

Filed on behalf of: AX Wireless, LLC

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,
Petitioner,

v.

AX WIRELESS, LLC,
Patent Owner.

Case IPR2023-01146
Patent 11,212,146

**DECLARATION OF ZYGMUNT HAAS, PH.D.
IN SUPPORT OF PATENT OWNER'S
PRELIMINARY RESPONSE**

AX Wireless, LLC
Exhibit AXW-2001
Intel v. AX Wireless
IPR2023-01146

AXW-2001-001

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I. Introduction and Qualifications

1. I have been retained by AX Wireless, LLC (“AXW” or “Patent Owner”) to provide opinions concerning the validity of U.S. Patent No. 11,212,146.

2. My complete qualifications and professional experience are described in my *Curriculum Vitae*, a copy of which, I am informed by Counsel, is attached to this declaration as AXW-2002. The following is a brief summary of my relevant qualifications and professional experience.

3. I am a Professor and Distinguished Chair in Computer Science at the University of Texas in Dallas. I am also a Professor Emeritus at the School of Electrical and Computer Engineering at Cornell University. In addition, I have provided technical consulting services on intellectual property matters, during which I have written expert reports and provided deposition and trial testimony involving, among others, wireless communication technologies.

4. My academic credentials include a Bachelor of Science Degree in Electrical Engineering, summa cum laude, from Technion (IIT), Israel, in 1979 and a Master of Science Degree in Electrical Engineering, summa cum laude, from Tel Aviv University, Israel, in 1985. I subsequently authored the thesis titled “Packet Switching in Fiber-Optic Networks” as part of earning my Ph.D. in Electrical Engineering from Stanford University in 1988.

5. I am being compensated at the rate of \$525 per hour with reimbursement for actual expenses, for my work related to this IPR. My compensation is not dependent on, and in no way affects, the substance of my statements in this Declaration.

6. I have worked or consulted for about 35 years in the fields of Electrical Engineering and Computer Science. My primary focus has been on communication and networking systems, with an emphasis on wireless communication networks. I have authored and co-authored numerous technical papers and book chapters related to wireless communication networks. I hold over twenty patents in the fields of high-speed networking, wireless networks, and optical communication/switching. My employment history following my graduation from Stanford University began at the Network Research Department of AT&T Bell Laboratories in 1988. At AT&T Bell Laboratories, I pursued research on wireless communications, mobility management, fast protocols, optical networks, and optical switching. During my tenure at AT&T, I also worked for the AT&T Wireless Center of Excellence, where I investigated various aspects of wireless and mobile networks.

7. In 1995, I joined the faculty of the School of Electrical & Computer Engineering at Cornell University, and with time I was promoted to a Full Tenured Professor. At Cornell, I headed the Wireless Networks Lab, a research group with

extensive contributions in the area of wireless communication systems and networks. In 2013, I retired from Cornell University with the title of Emeritus Professor, and I joined the Computer Science Department at the University of Texas at Dallas with the title of Professor and Distinguished Chair in Computer Science. At Cornell University and at the University of Texas, I have taught dozens of courses related to computer networking and wireless networks/communications.

8. My research and teaching include key wireless technologies such as, for example, MIMO, beamforming, and diversity schemes, as well as networking protocols such as the IEEE 802.11.

9. I am a member of the Institute of Electrical and Electronic Engineers (IEEE) and the Association for Computing Machinery (ACM). In 2007, I was elevated to an IEEE Fellow, and in 2022, I was elevated to an ACM Fellow, both well-known distinctions. For example, the total number of IEEE Fellows which are selected in any given year does not exceed 0.1% of the total number of voting members of IEEE. With respect to the ACM Fellow grade, ACM states that “ACM's most prestigious member grade recognizes the top 1% of ACM members for their outstanding accomplishments in computing and information technology and/or outstanding service to ACM and the larger computing community.” See <https://awards.acm.org/fellows>.

10. I have delivered numerous tutorials at major IEEE and ACM conferences. I served as editor of several publications including the IEEE Transactions on Networking, the IEEE Transactions on Wireless Communications, the IEEE Communications Magazine, the Springer “Wireless Networks” journal, the Elsevier “Ad Hoc Networks” journal, the “Journal of High Speed Networks,” and the Wiley “Wireless Communications and Mobile Computing” journal. I was also a guest editor of IEEE Journal on Selected Areas in Communications for the issues on “Gigabit Networks,” “Mobile Computing Networks,” and “Ad-Hoc Networks.” Finally, I served as the Chair of the IEEE Technical Committee on Personal Communications (TCPC), today known as Wireless Communications Technical Committee (WTC). I have also served on numerous committees for the benefit of the scientific community, such as Technical Program Committees of conferences in the areas of wireless communications and wireless networks.

11. I have received several awards in the field of wireless communications and network technology. In 2016, I received the IEEE ComSoc AHSN Recognition Award “for outstanding contributions to securing ad hoc and sensor networks.” In 2012, I received the IEEE ComSoc WTC Recognition Award, which recognizes individuals “for outstanding technical contributions in the field for their service to the scientific and engineering communities.” In 2021, I received the “Best Paper Award” for coauthoring the paper “Engineering a

Network in the Sky” from the 35th International Conference on Information Networking, (ICOIN21). In 2012, I received the “Best Paper Award for co-authoring “Collaborating with Correlation for Energy Efficient WSN” directed at Wireless Sensor Networking. I previously received the “Best Paper Award” for co-authoring “Optimal Resource Allocation for UWB Wireless Ad Hoc Networks” directed at personal indoor and mobile radio communications. Finally, in 2003, I received the “Highly Commended Paper Award” for co-authoring “Performance Evaluation of the Modified IEEE 802.11 MAC for Multi-Channel Multi-Hop Ad Hoc Network,” directed at advanced information networking and applications.

12. Additional information regarding my education, technical experience and publications, including a list of the U.S. patents of which I am an inventor/coinventor, is included in my *Curriculum Vitae*.

II. Summary of Materials Reviewed and Considered

13. My opinions contained in this Declaration are based on the documents I reviewed as part of my work on this case and my knowledge, experience, and professional judgment. In forming the opinions expressed in this Declaration, I reviewed the following documents, adopting the naming conventions of Intel (the table below, as well as the naming and numbering of the documents have been provided to me by Counsel):

Ex.	Description
1001	U.S. Patent No. 11,212,146 (“’146 patent”)
1002	File History of the ’146 patent
1003	Declaration of Thomas La Porta, Ph.D. in Support of Inter Partes Review of U.S. Patent 11,212,146
1008	U.S. Provisional Application 61/235,909
2003	U.S. Patent Application Publication No. 2012/0170625 (“2012 Publication” or “AXW-2003”)
2004	International Patent Application No. PCT/US2010/046088 (“2010 Application” or “AXW-2004”)

III. Understanding of Legal Principles

14. I am not an attorney, and I do not opine on matters of law. In preparing this Declaration, I have been informed by Counsel about certain aspects of the law that are relevant to my analysis and opinions, as set forth below.

15. I have been informed by Counsel that the claims of a patent define the patented invention.

16. I have been informed by Counsel that an issued patent is presumed valid.

A. Written Description Under § 112(a)

17. I have been informed by Counsel that for a claim in patent to have written description support in an application from which it claims priority requires showing that the earlier filed application conveys with reasonable clarity to a

person of ordinary skills in the art (“POSA”) that as of the application’s filing date, the applicant was in possession of the invention by way of disclosures of the invention in the specification of the application. I have been informed by Counsel that a mere wish or plan for obtaining the claimed invention is not enough to satisfy the written description requirement.

18. I have further been informed by Counsel that to find written description support for a specific claim, the claim must be viewed as a whole, rather than as independent limitations. Accordingly, it is not enough that each individual limitation of a claim finds support in a provisional or an earlier-filed application, but that the claimed invention as a whole must be adequately described and disclosed in the specification of the provisional application. Accordingly, even if a written description could render the invention obvious, this alone does not satisfy the written description requirement. Rather, the specification must describe the invention in sufficient detail such that a POSA could conclude that the inventor invented the claimed invention.

19. I have further been informed by Counsel that the level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims, as well as the complexity and predictability of the relevant technology. Accordingly, to show written description support does not require that the earlier-filed application describe every potential claim embodiment

or equivalent of the invention. Rather, the disclosure of representative embodiments may be adequate to show written description, as long as that disclosure is sufficient to convey to one skilled in the art that the inventor possessed the subject matter claimed.

B. Person of Ordinary Skill in the Art

20. I understand that Intel and Intel's expert, Dr. La Porta, assert that a person of ordinary skill in the art ("POSA") at the time of the invention of the '146 patent would have had "at least a master's degree in electrical engineering or similar discipline, and/or two to three years of experience working or conducting research in the field of wireless communication protocols, or an equivalent combination of education and experience." Pet. 8; INTEL-1003 ¶72.¹ While at this time, I did not form an opinion on the level of ordinary skill in the art, I have applied Intel's assertion for a POSA in rendering my opinions in this Declaration.

C. Claim Construction

21. I have been informed by Counsel of the process of claim construction in patent disputes. I understand that one of the first steps in determining the validity of a patent is to properly construe the claim terms.

¹ For the purposes of this Declaration, I assume the time of the invention is August 21, 2009. '146 patent at 1:24-25; *see also* INTEL-1008 at 2.

22. I have been informed by Counsel that patent claims are interpreted from the perspective of a POSA and are normally given their customary meaning to a POSA who has read the patent's "intrinsic record" (e.g., the specification, the prosecution history, and references cited by the patent) at the time the application was filed. I further understand that deviations from plain and ordinary meaning are called for only when a patentee expressly redefines a term in the specification or otherwise disavows a term's plain and ordinary meaning.

23. I also have been informed by Counsel that although patent claims must be supported by the specification, they generally should not be interpreted to be limited to a preferred embodiment described in the specification.

24. I have been informed by Counsel that the prosecution history should also be considered in interpreting claims. I understand that, although the prosecution history often lacks the clarity of the specification and thus is less useful for claim construction purposes, the prosecution history often can provide insight into the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution.

25. I have been further informed by Counsel that although extrinsic evidence (such as dictionary definitions, or expert testimony) may be considered

in construing claims, the need for, and the use of, such extrinsic evidence falls within the discretion of the Board.

IV. Summary of the '146 Patent (INTEL-1001)

26. The '146 patent relates to improving communications in wireless Orthogonal Frequency Division Multicarrier ("OFDM") networks. The '146 patent claims priority from a provisional application filed on August 21, 2009 (INTEL-1008) and issued on December 28, 2021.

27. The Background section of the specification grounds the description in frame- or packet-based communication systems using Orthogonal Frequency Division Multiplexing (OFDM). *See* '146 patent at 1:40-49. It notes that a packet generally consists of a preamble, header, and payload portions. '146 patent at 1:45-47. The specification identifies exemplary systems in this category that include "IEEE 802.11 (Wireless LAN), IEEE 802.16 (WiMAX), and ITU G.9960 (G.hn)." '146 patent at 1:47-49; *see also* INTEL1001 at 4:38-59 (further identifying DSL, ADSL, xDSL, VDSL, MOCA, Homeplug, and IEEE 802.3, along with others). A POSA would have understood that these various protocols and standards would generally have different information to include in headers and different requirements for reliable reception of header information, which would drive their implementation. *See, e.g.*, '146 patent at 1:40-2:8.

28. The '146 patent generally describes a flexible approach to the number of OFDM symbols carrying header information and the number of repeated OFDM symbols per header symbol. *See, e.g., '146 patent at Title, 2:18-64.* Figure 1 shows “exemplary header repetition schemes” and is reproduced below:

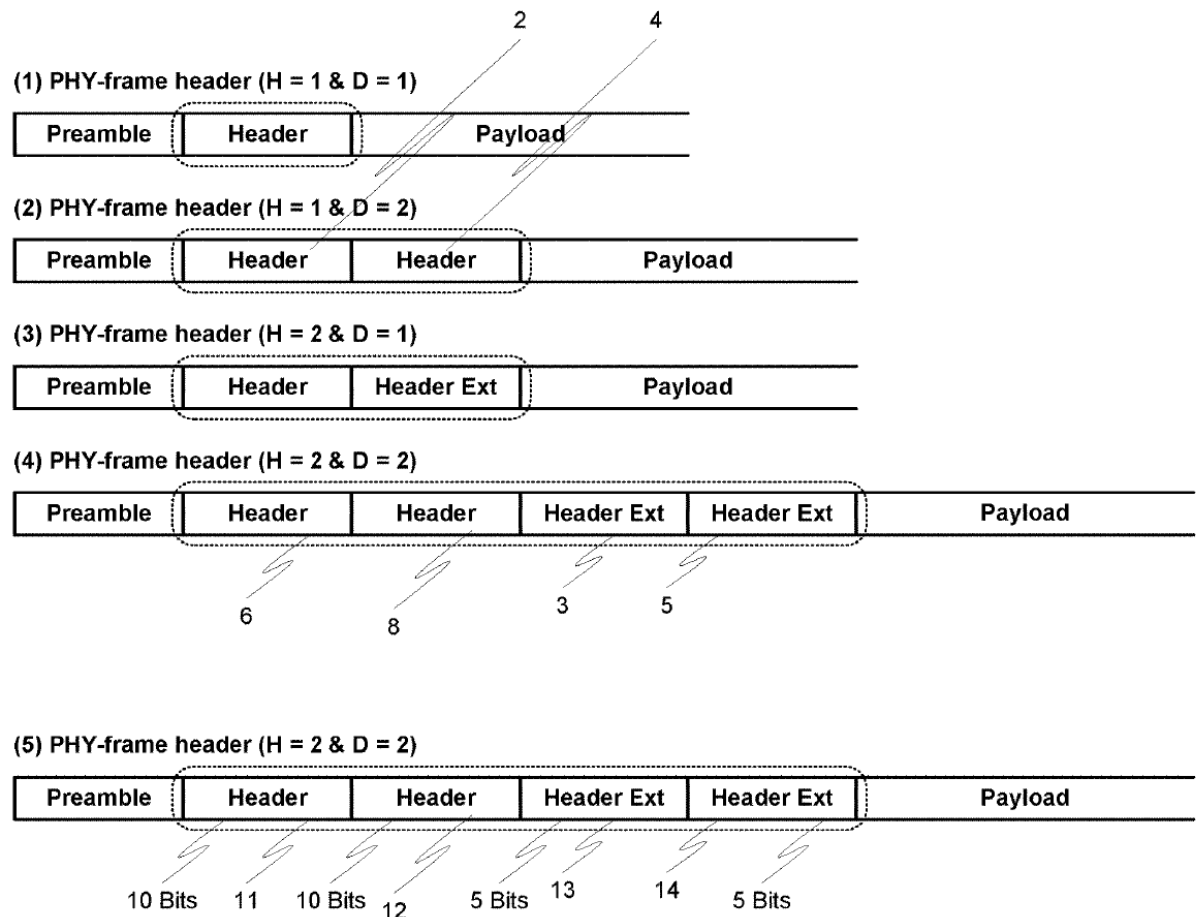


Fig. 1

'146 patent at Fig. 1, 4:6. The patent uses “D” to refer to the number of times a header symbol is repeated, and “H” to refer to the number header symbols containing different information. *See '146 patent at 2:33-36, 5:56-6:19, Fig. 1.* In

each example, the header field is preceded by a preamble and followed by a payload portion. See '146 patent at 5:56-6:19, Fig. 1.

29. In the first row of Figure 1, D and H are both set to 1, and a single “Header” field is included. In the second row, H is set to 1 but D is set to 2. This results in the “Header” field being repeated. In the third row, D is set to 1, but H is now set to 2. This results in the header field extending to two symbols, one denoted “Header” the other denoted “Header Ext,” and each is included once. In the fourth row, D and H are both set to 2, resulting in the “Header” symbol being repeated, followed by the “Header Ext” symbol being repeated. In the fifth row, D and H are again both set to 2 and the same result as the fourth row occurs. The fifth row provides an example showing that the “Header” and “Header Ext” not only contain different information, but can contain a different number of information bits in each symbol. See '146 patent at 5:56-6:19.

30. In addition to the variable header repetition, the patent describes a number of ways in which the nodes of a network can understand what header repetition scheme is being used. See, *e.g.*, '146 patent at 2:51-3:67. For example, one scheme assumes that a receiver will be able to decode the header (or at least the D value), which will inform it of how many repetitions to expect. The diversity achieved from the repetitions increases the likelihood that the entire header is decoded correctly. See '146 patent at 2:65-3:12. Another example requires a

domain master to communicate the scheme to all nodes, and nodes must determine the scheme in order to properly decode the header. *See* '146 patent at 3:13-23. Another approach involves certain packets having a fixed repetition value, while at the same time communicating a different repetition value for all other packets that can be variable. *See* '146 patent at 3:33-43. These and other different approaches are described in further detail in the patent, with reference to the figures. *See* '146 patent at 6:20-10:40, Figs. 2-8.

31. The '146 patent focuses in particular on how a receiver can detect what repetition scheme is being used, and thereby distinguish between various packet formats. *See, e.g.,* '146 patent at 2:51-3:67. As the '146 patent explains, “[o]ne exemplary aspect is directed toward receiver detection of D with variable repetition.” '146 patent at 2:51-52. In this embodiment, “the transmitter selects (or determines), the at least one D value,” which “may be based on its own discretion, or may be based on information communicated between one or more receivers, or based on instruction(s) from one or more other receivers and/or a domain master.” '146 patent at 2:51-58. The transmitter’s selection of the at least one D value may also “depend on the number of available sub-carriers (or the bandwidth) of the bandplan the transmitter operates on and/or the receiver(s) operates on.” '146 patent at 2:58-61. Accordingly, “a receiving node in the domain should be able to decode packets sent by the transmitter without knowing D a priori (i.e., prior to

decoding the packet header).” ’146 patent at 2:61-64. In another embodiment, the specification describes that upon receipt of a packet, the receiver receives “starts processing the header by decoding one OFDM header symbol.” *Id.* 3:1-2. If successful, “then the receiver knows how many more OFDM symbols (D-1) are carrying header information for a given frame,” and thus distinguishes the packet type received. *Id.* 3:2-5. This process allows for the receiver to distinguish between various packet formats based on the presence of a “second header field, which repeats the first header field.” *Id.* claim 1.

32. The specification describes several other exemplary ways that the packets can be distinguished. In one embodiment, a domain master can select or determine a D value per the transmission opportunity (TXOP) “depend[ing] on the number of available sub-carriers (and/or the bandwidth) of the bandplan the transmitter/transceiver operates on and/or the receiver(s) operates on.” *Id.* 3:46-54, 8:54-9:4, Fig. 4. Using a bit field in the second frame’s header field, a value for D can be encoded. *Id.* 8:63-67. The receiver, upon receipt of the second frame, can distinguish the packet type as “the value of D is decoded from a bit field in the header of the second frame.” *Id.* 9:15-24, Fig. 5. Such a process is depicted in Figure 5:

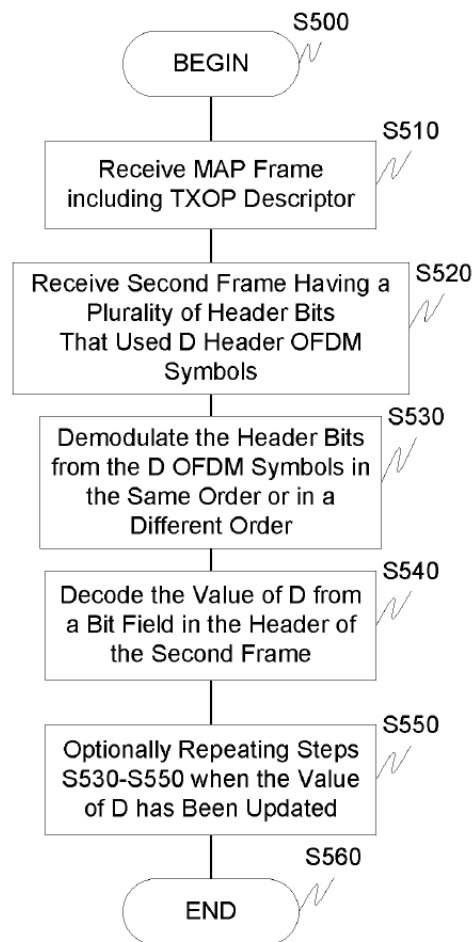


Fig. 5

'146 patent at Fig. 5. The '146 patent states that its claims cover “many alternatives, modifications and variations” that “would be or are apparent to those of ordinary skill in the applicable arts.” '146 patent at 12:42-50

V. A POSA Would Not Have Understood the “Detecting” Term to Exclude Decoding the Number of OFDM Symbols from the Received Wireless Packet

33. I understand that Intel and Dr. La Porta state that they do not assert any specific claim constructions to any of the terms of the challenged claims as it relates to this IPR proceeding. Pet. 9; INTEL-1003 at ¶¶73-74. However, I

understand that Intel and Dr. La Porta are interpreting the term “detecting, from the received wireless packet, the second header field which repeats the first header field,” as recited in independent claims 1 and 6 of the ’146 patent for the purposes of assessing whether the ’146 patent specification has sufficient written description support. Pet. 15-18; INTEL-1003 at ¶¶81-86. Namely, Intel and Dr. La Porta allege that “the independent claims of the ’146 patent require detecting the presence or absence of a repeated header field at the receiver and distinguishing between packet formats on that basis,” i.e., on whether two symbols in header fields “are the same.” Pet. 15; INTEL-1003, ¶80. Accordingly, Intel and Dr. La Porta state that the “detecting” term, cannot include “decoding the [received wireless packet] to obtain the value of D,” (i.e., the number of OFDM symbols). Pet. 15-18; INTEL-1003, ¶¶83-85.

34. I do not agree with Intel and Dr. La Porta’s construction of the “detecting” term comports with the plain and ordinary meaning of that term. Claim 1 of the ’146 patent recites:

1. A wireless communication device, comprising:
a wireless receiver configured to receive a wireless packet through a communication channel, formats of the wireless packet including a first packet format and a second packet format, the first packet format comprising a first header field carried by a first orthogonal frequency division multiplexing (OFDM) symbol, the second packet format comprising both the first header field carried by the first OFDM symbol and a second header field carried by a second

OFDM symbol which follows the first OFDM symbol, and the second field being a repetition of the first header field; and a demodulator configured to demodulate the received wireless packet, wherein the wireless receiver distinguishes the second packet format from the first packet format by ***detecting, from the received wireless packet, the second header field which repeats the first header field.***

'146 patent at claim 1 (emphasis added). The third limitation also appears in independent claim 6. A POSA would have readily understood the “detecting” term recited in claim 1 (and claim 6) to require only that the wireless receiver determine that there is a second header field which repeats the first header field, and to accordingly distinguish between a first and second packet format. The claim language does not expressly or implicitly exclude any specific way in which that “detecting” is accomplished, including by detecting the second header field by decoding a value of D (i.e., the number of OFDM symbols). The Petition and Dr. La Porta concede that the '146 patent discloses “distinguish[ing] between packet formats ... by decoding the packet to obtain the value of D.” INTEL-1003, ¶83; Pet. 15. And neither the Petition nor Dr. La Porta identify any statements of disclaimer or disavowal to limit the scope of the “detecting” term. Accordingly, a POSA would not understand the “detecting” term to be as narrow as proposed by the Petition.

35. Dr. La Porta further opines that “a POSITA would understand detection and decoding to be ‘two different processes’ as described in the '146

patent.” I disagree. Column 2 lines 51 to 64 describes “receiver detection,” to include “decod[ing] packets sent by the transmitter without knowing D a priori (i.e., prior to decoding the packet header),” as follows:

On exemplary aspect is directed toward receiver detection of D with variable repetition. More specifically, in accordance with this exemplary embodiment, the transmitter selects (or determines), the at least one D value. The
55 selection may be at its own discretion, or may be based on information communicated between one or more receivers, or based on instruction(s) from one or more other receivers and/or a domain master. Selection may depend on the number of available sub-carriers (or the bandwidth) of the
60 bandplan the transmitter operates on and/or the receiver(s) operates on. In accordance with this exemplary embodiment, a receiving node in the domain should be able to decode packets sent by the transmitter without knowing D a priori (i.e. prior to decoding the packet header).

'146 patent at 2:51-64. Dr. La Porta ignores this portion of the specification that explicitly describes “receiver detection” based on detecting “at least one D value” from the received wireless packet. INTEL-1003, ¶85. As the '146 patent further explains in another “exemplary aspect,” this receiver detection can be accomplished when “[t]he receiver(s) starts processing the header by decoding one OFDM header symbol. If the receiver decodes it successfully, then the receiver knows how many more OFDM symbols (D-1) are carrying header information for a given frame.” '146 patent at 3:1-5. And as Dr. La Porta concedes, numerous other disclosures in the specification describe ways in which this receiver detection of “at least one D value” can be accomplished by decoding the value of D from the

header field of the received wireless packet. INTEL-1003, ¶85 (citing INTEL-1001 at 7:11-13, 7:35-38, 8:22-24, 8:49-52, 9:20-21, and 9:54-55). Accordingly, under the Petition's and Dr. La Porta's proposed construction, the "detecting" term would exclude numerous embodiments that describe how "receiver detection" is accomplished by decoding at least one D value. I understand from Counsel that such a claim construction that excludes the preferred embodiments described in the patent specification is disfavored.

36. In addition, the prosecution history includes U.S. Provisional Application No. 61/235,909 (the "'909 Provisional") from which the '146 patent claims priority. INTEL-1008. The '909 Provisional also describes "Detection by receiver (variable repetition)", as follows:

5.2 Detection by receiver (variable repetition)

In this exemplary embodiment, the transmitter selects (or determines) at least one D value. This selection may be at its own discretion, or based on information communicated between one or more receivers, or based on instruction from one or more receivers. Selection may depend on the number of available sub-carriers (or the bandwidth) of the bandplan the transmitter operates on and/or the receiver(s) operates on. In this exemplary embodiment a receiving node in the domain should be able to decode packets sent by the transmitter without knowing D a priori (i.e. prior to decoding the packet header).

One exemplary method is for a transmitter to carry the value of D in the header so that all nodes know how many OFDM symbols are carrying header information. The receiver starts processing the header by decoding one OFDM header symbol. If the receiver decodes it successfully, then it knows how many more OFDM symbols ($D-1$) carrying header information for a given frame. If the receiver fails to obtain header information out of one OFDM header symbol (i.e. the header decoding fails), then it can try to decode two OFDM header symbols, and so on. The decoding of each additional OFDM header symbol provides additional diversity thereby increasing the likelihood of decoding the header information correctly.

INTEL-1008 at 5-6 (modified to read continuously). This excerpt from the '909 Provisional clarifies that "detection by receiver" includes decoding one or more

OFDM symbols from the header fields as a way of distinguishing between packet formats, further supporting my opinion that a POSA would not have considered the “detecting” term to exclude “decoding” the packet to obtain the value of D. INTEL-1008. Neither the Petition nor Dr. La Porta point to anything in the prosecution history of the '146 patent to suggest that the Patent Owner has disclaimed or disavowed claim scope to exclude receiver detection by decoding one or more OFDM symbols from the header fields as a way of distinguishing between packet formats.

VI. The '146 Patent Properly Claims Priority to its Ancestral Applications

37. Because in my opinion, a POSA that had reviewed the '146 patent claims and specification and prosecution history, would have concluded that the “detecting” term of claims 1 and 6 does not exclude decoding a packet header to obtain the value of D, I apply this construction to my written description analysis set forth below.

38. As noted above, the '909 Provisional application explicitly discloses “Detection by receiver (variable repetition)” and discloses multiple embodiments for receiver detection, including those that decode the value of D from the packet header in order to distinguish between packet formats. *See* INTEL-1008 at 5-6. Accordingly, a POSA would have understood that claims 1 and 6 of the '146 patent

are sufficiently disclosed such that the applicant possessed the claimed invention at the time of the filing of the '909 Provisional.

39. The Petition specifically challenges whether claims 1 and 6 have sufficient written description support in the 2010 Application, PCT/US2010/046088 (AXW-2004). But there too, the specification's description of receiver detection is disclosed, in addition to further descriptions of embodiments that include decoding a value of D to distinguish between packet formats:

[0011] On exemplary aspect is directed toward receiver detection of D with variable repetition. More specifically, in accordance with this exemplary embodiment, the transmitter selects (or determines), the at least one D value. The selection may be at its own discretion, or may be based on information communicated between one or more receivers, or based on instruction(s) from one or more other receivers and/or a domain master. Selection may depend on the number of available sub-carriers (or the bandwidth) of the bandplan the transmitter operates on and/or the receiver(s) operates on. In accordance with this exemplary embodiment, a receiving node in the domain should be able to decode packets sent by the transmitter without knowing D a priori (i.e. prior to decoding the packet header).

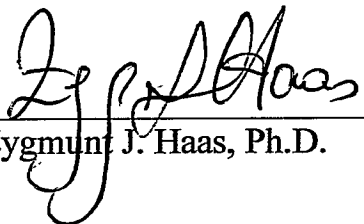
[0012] Another exemplary aspect is for a transmitter to carry, insert or otherwise communicate the value of D in the header so that all nodes know how many OFDM symbols are carrying header information. The receiver(s) starts processing the header by decoding one OFDM header symbol. If the receiver decodes it successfully, then the receiver knows how many more OFDM symbols (D-1) are carrying header information for a given frame. If the receiver fails to obtain the header information from the OFDM header symbol (i.e., the header decoding fails), then the receiver can try to decode two OFDM header symbols, and so on. The decoding of each additional OFDM header symbol provides additional diversity thereby increasing the likelihood of decoding the header information correctly.

AXW-2004 at [0011]-[0012] (annotated). These same disclosures are likewise repeated in the national stage application, U.S. Patent Application No. 13/376,856, published as US 2012/0170625 (the “2012 Publication”). AXW-2003 at [0011]-[0012]. Accordingly, a POSA would have understood that claims 1 and 6 of the '146 patent are sufficiently disclosed such that the applicant possessed the claimed invention at the time of the filing of the 2010 Application and 2012 Publication.

VII. CONCLUSION

All statements made herein of my own knowledge are true, and all statements made on information and belief are believed to be true. Further, I am aware that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001. I declare under penalty of perjury that the foregoing is true and correct.

Executed on Dec 11, 2023 (date), in Richardson, TX (city, state).



Zygmunt J. Haas, Ph.D.