

EXHIBIT 2014

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ONEPLUS TECHNOLOGY (SHENZHEN) CO., LTD.,
Petitioner,

v.

PANTECH CORPORATION.,
Patent Owner.

IPR2025-00756
U.S. Patent No. 10,764,803

DECLARATION OF DR. TODOR COOKLEV

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I. INTRODUCTION

1. My name is Dr. Todor Cooklev. I have been asked by Patent Owner in this *inter partes* review (Pantech Corporation and Pantech Wireless LLC) (collectively, “Pantech”) to provide my opinion as to certain claim construction allegations made by Petitioner OnePlus Technology (Shenzhen) Co., Ltd.’s (“OnePlus”) regarding U.S. Patent No. 10,764,803 (the ’803 Patent). I have also been asked to provide my understanding of the level of ordinary skill in the art related to these patents, as well as to explain the relevant technical background related to this patent.
2. Although I am being compensated at my usual consulting rate of \$700 per hour for my time reviewing materials and preparing this declaration, my opinions expressed here are my own. My compensation is in no way dependent on the outcome of this case or upon the Board accepting my opinions, and I have no other financial interest in this matter or the parties thereto.
3. Depending on new information learned during discovery, or positions taken throughout the case by OnePlus or its experts, I may edit, add to, or otherwise refine the topics and expected testimony described here. I reserve the right to supplement my opinions based on new information.
4. If called upon to do so, I am prepared to testify before the Board regarding my opinions expressed here. In such a situation, I may rely on live demonstrations,

demonstratives, exhibits, or other visual aids to assist in presenting my testimony.

II. BACKGROUND

A. Overview of Qualifications and Experience

5. I am currently Professor of Electrical and Computer Engineering at Purdue University in Fort Wayne, Indiana, where I have had several faculty and administrative appointments. I teach several courses related to the hardware and software architectures of wireless systems and wireless devices. I have given and continue to give seminars, tutorials, and presentations worldwide.
6. I received a Diploma of Engineering in the field of Electrical Engineering from the Technical University of Sofia, Bulgaria in 1988. I received a Doctor of Philosophy (Ph.D.) degree in Electrical Engineering from Tokyo Institute of Technology in Tokyo, Japan in 1995.
7. I have received research funding from the National Science Foundation (NSF), the Defense Advanced Research Projects Agency (DARPA), the U.S. Air Force Research Laboratory, the Office of Naval Research, and a number of private companies, including major technology companies. In 2020 I was a Navy Fellow and chose the Naval Surface Warfare Center (NSWC) in Crane, IN for my fellowship, continuing my work in electronic warfare.
8. I have authored and co-authored more than 100 peer-reviewed articles. I am also

a named inventor on 32 U.S. patents, most of which relate to the hardware or software aspects of communication systems. For part of this work in 2019, I was inducted into the Purdue Inventors Hall of Fame. A list of my publications and patents appears in my *curriculum vitae* attached as Appendix 1. In 2024 the University of Michigan published my textbook “Modern Communications Systems: A First Course.” According to data compiled by the publisher, the textbook has been used at most electrical engineering programs in the United States, and at many programs abroad.

9. In addition to my academic experience, I have experience in technology and product development in the computer networking and data communications industry. My work has been in the areas of communication protocols, software, digital signal processing, and integrated circuit design for communication systems.

10. I have contributed to the development of several major standards for communication systems and numerous amendments. I have participated in many meetings of standards committees. I have prepared, submitted, and presented documents relating to technical matters considered by these committees.

11. During 2000-2002 and 2005-2008 I was a Voting Member of the IEEE 802.11 Working Group. For part of that time, I served as Chair of a Study Group, which later became a Task Group. For this work I received an award from the IEEE

Standards Association in 2012.

12. As part of my long record of service to the IEEE Standards Association (IEEE SA), I have reviewed and voted on many IEEE standards, including most IEEE 802.11 standards and amendments since 2000.

13. I have also reviewed and voted on other standards. Around 2007-2011 I participated in the Software-Defined Radio (“SDR”) Forum (later the Wireless Innovation Forum). I contributed to the Cognitive Radio Ontology developed by the SDR Forum.

14. Around 2011-2012 I participated in the work of the 3GPP in connection with the work on LTE-Advance. I attended several 3GPP meetings at that timeframe and contributed to several documents submitted to 3GPP.

15. In 2020, I was elected to serve on the Board of Governors of the IEEE Standards Association as a Member-at-Large for one term beginning January 2021. The Board of Governors provides overall leadership of the IEEE Standards Association.

16. Currently, I am a Series Editor for Wireless and Radio Communications of the IEEE Communications Standards Magazine (which is the premier journal in the field of communication standards) and have held that position since 2017. As a member of the Editorial Board I coordinate the review of scholarly manuscripts submitted to the wireless and radio communications series.

17. A true and accurate description of my work and academic experience and other qualifications is provided in my Curriculum Vitae, which is attached as Exhibit A.

18. I have previously prepared expert reports and testified in a number of cases concerning systems for wireless communication, wireless communication protocols, and hardware and software of communication devices. Among these cases was *Pantech Corporation et al. v. OnePlus Technology (Shenzhen) Co. Ltd.* (Case No. 5:22-cv-00069-RWS, E.D. Tex.) in which I provided opinions concerning certain standard essential patents (SEPs) in the field of wireless communications.

19. I am qualified by education and experience to testify as an expert with respect to subject matter in the fields of wireless communications, communication systems protocols, wireless data transmission, hardware and software of wireless devices, and interoperability among wireless devices.

B. Materials Considered

20. In reaching the opinions that I express in this Declaration, I have considered and relied upon my education, knowledge of the relevant field, and experience. I have also reviewed and considered the materials cited in this Declaration, as well as my study of relevant materials, including the '803 Patent and its file history.

III. LEGAL PRINCIPLES

21. I am not a lawyer and am not offering any opinions regarding legal matters.

However, the legal principles relevant to my opinion herein have been explained to me by Pantech's counsel. In this section, I summarize these legal principles as they have been explained to me.

22. I reserve the right to change or formulate new opinions in the event there is a change in the law concerning my opinions provided in this report.

A. The Person of Ordinary Skill in the Art

23. Counsel has informed me that the '803 Patent (including each claim) and the prior art is interpreted from the perspective of the person of ordinary skill in the art ("POSITA"), which I understand is a hypothetical person considered to have the skill level and knowledge of a particular field related to an alleged invention claimed in a patent. Counsel has also informed me that this hypothetically skilled person is presumed to have before him or her all of the relevant prior art. I further understand that this "hypothetical person" can be more than one person or a team of people of different disciplines.

24. Counsel has informed me that factors that are relevant and germane in determining the knowledge base of a POSITA include: (1) the type of problems encountered in the art; (2) the solutions to those problems disclosed in the prior art; (3) the speed of innovation in the field; (4) the sophistication of the

technology; and (5) the educational level of active workers in the field engaged in innovation.

25. Counsel for Pantech has informed me that the “time of the invention” for the ’803 Patent is the date that the inventors filed their earliest patent application to which the ’803 Patent claims priority. I understand that the ’803 Patent claims priority to U.S. Patent Application No. 10/925,426, which was filed on August 25, 2004.

26. I understand that Dr. Kakaes contends that for the ’803 Patent, a POSITA would have had:

a B.S. in Electrical Engineering or a related field with at least three years of experience designing, developing and/or testing telecommunication systems. A POSITA would also have familiarity with the wireless standards and well-known protocols for accessing wireless networks.

Ex-1003 at ¶ 127.

27. I generally agree with Dr. Kakaes’s proposed definition of a POSITA with respect to the ’803 Patent and will apply his definition throughout my testimony.

28. As of the time of the invention, I had at least the level of knowledge and skill possessed by a POSITA in the relevant the field. In my analysis of the claims and the prior art, I have viewed them from the point of view of a POSITA.

B. Claim Construction

29. I understand that the claims in the ’803 Patent are to be given their ordinary and

customary meaning by a POSITA in view of the context in which they appear, including the claims, the patent disclosure, and the file history of the patent. The claim terms are to be interpreted from the perspective of those in the art at the time of filing. I am informed that there may be exceptions to the general rule of claim interpretation if the patentee, either in the patent or its file history, has expressly or impliedly defined a term or phrase used in the claims or has expressly disavowed the claim scope that would otherwise be encompassed by the ordinary and customary meaning of the terms.

C. Anticipation

30. I understand that, to anticipate a claim, a single qualifying prior art reference must disclose, expressly or inherently, all of the elements of the asserted claim. I understand that a reference expressly discloses a claim limitation when a POSITA, reading the reference, would understand that it discloses the limitation. I understand that a prior art reference inherently discloses a particular claim element if, even though not expressly described, that element would necessarily be present in the prior art reference. I understand, however, that inherency, however, cannot be shown by mere likelihood or probabilities. My understanding is that Petitioner does not contend any claims of the '803 Patent are anticipated by prior art.

31. I understand that to analyze a claim for anticipation requires two steps. First, the

claims should be construed and second, the construed terms compared to the identified prior art references to determine if all elements are expressly or inherently present in the prior art reference.

D. Obviousness

32. Counsel has informed me that a claim may be invalid as obvious if the differences between a prior art reference and the claimed invention are such that the claimed invention would have been obvious to a POSITA in view of his or her general knowledge, or in combination with other prior art references that a POSITA would be motivated to combine with the original prior art reference. I understand, however, that a patent claim may not be shown to be obvious through hindsight reconstruction of the invention from elements disclosed in the prior art.

33. Counsel has informed me that, to guard against hindsight reconstruction of an invention, certain factors must be analyzed to determine if a claim is obvious: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the difference between the prior art and the claims at issue; and (4) objective evidence of secondary considerations if offered by the patent owner.

34. I understand from counsel that, in analyzing obviousness, the prior art must be considered “as a whole.” Inventions typically are new combinations of existing principles or features, and the “as a whole” instruction prevents evaluation of

the invention part by part. Accordingly, it is my understanding that an obviousness assessment cannot break an invention into its component parts (A+B+C), then find a prior art reference containing A, another containing B, and another containing C, and on that basis alone declare the invention obvious. I understand that this is an impermissible form of hindsight reasoning, using the invention as a roadmap to find its prior art components, which would discount the value of combining various existing features or principles in a new way to achieve a new result—often the very definition of invention.

35. I also understand that obviousness requires a patent challenger to make two distinct showings: (i) that a POSITA would have been motivated to combine prior art references or to modify the prior art in a manner that yields and enables the claimed invention, and (ii) that the POSITA would have had a reasonable expectation of success in doing so.

36. I have been informed, by counsel, that the motivation to combine references, or to modify the prior art, may be found in many different places and forms, including common knowledge or understanding of those skilled in the art, the prior art as a whole, any need or problem in the field, common sense, and the inferences, judgments, and ordinary creativity of a POSITA in the field. However, I also understand that the reasonable expectation of success must be founded in the prior art. Finally, neither the motivation to combine nor the

reasonable expectation of success can result from the disclosure of the challenged patent.

37. I have also been informed that the reasonable expectation of success requirement for obviousness does not necessitate an absolute certainty for success and allows for some degree of unpredictability in the art so long as there was a reasonable probability of success. However, I understand that there is no reasonable expectation of success where the prior art gave no indication of which parameters were critical nor direction as to which of many possible choices is likely to be successful, and instead only gave general guidance as to the particular form of the invention or how to achieve it. I also understand that reports which demonstrate POSITAs using the prior art met with failure provide strong evidence that there was no reasonable expectation of success. Similarly, if a POSITA would have viewed the reference as describing teachings that were contrary to the patented invention, i.e., the reference taught away from it, a strong inference exists that the reference does not provide a reasonable expectation of success to render the invention obvious.

38. Counsel has informed me that one of the factual inquiries when determining the obviousness of a patent is to consider objective evidence related to the issue of obviousness, sometimes called “secondary considerations of non-obviousness” or “objective indicia of non-obviousness.” I understand that such evidence can

often be probative of the issues of obviousness. Such objective indicia of non-obviousness can include:

- a. commercial success of the products and processes covered by the invention;
- b. copying of the invention by others in the field;
- c. praise of the invention by others skilled in the art;
- d. long-felt and unmet need in the art that was satisfied by the invention of the patent;
- e. failure of others to achieve the results of the invention;
- f. expression of disbelief or skepticism by those skilled in the art upon learning of the invention; and
- g. unexpected results achieved by the invention.

39. I understand that there must be a nexus between the patented invention and the evidence of secondary considerations. I further understand that there is a presumption of such a nexus if the claims of the patent are coextensive with a product or products that are the subject of the secondary considerations evidence. I further understand that in order for a claim to be coextensive with a product, one must look at the claim as a whole and not just the new claimed feature. In addition, the claimed invention should not be merely a subcomponent of the products sold but should encompass the entire apparatus.

IV. OVERVIEW OF THE '803 PATENT

A. Technical Background

40. The '803 Patent is entitled "Enhanced uplink operation in soft handover." The '803 Patent relates to the field of wireless communications. More particularly, the invention of the '803 Patent is related to operation during a soft handover in a wireless communication system. EX1001 at 1:23-25.

41. The '803 Patent is directed to solving problems arising because then-current standards did not define specific protocols to transfer necessary information which are imperative in operation of enhanced uplink (EU) during soft handover so that radio resources may be scheduled and EU connections are properly handed over. EX1001 at 2:48-3:13.

42. The '803 Patent teaches an architecture where a WTRU is connected "with more than one cell [] which are controlled by the same Node-B," (EX1001 at 8:45-46) and "[o]ne of the[se] cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b." EX1001 at 9:4-6. This primary/non-primary cell architecture enables coordinated scheduling where the primary cell serves as a signaling proxy, providing shared channel indicators for the non-primary cells.

43. Specifically, the '803 Patent discloses that "the primary cell 808a sends a message on any of the downlink shared channels allocated to the WTRU 802,"

and “the message carries a shared channel indicator for non-primary cells 808b.” EX1001 at 9:6-9. The WTRU reads the shared channel indicator and then receives messages from the non-primary cells indicated by the shared channel indicator.

B. Prosecution History

44. The '803 Patent issued on September 1, 2020, and claims priority to U.S. Patent Application No. 15/212,403, filed on July 18, 2016; U.S. Patent Application No. 13/236,133, filed on September 19, 2011; U.S. Patent Application No. 10/925,426, filed on August 25, 2004; U.S. Provisional Application No. 60/497,747 filed on August 25, 2003; U.S. Provisional Application No. 60/507,554 filed on October 1, 2003; U.S. Provisional Application No. 60/508,797 filed on October 3, 2003; U.S. Provisional Application No. 60/520,207 filed on November 14, 2003; and U.S. Provisional Application No. 60/585,174 filed on July 2, 2004.

45. During the prosecution of the application that led to the '803 Patent, the claims at issue were examined at length for their novelty, including in view of multiple prior art references such as Ranta-Aho, Rune, Toskala, Kim, Wu, Dick, and Shin.

46. In response to rejections during prosecution, the applicant pointed out to the examiner the limitations of the cited references, particularly the lack of any

teaching of a network node or base station having multiple cells or a handset receiving transmissions from multiple cells. The applicant amended the claims to clarify that the primary cell is associated with a wireless network node and one or more non-primary cells are associated with the wireless network node. Following this response, the claims were allowed.

V. CLAIM CONSTRUCTION

47. As stated above in Section III regarding legal principals of patent law, I have been informed by counsel that the first step in a validity analysis is properly construing the terms of the asserted patent claims.

48. Petitioner's expert, Dr. Kakaes, states in his Declaration that he does not believe that any claim term in the '803 Patent requires explicit construction to resolve the issues presented in this Petition. Ex-1003 at ¶ 31.

49. I am informed that Petitioner requested claim construction of the terms "wireless network node," "primary cell," "one or more non-primary cells," and "downlink shared channel transmission" in the parallel District Court Action (*Pantech Corp. et al. v. OnePlus Tech. (Shenzhen) Co., Ltd.*, No. 5:24-cv-00038-RWS-JBB (E.D. Tex.)).

50. I am also informed The Magistrate Judge rejected Petitioner's proposed constructions. EX2011 at 38. For the terms "wireless network node," "primary cell," and "one or more non-primary cells," the Magistrate Judge applied their

plain and ordinary meaning. EX2011 at 38. For the term “downlink shared channel transmission,” the Magistrate Judge applied a construction of “a transmission in a downlink shared channel,” reasoning that this term “has an ordinary meaning in the art, which is ‘a transmission in a downlink shared channel.’”

51. I have reviewed the Board’s preliminary determination regarding the definitions of “primary” and “non-primary” cells.

52. In my opinion, the suggestion that these cells do not need to be connected to the WTRU at the same time is at odds with the technical reality and the intrinsic evidence of the ’803 Patent. The plain and ordinary meaning of “primary cell” and “non-primary cell” to a POSITA involves cells to which the WTRU is simultaneously connected.

53. These terms describe a coordinated set of cells with distinct operational roles, rather than acting as temporal labels for cells in a sequential transition. In a coordinated set, the primary cell and non-primary cells each have concurrent functions, where the primary cell provides signaling, coordination, and one main data path, while the non-primary cells provide additional data paths¹. This is fundamentally different from a sequential transition, where “source” and “target”

¹ The fact that the non-primary cells provide *additional* data paths teaches that these data paths operate while the main data path is also in operation.

merely describe which cell the WTRU is connected to before and after a handover event. The specification of the '803 patent expressly requires simultaneous connections.

54. The '803 Patent solves problems related to soft handover and softer handover, where a WTRU maintains active connections to multiple cells. EX1001 at 1:39-43, 1:50-55.

55. The specification teaches a “softer handover” architecture where a WTRU “establishes connections with more than one cell 808 which are controlled by the same Node-B 804.” EX1001 at 8:42-46.

56. It then clarifies that within this already connected set, “[o]ne of the cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b.” EX1001 at 9:4-6.

57. Figures 8A and 8B confirm this architecture, showing a WTRU 802 with established, concurrent links to multiple cells of a single Node-B. A POSITA would understand from this evidence that “primary” and “non-primary” cells are defined as cells to which the WTRU is simultaneously connected. In my opinion the claim language itself confirms that the WTRU must be connected to both the primary and non-primary cells at the same time.

58. Claim limitation [1.e] recites “receive a message on the primary cell, the received message including an indication of at least one of the one or more non-

primary cells from which the WTRU is to receive a downlink shared channel transmission.” EX1001 at 10:49-53.

59. Similarly, claim limitation [7.b] recites “receiving, by the WTRU, a message on the primary cell, the received message including indication of at least one of the one or more non-primary cells from which the WTRU is to receive a downlink shared channel transmission.” EX1001 at 11:16-20.

60. These requirements only make sense if, at the time the WTRU receives the “indication” on the primary cell, the non-primary cell is already a cell to which the WTRU is connected.

61. In my opinion, mapping “primary” to “source” and “non-primary” to “target” mischaracterizes the claims and is technically incorrect. The terms “source” and “target” are used in connection with handover. They are temporal labels of cells. Generally speaking, a source cell is the cell to which a mobile device was connected before handover, and a target cell is the cell to which the mobile cell becomes connected after completion of the handover.

62. The claims here do not describe a transition from one cell to another; they describe coordinated operation across multiple cells. This coordination requires the WTRU to be connected to both cells simultaneously.

63. In prior-art systems like Ericsson, there is no moment where the UE receives transmissions from both cells simultaneously, which distinguishes it from the

claimed invention.

64. The dependent claims reinforce this technical understanding. Claim 5 recites that the WTRU is “configured to cause the WTRU to receive a grant for an uplink transmission from the primary cell.” EX1001 at 11:1-5.

65. Claim 6 further requires the WTRU “to process an acknowledgement/negative acknowledgement to the uplink transmission received only from the primary cell.” EX1001 at 11:6-10.

66. Claims 11 and 12 recite parallel limitations. EX1001 at 11:34-37; 12:1-3. These functional requirements would be technically nonsensical if the “primary cell” referred to a cell that the WTRU is no longer connected to. These limitations only make sense if the primary cell connection persists while the WTRU performs operations involving the non-primary cells.

VI. THE CHALLENGED CLAIMS ARE NOT OBVIOUS

67. I have been asked to evaluate Petitioner’s contention that claims 1, 2, 5-8, 11, and 12 of the ’803 Patent would have been obvious under both pre- and post-AIA 35 U.S.C. § 103. Based on my technical analysis and my experience in wireless communications standards, it is my opinion that the challenged claims are not rendered obvious by any of Grounds 1-3. I explain my reasoning below.

A. Ground 1: Petitioner Fails To Establish that the Effective Filing Date of the Challenged Claims Post-Dates Its Prior Art.

68.I understand that the prior art references upon which Ground 1 relies, namely TS 36.300, TS 36.321, and TS 36.331, were published between December 2011 and September 2012. I am also aware that these references are involved in Patent Owner's infringement contentions in the related District Court litigation.

69.In my view, the central dispute for Ground 1 is whether the effective filing date of the Challenged Claims of the '803 Patent is prior to September 21, 2012, which is the publication date of TS 36.321. Based on my analysis, this effective filing date does indeed precede that threshold.

70.Based on my review of the intrinsic record, the Challenged Claims of the '803 Patent are entitled to a priority date of at least August 25, 2004. The application that led to the '803 Patent followed an unbroken chain of priority through U.S. Patent App. No. 15/212,403 (filed July 18, 2016), U.S. Patent App. No. 13/236,133 (filed September 19, 2011), and finally U.S. Patent App. No. 10/925,426 (filed August 25, 2004).

71.I recognize that because these are continuation applications, the same technical support is present throughout every intervening application between the '803 Patent and the '426 Application. A straightforward reading of the evidence confirms that priority support in the '426 Application is provided for every

element of the Challenged Claims.

72. Based on my technical analysis, I have identified specific exemplary and not exhaustive priority support for each claim element in the '426 Application. This support must be understood within the full context of the '426 Application.

Nevertheless, I summarize this support as follows:

73. For the preamble of claim 1, the '426 Application at ¶¶ [0003], [0013], and [0025] explicitly discloses a “wireless transmit/receive unit (WTRU)” operating in a “wireless communication system.”

74. For claim element [1.a] (a transceiver), the '426 Application at ¶¶ [0011], [0052] discloses a WTRU that monitors channels to detect downlink messages and transmits data packets. In my technical opinion, a unit capable of monitoring, receiving, and transmitting requires a transceiver for radio frequency operation.

75. For claim element [1.b] (a processor), the '426 Application at ¶¶ [0010], [0013] discloses control parameters and logic performed by the WTRU to manage radio resources for “EU² transmissions.” The term “logic” connotes processing structure. A POSITA would understand that managing signaling and H-ARQ procedures inherently requires and therefore invokes a processor to a POSITA.

76. For claim element [1.c] (wherein the transceiver and the processor are

² Enhanced uplink

configured to cause the WTRU to, while a primary cell is associated with a wireless network node and one or more non-primary cells are associated with the wireless network node), the '426 Application at ¶¶ [0006], [0049], [0053] and Figure 8A discloses a “softer handover” state where a “WTRU is connected to two or more cells belonging to the same Node-B” and “[o]ne of the cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b.” A POSITA would understand that a Node B is a wireless network node and being “connected to... the same Node-B” is technically equivalent to being associated with a wireless network node.

77. For claim element [1.d] (receive configuration information for the primary cell and the one or more non-primary cells), the '426 Application at ¶¶ [0011], [0057] discloses that the “RNC 1006 sends messages to... the WTRU 1002 to inform the selected cells for the active set to support soft handover for EU.” A POSITA would understand that the RNC informing the WTRU of the selected cells for the active set constitutes providing configuration information for those cells

78. For claim element [1.e] (receive a message on a downlink shared channel of the primary cell, the message including an indication of at least one of the one or more non-primary cells from which the WTRU is to receive a downlink shared channel transmission), the '426 Application at ¶ [0053] and Figure 8B (the same figure discussed above) discloses the “primary cell 808a sends a message on any

of the downlink shared channels... [which] carries a shared channel indicator for non-primary cells 808b.” A POSITA would understand that a “shared channel indicator” is the literal “indication” recited in the claim.

79. For claim element [1.f] (in response to the received message, receive and process the downlink shared channel transmission from the indicated at least one of the one or more non-primary cells), the '426 Application at ¶ [0053] and Figure 8B discloses that the “WTRU 802 reads shared channel indicator... Then, the WTRU 802 receives messages from the non-primary cells 808b indicated by the shared channel indicator.” A POSITA would understand that the sequence described establishes a causal “in response to” link for receiving transmissions from the indicated cells.

80. For claim 2 (wherein there is a time delay between the downlink shared channel transmission and the receipt of the message by the WTRU), the '426 Application at ¶ [0053] explicitly discloses a “timing offset between the transmission of the shared channel indicator from the primary cell 808a and the transmission of messages from non-primary cells 808b.” A POSITA would understand that a “timing offset” in this context is the technical disclosure of the claimed “time delay.”

81. For claim 3 (wherein the transceiver and the processor are further configured to cause the WTRU to, in response to the received message, monitor downlink

channels of only the primary cell for the message), the '426 Application at ¶¶ [0053], [0054] discloses the WTRU first monitors shared channels from the primary cell while non-primary cells switch off downlink signaling. A POSITA would understand that non-primary cells switching off signaling while the WTRU monitors the primary cell supports monitoring only the primary cell.

82. For claim 4 (wherein the transceiver and the processor are further configured to cause the WTRU to monitor a plurality of downlink control channels for the message), the '426 Application at ¶¶ [0052], [0053] discloses the WTRU monitors shared channels, with the number potentially limited to up to 4. By teaching monitoring up to 4 shared channels the '426 Application expressly teaches monitoring a plurality of downlink control channels.

83. For claim 5 (wherein the transceiver and the processor are further configured to cause the WTRU to receive a grant for an uplink transmission from the primary cell and to transmit the uplink transmission based on the received grant), the '426 Application at ¶¶ [0013], [0025], [0059] discloses that the WTRU transmits data packets via Enhanced Uplink (EU) and the “primary Node-B 1004a performs scheduling and assigning radio resources to the WTRU 1002.” A POSITA would understand that assigning radio resources for EU transmissions constitutes providing a grant for an uplink transmission.

84. For claim 6 (wherein the transceiver and the processor are further configured to

cause the WTRU to process an acknowledgement/negative acknowledgement to the uplink transmission received only from the primary cell), the '426 Application at ¶¶ [0013], [0054] discloses H-ARQ is controlled “only by the primary Node-B” and that “Node-B 804 transmits downlink messages via the primary cell 808a, while all non-primary cells 808b switch off the downlink signaling.” A POSITA would understand that H-ARQ feedback (ACK/NACK) being controlled “only by the primary Node-B” while non-primary cells “switch off the downlink signaling” is the precise technical disclosure of the claimed limitation requiring acknowledgement/negative acknowledgement to be received “only from the primary cell.”

85. For claim element [7.pre] (A method comprising), the '426 Application at ¶¶ [0013], [0025] discloses a “system 100 and a process 150” and “methods for EU operation in soft handover.” A POSITA would understand that this disclosure of “methods” and a “process” for EU operation provides priority support for a method claim, as the specification expressly contemplates the invention in both apparatus and method form.

86. For claim element [7.a] (receiving, by a wireless transmit/receive unit (WTRU), configuration information for a primary cell and one or more non-primary cells, wherein the primary cell is associated with a wireless network node and the one or more non-primary cells are associated with the wireless network node),

the '426 Application at ¶¶ [0011], [0053], [0057] discloses coordination of active set cells belonging to the same Node-B via RRC control procedures and messages to inform the WTRU of the selected cells. A POSITA would understand that informing the WTRU of cells belonging to the same Node-B satisfies the association requirement.

87. For claim element [7.b] (receiving, by the WTRU, a message on the primary cell, the received message including indication of at least one of the one or more non-primary cells from which the WTRU is to receive a downlink shared channel transmission), the '426 Application at ¶ [0053] discloses primary cell messages identifying channels for non-primary cells. A POSITA would understand that “primary cell messages identifying channels for non-primary cells” is the literal “indication” recited in the claim.

88. For claim element [7.c] (in response to the received message, receiving and processing, by the WTRU, the downlink shared channel transmission from the indicated at least one of the one or more non-primary cells), the '426 Application at ¶ [0053] discloses that the WTRU receives messages from non-primary cells indicated by the indicator and “combines the messages... using a technique, such as maximum ratio combining.” A POSITA would have known that maximum ratio combining is a type of processing of wireless signals.

89. For claim 8 (wherein there is a time delay between the downlink shared channel

transmission and the receipt of the message by the WTRU), the '426 Application at ¶ [0053] discloses a “timing offset” between the indicator transmission and non-primary cell messages. A POSITA would understand that this “timing offset” supports the claimed time delay.

90. For claim 9 (wherein the WTRU, in response to the received message, monitors downlink channels of only the primary cell for the message), the '426 Application at ¶¶ [0053], [0054] discloses the WTRU monitors the primary cell while non-primary cells “switch off the downlink signaling.”

91. For claim 10 (wherein the WTRU monitors a plurality of downlink control channels for the message), the '426 Application at ¶¶ [0052], [0053] discloses the WTRU monitors shared channels from involved cells, limited to up to 4.

92. For claim 11 (further comprising receiving, by the WTRU, a grant for an uplink transmission from the primary cell and transmitting, by the WTRU, the uplink transmission based on the received grant), the '426 Application at ¶¶ [0013], [0025], [0059] discloses scheduling and resource assignment for EU transmissions and the receipt of data packets transmitted from the WTRU. A grant includes resource assignment and scheduling information.

93. For claim 12 (further comprising processing, by the WTRU, an acknowledgement/negative acknowledgement to the uplink transmission received only from the primary cell), the '426 Application at ¶¶ [0013], [0025],

[0054], [0059] discloses that the WTRU transmits “data packets” via “Enhanced Uplink (EU)” and the primary Node-B controls feedback while non-primary cells “switch off the downlink signaling.” Because acknowledgement/negative acknowledgement is feedback to the uplink transmission, the claim element is supported.

94. For claim element [13.pre] (a wireless network node comprising), the ’426 Application at ¶ [0024] discloses a “Node-B includes but is not limited to a base station, site controller, access point or any other type of interfacing device.” Any one of these devices is a wireless network node.

95. For claim element [13.a] (a transceiver), the ’426 Application at ¶¶ [0011], [0052] discloses that the Node-B sends messages including ACK/NACK via involved cells and receives data packets from the WTRU. A POSITA would understand that a device transmitting and receiving signaling and data packets requires a transceiver.

96. For claim element [13.b] (a processor), the ’426 Application at ¶¶ [0010], [0013] discloses control parameters and logic performed by the Node-B to manage radio resources for “EU transmissions.” A POSITA would understand that managing signaling and H-ARQ procedures inherently requires and therefore invokes a processor.

97. For claim element [13.c] (wherein the transceiver and the processor are

configured to cause the wireless network node to, while a primary cell is associated with the wireless network node and one or more non-primary cells are associated with the wireless network node), the '426 Application at ¶¶ [0006], [0049], [0053] and Figure 8A discloses a “softer handover” state where “cells belonging to the same Node-B” are “designated as a primary cell 808a” or “non-primary cells 808b.” A POSITA would understand that “belonging to the same Node-B” is the technical disclosure for being associated with a specific wireless network node.

98. For claim element [13.d] (transmit, to a wireless transmit/receive unit (WTRU), configuration information for the primary cell and the one or more non-primary cells), the '426 Application at ¶¶ [0011], [0057] discloses that the RNC sends messages to the Node-Bs and WTRU to coordinate the active set.

99. For claim element [13.e] (transmit, to the WTRU, a message on the primary cell, the transmitted message including an indication of at least one of the one or more non-primary cells that a downlink shared channel transmission is scheduled), the '426 Application at ¶ [0053] discloses that the primary cell sends a message carrying a shared channel indicator.

100. For claim 14 (wherein the transceiver and the processor are configured to cause the wireless network node to transmit the downlink shared channel transmission on the indicated at least one of the one or more non-primary cells),

the '426 Application at ¶ [0053] discloses that non-primary cells 808b transmit messages on the channels indicated by the primary cell.

101. For claim 15 (wherein there is a time delay between the downlink shared channel transmission and the transmitted message), the '426 Application at ¶ [0053] discloses a “timing offset” between the indicator transmission and non-primary cell messages. A POSITA would understand that this “timing offset” supports the claimed time delay.

102. For claim 16 (wherein the transceiver and the processor are configured to cause the wireless network node to transmit a grant for an uplink transmission from the primary cell and to receive the uplink transmission based on the grant), the '426 Application at ¶¶ [0013], [0025], [0059] discloses that the “primary Node-B 1004a performs scheduling and assigning radio resources to the WTRU 1002” for “EU transmissions” and receives “data packets.” A POSITA would understand that assigning radio resources for EU transmissions requires transmitting a grant.

103. For claim 17 (wherein the transceiver and the processor are configured to cause the wireless network node to transmit an acknowledgement/negative acknowledgement to the uplink transmission only on the primary cell), the '426 Application at ¶¶ [0013], [0054] discloses that the “primary Node-B controls... H-ARQ” and that non-primary cells “switch off the downlink signaling.” A

POSITA would understand that if the node controls H-ARQ feedback and disables signaling on non-primary cells, the resulting transmission occurs exclusively on the primary cell.

104. Thus, in my opinion, the '426 Application provides explicit written description and enabling support for all challenged claims.

105. I have reviewed Petitioner's attempts to break the priority of the '803 Patent to the '426 Application. I understand that the Petition provides two arguments in this regard, both concerning only claim 1. These arguments address whether a primary cell and one or more non-primary cells are associated with the wireless network node, and causing a WTRU to receive configuration information for those cells.

106. I have also evaluated the arguments added in Petitioner's Reply. These include the contention that the '803 Patent makes no mention of carrier aggregation and that the challenged claims require configuration information in the context of softer handover for a single primary node. From the perspective of a POSITA, each of these arguments fails for the technical reasons I set forth in the following sections.

1. The '426 Application Explicitly Describes Primary and Non-Primary Cells Associated with a Node.

107. Petitioner's argument that claim 1 lacks priority support for the claim element

“a primary cell is associated with a wireless network node and one or more non-primary cells are associated with the wireless network node” is incorrect.

108. As discussed in Section III.B, the plain and ordinary meaning of “primary cell” and “non-primary cell” is that these are cells to which the WTRU is simultaneously connected.

109. The terms describe a coordinated set of cells with different operational roles, not temporal labels for cells in a sequential transition. The '426 Application discloses this architecture.

110. The '803 Patent discloses that the WTRU will “establish[] connections with more than one cell 808 which are controlled by the same Node-B 804” (EX1001 at 8:42-52).

111. It then states that one of the cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b. (EX1001 at 9:4-6; Fig. 8A).

112. Identical disclosures are made in U.S. Patent App. Pub. No. 2005/0111389, which is the publication of U.S. Patent App. No. 10/925,426 (the “'426 App.”), filed on August 25, 2004, from which the '803 Patent derives through an unbroken chain of priority applications. EX2012 ¶¶ [0049], [0053] and Fig. 8A.

113. The '426 Application describes a “softer handover” architecture where a WTRU “establishes connections with more than one cell 808 which are

controlled by the same Node-B 804.”

114. The specification then states that one of the cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b. EX2012 at paragraph 0053 and Fig. 8A.

115. This is not a sequential transition from one cell to another; it is a coordinated set of cells to which the WTRU is simultaneously connected, with the primary cell and non-primary cell or cells each having distinct, concurrent functions.

116. In a coordinated 3GPP softer handover environment, the WTRU must maintain multiple active physical links to allow for the type of coordination described in the patent, such as the primary cell providing signaling to manage data reception on a non-primary cell.

117. This simultaneous architecture is necessary for these operational roles.

118. Establishing connections to at least two cells belonging to the same base station is also set forth in Fig. 8B of the '803 Patent, with corresponding disclosures in the '426 Application.

119. Petitioner does not acknowledge Figures 8A and 8B but acknowledges at least part of the corresponding description in the written specification.

120. Petitioner then concedes that while the quoted passage from the '803 patent specification and its parent priority patent applications arguably teaches that a WTRU establishes a connection with more than one cell, there is no description

of a WTRU “receiving configuration information” for the more than one cell, as recited in claim 1 of the ’803 patent.

121. This concession confirms that the “primary cell” and “non-primary cell” limitations are supported.

122. From the perspective of a POSITA, this structural requirement that the primary cell and one or more non-primary cells are associated with the wireless network node is satisfied by the disclosure in the ’426 Application of multiple cells controlled by the same Node-B. The ’426 Application describes a wireless communication system where a WTRU 802 is in communication with a Node-B 804 that “controls a plurality of cells 808.”

123. The specification provides granular evidentiary support by designating these cells using the terminology found in the claims across multiple sections. The architecture of one Node-B controlling multiple cells, with one “designated as a primary cell 808a... while other cells are designated as non-primary cells 808b,” is expressly disclosed and depicted.

124. Possession of this multi-cell designation is further reinforced in EX2012 at paragraph 0013, which specifies that “the primary Node-B controls EU operation during soft handover including EU scheduling and H-ARQ.” While this paragraph uses the term “soft handover,” a POSITA would understand that the disclosure describes a coordinated active set of multiple cells.

125. It is also supported in EX2012 at paragraph 0006, which describes softer handover as a “special case of soft handover” where “a WTRU is in softer handover, the WTRU is connected to two or more cells belonging to the same Node-B.” The “primary Node-B” control logic described in paragraph 0013 applies directly to the "primary cell" architecture in a softer handover. Furthermore, EX2012 at paragraph 0053 and Figure 8A specifically describe this softer handover architecture, noting that “one of the cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b.” This demonstrates that the inventors possessed the specific structural requirement of multiple cells (a “multi-cell designation”) associated with a single network node.

126. This disclosure demonstrates possession of the claimed coordinated multi-cell architecture. To a POSITA, describing a single network node (Node-B) that “controls a plurality of cells” and manages “EU operation... including EU scheduling and H-ARQ” while the WTRU is “connected to two or more cells belonging to the same Node-B” is a direct disclosure of a node managing a coordinated set of active cells. The inventors understood and possessed the technical implementation of using one cell as a primary signaling anchor while managing data and feedback across other non-primary cells belonging to the same node.

2. The '426 Application Discloses “Configuration Information”

a. The Specification Discloses Configuration Information

127. Petitioner’s argument that claim 1 lacks priority support for the claim element “receive configuration information for the primary cell and the one or more non-primary cells” is also incorrect. (Pet. at 11-12).

128. The '426 Application discloses this limitation through two related disclosures: first, the RNC “sends messages” to “inform” the WTRU of active set cells, and second, the RNC uses “RRC radio bearer (RB) control procedures” to coordinate those cells. In my technical opinion, both of these disclosures describe providing “configuration information” to the WTRU.

129. First, the '426 Application states that “[o]nce the RNC 1006 selects cells for the active set, the RNC 1006 sends messages to the Node-Bs 1004a, 1004b and the WTRU 1002 to inform the selected cells for the active set to support soft handover for EU.” (EX2012 at ¶ [0057])

130. A POSITA would understand that “inform[ing] the WTRU of the selected cells for the active set” constitutes providing configuration information for those cells. This disclosure is not addressed and ignored by Petitioner.

131. A POSITA would have understood that in a 3GPP cellular system, and even in any cellular system, “informing” a WTRU of its active set cells is not merely

an abstract notification at least because, this notification supports soft handover.

To communicate with those cells, the WTRU must receive certain technical parameters, including *inter alia* transport channel settings, physical channel settings, and timing information.

132. These parameters are the “configuration information” recited in the claims.

Without these parameters, the WTRU cannot operate on those cells.

133. Second, the '426 Application discloses the mechanism used to deliver this information, stating that “[u]nder the current 3GPP standards, the RNC applies RRC radio bearer (RB) control procedures to coordinate active set cells with the WTRU.” (EX2012 at ¶ [0011]).

134. A POSITA would understand that “RRC radio bearer (RB) control procedures” involve sending configuration information to the WTRU. That is the fundamental purpose of these procedures. The 3GPP standards, including the governing 3GPP standard at the time (EX1006, TS 25.331) confirm that RRC procedures require delivery of “radio bearer, transport channel and physical channel information elements” to configure the WTRU. EX1006 at 69.

135. I am informed by counsel that Petitioner relies on TS 25.331 to argue that the prior art discloses “configuration information.” I have been told that Petitioner points to the same RRC procedures, arguing that a UE must “initiate the radio bearer, transport channel and physical channel configuration in accordance with

the received radio bearer, transport channel and physical channel information elements.” Pet. at 42-43.

136. The '426 Application references the same RRC procedures, stating that “[u]nder the current 3GPP standards, the RNC applies RRC radio bearer (RB) control procedures to coordinate active set cells with the WTRU.” (EX2012 at ¶ [0011]). From a technical standpoint, if RRC procedures constitute “receiving configuration information” when reading alleged prior art, then RRC procedures constitute “receiving configuration information” when reading the '426 Application

b. Configuration Information Is Inherent in Establishing a Connection

137. Even without the disclosures set forth above, it is my technical opinion that the '426 Application's disclosure of “establishing connections” with multiple cells inherently discloses receiving configuration information.

138. In a 3GPP UMTS system, “establishing a connection” is a technical term of art for the transition to an RRC_CONNECTED state. A POSITA would have understood that this state transition is a formal protocol procedure. A WTRU cannot simply begin communicating with a Node-B; it must move from an idle state to a connected state through a rigorous exchange of signaling messages that define the parameters of the radio link.

139. Under EX1006 (TS 25.331), which was the governing standard at the time, it is impossible for a WTRU to establish a connection without receiving physical channel and radio bearer parameters. I have reviewed Section 10.2.40 of EX1006 regarding RRC Connection Setup. This section confirms that the network must provide specific Information Elements to the WTRU to define the radio frequency, scrambling codes, and channelization codes required for the transceiver to function.

140. This protocol requirement constitutes the “configuration information” recited in the claims. Because the RRC protocol is the standardized delivery mechanism for this information, the inventors were in full possession of that step. It is my opinion that the disclosure of the result (the connection) necessarily carries with it the disclosure of the prerequisite (the configuration).

141. The '426 Application discloses that the WTRU “establish[es] connections with more than one cell 808 which are controlled by the same Node-B 804” in paragraphs 0049, 0051, and 0053 of EX2012. A POSITA reading this disclosure would understand that the WTRU necessarily receives configuration information, because that is how connections are established under the 3GPP standards that the '426 Application expressly references. I also note that paragraph 0011 of EX2012 references “RRC radio bearer (RB) control procedures,” which are the very procedures used to deliver such information.

142. Such a disclosure, combined with disclosures such as that “[i]n order to implement this scheme [in Figs. 8A and 8B], there is a timing offset between the transmission of the shared channel indicator from the primary cell 808a and the transmission of messages from non-primary cells 808b” in paragraph 0053 of EX2012, make clear that the inventors recognized that the WTRU would “receive configuration information for the primary cell and the one or more non-primary cells,” as set forth in claim 1.

143. It is technically implausible that connections could be established with any cells without configuration information being received by the WTRU. I have reviewed the technical assertions made by Petitioner’s expert in EX1003 at paragraphs 113 to 117. Dr. Kakaes is wrong. Contrary to Dr. Kakaes, as I discuss in this declaration, the ‘426 application teaches to a POSITA a message containing “configuration information”.

144. From a technical standpoint, the transceiver cannot “lock” onto a cell signal and establish a connection unless it is first configured with the parameters necessary to decode that signal. The details of these parameters – “measurement configuration, mobility control, radio resource configuration (including RBs, MAC main configuration and physical channel configuration) including any associated dedicated NAS information and security configuration” (EX 1003 ¶114) do not need to be specified by the inventors.

145. I have been informed by counsel of the legal principle that the test for sufficiency is whether the disclosure reasonably conveys to a POSITA that the inventor had possession of the claimed subject matter. In my opinion, the fact of sending configuration information to “establish connections” with cells is the sort of background information about the inherent functioning of base stations that comes with the “knowledge of what has come before” of a POSITA. Patent specifications do not include – and preferably omit - every detail of a standard protocol when the disclosure of the connection itself clearly indicates to a person of skill that the configuration step occurred. Only enough must be included to convince a person of skill in the art that the inventor possessed the invention, and the description of established connections in the ’426 Application satisfies this for a POSITA.

3. The Claims are Not Limited to LTE “Carrier Aggregation”

146. I have been informed that in its Reply, Petitioner argued that the ’803 Patent “makes no mention of carrier aggregation.” It is my opinion that this argument is misplaced and does not undermine the priority support for the Challenged Claims.

147. From the perspective of a person of ordinary skill in the art (POSITA), the challenged claims are written in functional terms, such as “configured to receive” and “process.”

148. I understand that broad functional language is entitled to its priority date even if it later encompasses after—arising technologies like Carrier Aggregation.

149. I am informed that method and apparatus claims not written in means—plus—function format are not necessarily limited to that disclosed in the specification, but rather are defined by the language of the claims themselves, and do not exclude “after—arising technologies” from their literal scope.

150. As I have established above, there is priority support for all elements of the Challenged Claims.

151. In my technical view, whether or not an after—arising technology incorporates this invention is irrelevant to the priority analysis.

4. Petitioner’s “Softer Handover” Argument Fails.

152. I have reviewed Petitioner’s Reply, where Petitioner presents a new argument that “the challenged claims of the ’803 patent require ‘configuration information’ in the context of ‘softer handover’ for a single primary node.” Reply at 2.

153. It is my understanding that this is not a claim construction that was advanced in the Petition.

154. In my opinion, the actual claim language is fully supported by the specification, as I will set forth below.

155. It is undisputed that claims 1 and 7 set forth that “a primary cell is associated with a wireless network node and one or more non—primary cells are associated with the wireless network node.”

156. As the '803 Patent sets forth, the WTRU will “establish[] connections with more than one cell 808 which are controlled by the same Node-B 804.” EX1001 at 8:42-52.

157. The patent further states that “[o]ne of the cells 808 may be designated as a primary cell 808a, while other cells are designated as non-primary cells 808b.” EX1001 at 9:4-6.

158. I note that Petitioner’s Preliminary Reply largely ignored this support.

159. As shown in Figure 8B, and unaddressed by Petitioner, the WTRU will “establish connections to at least two cells that belong to the same Node—B.” '803 Patent at Fig. 8B; EX2012 at Fig. 8B.

160. As discussed in this declaration, in a 3GPP scheme, and in the schemes discussed by the '803 Patent and its priority documents, a connection is established by receiving configuration information.

161. In my expert opinion, this is true for every embodiment disclosed in the '803 Patent, including those concerning primary and non—primary cells associated with a wireless network node.

162. Under the then-current 3GPP standards, the RNC applies RRC radio bearer

(RB) control procedures to coordinate active set cells with the WTRU. EX1001 at 2:42-45; EX2012 at ¶ [0011].

163. As Petitioner itself has set forth, this inherent aspect of establishing a connection would have been known to a POSITA and was unnecessary to spell out *in haec verba*. Pet. at 42-43.

164. The mere fact of sending configuration information to “establish connections” with cells is the sort of background information about the inherent functioning of base stations that comes with the knowledge of what has come before for a POSITA.

165. It is implausible that connections could be established with any cells without configuration information being received by the WTRU, and Petitioner has cited no way in which this could occur.

5. Petitioner Waived Any Priority Challenge to Claims 7, 8, 11, and 12.

166. I am aware that Petitioner argues that its written description challenge applies to claims 7, 8, 11, and 12. Paper 12 at 4-5. In my review of the Petition, this is not what was set forth.

167. Aside from a blanket statement about “[t]he challenged ’803 Patent claims,” I observed that Petitioner’s arguments regarding priority claims did not address the claim language of any claim except claim 1. Pet. at 9-12.

168. I note that Petitioner's Preliminary Reply points to the similarity of language between claim 1 and claims 7, 8, 11, and 12.

169. The claim language is not identical, and it is my observation that Petitioner has not explained the difference between these claims.

170. Petitioner also points to its argument about "the claim requirement of 'receiving of configuration information.'"

171. I have reviewed the claim language and found that this precise language is not present in claims 7, 8, 11, and 12.

172. I am informed that an inter partes review is limited to arguments advanced in the petition.

173. It is my understanding that because Petitioner did not address the priority date of claims 7, 8, 11, and 12 in the petition, it cannot do so at this stage.

B. Ground 2: Petitioner Fails to Establish That Claims 1, 2, 5-8, 11, and 12 Would Have Been Obvious Based on Ericsson in View of TS 25.331.

174. In my opinion, Petitioner has not shown by a preponderance of the evidence that claims 1, 2, 5-8, 11, and 12 are invalid based on Ground 2. Ericsson concerns a fundamentally different concept than the invention claimed by the Challenged Claims of the '803 Patent.

175. Specifically, Ericsson teaches a hard handover from a source cell to a target cell, which is a break-before-make transition where the WTRU is never

connected to both cells simultaneously. This is fundamentally different from the '803 Patent's coordinated architecture where a WTRU is simultaneously connected to a primary cell and one or more non-primary cells.

176. This deficiency means Ericsson does not teach primary and non-primary cells and fails to disclose or render obvious multiple claim limitations as I have set forth above.

1. Ericsson's Hard Handover Fails to Disclose the Claimed Simultaneous Multi-Cell Architecture.

177. Claims 1 and 7 require that "a primary cell is associated with a wireless network node and one or more non-primary cells are associated with the wireless network node." EX1001 at claim 1; claim 7. As I have discussed previously, it is my opinion that the plain and ordinary meaning of "primary cell" and "non-primary cell" is that these are cells to which the WTRU is simultaneously connected. These terms describe a coordinated set of cells with operational roles, not temporal labels for cells in a sequential transition.

178. It is my opinion that Ericsson does not disclose this limitation. Ericsson concerns a handover process whereby "[t]he serving HS-DSCH cell is changed without change of the active set." EX1005 at 1. The WTRU in Ericsson is never connected to more than one cell at the same time. Instead, Ericsson teaches a "transition from source to target HS-DSCH cell [which] is performed

synchronised, i.e. at a given activation time.” EX1005 at 4. In other words, while there is a transition from a source cell to a target cell, there is never a simultaneous connection to both.

179. Ericsson describes a hard handover, which is a break-before-make transition where resources are released in the source cell before being assigned in the target cell. EX1005 at 1-3. In a hard handover, the WTRU terminates its connection with the source cell before establishing a connection with the target cell. This is fundamentally different from the '803 Patent's coordinated architecture where the WTRU maintains simultaneous connections to multiple cells, with the primary cell serving as the persistent signaling anchor. EX1001 at 9:7-15.

180. Because Ericsson discloses a hard handover, rather than simultaneous connection to a primary cell and one or more non-primary cells, it is my opinion that Petitioner has failed to establish that Ericsson discloses or renders obvious the claim limitation requiring “a primary cell is associated with a wireless network node and one or more non-primary cells are associated with the wireless network node.” As I noted above, Petitioner does not rely on TS 25.331 to supply this limitation, and Petitioner has not established any motivation for a POSITA to modify the hard handover architecture in Ericsson to include simultaneous multi-cell connection.

a. Ericsson Fails to Disclose the Claimed Messaging Sequence

181. In my opinion, Ericsson's hard handover architecture also means it fails to disclose the messaging limitation of claims 1 and 7, which require "receiv[ing] a message on a downlink shared channel of the primary cell, the message including an indication of at least one of the one or more non-primary cells from which the WTRU is to receive a downlink shared channel transmission." EX1001 at claim 1; claim 7. Ericsson's Physical Channel Reconfiguration message does not satisfy this limitation because that message is a command to terminate the connection with the source cell and move to the target cell. It is a relocation instruction for a hard handover, rather than a scheduling indication for coordinated multi-cell reception as contemplated by the patent. EX1005 at 2-3.

182. From the perspective of a POSITA, there is a fundamental technical distinction between a relocation message and a coordination message. A message instructing a WTRU to leave Cell A and move to Cell B is not technically equivalent to a message on Cell A indicating that the WTRU should receive data on the shared channel of Cell B while remaining connected to Cell A. In the architecture of the '803 Patent, the WTRU maintains simultaneous connections to multiple cells, allowing the primary cell to coordinate reception

from non-primary cells by sending messages that carry shared channel indicators. EX1001 at 8:42-52, 9:4-15.

183. In contrast, Ericsson describes a hard handover where the connection with the source cell is terminated as the connection with the target cell is established. Once this switch occurs, the source cell ceases to exist for the WTRU, precluding any ongoing coordination between the two cells. EX1005 at 3. Because Ericsson's system is based on this sequential transition rather than a coordinated multi-cell architecture, the relocation instruction in Ericsson does not satisfy the claim requirement for a message on a primary cell that indicates a non-primary cell for simultaneous reception.

b. Ericsson Fails to Disclose the Dependent Claim Limitations

184. It is my opinion that Ericsson's hard handover architecture also means it cannot disclose the dependent claim limitations. Claims 2 and 8 require "a time delay between the downlink shared channel transmission and the receipt of the message by the WTRU." EX1001 at claims 2, 8. I am aware that Petitioner contends that the "activation time" in Ericsson satisfies this limitation. Pet. at 48. However, Ericsson's "activation time" is the period during which the WTRU is transitioning between cells and is connected to neither. This represents the "break" in a break-before-make hard handover. EX1005 at 4.

185. The claimed “time delay” presupposes simultaneous connection to both cells, with a temporal offset between receiving a message on the primary cell and receiving a transmission from a non-primary cell.

186. Consequently, Ericsson does not satisfy this limitation and, further, cannot because there is no simultaneous connection.

187. Claims 5 and 11 require “receiv[ing] a grant for an uplink transmission from the primary cell,” and claims 6 and 12 require “process[ing] an acknowledgement/negative acknowledgement to the uplink transmission received only from the primary cell.” EX1001 at claims 5, 6, 11, 12. I understand Petitioner argues these features are “well known.” Pet. at 55. I disagree. It is my opinion that Petitioner fails to explain why a POSITA would implement primary cell-only feedback in Ericsson’s hard handover architecture.

188. In a hard handover, the WTRU is only connected to one cell at a time, so there is no need to designate one cell as the exclusive source of grants or feedback.

189. The “primary-only” limitation makes sense only in the context of simultaneous multi-cell connection, an architecture Ericsson’s hard handover does not disclose.

2. Petitioner Fails to Establish a Motivation to Combine Ericsson and TS 25.331 in the Manner Suggested.

190. It is also my opinion that Petitioner has failed to establish that a POSITA

would have been motivated to combine Ericsson with TS 25.331 to arrive at the claimed invention. The '803 Patent is related to wireless communications and, more particularly, to an enhanced uplink (EU) operation during a soft handover. EX1001 at 1:23-25. The '803 Patent addresses a specific technical problem: how to efficiently manage simultaneous connections between a WTRU and multiple cells controlled by the same Node-B, where one primary cell serves as the persistent signaling anchor for coordinating reception from non-primary cells. EX1001 at 8:42-52, 9:4-15. In this architecture, a primary cell serves as the signaling anchor for coordinating reception from non-primary cells by sending a message carrying a shared channel indicator.

191. While Ericsson is in the field of wireless communications, it is directed to a different aspect of that field. Ericsson concerns changing the serving HS-DSCH cell during a hard handover “without change of the active set.” EX1005 at 1. A POSITA would not look to Ericsson when seeking to solve the problem of coordinating simultaneous multi-cell connections because Ericsson’s hard handover architecture is fundamentally incompatible with simultaneous connection. Furthermore, Ericsson is not solving the same problem as the '803 Patent. Ericsson is concerned with minimizing disruption during a sequential transition from one cell to another, while the '803 Patent is concerned with coordinating simultaneous connections to multiple cells. These are distinct

problems requiring different solutions. EX1005 at 1, 3-4.

192. TS 25.331 is the 3GPP specification for Radio Resource Control (RRC) procedures. EX1006 at 35. While TS 25.331 is in the field of wireless communications, it is a general-purpose protocol specification and does not address the specific architecture of simultaneous connection to primary and non-primary cells. TS 25.331 describes procedures for the establishment, reconfiguration, and release of Radio Bearers. EX1006 at 35. It does not address the problem of coordinating simultaneous connections to primary and non-primary cells controlled by the same Node-B, and therefore does not solve the same problem as the '803 Patent.

193. It is my opinion that a POSITA would not be motivated to combine Ericsson and TS 25.331 to arrive at the claimed invention because neither reference is analogous art directed to the problem solved by the '803 Patent. Petitioner asserts that a POSITA would have combined Ericsson and TS 25.331 to “improve throughput,” but I find this generic assertion to be insufficient. Pet. at 35-36. A POSITA seeking to improve throughput through simultaneous multi-cell operation would not start with a hard handover reference like Ericsson, which is designed for sequential cell transitions.

194. Even if a POSITA were motivated to combine Ericsson and TS 25.331, the combination would not yield the claimed invention. Ericsson's hard handover

architecture cannot be modified to include simultaneous connection to primary and non-primary cells without fundamentally changing the nature of Ericsson's system. Such a modification would not be a combination of the references; it would be a redesign of Ericsson's architecture using the '803 Patent as a roadmap. I am informed that this constitutes impermissible hindsight.

C. Ground 3: Sebire Does Not Cure the Deficiencies of the Ericsson Combination

195. I have also analyzed Ground 3, which I understand relies on combining Ericsson with Sebire to attempt to satisfy the specific uplink and feedback limitations of Claims 5, 6, 11, and 12. I disagree that a POSITA would have been motivated to combine Sebire with the Ericsson combination. Sebire is directed to 2G GPRS technology, which is not compatible with 3G technologies and specifically with the 3G Enhanced Uplink architecture of the '803 Patent. Even if this combination was made, Sebire does not cure the deficiencies of the Ericsson combination.

1. Sebire Does Not Disclose the Primary-Only Feedback Limitation.

196. Claims 6 and 12 require "process[ing] an acknowledgement/negative acknowledgement to the uplink transmission received only from the primary cell." EX1001 at claims 6, 12. It is my opinion that Sebire does not disclose this limitation because it does not teach or suggest either expressly or to a POSITA a "primary cell".

197. Sebire is directed to handover in a 2G GPRS system. EX1007 at 2. In Sebire, the handover involves a source cell providing a UE with TBF link information for a target cell, after which the operation proceeds in that target cell. EX1007 at 3-4. This is a break-before-make transition, similar to Ericsson's hard handover, where the UE is connected to only one cell at a time.

198. While Sebire does disclose the concept of acknowledged mode operation, where transmitted data blocks are acknowledged or negatively acknowledged, it does not disclose that this feedback is received "only from the primary cell" while the WTRU remains connected to multiple cells. In Sebire, feedback is provided by the cell that is currently serving the TBF, because the UE is only connected to one cell at a time. EX1007 at 18, 24.

199. I note that Petitioner's own expert, Dr. Kakaes, confirmed at deposition that TS 25.331 "does not explicitly disclose that [ACK/NACK] is received only for the primary cell." EX2013 at 115:8-12. Dr. Kakaes further admitted that Sebire "does not address the soft buffer corruption" problem that motivates the primary-only feedback limitation. EX2013 at 93:20-94:3.

200. In my opinion, the "primary-only" feedback limitation makes sense only in the context of simultaneous multi-cell connection, where multiple cells could potentially provide conflicting feedback. In the 2G GPRS system of Sebire, there is no simultaneous multi-cell connection and therefore no need to restrict feedback to

a single primary cell. Accordingly, a POSITA working on Ericsson's 3G hard handover architecture would have no reason to look to Sebire's 2G GPRS system for guidance on implementing primary-only feedback, because Sebire neither faces the problem that the limitation solves nor teaches the solution. Because Sebire does not disclose the "primary-only" limitation, and Petitioner has not identified any other reference that does, it is my opinion that Ground 3 fails as to claims 6 and 12. Furthermore, because Ericsson and TS 25.331 are directed to sequential transitions where the WTRU communicates with only one cell at a time, they fail to teach or suggest the coordinated uplink grant and feedback mechanisms of Claims 5 and 11, which require the WTRU to process control signaling from a persistent primary cell while maintaining associations with non-primary cells.

2. Sebire Does Not Disclose the Primary-Only Control Logic Required by the Claims.

201. Even if Sebire disclosed the claimed limitations, which it does not, it is my opinion that Petitioner has failed to establish that a POSITA would have been motivated to combine Ericsson and TS 25.331 with Sebire to arrive at the claimed invention. The '803 Patent is directed to wireless communication systems, and specifically to methods and apparatus for enhanced uplink (EU) operation during a soft handover. EX1001 at 1:22-25. The '803 Patent addresses a distinct problem: how to efficiently manage simultaneous connections between a WTRU and multiple

cells controlled by the same Node-B, including restricting feedback to a primary cell to avoid conflicts. EX1001 at 8:42-52, 9:4-15.

202. Sebire is directed to a fundamentally different technology. Sebire concerns handover in a 2G GPRS system, which operates on entirely different protocol layers and physical principles than the 3G WCDMA/HSPA system of the '803 Patent. EX1007 at 2. Sebire teaches a Temporary Block Flow (TBF) mechanism for managing packet data in a 2G system. EX1007 at 3-4. In my view, a POSITA would not look to a 2G GPRS reference like Sebire when seeking to solve problems in a 3G Enhanced Uplink system, because the mechanics of 2G TBF resource allocation are not interchangeable with the high-speed, multi-cell Hybrid Automatic Repeat Request (HARQ) processes used in 3G Enhanced Uplink. 2G GPRS does not use HARQ, but standard Automatic Repeat Request.

203. I note that Petitioner's own expert, Dr. Kakaes, could not identify any 3GPP document from 2004 or earlier that suggests combining 2G GPRS with 3G systems. When asked "Is there a 3GPP document from 2004 or earlier that suggests combining 2G to 3G?", Dr. Kakaes testified: "I would have to look for that and see if such a document exists. I don't know the answer to that question." EX2013 at 108:8-10.

204. A POSITA would not be motivated to combine Ericsson, TS 25.331, and Sebire to arrive at the claimed invention because Sebire is not analogous art

directed to the problem solved by the '803 Patent. Sebire is solving a different problem, which is reducing transmission gaps during 2G GPRS handover, in a different technological generation. By 2004, 3GPP had already established sophisticated 3G feedback mechanisms. EX1006 at §§ 8.5, 8.6. Moving backward to adapt 2G GPRS TBF mechanics would represent a technical regression.

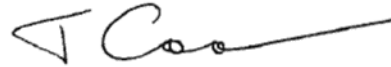
205. Even if a POSITA were motivated to combine Ericsson, TS 25.331, and Sebire, the combination would not yield the claimed invention. Neither Ericsson nor Sebire discloses simultaneous connection to primary and non-primary cells, and adding Sebire's 2G TBF mechanism to Ericsson's 3G hard handover would not create the coordinated multi-cell architecture required by the claims. I believe the only roadmap for such a modification is the '803 Patent itself. I am informed that this is impermissible hindsight under *In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

VII. SUPPLEMENTATION

206. I reserve my right to supplement or amend this Declaration in light of any additional information or documents, or in response to any critique of my Declaration or alternative opinions advanced by or on behalf of Petitioner.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and/or imprisonment under Section 1001 of Title 18 of the United States Code, and such willful false statements may jeopardize the validity of the patent which is under review in this proceeding.

Dated: March 10, 2026

A handwritten signature in black ink, appearing to read 'T. Cooklev', written over a horizontal line.

Todor Cooklev, Ph.D.