 1–4: 802.16 projects

Number	Description
802.16	Fixed broadband wireless systems between 10 and 66 GHz
802.16a	Amendment for operation between 2 and 11 GHz
802.16c	Enhancement including system profiles between 10 and 66 GHz
802.16.2	Coexistence between 10 and 66 GHz
802.16/Conf01 802.16/Conf02 802.16/Conf03	Test and conformance specifications (active)
802.16d	System profiles (active)
802.16e	Enhancement to support mobility (active)

Ex. 2025 [Cooklev-Book] 22

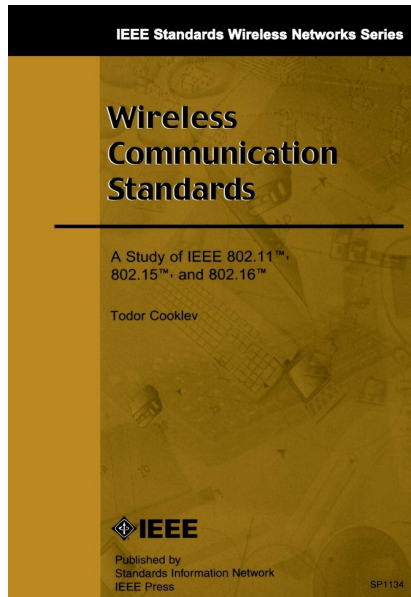
Petitioner's Expert: Discussion Of IEEE 802.16 In His Book Applies To 802.16-2004 Relied Upon By The Petition

DEPOSITION OF TODOR COOKLEV

Q. Is it fair to say that your discretion of the 802.16 standard in your book applies to 802.16-2004 version standard, as well?

A. I think so.

Ex. 2024 [Cooklev-1st-Depo.] 39:5-8



IEEE 802.16's major weakness is that it does not support mobility. While originally mobility was not required, recently demand has been increasing for mobile broadband wireless access. Within IEEE 802. there are two efforts to provide mobile BWA systems. First, IEEE 802.16 has created a task group to explore how to modify IEEE 802.16 so that it supports mobility. Also, a separate

Ex. 2025 [Cooklev-Book] 332

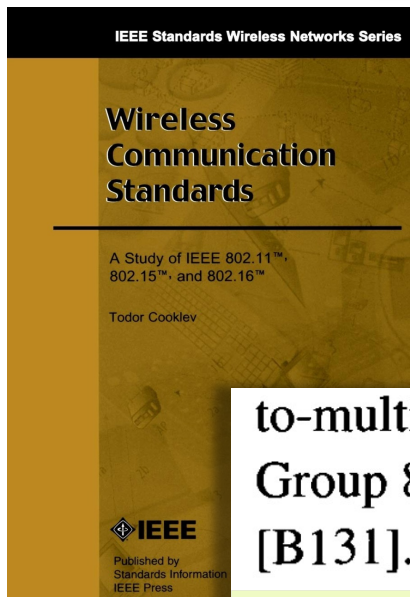
IEEE 802.16-2004 Did Not Divide The Frame Into Fixed And Mobile Areas, Confirming It Could Not Support Mobile Users

DEPOSITION OF TODOR COOKLEV

Q. Does 802.16-2004 divide a superframe between fixed and mobile stations?

A. No, I -- I don't think the 2004 version of the standard has the superframe -- this type of a superframe. It was brought by 16(e).

Ex. 2024 [Cooklev-1st-Depo.] 62:3-7



to-multipoint. Another initiative within IEEE 802.16 is to support mobility. Task Group 802.16e was established to support this technology [B30], [B97], [B99], [B131]. The solution that will be developed by 802.16e will likely be devoting one part of the superframe for fixed stations and one part for mobile stations. The

Ex. 2025 [Cooklev-Book] 331

The IPR Opinions Of Petitioner's Expert Are Refuted By His Book, His Deposition Testimony, References, And Extrinsic Evidence

Petitioner's Expert In IPR	Truth
"While Park and 802.16-2004 do not expressly state the 'subscriber' or 'terminal' is a mobile device, a POSA would understand that both Park and 802.16-2004 apply to mobile devices." 1003 [Cooklev-Decl.] ¶ 126	Ex. 1006 [802.14-2004] 004 ("This standard specifies the air interface of fixed broadband wireless access.") Ex. 2025 [Cooklev-Book]: 332 ("802.16's major weakness is that it does not support mobility.") 332 ("802.16(e) being developed at present to support mobile subscribers.") 331 ("The solution ... by 802.16e will likely be devoting one part of the superframe for fixed stations") Ex. 1005 [Park] [0011] ("the AMC area 13 is ... for fixed subscribers.") Ex. 2027 [WiBro-Article] 2. ("Fixed wireless ... is supported with band selection mode [AMC]") Ex. 2024 [Cooklev-1st-Depo.] 107:24-108:18. ("This [AMC] is the zone that is for fixed users.")

The Petition's Theory Of Obviousness Relied Upon By The Institution Decision Is Rebutted

Institution Decision:

“Petitioner also relies on Dr. Cooklev’s Declaration testimony to support its contention that **Park would have been understood to disclose a mobile device**. See e.g., [citation]. A portion of Dr. Cooklev’s Declaration testimony, cited in the Petition, states that ‘**WiBro was a South Korean mobile wireless service designed to provide wireless broadband access to devices moving up to 60-70 kilometers per hour.**’ Ex. 1003 ¶ 56 (citing Ex. 1024)”

Paper 30 [Institution-Decision] 27

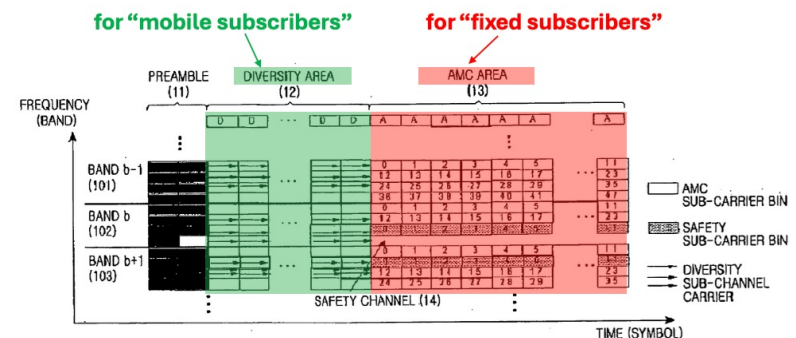
AMC Area Of Frame Modified By Park Is For Fixed Subscribers, Even In WiBro

Ex. 1005 [Park] [0011] (“**the AMC area 13 is ... for fixed subscribers.**”)

Ex. 2027 [WiBro-Article] 2. (“**Fixed wireless ... is supported with band selection mode ...**”)

Ex. 2024 [Cooklev-1st-Depo.] 107:24-108:18. (“**[AMC] is the zone that is for fixed users ...**”)

Ex. 2025 [Cooklev-Book] 331 (“**devoting one part of the superframe for fixed stations**”)



Reply's New Theory: Park Can Support A Mobile Device "When It Is Stationary Or Moving Slowly"

Institution Decision:

"Petitioner also relies on Dr. Cooklev's Declaration testimony to support its contention that **Park would have been understood to disclose a mobile device**. See e.g., [citation]. A portion of Dr. Cooklev's Declaration testimony, cited in the Petition, states that '**WiBro was a South Korean mobile wireless service designed to provide wireless broadband access to devices moving up to 60-70 kilometers per hour.**' Ex. 1003 ¶ 56 (citing Ex. 1024)"

Abandoned

Paper 30 [Institution-Decision] 27

Reply's New Theory:

"When a mobile device is stationary or moving slowly, it would have communicated using band AMC"

Reply, 6

"Park's improvements to band AMC would have been used by a mobile device **while the device was stationary or slowly moving**"

Ex. 1031 [Cooklev-2nd-Deci.] ¶ 7

Petitioner Relied On Plain And Ordinary Meaning Of “Mobile Device”

DEPOSITION OF TODOR COOKLEV

In either of your declarations, you have not proposed a construction for the term "mobile device"; is that right?

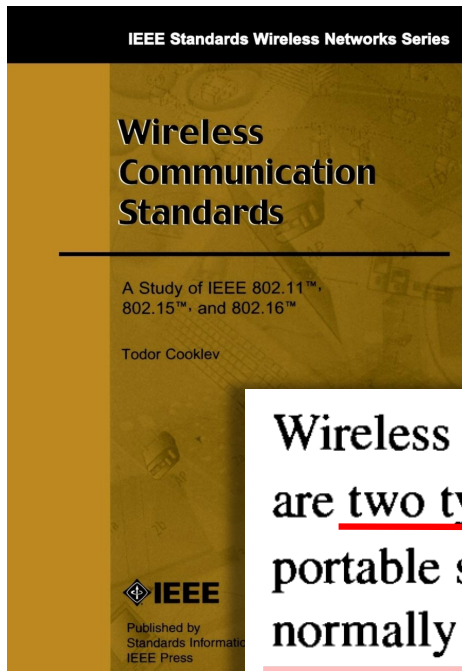
A. I don't think I proposed a construction.

Q. Is it, therefore, accurate to say that you have applied the plain and ordinary meaning of "mobile device" in your analysis?

A. In the context of the '450 patent, yes.

Ex. 2039 [Cooklev 2nd Depo.] 12:19–13:1

Petitioner's Expert's Book: Plain Meaning Of "Mobile Device" In This Field Does Not Include A Device That Can Only Practice The Invention When "Stationary Or Slowly Moving"



Wireless communication protocols are affected by the mobility of stations. There are two types of stations to distinguish between—portable and mobile stations. A portable station is one that can be moved from one place to another place, but normally participates in a wireless network when it is in a fixed location. **Fixed or slowly moving stations can be considered portable.** Mobile stations can participate in a network while in motion.

Ex. 2025 [Cooklev-Book] 39

Mobile: "Participate In Network While In Motion"

"Fixed Or Slowly Moving" ≠ Mobile

Petitioner's Expert: Even Pedestrian Speed Of 5 Km/Hr. Is Not Considered "Mobile" In This Field

DEPOSITION OF TODOR COOKLEV

Q. What did you mean by "slowly moving" in this sentence?

A. Generally slowly moving stations are stations moving at pedestrian speed.

Ex. 2024 [Cooklev-1st-Depo.] 50:5-8

What is the pedestrian speed -- what speed is considered a pedestrian speed in this field?

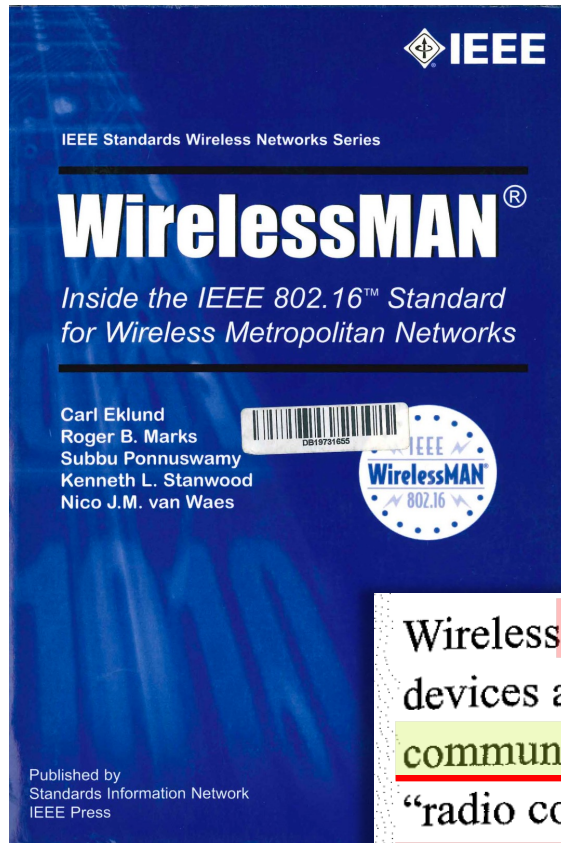
A. Zero to five. I think --

Q. Five what?

A. Good question. I think it's five kilometers about.

Ex. 2024 [Cooklev-1st-Depo.] 153:8-14

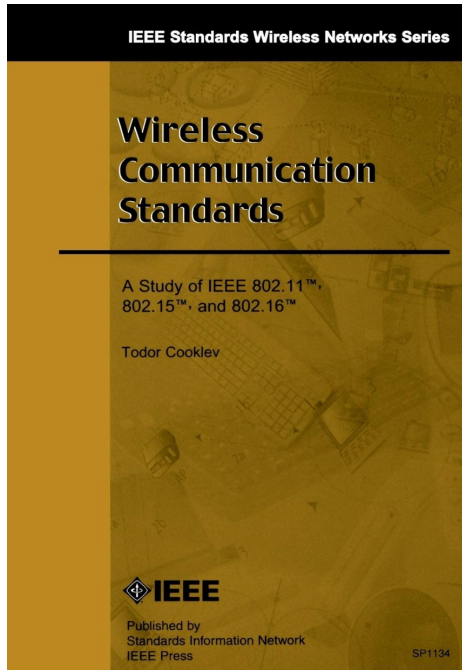
Book On 802.16 Authored By Its Committee Chair: “Mobile Device Can Move During Operation”



Wireless devices may be classified based on whether the communicating devices are physically fixed at one location or allowed to move during a communication session. For example, the ITU defines fixed service as a “radio communication service between specified fixed points.” In fixed wireless networks, wireless devices at both ends are stationary during operation. In mobile wireless networks, at least one of the devices can move during operation. An example of the mobile wireless network is the cellular

Ex.1025 [Eklund-Book] 33

Reply's Interpretation Of "Mobile Device" Contradicts Plain Meaning Of "Mobile Device" In This Field



Mobile refers to the ability to be mobile while performing the relevant function

IEEE 802.16's major weakness is that it does not support mobility. While originally mobility was not required, recently demand has been increasing for mobile broadband wireless access. Within IEEE 802, there are two efforts to provide mobile BWA systems. First, IEEE 802.16 has created a task group to explore how to modify IEEE 802.16 so that it supports mobility. Also, a separate

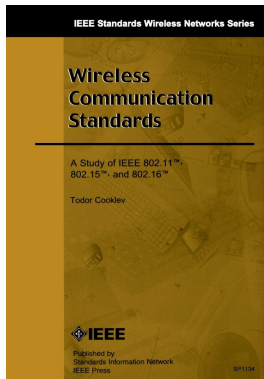
Ex. 2025 [Cooklev-Book] 332

d) IEEE 802.16e, being developed at present to support mobile subscribers

Ex. 2025 [Cooklev-Book] 22

Plain Meaning Of “Mobile Device” Is Not Shown To Include A Device That Can Only Practice The Invention While “Stationary Or Slowly Moving”

Petitioner’s Expert’s Book:



Wireless communication protocols are affected by the mobility of stations. There are two types of stations to distinguish between—portable and mobile stations. A portable station is one that can be moved from one place to another place, but normally participates in a wireless network when it is in a fixed location. Fixed or slowly moving stations can be considered portable. Mobile stations can participate in a network while in motion.

Ex. 2025 [Cooklev-Book] 39

Petitioner Offered No Expert Opinion On Plain Meaning Of “Mobile Device”



Petitioner Offered No Evidence On Plain Meaning Of “Mobile Device”



“Mobile Device Configured To” Practice The Invention Is Not Disclosed By A Device That Can Only Practice The Invention When Not Mobile

Patent No.: US 10,447,450 B2

[c] the mobile device configured to:

[1] receive an identifier from a base station in a cell in which the mobile device is operating; and

[2(a)] receive a signal containing information from the base station over a segment of time-frequency resource,

[2(b)] the segment having a starting time-frequency coordinate and the segment comprising N time-frequency resource units within a time interval,

[2(c)] each unit containing a set of frequency subcarriers in a group of OFDM symbols,

[2(d)] where $N=2, 4, \text{ or } 8$; and

[3] recover the information from the received signal using the starting time-frequency coordinate and N in conjunction with the received identifier.

Petitioner's Position Makes The Limitation "Mobile" Superfluous

Patent No.: US 10,447,450 B2

**[c] the mobile device configured to:**

[1] receive an identifier from a base station in a cell in which the mobile device is operating; and

[2(a)] receive a signal containing information from the base station over a segment of time-frequency resource,

[2(b)] the segment having a starting time-frequency coordinate and the segment comprising N time-frequency resource units within a time interval,

[2(c)] each unit containing a set of frequency subcarriers in a group of OFDM symbols,

[2(d)] where $N=2, 4, \text{ or } 8$; and

[3] recover the information from the received signal using the starting time-frequency coordinate and N in conjunction with the received identifier.

The Specification's Observation That A Mobile Device May Be Fixed Or Moving Does Not Help Petitioner

Patent No.: US 10,447,450 B2

(BS) 110. One or more mobile devices (not shown) may be fixed or may roam within the geographic region covered by the network. The mobile devices are used as an interface

Ex. 1001, 3:40-42

- ✓ **Non-controversial:** mobile device can sometimes be fixed
- ✓ **Confirms Patent Owner position:** a mobile device should be capable of practicing the invention both when fixed and when mobile
- ✓ **Does not change plain meaning:** Petitioner relied on plain meaning of “mobile device.” All the evidence of plain meaning support patent owner.

Petitioner Had To Show Plain Meaning Of “Mobile Device” In This Field Encompasses “Fixed Or Slowly Moving Devices.” It Failed.



“Because Google has the burden of persuasion, Neonode has no obligation to precisely define the term *gliding* . . . away or explain how the term differs from the term *flick* in Robertson.”

Google LLC v. Neonode Smartphone LLC, IPR2021-01041, Paper 52, 25 (Jan. 11, 2023)

Petitioner's Sole Ground Fails For Two Independently Sufficient Reasons

1. Petitioner Fails To Show A "Mobile Device Configured To" Perform The Claimed Limitations Under The Plain And Ordinary Meaning Of "Mobile Device" In This Field
2. **Petitioner Fails To Show A Segment Comprising N Time-Frequency Resource Units, "Where N = 2, 4 Or 8."**

Independent Claim 7 Requires “N = 2, 4, Or 8”

Patent No.: US 10,447,450 B2

7. A mobile device in a wireless packet system using a frame structure of multiple frames for transmission, each frame comprising a plurality of time intervals, each time interval comprising a plurality of orthogonal frequency division multiplexing (OFDM) symbols, and each OFDM symbol containing a plurality of frequency subcarriers, the mobile device configured to:

- receive an identifier from a base station in a cell in which the mobile device is operating; and

- receive a signal containing information from the base station over a segment of time-frequency resource, the segment having a starting time-frequency coordinate and the segment comprising N time-frequency resource units within a time interval, each unit containing a set of frequency subcarriers in a group of OFDM symbols, where N=2, 4, or 8; and

- recover the information from the received signal using the starting time-frequency coordinate and N in conjunction with the received identifier.

Petitioner Argues That Park Discloses “N=2, 4, Or 8” Because In Park N Can Be “Any Number”

DECLARATION OF TODOR COOKLEV

180. The possibilities for combinations of a starting time-frequency coordinate and N are practically endless. As Park explains, the total resource (AMC area) can be divided into allocation units of “various sizes and shapes’ and the resource allocation regions can vary in size and shape, as well as location in the total resource (AMC area). Park [0046], [0081]-[0083]. “N” can therefore be any number of allocation units needed for a particular allocation region, expressed as a positive integer value from 1 up through the number needed to express the entire resource. Park [0070].

Ex. 1003 [Cooklev-Decl.] ¶ 180

Plain Meaning Requires N, When Plural, “Equal” 2, 4 Or 8, To The Exclusion Of Other Plural Numbers

DECLARATION OF WILLIAM P. ALBERTH JR.



89. The plain meaning of the claim requires that N, when plural, must “equal” 2, 4 or 8. Of course, if N equals another number, such as 7, it does not “equal” 2, 4 or 8. Thus, based on the plain meaning, N, when plural, must be selected from one of 2, 4 or 8, to the exclusion of any plural N other than N = 2, 4 or 8. This is because the claim expressly recites “N = 2, 4 or 8.” It does not recite, for example, that “N *can equal at least* 2, 4 or 8.” The claim is agnostic to the case of N = 1 because it requires a plural number of “resource units.”

Ex. 2023 [Alberth-2nd-Decl.] ¶ 89



“the claim is specific as to the number of elements (one cup) and adding elements eliminates an inherent feature ... of the claim.”

Insituform Techs., Inc. v. Cat Contr., Inc., 99 F.3d 1098, 1106 (Fed. Cir. 1996)

Institution Decision Relied On “Comprising” In Claims To Preliminarily Find N Can Equal Plural Values Other Than 2, 4, 8

DECISION Granting Institution of *Inter Partes* Review

We do not agree that the plain language of claim 7 excludes integers $N=3, 5, 6$, or 7. Claim 7 utilizes the open-ended term “comprising” in the recitation “the segment comprising N time-frequency resource units within a time interval.” Due to the use of the term “comprising” in the recitation, the full scope of claim 7 may include additional N time-frequency resource units, such as $N=3, 5, 6, 7$, in addition to the claimed “ N time-frequency resource units within a time interval, . . . where $N=2, 4$, or 8.”

Paper 30 [Institution-Decision] 33-34

CAFC: Unlike When It Is A Transitional Phrase, “Comprising” In The Body Of Claim Means “Having,” Not “Having At Least”



“Moleculon argued that the word “comprising” in step (b) (“rotating a first set of cube pieces **comprising four cubes about a first axis**”) **means that the step covers four cubes or more. “Comprising” is not used here as a transitional phrase and has no special legal effect as such.** Hence, it should be interpreted according to the normal rules of claim interpretation. No analogous word precedes the structural recitation of the number of cube pieces in steps (a) and (c). **‘Comprising’ in step (c) reasonably interpreted means ‘having’ but not ‘having at least.’”**

Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1272 n.8 (Fed. Cir. 1986)

PTAB And Courts Routinely Follow CAFC Authority That “Comprising” In Body Of Claim Means “Having,” Not “Having At Least”

- “In contrast, **the word “comprising” here is in the body of the claim, so it has “no special legal effect”** Therefore, consistent with *Moleculon*, **we interpret “comprising” here as “‘having’ but not ‘having at least.’”**

Apple Inc. v. LBT IP I LLC, IPR2020-01189, Paper 48, 20 (Dec. 5, 2023)

- “Accordingly, consistent with *Moleculon Research*, **the Court construes ‘comprises’ in the context used in Claim 1 as meaning “have,” (but not ‘have at least’).**”

Araujo v. E. Mishan & Sons, Inc., 2022 U.S. Dist. LEXIS 115290, *25

- “while ‘comprising’ is always construed as an open term when use din a claim preamble, **it has no such automatic meaning when used within the body of a claim.**”

Med. Res. Inst. v. Bio-Engineered Supplements & Nutrition, Inc., 2007 U.S. Dist. LEXIS 3576, *12

Courts Have Rejected Open-Ended Meaning Of “Comprising” In Patents With Similar Claim Language As Here

Barnes & Noble Claim Limitation:

“performing an Inverse Fast Fourier Transformation on said K signals to generate a signal **comprising K different frequencies.**”

“comprising” is contained in the body of the claim. **Courts have held that when used in the body of a claim, and not as a transition, the term “comprising” should be interpreted according to the normal rules of claim interpretation.** [citations]. The claim language includes a numerical limitation “K” for both the signals upon which the IFFT is performed and the frequencies which would result. **It would be highly unusual for a writer to use the term “comprise” as open-ended in this context given this express numerical limitation.**

Barnes & Noble, Inc. v. LSI Corp., 2014 U.S. Dist. LEXIS 48524, *83-84

Petitioner's Only Response To Plain Meaning Is To Erroneously Focus On The Term "Comprising" As Being Open Ended

Petitioner:



Federal Circuit:

"'Comprising' is not used here as a transitional phrase and has no special legal effect as such. Hence, it should be interpreted according to the normal rules of claim interpretation. ... 'Comprising' in step (c) reasonably interpreted means 'having' but not 'having at least.'"

Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1272 n.8 (Fed. Cir. 1986)

Petitioner's Cited Authorities Are Inapposite Because Comprising In Their Claims Is A Transitional Phrase

Petitioner's Cited Authority:

Transitional phrase

Claim 1 of the '777 patents hews this progressive exposure innovation in shaving technology:

1. A safety razor blade unit **comprising** a guard, a cap, and a group of first, second, and third blades with parallel sharpened edges located between the guard and cap, the first blade defining a blade edge nearest the guard having a negative [\[**5\]](#) exposure not less than -0.2 mm, and the third blade defining a blade edge nearest the cap having a positive exposure of not greater than +0.2 mm, said second blade defining a blade edge having an exposure not less than the exposure of the first blade and not greater than the exposure of the third blade.

Gillette Co. v. Energizer Holdings, Inc., 405 F.3d 1367, 1369 (Fed. Cir. 2005) (cited by Reply, 17-18)

Petitioner Does Not Provide Any Relevant Plain Meaning Analysis Or Authority

Petitioner:



Patent Owner:

- ❑ **Expert Analysis:** “the claim expressly recites $N = 2, 4$ or 8 . It does not recite, for example, that N can equal at least $2, 4$ or 8 .”
Ex. 2023 [Alberth-2nd-Deci.] ¶ 89
- ❑ **CAFC Holding On “Comprising”:** ‘Comprising’ in step (c) reasonably interpreted means ‘having’ but not ‘having at least.’”
Moleculon Research Corp. v. CBS, Inc., 793 F.2d 1261, 1272 n.8 (Fed. Cir. 1986)
- ❑ **PTAB Holding On “Comprising”:** “... ‘comprising’ here is in the body of the claim, so it has “no special legal effect” we interpret ‘comprising’ here as ‘having’ but not ‘having at least.’”
Apple Inc. v. LBT IP LLC, IPR2020-01189, Paper 48, 20 (Dec. 5, 2023)
- ❑ **Court Interpreting Similar Claim Language:** “It would be highly unusual for a writer to use the term ‘comprise’ as open-ended in this context given this express numerical limitation.”
Barnes & Noble, Inc. v. LSI Corp., 2014 U.S. Dist. LEXIS 48524, *83-84

The Specification Explains That Limiting N As Claimed Achieves Multiple Benefits



DECLARATION OF WILLIAM P. ALBERTH JR.

92. The specification confirms that the value of N, when plural, is limited to 2, 4 or 8. As described below, by limiting N, when plural, in the manner described, the invention achieves benefits beyond Park's basic indexing of its "allocation units." First, limiting N may further reduce overhead by linking the segment size to the modulation scheme. Second, limiting N may remedy the prior art's "irregular" arrangement of segments.

Ex. 2023 [Alberth-2nd-DecI.] ¶ 92

The Patent Had The Insight That Coding Scheme And Allocated Resource Size Can Be Linked And Transmitted By One Parameter



DECLARATION OF WILLIAM P. ALBERTH JR.

93. First, the inventors recognized that by limiting N, the control overhead may be reduced beyond what would be permitted through simple indexing of segments (as in Park). Specifically, the inventors recognized that if the claimed “time-frequency resource unit” did not have any arbitrary size, but, for example, the size of the “highest available MCS [Modulation and Coding Scheme],” then “the resource utilized by other MCS is simply an integer multiple of the basic unit.” Ex. 1001 [’450 Patent] 6:46-52. The invention then explains that, as a result, the MCS can be linked to the size of the segment, and both can be transmitted through a single parameter:

The MCS [Modulation and Coding Scheme] index (MCSI) conveys the information about modulation and coding scheme. For a known vocoder, *MCSI also implies the number of AMC resource units* [the claimed “time-frequency resource unit”] required for a voice packet.

Ex. 1001 [’450 Patent] 6:55-68; *see also id.*, 2:54-57 (“In some embodiments,

Ex. 2023 [Alberth-2nd-Decl.] ¶ 93

With Plural N Limited To 2, 4 Or 8, One Parameter (MCSI) Conveys Both Modulation And Coding Scheme And Allocated Segment Size

MCSI	Modulation	Coding rate	Information bits	Raw symbols	Units
1	16QAM	$\frac{1}{2}$	160	80	1
2	QPSK	$\frac{1}{2}$	160	160	2
3	QPSK	$\frac{1}{4}$	160	320	4
4	QPSK	$\frac{1}{8}$	160	640	8

Limiting Plural N = 2, 4 Or 8 Also Addresses Prior Art's "Irregular" Allocated Region Disadvantage



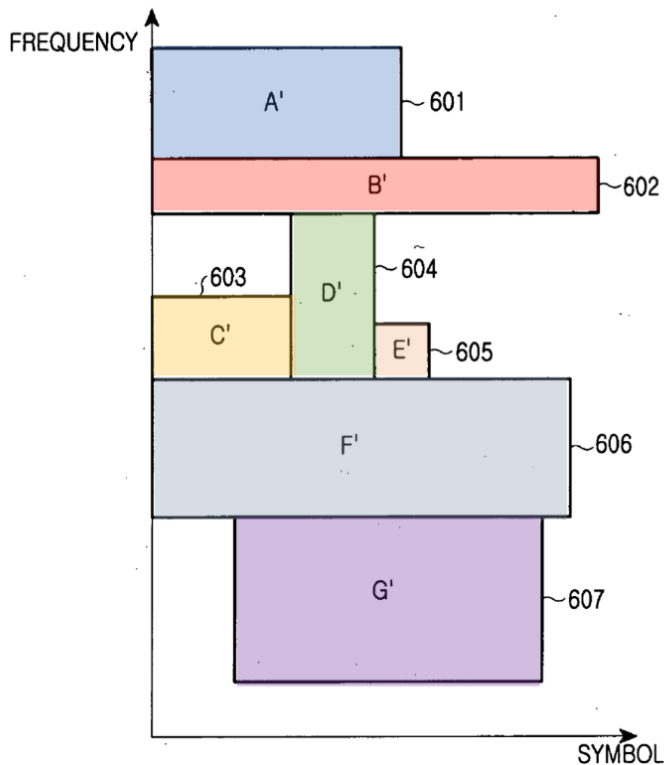
DECLARATION OF WILLIAM P. ALBERTH JR.

97. Second, the inventors further recognized that by limiting the number N as explained above, it can resolve another disadvantage of the prior art. Specifically, the Patent explains that in the prior art, “the allocated resources region is irregular from connection to connection.” Ex. 1001 [’450 Patent] 2:1-2. Addressing this and other issues, the inventors conceived “an alternative way of managing multiple packet streams” to “overcome the inefficiencies associated with maintaining” mappings under the prior art. Ex. 1001 [’450 Patent] 5:41-43. Instead of spreading the various applications carried in packet streams throughout the available resource region, per the prior art, the inventors took a different approach: they “group[ed] like applications together.” Ex. 1001 [’450 Patent] 5:43-53.

Ex. 2023 [Alberth-2nd-Decl.] ¶ 97

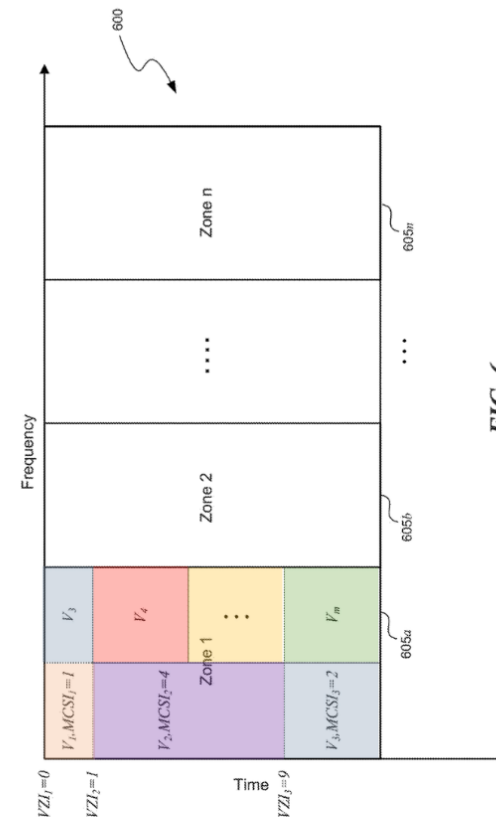
By Limiting Plural N = 2, 4 Or 8, The Patent Solves The Disadvantage Of “Irregular” Regions Present In Park

Park's Irregular Regions



Ex. 1005 [Park] Fig. 6B

'450 Patent:



Ex. 1001 ['450 Patent] Fig. 6

The Board Should Give Weight To The Specification's Confirmation Of The Plain Meaning Of Claims



"Where the specification makes clear that the invention does not include a particular feature, **that feature is deemed to be outside the reach of the claims of the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.**"

Chi. Bd. Options Exch., Inc. v. Int'l Sec. Exch., LLC, 677 F.3d 1361, 1372 (Fed. Cir. 2012)

"since, **by distinguishing the claimed invention over the prior art**, an applicant is indicating what the claims do not cover, he is by implication surrendering such protection

Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1304 (Fed. Cir. 1997)

Reply Relies On The Specification Disclosing N = 1 In Addition To N = 2, 4 Or 8, But The Claim Only Addresses Plural N

MCSI	Modulation	Coding rate	Information bits	Raw symbols	Units
1	16QAM	$\frac{1}{2}$	160	80	1
2	QPSK	$\frac{1}{2}$	160	160	2
3	QPSK	$\frac{1}{4}$	160	320	4
4	QPSK	$\frac{1}{8}$	160	640	8

Patent No.: US 10,447,450 B2

receive a signal containing information from the base station over a segment of time-frequency resource, the segment having a starting time-frequency coordinate and the segment comprising **N time-frequency resource units** within a time interval, each unit containing a set of frequency subcarriers in a group of OFDM symbols, where **N=2, 4, or 8**; and

Petitioner Has No Response

Petitioner's Expert Constructed A Different Set Of N (Powers Of 3) Based On The Patent's Insight On Linking Variables

SECOND DECLARATION OF TODOR COOKLEV

38. There are no advantages that are limited to only the coding rate values given in Table 1 ($1/2$, $1/4$, and $1/8$) that are not available for other values not listed in the table. For example, coding at a rate of $1/3$ (which, assuming the same basic resource unit as in Table 1 and QPSK, would result in $N=3^7$) would have performance between the performance of coding at rates $1/2$ and $1/4$ disclosed in Table 1.

Ex. 1031 [Cooklev-2nd-Decl.] ¶ 38

Petitioner's Expert's Example Confirms That N Is Not Arbitrary Or Unbounded; Set Of N = 2, 4 Or 8 Is Constructed Based On Specific Insight

Reserve

Despite Petition's Misrepresentation, It Is Now Undisputed That Park Discloses A Frame Based On 802.16(e), Not 802.16-2004

Petition	Actual Park Disclosure
"In particular, Park depicts 'a frame structure of ... an IEEE 802.16-2004 system applied to an OFDMA system.' Park [0007], [0036]." Pet., 20.	"FIG. 1 is a view illustrating a frame structure of a WiBro stands for Wireless Broadband (WiBro) system for an IEEE 802.16 system applied to an OFDMA system." Ex. 1005 [Park] [0007].

Reply:

Patent Owner also asserts the frame illustrated in **Figure 1 of Park is an 802.16e frame structure**, not an 802.16-2004 frame structure as the Petition indicated quoting Park. (POR, 31–32.) **Here, Patent Owner is correct.** The Petition

Reply, 14

Petitioner's Expert At Deposition And Reply Retracted Any Suggestion That WiBro Is Based On IEEE 802.16-2004

Dr. Cooklev's First Declaration:

"While the title of 802.16-2004 refers to "Fixed Broadband Wireless Access Systems," **the application of 802.16-2004 is not so limited**. As explained above, **WiBro, which touted its ability to cover mobile subscriber stations, adopted the 802.16 standard back in July 2004.**"

Ex. 1003 [Cooklev-Decl.]¶ 97

Truth:

Ex. 2024 [Cooklev-1st-Depo.] 36:11-13 ("So WiBro, they said, well, **we'll take draft two of 802.16(e), and that will be the foundation of the WiBro technology.**").

Ex. 1031 [Cooklev-2nd-Decl.] 17 n.5. ("**WiBro (based on an early draft of 802.16e** per Ex. 1023, p. 24)")

2027 [WiBro-Article] 2 ("Specification of **WiBro is somewhat similar to IEEE 802.16e ...**").

Park's Korean Application Is Not Available As Prior Art Or Knowledge Of POSITA

Park

(19)Korean Intellectual Property Office (KR) (12) Unexamined Patent Publication (A)

(51) 。 Int. Cl.⁸

H04L 12/28 (January 2006)

H04J 11/00 (January 2006)

(11) Unexamined Publication No. 10-2006-0016600

(43) Unexamined Publication Date February 22, 2006

Ex. 1008, 20

Patent No.: US 10,447,450 B2

This application is a continuation of, and incorporates by reference in its entirety, U.S. patent application Ser. No. 14/720,554, filed on May 22, 2015, which is a continuation of U.S. patent application Ser. No. 14/248,243, filed on Apr. 8, 2014, now U.S. Pat. No. 9,042,337, which is a continuation of U.S. patent application Ser. No. 13/115,055, filed on May 24, 2011, now U.S. Pat. No. 8,693,430, which is a continuation of U.S. patent application Ser. No. 11/908,257, filed on Jul. 14, 2008, now U.S. Pat. No. 7,948,944, which is a national stage application of PCT/US06/38149, filed Sep. 28, 2006, which claims the benefit of U.S. Provisional Patent Application No. 60/721,451, filed on Sep. 28, 2005.

Park's Korean Application Confirms That The AMC Area Of Frame Does Not Support Mobile Users

TRANSLATOR'S DECLARATION

10. I believe the best and most accurate translation of “주로 정지 사용자를 위한” is “for mostly stationary users,” not “mainly for stationary users.” In the context of this Korean unexamined patent, “mostly” modifies the degree of immobility, and thus “mostly stationary users” means users who are stationary, but may exhibit movement below a certain unspecified, small threshold. The opposite of this term would be “mobile users.”

Ex. 2038 [Translation-Declaration] ¶¶ 8-12

Park And '450 Patent Are Not Shown To Modify The Same DL_MAP Messages In IEEE 802.16

Petitioner's Expert: Park Modifies DL_MAP Message In Table 97

“Park even incorporates **Table 97 of 802.16-2004** into its specification, in the form of Table 1 **as a starting point**.”

Ex. 1003 [Cooklev-Decl.] ¶ 60

Petitioner's Expert: '450 Patent Modifies DL_MAP Message In Table 16

Q. Are you able **based on the information provided in the background section of the '450 Patent** point me in the 802.16 standard which map scheduling message is the background discussing on this standard?

A. ...So I would say **Table 16**.

Ex. 2024 [Cooklev-1st-Depo.] 148:23-149:25

Petitioner Fails To Show AMC Region Could Even Be Utilized For “Slowly Moving” Devices, Which Are Not “Mobile” In This Field

Petitioner's Evidence:

- ❑ **One bullet point in one slide in a presentation by a Samsung employee** stated WiBro could assign AMC to “slowly moving” devices. Ex. 1023, 17
- ✗ Not scholarly or peer reviewed article
- ✗ Ex. 2024 [Cooklev-1st-Depo.] 37:2-11 (Samsung had not succeeded in developing a mobile device for WiBro)
- ✗ Ex. 2039 [Cooklev-1st-Depo.] 17:2-18:13 (Petitioner's expert has never seen the WiBro standard and does not “know” how it differs from 802.16(e))

Contradicting Evidence:

- ✓ Ex. 2024 [Cooklev-1st-Depo.] 107:24-108:18 (Petitioner's expert stating that in WiBro, the band AMC region of the frame is for “fixed” users)
- ✓ Ex. 2027 [WiBro-Article] 1-2 (IEEE publication stating that, in WiBro, the band AMC region is for “fixed” users)
- ✓ Ex. 2028 [WiMax-Article] 34 (scholarly source stating that the AMC region is for “fixed (stationary) users”)