UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION,
Petitioner

v.

INTERDIGITAL PATENT HOLDINGS, INC.,
Patent Owner

IPR2024-00537
IPR2024-00538

DECLARATION OF GEORGE EDWARDS

IN REGARD TO THE PETITIONS FOR *INTER PARTES* REVIEW OF

U.S. PATENT NO. 8,737,933
U.S. PATENT NO. 9,173,054

1. INTRODUCTION

1. I have been retained as an expert in computer science to provide analysis and opinions related to whether certain claims of U.S. Patent No. 8,737,933 ("the '933 Patent") and U.S. Patent No. 9,173,054 ("the '054 Patent") are anticipated or rendered obvious by prior art asserted by Petitioner Microsoft. I understand that Microsoft has asserted that art such as Forutanpour anticipates the '933 and '054 Patents, including the following two limitations recited in Claims 1 and 23 of the '933 Patent as well as Claims 1 and 23 of the '054 Patent[1]:

- Using Bluetooth to detect nearby devices and then
- Using WiFi to transfer a media element to one of the detected devices.[2]

2. Microsoft's assertion is predicated on the assertion that the specification of the '933 Patent, as well as all parent applications to which the '933 Patent claims priority, do not disclose the aforementioned two limitations recited in Claims 1 and 23. However, these limitations are supported by the first utility application (the '948 Application, Ex-1282) which was filed on December 22, 2009, which predates the

[1] The '933 and '054 patents use similar language for the two limitations at issue, with a minor distinction being that the '054 patent uses the term "media" instead of "media element."
[2] IPR2024-00537, Petition, 19.

primary reference (Forutanpour) asserted by Microsoft and renders the reference invalid as prior art.

3. The specification of the ’948 Application includes written description of communication peripherals of each WTRU of the invention, where the communication peripherals “may include technologies such as a third generation partnership (3GPP) second or third generation (2G/3G) modem, Bluetooth® or WiFi®.” [3] The specification discloses the usage of multiple communication technologies being used in a single embodiment. (“Any combination of or all of these communication technologies may be implemented in a single component design.” [4] The application therefore discloses that the inventor contemplated a limited number of combinations of the communication technologies described in the application, including the usage of Bluetooth and WiFi in a single embodiment.

4. Testimony of the inventor Alexander Reznik further supports that the named inventors at the time of the invention contemplated the embodiment of the invention disclosed in the ’948 application which uses Bluetooth for detecting nearby WTRUs and WiFi for transferring media elements from the sending WTRU to a Bluetooth-detected receiving WTRU.

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[3] Ex-1282, [0024]; Ex-1201, 2:60-63.

[4] Ex-1282, [0024]; Ex-1201, 2:63-65).

5. In my opinion, the subject matter of the claims of the ’933 and ’054 Patents, including the Challenged Claims[5] identified in the Petitions, were disclosed by the inventors and would be discernable to a POSITA, at least as early as December 22nd, 2009. For this reason, it is my opinion that the primary reference Microsoft has asserted in the Petition, Forutanpour, is not prior art to the ’933 or ’054 Patents because as Microsoft acknowledges that reference was published on April 7, 2011.

6. The ’933 and ’054 patents will be hereby referred to as the “InterDigital Patents.” I submit this declaration as a statement of the opinions I have formed and the factual basis for the opinions. I understand that this declaration is submitted in regard to InterDigital’s Patent Owner Preliminary Response to: Petition for *Inter Partes* Review of U.S. Patent No. 8,737,933 (IPR2024-00537) and Petition for *Inter Partes* Review of U.S. Patent No. 9,173,054 (IPR2024-00538). I am prepared to testify as to the matters discussed here.

[5] Microsoft challenges the patentability of claims 1-9, 11, 13-14, 20-31, 33, 35-36, and 42-44 of the ’933 Patent in IPR2024-00537 and claims 1, 3-10, 12, 14-15, 21, 23, 25-32, 34, 36-37, 43, 46-47, and 49-50 of the ’054 Patent in IPR2024-00538. I refer to these claims collectively as the “Challenged Claims.”

7. My employer, Quandary Peak Research, is paid a consulting fee for my time working on this matter. I have no personal interest in this matter, and my compensation does not depend in any way on the opinions I express or the outcome.

2. SUMMARY OF QUALIFICATIONS

8. A detailed list of my qualifications is set forth in my *curriculum vitae*, a copy of which is attached as Exhibit A. Within the broad field of computer science, my specific areas of expertise encompass software engineering, distributed systems, software architecture, software analysis, computer programming, mobile device software, Internet software, and embedded software. I have direct experience building and analyzing web applications, desktop applications, mobile apps, and databases. Therefore, I believe I am qualified to express expert opinions related to the InterDigital Patents.

2.1. Educational Qualifications

9. I graduated summa *cum laude* with a Bachelor of Science degree in computer science from Vanderbilt University in 2003. As an undergraduate, I was awarded the Vanderbilt School of Engineering Merit Scholarship. I spent one year in the MS program in computer science at Vanderbilt. During this time, I conducted research on application servers and code generators for distributed, real-time, and embedded ("DRE") systems, and I published my findings in several peer-reviewed conference papers and journal articles.

10.I attended graduate school at the University of Southern California, where I was a USC Viterbi School of Engineering Dean's Doctoral Fellow and Annenberg Graduate Fellow. I received an MS in computer science in 2006 and a PhD in computer science in 2010 from USC. My MS research focused on DRE systems. My PhD research focused on the analysis of distributed systems and their architecture. My research was funded by several government agencies, such as the Department of Defense and the NSA, and large companies, such as Bosch and Infosys. I presented my work at numerous conferences and in academic journals, industry magazines, and other publications. In 2008, I received the USC Computer Science Department's award for outstanding graduate student research.

2.2. Professional Qualifications

11.I am the founder of Quandary Peak Research, Inc., where I hold the titles of President and Principal Computer Scientist. Quandary Peak is a software analysis company with offices and staff experts in the Los Angeles, Nashville, Chicago, Austin, San Francisco, and Washington, D.C, areas. Quandary Peak's software analysis services fall into three areas: (1) audits and compliance in highly regulated industries; (2) technical due diligence in mergers and acquisitions; and (3) litigation and intellectual property. In all three areas, Quandary Peak analyzes software and computer systems to answer questions about the development, structure, behavior, and quality of those systems.

12. In my role as President, I oversee and manage the company's software analysis services. In my role as Principal Computer Scientist, I perform software analysis on behalf of clients. I have analyzed and reverse-engineered a broad variety of complex, real-world software systems, including web applications, desktop applications, mobile apps, and databases. I have conducted many investigations for various companies of the design and implementation of these distributed systems with respect to specific patent claims and other intellectual property considerations, such as copyright infringement and trade secret theft.

13. I was formerly employed as a Lecturer of Computer Science at the University of Southern California. In that capacity, I taught Requirements Engineering (CSCI 568), a graduate-level software engineering class, and Data Structures and Algorithms (CSCI 102), an undergraduate-level software design and programming class.

14. I also previously worked as a research scientist and software engineer at Blue Cell Software LLC, Intelligent Systems Technology, Inc., IBM, and The Boeing Company. During my time with Blue Cell, I built a simulation-based software design and modeling environment. While at IBM, I conducted research on next-generation mobile architectures, such as large-scale mobile device provisioning systems. At Boeing, I helped to design software for collecting and processing sensor data and geo-location data from military vehicles.

15. I have authored over thirty scholarly journal articles, magazine articles, conference papers, and book chapters on various topics related to software engineering and distributed systems. I have co-authored many peer-reviewed papers specifically related to software design, source code analysis, web applications, mobile devices, and cloud computing.[6]

16. I have delivered numerous invited lectures, seminars, and technology demonstrations related to software design and analysis for university courses, research symposia, conferences, workshops, and industry events in the field of computer science. I have also served as a reviewer, committee member, or panelist for over a dozen computer science journals, magazines, and conferences.

2.3. Prior Testimony

17. On July 17, 2013, I testified by deposition in the matter of *Essociate, Inc. v. Neverblue Media, Inc.*, a patent case in the U.S. District Court for the Central District of California.

18. On November 25, 2013, I testified in U.S. District Court for the Eastern District of Virginia as an expert in mobile devices in a patent infringement matter, *Porto Technology Co., Ltd. and Porto Technology, LLC v. Cellco Partnership d/b/a Verizon Wireless and Verizon Services Corp*.

[6] *See* my *curriculum vitae*. (Exhibit A**)**

19. On June 9, 2014, I testified by deposition in the matter of *SecurityBase.com v. Jeffrey Essick, et al.*, a breach-of-contract suit brought in the Superior Court of California for the County of Orange.

20. I testified both by deposition (on June 17, 2014) and in U.S. District Court for the District of Kansas (on June 24, 2014) in the matter of *AgJunction, LLC v. Agrian, Inc. et al.*, a copyright and trade secret case.

21. I testified both by deposition (on October 12, 2015) and in U.S. District Court for the Southern District of California (on December 7 and 8, 2015) in the matter of *Anthony Johnson v. Storix, Inc.*, a copyright infringement matter.

22. On August 15, 2016, I testified by deposition in the matter of *Backflip Software, Inc. v. Cisco Systems, Inc. et al.*, a breach-of-contract suit brought in the Superior Court of California for the County of Santa Clara.

23. On July 12, 2017, I testified by deposition in the matter of *Implicit, LLC v. Trend*

Micro, Inc., a patent case in the U.S. District Court for the Eastern District of Texas.

24. On December 8, 2017, I testified by deposition in the matter of *Farmers Edge Inc., Farmers Edge (US) Inc., and Farmers Edge (US) LLC v. Farmobile, LLC, Jason G. Tatge, Heath Garrett Gerlock, and Randall Thomas Nuss*, a trade secret misappropriation case in the U.S. District Court for the District of Nebraska.

25. On December 14, 2017, I testified by deposition in the matter of *Vesta Corporation v. Amdocs Management Limited, et al.*, a trade secret misappropriation case in the U.S. District Court for the District of Oregon.

26. On December 18, 2017, I testified by deposition in the matter of *eBay, Inc.* V. *MasterObjects, Inc.*, an *inter partes review* proceeding before the Patent Trial and Appeal Board of the United States Patent and Trademark Office.

27. On May 23, 2018, I testified in U.S. District Court for the District of Nebraska in the matter of *Farmers Edge Inc., Farmers Edge (US) Inc., and Farmers Edge (US) LLC v. Farmobile, LLC, Jason G. Tatge, Heath Garrett Gerlock, and Randall Thomas Nuss*.

28. On June 28, 2018, and May 25, 2021, I testified by deposition in the matter of *Bryndon Fisher v. The United States of America*, a class action lawsuit in the U.S. Court of Federal Claims.

29. On December 5-6, 2019, I testified by deposition in the matter of *American National Manufacturing, Inc. v. Sleep Number Corporation*, an *inter partes* review proceeding before the Patent Trial and Appeal Board of the United States Patent and Trademark Office.

30. On August 9, 10, and 11, 2022, I testified in the matter of *Farmobile, LLC v. Farmers Edge, Inc.*, a patent case in the Federal Court of Canada.

31. On August 11, 2023, January 19, 2024, and January 29, 2024, I testified by deposition in the matter of AGI SureTrack LLC v. Farmers Edge Inc. and Farmers Edge (US) Inc., a patent case in the U.S. District Court for the District of Nebraska.

3. INFORMATION CONSIDERED

32. In forming my opinions, I have considered:

- U.S. Patent Nos. 8,737,933 and 9,173,054 their file histories.
- Microsoft's Petition for *Inter Partes* Review of U.S. Patent No. 8,737,933 (IPR2024-00537) and the materials cited therein.
- Microsoft's Petition for *Inter Partes* Review of U.S. Patent No. 9,173,054 (IPR2024-00538) and the materials cited therein.
- Exhibits 1201– 2012.
- My education, training, and experience in the field.
- Other materials cited in this declaration.

4. LEGAL STANDARDS

4.1. Overview

33. I am not an attorney or a legal expert. The legal standards I applied in reaching the conclusions expressed throughout this declaration were provided to me by counsel. In preparing this declaration, I have endeavored to faithfully apply these legal standards. I do not intend to offer opinions on the law. Below, I describe the law I applied in considering whether the claims of the InterDigital Patents are

supported by the disclosure in the ’948 Application (and their respective patent specifications) and thus whether Forutanpour is prior art.

34. I have been informed that an issued patent is presumed valid and that the challenger of the patent’s validity bears the burden of proving invalidity of the patent.

4.2. Patent Claims

35. Patent claims describe the invention made by the inventors and describe what the patent owner owns and what the owner may prevent others from doing. Claims may describe products, such as machines or chemical compounds, or processes for making or using a product. Claims are usually divided into parts or steps called limitations.

36. There are two types of claims: independent claims and dependent claims. An independent claim sets forth all the requirements that must be met in order to be covered by that claim. Thus, it is not necessary to look at any other claim to determine what an independent claim covers. A dependent claim does not itself recite all of the requirements of the claim but refers to another claim for some of its requirements. In this way, the claim depends on another claim. The law considers a dependent claim to incorporate all of the requirements of the claims to which it refers. The dependent claim then adds its own additional requirements. To determine what

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a dependent claim covers, it is necessary to look at both the dependent claim and any other claims to which it refers.

37. In that case, the dependent claims incorporate the limitations of the independent claim upon which they depend, and if a reference fails to disclose any of the limitations of an independent claim, the claims which depend on that claim cannot be made invalid by that reference. As a result, any of the references at issue in this proceeding that fail to disclose all of the limitations of an independent claim necessarily also fail to disclose all of the limitations of claims which depend on that claim.

4.3. Burden of Proof for Invalidity

38. I understand that the party challenging the validity of an issued United States patent in an IPR bears the burden of proving invalidity through facts supported by a preponderance of the evidence. I understand that a "preponderance of the evidence" means evidence sufficient to prove that a fact is more likely true that it is not.

4.4. Claim Construction

39. I understand that the first step in determining validity is to properly construe the claims. I further understand that, in this proceeding, the Board must determine the scope of the claims by using the same claim construction standard that United States District Courts use. Under this standard, words of a claim are given their "ordinary" and "customary" meaning as understood by a person of skill in the art at

the time of the invention. I understand that such a person looks to the claims, specification, and file history in understanding the meaning of the claim terms. I have applied this understanding in this declaration. I also understand that neither party has proposed constructions for any of the terms in the Challenged Claims of the InterDigital Patents.

4.5. Person of Ordinary Skill in the Art

40.I understand that a person having ordinary skill in the art may be defined by factors such as: (a) the levels of education and experience of the inventor and other persons actively involved in the field; (b) the types of problems encountered in the field; (c) prior art solutions to those problems; (d) rapidity with which innovations are made; and (e) the sophistication of the technology.

4.6. Prior Art

41.I understand that a patent cannot be invalidated based on one person's testimony alone without corroborating evidence, particularly documentary evidence. Moreover, I understand that corroboration is required of any witness whose testimony alone is asserted to invalidate a patent, regardless of his or her level of interest in relation to that patent. Accordingly, even if the testifying individual has no interest in the litigation, I understand that that corroboration is still required.

42.In this declaration, I may use the phrase "prior art" when describing specific references. However, my use of this phrase should not be interpreted as agreement

that the item(s) described qualify as prior art under the patent laws. I merely use this phrase to address the items labeled as "prior art" by Petitioner and its expert.

4.7. Anticipation

43.I understand that a patent claim can be found invalid as anticipated if each and every element of the claim, as properly construed, is found either explicitly or inherently in a single prior art reference. However, I also understand that in order to anticipate a patent claim, the reference itself must actually qualify as prior art. If the single prior art reference does not disclose any one claim limitation, then that claim is not anticipated. I further understand that the single prior art reference cannot merely disclose each element; rather, it must disclose all of the elements as arranged in the claim. I have been informed that for a prior art reference to "inherently" disclose something, the reference must necessarily function in accordance with, or include the claimed limitations, to anticipate. The missing descriptive matter cannot merely probably or possibly include the claimed limitations. I further understand that, with respect to an anticipation analysis, it is improper to combine separate, distinct embodiments of a single prior art reference.

44.I understand that for a claim to be anticipated, each claim limitation must be disclosed in a single prior art reference, and the claimed arrangement or combination of those limitations must also be disclosed in that same prior art reference. I understand that for a reference to be anticipatory, the reference must contain an

enabling disclosure. I understand that merely naming or describing the subject matter is insufficient if it cannot be produced without undue experimentation.

4.8. Obviousness

45.I understand that a patent claim can be found invalid as obvious if the differences between the claim and the prior art references would have been obvious to a person of ordinary skill in the art at the time of the invention, taking into account (1) the scope and content of the prior art, (2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any objective indicia of non-obviousness. I further understand that a claim can be found to be obvious in light of either a single prior art reference or multiple prior art references. I understand that references qualify as prior art for an obviousness determination only when they are analogous to the claimed invention. Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed; and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. However, as I noted above I also understand that in order to render a patent claim obvious, the reference itself must actually qualify as prior art.

46.To be obvious in light of a single prior art reference or multiple prior art references, there must be a reason either to modify either the single prior art

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reference or to combine the two or more prior art references to achieve the claimed invention. I understand that this reason may come from a teaching, suggestion, or motivation to combine or may come from the reference or references themselves, the knowledge or "common sense" of one skilled in the art, or from the nature of the problem to be solved, and may be explicit or implicit from the prior art as a whole. The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.

47.I further understand that there is no suggestion to combine, however, if a reference teaches away from its combination with another source. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant, or if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. If when combined, the references would produce a seemingly inoperative device, then they teach away from their combination. I understand that it is improper to combine references where the references teach away from their combination.

48.I understand that the degree of teaching away will depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of

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the result sought by the applicant. I understand that a reference teaches away, for example, if (1) the combination would produce a seemingly inoperative device, or (2) the references leave the impression that the product would not have the property sought by the applicant.

49.I understand that if the teachings of a prior art reference would lead one skilled in the art to make a modification that would render another prior art device inoperable, then such a modification would generally not be obvious. I understand that if a proposed modification would render the prior art device unsatisfactory for its intended purpose, then the proposed modification would generally not be obvious.

50.I understand that it is improper to use hindsight in making the obviousness determination.

51.I understand that some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness must be made. For example, I understand that there may be no rational underpinning to support the legal conclusion of obviousness where systems are already complete and the party challenging validity seeks to mix and match components, which each exist in the separate systems, from these complete systems.

4.9. Objective Indicia

52.I understand that objective indicia of non-obviousness must be taken into account in a proper obviousness analysis and that these objective indicia of non-obviousness may include the following: (1) failure of others; (2) long-felt but unmet need for the claimed invention; (3) commercial success attributable to the claimed invention; (4) unexpected results of the claimed invention; (5) initial skepticism; (6) prior art teaching away from the claimed invention; (7) professional approval; (8) licensing; (9) acquiescence to the patent's validity; (10) copying of the claimed invention by others, and (11) progress through the Patent Office. I further understand that a so-called nexus between the merits of the claimed invention and evidence of objective indicia of non-obviousness is required in order for the evidence to be given substantial weight in an obviousness determination. As an example, I understand that nexus can be established if there was commercial success and if the invention disclosed in the patent was that which was commercially successful.

4.10. Written Description

53.I understand that the priority of a patent claim can challenged for not meeting the written description requirement, which is found in section 112 of the patent laws.

54.I understand that the amount of detail that must be included in the specification depends on the subject matter that is described and its role in the invention as a whole, in view of the existing knowledge in the field of the invention.

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I understand that section 112 does not require the drafter to encumber the specification with information known to a person of skill in the field of the invention; nor does section 112 require that the specification reproduce information routinely possessed by persons in the field of the invention.

55. In addition, the written description requirement implements the principle that a patent must describe the technology that is sought to be patented. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. Possession of the claimed invention can be shown by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. Compliance with the written description requirement is essentially a fact-based inquiry that will necessarily vary depending on the nature of the invention claimed.

56. A question as to whether a specification provides an adequate written description may arise in the context of determining whether an original claim is described sufficiently, or whether new or amended claims are supported by the description of the invention in the application as filed. While there is no verbatim (*i.e.*, exact language) requirement, newly added claims or claim limitations must be supported in the specification through express, implicit, or inherent disclosure. The

fundamental factual inquiry is whether the specification conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, the applicant was in possession of the invention as claimed.

5. LEVEL OF ORDINARY SKILL IN THE ART

57. I understand that Microsoft has described a POSITA as follows: "The person of ordinary skill in the art in December 2008 ("POSITA") would have held a bachelor's degree in computer science, electrical engineering, computer engineering, or a closely related field, and one to three years of experience working with wirelessly connected mobile devices that used common wireless communications protocols such as Bluetooth and 802.11 / Wi-Fi. More education, *e.g.*, a Master's or Ph.D., would compensate for less work experience and vice versa." For the sake of this declaration I have adopted that level of skill, which I meet. I reserve the right to modify this level of skill at a later date.

6. THE '933 AND '054 PATENTS

58. The '933 and '054 Patents share a common specification and are continuations of the originally filed '948 Application. The following description is applicable to both the '933 and '054 Patents, but the citations I provide are to the '933 Patent.

59. For the purposes of my analysis, the only difference between the two patents are the claims. For example, Claim 1 of the '933 Patent, shown below, includes limitations related to a method for detecting "a plurality" of wireless transmit/receive

units (WTRUs) using Bluetooth and transferring data to one of those detected WTRUs using WiFi. Similarly, Claim 23 of the ’933 Patent includes limitations reciting a WTRU to perform these functions.

60. In contrast, Claim 1 of the ’054 Patent includes limitations related to a method for detecting “another” wireless transmit/receive unit (WTRU) using Bluetooth and transferring data to “the another” detected WTRU using WiFi. Similarly, Claim 23 of the ’054 Patent includes limitations reciting a WTRU to perform these functions.

61. My analysis and opinions are equally applicable to the ’933 and ’054 Patents.

62. Claims 1 and 23 of the ’933 Patent describe a method and apparatus for wirelessly transferring data from a wireless transmit/receive unit, such as a mobile device or smartphone. The method of the patent describes that a user can provide an input to a touch display to select media in an application, at which point the mobile device and processor uses Bluetooth to detect a plurality of mobile devices from which the user may select one for transmission. The user’s mobile device then sends a message to the target mobile device, at which point a user of the target mobile device can choose to accept or reject the transmission. If the transmission is accepted, the media is transmitted over Wi-Fi.

63. Claim 1 of the ’933 Patent is representative and is shown below.[7]

[7] Ex-1201, 10:54-67.

> 1. A method performed by a wireless transmit/receive unit (WTRU), the method comprising:
>
> processing, by the WTRU, a touchscreen input to select a media element;
>
> detecting, by the WTRU using Bluetooth, a plurality of WTRUs in proximity to the WTRU;
>
> processing, by the WTRU, another touchscreen input to select a WTRU of the plurality of WTRUs;
>
> sending, by the WTRU, a message to transfer the selected media element to the selected WTRU;
>
> receiving, by the WTRU, an acceptance to transfer the selected media element to the selected WTRU; and
>
> transferring, by the WTRU using a WiFi communication, the selected media element to the selected WTRU.

64. Claim 1 describes the WTRU as a device with wireless communications technology, a processor, and a touch display.[8] The first WTRU allows a user to provide a touchscreen input indicating media from an application that is meant to be transmitted to a second WTRU. Upon the touch input from the user, the WTRU uses wireless communications technology to detect a target WTRU in proximity to the first WTRU. The wireless communications technology includes "technologies such

[8] Ex-1201, 10:54-67, Figure 1; 2:42-45.

as a third generation partnership (3GPP) second or third generation standards (2G/3G) modem, Bluetooth© or WiFi©."[9]

65. In one embodiment, a transmitting WTRU can gather environment information about target WTRUs "via a service discovery protocol (SDP) such as currently available protocols such as Bluetooth© …."[10] With the information collected on target WTRUs, the transmitting WTRU prepares "instructions for implementing the transfer process through specific components in the communication peripheral."[11]

66. Once the transmitting WTRU has gathered information on nearby target WTRUs, the user can select a target WTRU for transmission of a media element.[12] The transmitting WTRU sends a message to the target WTRU, at which point the user of the target WTRU can choose to accept or reject the transmission.[13] If the user

[9] Ex-1201, 2:61-63.

[10] Ex-1201, 5:38-40.

[11] Ex-1201, 5:38-6:17; 6:50-7:6.

[12] Ex-1201, 7:7-22.

[13] Ex-1201, Abstract; Claim 1; Claim 23.

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of the target WTRU accepts the transmission, the media element is then transmitted to the target WTRU using Bluetooth and Wi-Fi.[14]

67. The ’054 Patent shares a common specification, and as noted above the only difference between the ’933 and ’054 Patents are their claims. Claim 1 of the ’054 Patent is representative and is shown below.[15]

> 1. A method performed by a wireless transmit/receive unit (WTRU), the method comprising:
>
> processing, by the WTRU from a touch display, an input to select media in an application;
>
> detecting, by the WTRU over bluetooth, another WTRU;
>
> processing, by the WTRU, another input from the touch display to select the another WTRU;
>
> sending, by the WTRU to the selected another WTRU, a message to transfer the selected media;
>
> receiving, by the WTRU, an acceptance to transfer the selected media; and
>
> transferring, by the WTRU to the selected another WTRU over WiFi, the selected media.

[14] Ex-1201, 2:45-49; 2:55-65; 4:53-65; 6:50-7:6; Claim 1; Claim 23.

[15] Ex-1201, 10:54-67.

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7. ANALYSIS

7.1. Forutanpour is Not Prior Art to the ’933 and ’054 Patents[16]

68. The earliest priority date of the ’933 Patent predates the earliest priority date of Forutanpour. The Challenged Claims of the ’933 patent are entitled to an earliest priority date of at least December 22, 2009, whereas Forutanpour has an earliest priority date of April 7, 2011. Petition, 32. Forutanpour is therefore not prior art to the ’933 Patent and does anticipate the Challenged Claims of the ’933 Patent (or the Challenged Claims of the ’054 Patent).

69. U.S. Patent Application No. 12/644,948 (“the ’948 Application”) (Ex-1282) was filed on December 22nd, 2009. This is the original utility application to which the ’933 Patent claims priority. The ’933 Patent and the ’948 Application then share a common specification which in the ’948 Application includes written description supporting each of the Challenged Claims.

[16] The following analysis explains why Forutanpour is not prior art to the ’933 Patent. Because Forutanpour is not prior art to the ’933 Patent, it is also not prior art to the ’054 Patent, which is a continuation of the ’933 Patent, has the same specification as the ’933 Patent, and is also a continuation of the ’948 Application (Ex-1282).

70. The question at issue is not just whether the specification discloses both Bluetooth and WiFi functionality; rather, whether the description of the invention supports the independent Claims 1 and 23. Specifically, whether the description supports the claims which recite, for example, "detecting, by the WTRU using Bluetooth, a plurality of WTRUs in proximity to the WTRU" and "transferring, by the WTRU using a WiFi communication, the selected media elements to the selected WTRU."[17]

71. Microsoft has alleged that the '948 Application "[does] not show possession of the claimed method that requires using Bluetooth to detect nearby devices and then using WiFi to transfer a media element to one of the detected devices (or, as in claim 23 and its dependent claims, a processor and/or circuitry configured to carry out such a method)."[18] However, to a POSITA, the '948 Application teaches the usage of Bluetooth detection of proximate WTRUs and WiFi transmission of data between a sending WTRU and a detected WTRU.

[17] Ex-1201, Claim 1; Petition, 25-26.

[18] IPR2024-00537 Petition, 19.

7.1.1. The ’948 Application Discloses the Use of Both Bluetooth and WiFi in a Single WTRU

72. The specification of the ’948 Application is identical to the specification of the ’933 Patent. The specification of the ’948 application includes written description of communication peripherals of each WTRU of the invention. The ’948 Application discloses that “Figure 1 is an illustration of a sending WTRU 101 and a receiving WTRU 103 whereby data is transferred between the WTRUs … [that] are similarly equipped.” [19] In the described invention, each WTRU includes a “communication peripheral 107, and a touchscreen/display peripheral 109,” and “the communication peripheral 107 may be implemented as a wireless personal are network (WPAN) device, for example Bluetooth®, Wireless Universal Serial Bus (W-USB) or WiFi® in ad-hoc mode.”[20] “An application 123 (hereinafter referred to as "TapAPP") may include application software configured to implement a method of data transfer between WTRU 101 and WTRU 103.”[21]

73. As previously mentioned, the ’948 Application specification further describes that the communication peripherals “may include technologies such as a third

[19] Ex-1282, [0024].

[20] Ex-1282, [0024].

[21] Ex-1282, [0024].

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generation partnership (3GPP) second or third generation (2G/3G) modem, Bluetooth® or WiFi®." [22] The specification discloses the usage of multiple communication technologies being used in a single embodiment. ("Any combination of or all of these communication technologies may be implemented in a single component design." [23]). The specification thus discloses that WTRUs may be equipped with any combination of these communication technologies "to implement a method of data transfer between [the sending] WTRU 101 and [the receiving] WTRU 103."[24]

74. This disclosure illustrates that the inventors of the '948 Application contemplated and were in possession of the use of a 3GPP modem, Bluetooth, and WiFi to detect nearby WTRUs and transfer data between sending WTRU and a detected WTRU, and that "[a]ny combination or all of these communication technologies may be implemented in a single component design."[25] There are a limited number of combinations of these communication technologies described in the application, such as the usage of Bluetooth and WiFi in a single embodiment

[22] Ex-1282, [0024]; Ex-1201, 2:60-63.

[23] Ex-1282, [0024]; Ex-1201, 2:63-65.

[24] Ex-1282, [0024]; Ex-1201, 2:63-65.

[25] Ex-1282, [0024].

(*e.g.*, the usage of Bluetooth for detection of nearby WTRUs and WiFi transmission of data to WTRUs). A POSITA reading the specification would conclude that the ’948 Application contemplates using a combination of Bluetooth and WiFi in a single component design. In my opinion, the disclosure of the ’948 Application informs a POSITA that the inventors had possession of the claimed subject matter, including Bluetooth detection of a nearby WTRU and the transfer of data to the detected WTRU using WiFi, at least as early as the filing date of the ’948 Application, which is December 22, 2009.

7.1.2. The ’948 Application Discloses Using Bluetooth for Detecting Neighboring (Nearby) WTRUs

75. The specification of the ’948 Application teaches that the sending “WTRU 101 includes a processor 105 that is configurable to process information from the UI 109 and the communication peripheral 107.”[26] The “[p]rocessor 105 is also configured to receive environment information stored by the communication peripheral 107” that can be used “to identify a target WTRU $101_{c,t}$.”[27] The “environment information stored by the communication peripheral” described

[26] Ex-1282, [0030].

[27] Ex-1282, [0030].

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would include the detection of nearby WTRUs by means of the "communication peripheral."

76. The specification further describes that the environment information 301 may be gathered via a service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®, for example" and "[t]his protocol allows the WTRU 101 to discover the services (e.g. TapAPP as described herein) that are supported by other WTRUs operating in the local environment," including target $WTRU_{c,t}$.[28]

77. A POSITA would understand that the gathering of environment information towards detection of target WTRUs would require the ability to "periodically solicit information from the communication peripheral 107 relating to candidate WTRUs 101c operating in the local areas 211, 213 of a communicating WTRU 101," and allow the information to be easily "regenerated or updated."[29]

78. This would naturally lend itself to a protocol known for low-power operation in standby to accommodate periodic activation to solicit information on nearby

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[28] Ex-1282, [0034] ("Information received in the radio dialog may be analyzed and filtered (e.g. power level, or quality of a received signal) to determine the individual candidate $WTRU_c$ or set of candidate WTRUs 101c in a local proximity.").

[29] Ex-1282, [0033].

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WTRUs. Bluetooth was well-known as a "standard designed primarily for low power consumption" [30] while providing appropriate range to accommodate a recommended "search radius (e.g. 2-3m),"[31] given that Bluetooth is a "low-power, short-range (30 feet) networking specification,"[32] which can provide "a range of 1 meter for a Class 1 device, 10 meters for a Class 2 device, or 100 meters for a Class 3 device."[33] This protocol would fit well for its purpose in the Challenged Claims, *e.g.*, "when two or more devices are in close proximity and require only modest bandwidth."[34]

79. Thus, in my opinion the '948 Application explicitly discloses detecting receiving WTRUs in proximity to a sending (transmitting) WTRU using a Bluetooth SDP, directly naming Bluetooth as including a service discovery protocol (SDP).

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[30] Ex-2007, https://www.eetimes.com/how-bluetooth-uwb-and-802-11-stack-up-on-power-consumption/

[31] Ex-1282, [0033].

[32] Ex-2008, https://ir.inflibnet.ac.in/bitstream/1944/1103/1/59.pdf

[33] Ex-2007, https://www.eetimes.com/how-bluetooth-uwb-and-802-11-stack-up-on-power-consumption/

[34] Ex-2009, https://netsec.ethz.ch/publications/papers/kuo_walker_perrig_simple.pdf

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7.1.3. The '948 Application Discloses Using WiFi to Transfer Data between a Sending WTRU and a Nearby WTRU

80. The specification of the '948 Application further teaches that "Figure 3 shows inputs that may be used to drive a target discrimination algorithm 313 that uniquely identifies a target WTRU for transfer of data."[35] Environment information is "processed to identify a target WTRU 101,"[36] which the target discrimination algorithm utilizes to generate configuration information 309 and transmission instructions 311 which may include "instructions for implementing the transfer through specific components in the communication peripheral" to transfer information to a target $WTRU_{c,t}$.[37]

> Configuration information 309 may include settings for attributes such as power level, antenna orientation, security parameters and the like. Transmission instructions 311 may include information regarding the data to be communicated and the identity of the target WTRU $101_{c,t}$ as well as instructions for implementing the transfer through specific components in the communication peripheral. The configuration information 309

[35] Ex-1282, [0032].

[36] Ex-1282, [0030].

[37] Ex-1282, [0030], Figure 3; [0039]-[0042].

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> and transmission instructions 311 may be delivered to the communication peripheral 107.[38]

81. To a POSITA, it is clear that the '948 Application discloses that "[a]ny combination or all of these communication technologies," including a 3GPP (2G/3G) modem, Bluetooth, of WiFi can be used "in a single component design,"[39] and that transmission instructions can indicate that WiFi should be used to transfer data to the target WTRU. The specification describes that configuration information may include "settings for attributes such as power level, antenna orientation, security parameters and the like."[40] The configuration information may be generated using detected environment information, which may include "detecting a service

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[38] Ex-1282, [0039]; [0042] ("Transmission instructions 517 are generated to facilitate the data transfer to the target WTRUs 101c,t."); Claim 14 ("generating configuration information and target transmission instructions based on the selected media element; and instructing a communication peripheral to transmit the selected media element to the selected target WTRU based on the generated configuration information and transmission instructions.").

[39] Ex-1282, [0024]

[40] Ex-1282, [0039]

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supported by the at least one candidate WTRU" and "exchanging detected service information between the WTRU and the at least one candidate WTRU."[41]

82. As previously mentioned, there are a limited number of combinations of the identified communication technologies. As explained above, the '948 Application discloses using two different communication technologies "in a single component design,"[42] and as such would consider the appropriate communication technologies to use for device detection and data transfer. A POSITA would understand that the gathering of environment information towards detection of target WTRUs would benefit from a low-power communication protocol like Bluetooth without requiring high bandwidth, as discussed in Section 7.1.2. As such, a POSITA would consider various factors such as available services and transmission speed of those services.

83. It was well-known that WiFi offered better transmission speeds; for example, a TechGenix article specifically pointed to the "Higher data rates" of WiFi as an advantage over Bluetooth, while noting that Bluetooth on the other hand offered "low power consumption."[43] WiFi was a known solution for use cases "with

[41] Ex-1282, Claim 2

[42] Ex-1282, [0024]

[43] Ex-2010, https://techgenix.com/80211b-bluetooth/

significant bandwidth requirements."[44] In a real-world testing scenario focused on "transfer speed, how fast files could be moved between computers," the several wireless routers tested were observed to greatly outperform the Bluetooth implementation.[45] In fact, the Linksys WRT54GL exceeded Bluetooth by almost two orders of magnitude with a transfer rate of 48.23 Mbit/s over Bluetooth's modest 0.5 Mbit/s. While this is a 2006 test which does not push Bluetooth to its limits, it serves to illustrate the known data transfer advantage of WiFi at this time. This also illustrates that the comparison of Bluetooth and WiFi was an area of active study and discussion among those working in the field.

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[44] Ex-2009,

https://netsec.ethz.ch/publications/papers/kuo_walker_perrig_simple.pdf

[45] Ex-2011,

https://web.archive.org/web/20200919150247/https://wolfpaulus.com/dts/

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	Copy Time [s]	File Size [Mbit]	MBit/s
Local Copy	1.19	1568.00	1317.65
	0.068	155.97	2293.72
Firewire 400	5.437	1568.00	288.39
	0.574	155.97	271.73
Ethernet 100	9.98	1568.00	157.11
	1.025	155.97	152.17
Ethernet 1000	2.553	1568.00	614.18
	0.287	155.97	543.46
WRT54GC	51.854	1568.00	30.24
	4.396	155.97	35.48
WRT54GL	32.505	1568.00	48.24
	3.268	155.97	47.73
WGR614v6	62.417	1568.00	25.12
	6.071	155.97	25.69
Bluetooth	314	155.97	0.50

84. Combining Bluetooth and WiFi into a single device was also an area of active discussion during this time, such as developments in Bluetooth SIG to address limitations on data transfer speed: ("the Bluetooth profiles that enable sharing of entertainment data are well-established. But usage of these profiles and implementation of hardware and software support for these use cases are currently hindered by the perception that the data transfer speed Bluetooth technology currently offers is insufficient for these scenarios… For example, while Bluetooth technology can easily handle the transfer of a single file, consumers would like the flexibility to share more than just one photo or one song, instead sharing the whole album or a vacation's worth of pictures and video."[46]). Bluetooth was developed to

[46] Ex-2012, https://www.eetimes.com/how-bluetooth-and-802-11-will-team-up-to-deliver-high-speed-wireless-connections/

support interoperability with 802.11 since oftentimes "…the Bluetooth and 802.11 radios [are] already sitting next to each other in so many mobile device[s]."[47] A POSITA would consider the possibility for "Simultaneous WLAN and Bluetooth connections" while understanding that integrating Bluetooth, even with these developments to improve qualities like data transfer speed, is "not intended to replace traditional Wi-Fi use cases."[48] Anyone working to develop a related technology would be "familiar with the tradeoffs and frustrations involved in meeting the consumers' and carriers' demands: cramming more processing power and wireless connectivity into a smaller package while struggling to maintain sufficient battery life."[49]

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[47] Ex-2012, https://www.eetimes.com/how-bluetooth-and-802-11-will-team-up-to-deliver-high-speed-wireless-connections/

[48] Ex-2012, https://www.eetimes.com/how-bluetooth-and-802-11-will-team-up-to-deliver-high-speed-wireless-connections/

[49] Ex-2012, https://www.eetimes.com/how-bluetooth-and-802-11-will-team-up-to-deliver-high-speed-wireless-connections/

85. While Petitioner and its expert have identified Bluetooth SIG and its combination with WiFi in discussion on the State of the Art[50] and cite to Hoddie[51], as an example of Bluetooth SIG developments contributing to the use of Bluetooth and WiFi in conjunction with one another, Petitioner and its expert have chosen not to expressly rely on Hoddie for either of the independent claims 1 and 23 of the '933 and '054 patents when cited in grounds 1 and 2, which only include Hoddie as "background reference." [52]

86. Testimony from Mr. Reznik when asked about Paragraph 39 of the '948 Application (which discusses configuration for data transfer) confirms that the inventors considered that "Bluetooth is usually more of a proximity technology," and "for [data transmission technology], we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth."[53] Indeed, when asked about technologies for data transfer, Mr. Reznik mentioned "…we were looking at families of technologies, right. So I mentioned cellular and WiFi as two good families for

[50] Ex-1203, [38]; [39]; [40]

[51] Ex-1206

[52] Ex-1203, [113]; [120]

[53] Ex-2002, 155:25-156:6.

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data transfer…. I mentioned, you know, 802.15-type stuff — Bluetooth, Zigbee, for example — as things that would have been good for proximity detection."[54]

87. The '948 Application proposes a limited number of communication technologies that would lead to a limited number of permutations for configuration. A POSITA would reasonably understand that WiFi offers the advantage of higher bandwidth at the cost of power consumption, and inversely that Bluetooth offers the advantage of lower power consumption at the cost of bandwidth. Thus, a POSITA would see that WiFi would offer better transmission speed for data transfer (of the media elements), and that Bluetooth would offer better power consumption for periodic scanning and detection of nearby WTRUs. Therefore, a POSITA would understand that the '948 Application contemplates both Bluetooth detection of proximate WTRUs and WiFi data transmission of media elements from a sending WTRU to the target WTRU.

7.1.4. A Named Inventor of the '948 Application and '933 Patent Clearly Contemplated Bluetooth Detection and WiFi Data Transmission between WTRUs

88. Alexander Reznik, a named inventor for the '948 Application and a person of at least ordinary skill in the art, was deposed by Microsoft RPI Lenovo in connection

[54] Ex-2002, 64:2-17.

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with the underlying ITC investigation on March 14, 2024.[55] Mr. Reznik spoke to the scope of the invention at the time the provisional application (Ex-1266) and the ’948 Application (Ex-1282) were filed. When asked about the state of the art at the time of the invention, he responded that “by 2007 we had cell phones with Bluetooth and WiFi capabilities, which would have meant that within a single device there was a – in the language of this particular patent, a peripheral was 3GPP capability. One was WiFi and one was Bluetooth.” [56] He was asked about whether the patent contemplates WiFi data transfer, to which Mr. Reznik replied:[57]

> Q. Let's back that up a little bit then. What were the known ways to transfer data that he refers to?
>
> A. So any kind of wireless transfer technology. So WiFi for sure. You know, mobile. Because, by that time, mobile phones were data transfer devices, right. So those were the connectivity options. And then somehow they all involved having an application server somewhere, like a Dropbox or something, right, that would facilitate it or something like that. I'm sure there may have been some other ones that we had in mind.
>
> Q. So those were WiFi and cellular data transfer; is that right?

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[55] Ex-2006.

[56] Ex-2006, 146:8-23.

[57] Ex-2006, 58:14-59:9.

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A. Right. So you're asking me today that were reasonable technologies back then for data transfer. WiFi and cellular definitely come to mind.

89. He was also asked whether the invention contemplated a communication peripheral 107 (in a WTRU) need be limited to "a Bluetooth device or a WiFi device but not both," and Mr. Reznik testified:[58]

Q. Did you have any specific technology in mind for those two things that had to be done?

A. So we were looking at families of technologies, right. So I mentioned cellular and WiFi as two good families for data transfer.

I mentioned, you know, 802.15-type stuff -- Bluetooth, Zigbee, for example -- as things that would have been good for proximity detection.

Whether we stopped at that point and we said, "Hey, this is the best one in this family or this is the best one in that family," I don't remember, right. We kind of said there's options on both sides.

[58] Ex-2006, 64:2-17.

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90. Eventually, Mr. Reznik was asked if the invention contemplated using Bluetooth for detecting target WTRUs and WiFi for transmitting data from the sending WTRU to the target WTRU. Mr. Reznik replied:[59]

> Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband?
>
> THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology.
>
> This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth.

91. This testimony from Mr. Reznik further illustrates that the ’948 Application supports the Challenged Claims of the ’933 patent by showing that the named inventors contemplated the combination of Bluetooth and WiFi in a single embodiment, including the use of Bluetooth for detection of nearby WTRUs and the use of WiFi for data transmission (of a media element) from a sending WTRU to a receiving (target) WTRU.[60]

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[59] Ex-2006, 155:18-156:6.

[60] Ex-1282, [0024] (“The communication peripherals 107 may include technologies such as a third generation partnership (3GPP) second or third

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7.2. The Challenged Claims of the ’933 Patent Are Supported by the Disclosure in the ’948 Application

92. The following sections are reproduced from claim charts provided by counsel and that I understand will be included in the POPR. I have reviewed them and believe them to be correct. I am including them in my report for completeness. These claim charts illustrate that the Challenged Claims of the ’933 Patent are supported by the ’948 Application, and that there is written description support for each element of the Challenged Claims.

93. The following table shows written description support in the ’948 Application for every element of Challenged Claim 1.

Claim Element	Disclosure of the Claim Element in the ’948 Application
1[pre] A method performed by a wireless transmit/receive unit (WTRU), the method comprising:	The ’948 Application (Ex-1282), filed on December 22, 2009, discloses a WTRU and a method by which a WTRU, operating in a wireless environment, can communicate with other WTRUs operating in that environment. Ex-2082, [0023]-[0024].
1[a] processing, by the WTRU, a touchscreen input	The ’948 Application discloses a WTRU with a touchscreen display. Ex-2082, [0024]. The touchscreen display may be used to provide a user interface (UI) that can be used to select

generation standards (2G/3G) modem, Bluetooth® or WiFi®. Any combination or all of these communication technologies may be implemented in a single component design.”)

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to select a media element;	a media element shown as a visual depiction on the touchscreen. *Id*., [0029]. "For example, the visual depiction may identify a selected media element stored in the WTRU 101." *Id*. Thus, the user input, via the user interface (UI), can be used to select a media element.
1[b] detecting, by the WTRU using Bluetooth, a plurality of WTRUs in proximity to the WTRU;	The '948 Application discloses that a WTRU may use Bluetooth to detect a plurality of WTRUs in proximity to the WTRU. For example, "[t]he communication peripheral 107 receives and maintains the environment information relating to the WTRUs 101c operating within the local areas 211, 213." Ex-1282, [0027]; Figure 2. "The environment information and the user input are then used as inputs to the processor 105 and are processed to identify a target WTRU 101c,t." *Id*., [0030]. "The environment information 301 may be gathered via a service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®, for example. This protocol allows the WTRU 101 to discover the services (e.g., TapAPP as described herein) that are supported by other WTRUs operating in the local environment." *Id*., [0034]. Accordingly the 2009 Application explicitly discloses that Bluetooth can be used to detect other (e.g., a plurality of other) candidate WTRUs (WTRUc) in proximity to the WTRU. Furthermore, one of the inventors of the '933 Patent, Mr. Alexander Reznik, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Did you have any specific technology in mind for those two things that had to be done? A. So we were looking at families of technologies, right. So I mentioned cellular and WiFi as two good families for data transfer.

	I mentioned, you know, 802.15-type stuff -- Bluetooth, Zigbee, for example -- as things that would have been good for proximity detection. Whether we stopped at that point and we said, "Hey, this is the best one in this family or this is the best one in that family," I don't remember, right. We kind of said there's options on both sides. Ex-2006, 64:2-17. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology. This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.
1[c] processing, by the WTRU, another touchscreen input to select a WTRU of the plurality of WTRUs;	The ’948 Application discloses that the WTRU can process another touchscreen input to select a WTRU from the plurality of detected WTRUs to, for example, receive a media element from the WTRU. “A user input received from the UI 109, for example a touchscreen/display, may be translated into application signals by the touchscreen/display 109 or processor 105. This touchscreen information 305 is input to the target

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	discrimination algorithm 313 to identify a target WTRU 101c,t from the plurality of other WTRUs." Ex-2082, [0036]. Moreover, "[d]irectional inputs provided by the user via the touchscreen/display 109 may be synthesized to … select a target WTRUc,t from the identified [detected] group of candidate WTRUs 101c to establish a one-to-one communication between the transmitting WTRU 101 and the target WTRUc,t …." *Id*., [0037].
1[d] sending, by the WTRU, a message to transfer the selected media element to the selected WTRU;	The '948 Application discloses that the sending/transmitting WTRU can send a message to the selected/receiving WTRU indicating that a media element is ready to be transferred to the receiving WTRU. Ex-2082, [0044]. For example, "***[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving***. To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer." *Id*.; Figure 7A (emphasis added).
1[e] receiving, by the WTRU, an acceptance to transfer the selected media element to the selected WTRU; and	The '948 Application discloses that the selected/receiving WTRU can send an acceptance to the sending/transmitting WTRU indicating that the media element has been accepted for transfer. Ex-2082, [0044]. For example, "[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving. ***To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer***." *Id*.; Figure 7A (emphasis added).
1[f] transferring, by the WTRU using a WiFi communication, the selected media element to	The '948 Application discloses that the selected media element can be transferred to the receiving WTRU using Wi-Fi. The specification of the 2009 Application discloses a variety of communication protocols. For example, the specification states that "[t]he communication peripheral 107 may be

the selected WTRU.	implemented as a wireless personal area network (WPAN) device, for example Bluetooth®, Wireless Universal Serial Bus (W-USB) or WiFi® in ad-hoc mode." Ex-1282, [0024]. "The communication peripheral 107 may include technologies such as a third generation partnership (3GPP) second or third generation standards (2G/3G) modem, Bluetooth®, or Wifi®. ***Any combination or all of these communication technologies may be implemented in a single component design***." *Id*. This disclosure is clear. The specification explicitly discloses Bluetooth and Wi-Fi, and likewise explicitly discloses that any combination of these aforementioned communication technologies, including Bluetooth and Wi-Fi, can be used in a single component design. Furthermore, one of the inventors of the '933 Patent, Mr. Alexander Reznick, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Let's back that up a little bit then. What were the known ways to transfer data that he refers to? A. So any kind of wireless transfer technology. So WiFi for sure. You know, mobile. Because, by that time, mobile phones were data transfer devices, right. So those were the connectivity options. And then somehow they all involved having an application server somewhere, like a Dropbox or something, right, that would facilitate it or something like that. I'm sure there may have been some other ones that we had in mind. Q. So those were WiFi and cellular data transfer; is that right?

	A. Right. So you're asking me today that were reasonable technologies back then for data transfer. WiFi and cellular definitely come to mind. Ex-2006, 58:14-59:9. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology. This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.

94. The following table shows written description support in the ’948 Application for each element of Challenged Claim 23.

Claim Element	Disclosure of the Claim Element in the ’948 Application
23[pre] A wireless transmit/receive unit (WTRU) comprising:	The ’948 Application (Ex-1282), filed on December 22, 2009, discloses a WTRU and a method by which a WTRU, operating in a wireless environment, can communicate with other WTRUs operating in that environment. Ex-2082, [0023]-[0024].

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23[a] a processor configured to process a touchscreen input to select a media element;	The ’948 Application discloses a WTRU with a touchscreen display. Ex-2082, [0024]. The “WTRU 101 includes a processor 105 that is configurable to process information from the UI 109 and the communication peripheral 107.” *Id.*, [0030]. The touchscreen display may be used to provide a user interface (UI) that can be used to select a media element shown as a visual depiction on the touchscreen. *Id.*, [0029]. “For example, the visual depiction may identify a selected media element stored in the WTRU 101.” *Id*. Thus, the user input, via the user interface (UI), can be used to select a media element. *See also* Figure 1; Figure 3; Figure 6.
23[b] circuitry configured to detect, using Bluetooth, a plurality of WTRUs in proximity to the WTRU;	The ’948 Application discloses circuitry that enables a WTRU to use Bluetooth to detect a plurality of WTRUs in proximity to the WTRU. Figure 1; Figure 2; Figure 3. For example, Figures 1 and 2 show system level diagrams that include circuitry for enabling communication peripherals 107 disposed in nearby WTRUs to communicate via the communication environment 115. For example, “[t]he communication peripheral 107 receives and maintains the environment information relating to the WTRUs 101_c operating within the local areas 211, 213.” Ex-1282, [0027]; Figure 2. “The environment information and the user input are then used as inputs to the processor 105 and are processed to identify a target WTRU $101_{c,t}$.” *Id.*, [0030]. “The environment information 301 may be gathered via a service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®, for example. This protocol allows the WTRU 101 to discover the services (e.g., TapAPP as described herein) that are supported by other WTRUs operating in the local environment.” *Id.*, [0034]. Accordingly the 2009 Application explicitly discloses that Bluetooth can be used to detect other (e.g., a plurality of other) candidate WTRUs ($WTRU_c$) in proximity to the WTRU.

	Furthermore, one of the inventors of the ’933 Patent, Mr. Alexander Reznik, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Did you have any specific technology in mind for those two things that had to be done? A. So we were looking at families of technologies, right. So I mentioned cellular and WiFi as two good families for data transfer. I mentioned, you know, 802.15-type stuff -- Bluetooth, Zigbee, for example -- as things that would have been good for proximity detection. Whether we stopped at that point and we said, "Hey, this is the best one in this family or this is the best one in that family," I don't remember, right. We kind of said there's options on both sides. Ex-2006, 64:2-17. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology.

	This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.
23[c] the processor is further configured to process another touchscreen input to select a WTRU of the plurality of WTRUs;	The ’948 Application discloses that the processor enables the WTRU to process another touchscreen input to select a WTRU from the plurality of detected WTRUs to, for example, receive a media element from the WTRU. “A user input received from the UI 109, for example a touchscreen/display, may be translated into application signals by the touchscreen/display 109 or processor 105. This touchscreen information 305 is input to the target discrimination algorithm 313 to identify a target WTRU $101_{c,t}$ from the plurality of other WTRUs.” Ex-2082, [0036]. Moreover, “[d]irectional inputs provided by the user via the touchscreen/display 109 may be synthesized to … select a target $WTRU_{c,t}$ from the identified [detected] group of candidate WTRUs 101_c to establish a one-to-one communication between the transmitting WTRU 101 and the target $WTRU_{c,t}$ ….” *Id*., [0037].
23[d] circuitry configured to send a message to transfer the selected media element to the selected WTRU;	The ’948 Application discloses circuitry enabling the sending/transmitting WTRU to send a message to the selected/receiving WTRU indicating that a media element is ready to be transferred to the receiving WTRU. Ex-2082, [0044]. For example, “***[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving***. To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer.” *Id*. (emphasis added); Figure 7A; Figure 1; Figure 3.

23[e] circuitry configured to receive an acceptance to transfer the selected media element to the selected WTRU; and	The ’948 Application discloses circuitry that enables the selected/receiving WTRU to send an acceptance to the sending/transmitting WTRU indicating that the media element has been accepted for transfer. Ex-2082, [0044]. For example, “[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving. ***To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer***.” *Id*. (emphasis added); Figure 7A; Figure 1; Figure 3.
23[f] circuitry configured to transfer, using a WiFi communication, the selected media element to the selected WTRU.	The ’948 Application discloses circuitry that enables the selected media element to be transferred to the receiving WTRU using Wi-Fi. Figure 1; Figure 2; Figure 3. For example, Figures 1 and 2 show system level diagrams that include circuitry for enabling communication peripherals 107 disposed in nearby WTRUs to communicate via the communication environment 115. The specification of the 2009 Application discloses a variety of communication protocols. For example, the specification states that “[t]he communication peripheral 107 may be implemented as a wireless personal area network (WPAN) device, for example Bluetooth®, Wireless Universal Serial Bus (W-USB) or WiFi® in ad-hoc mode.” Ex-1282, [0024]. “The communication peripheral 107 may include technologies such as a third generation partnership (3GPP) second or third generation standards (2G/3G) modem, Bluetooth®, or Wifi®. ***Any combination or all of these communication technologies may be implemented in a single component design***.” *Id*. (emphasis added). This disclosure is clear. The specification explicitly discloses Bluetooth and Wi-Fi, and likewise explicitly discloses that any combination of these aforementioned communication technologies, including Bluetooth and Wi-Fi, can be used in a single component design.

	Furthermore, one of the inventors of the ’933 Patent, Mr. Alexander Reznick, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Let's back that up a little bit then. What were the known ways to transfer data that he refers to? A. So any kind of wireless transfer technology. So WiFi for sure. You know, mobile. Because, by that time, mobile phones were data transfer devices, right. So those were the connectivity options. And then somehow they all involved having an application server somewhere, like a Dropbox or something, right, that would facilitate it or something like that. I'm sure there may have been some other ones that we had in mind. Q. So those were WiFi and cellular data transfer; is that right? A. Right. So you're asking me today that were reasonable technologies back then for data transfer. WiFi and cellular definitely come to mind. Ex-2006, 58:14-59:9. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband?

	THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology. This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.

7.3. The Challenged Claims of the ’054 Patent Are Supported by the Disclosure in the ’948 Application

95. The following sections are reproduced from claim charts provided by counsel and that I understand will be included in the POPR. I have reviewed them and believe them to be correct. I am including them in my report for completeness. These claim charts illustrate that the Challenged Claims of the ’054 Patent are supported by the ’948 Application, and that there is written description support for each element of the Challenged Claims.

96. The following table shows written description support in the ’948 Application for every element of Challenged Claim 1.

Claim Element	Disclosure of the Claim Element in the ’948 Application
1[pre] A method performed by a wireless	The ’948 Application (Ex-1282), filed on December 22, 2009, discloses a WTRU and a method by which a WTRU, operating in a wireless environment, can communicate with

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transmit/receive unit (WTRU), the method comprising:	other WTRUs operating in that environment. Ex-1282, [0023]-[0024].
1[a] processing, by the WTRU from a touch display, an input to select media in an application;	The ’948 Application discloses a WTRU with a touchscreen display. Ex-1282, [0024]. The touchscreen display may be used to provide a user interface (UI) that can be used to select a media element shown as a visual depiction on the touchscreen. *Id*., [0029]. “For example, the visual depiction may identify a selected media element stored in the WTRU 101.” *Id*. Thus, the user input, via the user interface (UI), can be used to select a media element. The ’948 Application discloses that applications like “TapAPP” running on an application processor (105 in Figure 1) can be used to facilitate detection of WTRUs, selection of a target WTRU, and selection of media to transfer to the detected WTRU. Ex-1262, [0024]-[0025]; [0033]-[0045].
1[b] detecting, by the WTRU over Bluetooth, another WTRU;	The ’948 Application discloses that a WTRU may use Bluetooth to detect another WTRU in proximity to the WTRU. For example, “[t]he communication peripheral 107 receives and maintains the environment information relating to the WTRUs 101_c operating within the local areas 211, 213.” Ex-1282, [0027]; Figure 2. “The environment information and the user input are then used as inputs to the processor 105 and are processed to identify a target WTRU 101c,t.” *Id*., [0030]. “The environment information 301 may be gathered via a service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®, for example. This protocol allows the WTRU 101 to discover the services (e.g., TapAPP as described herein) that are supported by other WTRUs operating in the local environment.” *Id*., [0034]. Accordingly the 2009 Application explicitly discloses that Bluetooth can be used to detect other (e.g., a plurality of other) candidate WTRUs ($WTRU_c$) in proximity to the WTRU.

	Furthermore, one of the inventors of the ’054 Patent, Mr. Alexander Reznik, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Did you have any specific technology in mind for those two things that had to be done? A. So we were looking at families of technologies, right. So I mentioned cellular and WiFi as two good families for data transfer. I mentioned, you know, 802.15-type stuff -- Bluetooth, Zigbee, for example -- as things that would have been good for proximity detection. Whether we stopped at that point and we said, "Hey, this is the best one in this family or this is the best one in that family," I don't remember, right. We kind of said there's options on both sides. Ex-2006, 64:2-17. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology.

	This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.
1[c] processing, by the WTRU, another input from the touch display to select the another WTRU;	The ’948 Application discloses that the WTRU can process another touchscreen input to select the detected WTRU to, for example, receive a media element from the WTRU. “A user input received from the UI 109, for example a touchscreen/display, may be translated into application signals by the touchscreen/display 109 or processor 105. This touchscreen information 305 is input to the target discrimination algorithm 313 to identify a target WTRU 101c,t from the plurality of other WTRUs.” Ex-1282, [0036]. Moreover, “[d]irectional inputs provided by the user via the touchscreen/display 109 may be synthesized to … select a target WTRUc,t from the identified [detected] group of candidate WTRUs 101_c to establish a one-to-one communication between the transmitting WTRU 101 and the target $WTRU_{c,t}$ ….” *Id*., [0037].
1[d] sending, by the WTRU to the selected another WTRU, a message to transfer the selected media;	The ’948 Application discloses that the sending/transmitting WTRU can send a message to the selected/receiving WTRU indicating that a media element is ready to be transferred to the receiving WTRU. Ex-1282, [0044]. For example, “***[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving***. To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer.” *Id*.; Figure 7A (emphasis added).
1[e] receiving, by the WTRU, an acceptance to	The ’948 Application discloses that the selected/receiving WTRU can send an acceptance to the sending/transmitting

transfer the selected media; and	WTRU indicating that the media element has been accepted for transfer. Ex-1282, [0044]. For example, "[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving. ***To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer***." *Id*.; Figure 7A (emphasis added).
1[f] transferring, by the WTRU to the selected another WTRU over WiFi, the selected media.	The '948 Application discloses that the selected media element can be transferred to the receiving WTRU using WiFi. The specification of the 2009 Application discloses a variety of communication protocols. For example, the specification states that "[t]he communication peripheral 107 may be implemented as a wireless personal area network (WPAN) device, for example Bluetooth®, Wireless Universal Serial Bus (W-USB) or WiFi® in ad-hoc mode." Ex-1282, [0024]. "The communication peripheral 107 may include technologies such as a third generation partnership (3GPP) second or third generation standards (2G/3G) modem, Bluetooth®, or Wifi®. ***Any combination or all of these communication technologies may be implemented in a single component design***." *Id*. (emphasis added) This disclosure is clear. The specification explicitly discloses Bluetooth and WiFi, and likewise explicitly discloses that any combination of these aforementioned communication technologies, including Bluetooth and WiFi, can be used in a single component design. Furthermore, one of the inventors of the '054 Patent, Mr. Alexander Reznik, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Let's back that up a little bit then. What were the known ways to transfer data that he refers to?

	A. So any kind of wireless transfer technology. So WiFi for sure. You know, mobile. Because, by that time, mobile phones were data transfer devices, right. So those were the connectivity options. And then somehow they all involved having an application server somewhere, like a Dropbox or something, right, that would facilitate it or something like that. I'm sure there may have been some other ones that we had in mind. Q. So those were WiFi and cellular data transfer; is that right? A. Right. So you're asking me today that were reasonable technologies back then for data transfer. WiFi and cellular definitely come to mind. Ex-2006, 58:14-59:9. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology. This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.

97. The following table shows written description support in the ’948 Application for each element of Challenged Claim 23.

Claim Element	Disclosure of the Claim Element in the ’948 Application
23[pre] A wireless transmit/receive unit (WTRU) comprising:	The ’948 Application (Ex-1282), filed on December 22, 2009, discloses a WTRU and a method by which a WTRU, operating in a wireless environment, can communicate with other WTRUs operating in that environment. Ex-1282, [0023]-[0024].
23[a] circuitry configured to process, from a touch display, an input to select media in an application;	The ’948 Application discloses a WTRU with a touchscreen display. Ex-1282, [0024]. The “WTRU 101 includes a processor 105 that is configurable to process information from the UI 109 and the communication peripheral 107.” *Id.*, [0030]. The touchscreen display may be used to provide a user interface (UI) that can be used to select a media element shown as a visual depiction on the touchscreen. *Id.*, [0029]. “For example, the visual depiction may identify a selected media element stored in the WTRU 101.” *Id*. Thus, the user input, via the user interface (UI), can be used to select a media element. *See also* Figure 1; Figure 3; Figure 6.
23[b] circuitry configured to detect, by the WTRU over Bluetooth, another WTRU;	The ’948 Application discloses circuitry that enables a WTRU to use Bluetooth to detect another WTRU in proximity to the WTRU. Figure 1; Figure 2; Figure 3. For example, Figures 1 and 2 show system level diagrams that include circuitry for enabling communication peripherals 107 disposed in nearby WTRUs to communicate via the communication environment 115. For example, “[t]he communication peripheral 107 receives and maintains the environment information relating to the

	WTRUs 101_c operating within the local areas 211, 213." Ex-1282, [0027]; Figure 2. "The environment information and the user input are then used as inputs to the processor 105 and are processed to identify a target WTRU $101_{c,t}$." *Id*., [0030]. "The environment information 301 may be gathered via a service discovery protocol (SDP) such as currently available in protocols such as Bluetooth®, for example. This protocol allows the WTRU 101 to discover the services (e.g., TapAPP as described herein) that are supported by other WTRUs operating in the local environment." *Id*., [0034]. Accordingly the 2009 Application explicitly discloses that Bluetooth can be used to detect other (e.g., a plurality of other) candidate WTRUs ($WTRU_c$) in proximity to the WTRU. Furthermore, one of the inventors of the '054 Patent, Mr. Alexander Reznik, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Did you have any specific technology in mind for those two things that had to be done? A. So we were looking at families of technologies, right. So I mentioned cellular and WiFi as two good families for data transfer. I mentioned, you know, 802.15-type stuff -- Bluetooth, Zigbee, for example -- as things that would have been good for proximity detection. Whether we stopped at that point and we said, "Hey, this is the best one in this family or this is the best one in that family," I don't remember, right. We kind of said there's options on both sides.

	Ex-2006, 64:2-17. Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology. This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.
23[c] the circuitry further configured to process another input from the touch display to select the another WTRU;	The ’948 Application discloses circuitry that enables the processor enables the WTRU to process another touchscreen input to select another WTRU from a set of detected WTRUs to, for example, receive a media element from the WTRU. “A user input received from the UI 109, for example a touchscreen/display, may be translated into application signals by the touchscreen/display 109 or processor 105. This touchscreen information 305 is input to the target discrimination algorithm 313 to identify a target WTRU $101_{c,t}$ from the plurality of other WTRUs.” Ex-1282, [0036]. Moreover, “[d]irectional inputs provided by the user via the touchscreen/display 109 may be synthesized to … select a target $WTRU_{c,t}$ from the identified [detected] group of candidate WTRUs 101_c to establish a one-to-one communication between the transmitting WTRU 101 and the target $WTRU_{c,t}$ ….” *Id*., [0037].

23[d] circuitry configured to send, by the WTRU to the selected another WTRU, a message to transfer the selected media;	The ’948 Application discloses circuitry enabling the sending/transmitting WTRU to send a message to the selected/receiving WTRU indicating that a media element is ready to be transferred to the receiving WTRU. Ex-1282, [0044]. For example, “***[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving***. To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer.” *Id*. (emphasis added); Figure 7A; Figure 1; Figure 3.
23[e] circuitry configured to receive, by the WTRU, an acceptance to transfer the selected media; and	The ’948 Application discloses circuitry that enables the selected/receiving WTRU to send an acceptance to the sending/transmitting WTRU indicating that the media element has been accepted for transfer. Ex-1282, [0044]. For example, “[t]he TapAPP 123 provides an indication 603b or a prompt that a data transfer is ready for receiving. ***To receive a file, the user may touch 710 the touchscreen 109 to initiate reception of the data transfer***.” *Id*. (emphasis added); Figure 7A; Figure 1; Figure 3.
23[f] circuitry configured to transfer, by the WTRU to the selected another WTRU over WiFi, the selected media.	The ’948 Application discloses circuitry that enables the selected media element to be transferred to the receiving WTRU using WiFi. Figure 1; Figure 2; Figure 3. For example, Figures 1 and 2 show system level diagrams that include circuitry for enabling communication peripherals 107 disposed in nearby WTRUs to communicate via the communication environment 115. The specification of the 2009 Application discloses a variety of communication protocols. For example, the specification states that “[t]he communication peripheral 107 may be implemented as a wireless personal area network (WPAN) device, for example Bluetooth®, Wireless Universal Serial Bus (W-USB) or WiFi® in ad-hoc mode.” Ex-1282, [0024]. “The communication peripheral 107 may include technologies such as a third generation partnership (3GPP)

	second or third generation standards (2G/3G) modem, Bluetooth®, or Wifi®. ***Any combination or all of these communication technologies may be implemented in a single component design***." *Id*. (emphasis added). This disclosure is clear. The specification explicitly discloses Bluetooth and WiFi, and likewise explicitly discloses that any combination of these aforementioned communication technologies, including Bluetooth and WiFi, can be used in a single component design. Furthermore, one of the inventors of the '054 Patent, Mr. Alexander Reznik, was deposed in a co-pending ITC investigation, and he testified as follows: Q. Let's back that up a little bit then. What were the known ways to transfer data that he refers to? A. So any kind of wireless transfer technology. So WiFi for sure. You know, mobile. Because, by that time, mobile phones were data transfer devices, right. So those were the connectivity options. And then somehow they all involved having an application server somewhere, like a Dropbox or something, right, that would facilitate it or something like that. I'm sure there may have been some other ones that we had in mind. Q. So those were WiFi and cellular data transfer; is that right? A. Right. So you're asking me today that were reasonable technologies back then for data transfer. WiFi and cellular definitely come to mind. Ex-2006, 58:14-59:9.

	Q. Okay. And would Bluetooth also be a technology you had in mind when referring to these layer 2, layer 3, and baseband? THE WITNESS: Actually, although if -- the way I am looking at the problem we're trying to solve here, right, Bluetooth is usually more of a proximity technology. This paragraph refers to a data transmission technology. I think, for that, we would be leaning towards WiFi and cellular as more typical uses as opposed to Bluetooth. Ex-2006, 155:18-156:6.

98. These tables, and the discussion provided above in Section 7.1 demonstrate that the inventors were in possession of each and every element of the Challenged Claims. Therefore, the Challenged Claims of both the ’933 and ’054 Patents are entitled to a priority date of at least as early as the filing date of the ’948 Application (December 22, 2009).

8. CONCLUSION

99. In conclusion, it is my opinion that the inventors were in possession of each and every element of the Challenged Claims, and consequently the Challenged Claims are entitled to a priority date of at least as early as the filing date of the ’948

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Application (December 22, 2009). Therefore, the leading evidence that petitions IPR2024-00537 and IPR2024-00538 cite (Forutanpour) does not constitute prior art of the Challenged Claims of the InterDigital Patents, and therefore do not render the Challenged Claims of the InterDigital Patents invalid.

100. I hereby declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct, and that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true. I understand that willful false statements are punishable by fine or imprisonment or both. See 18 U.S.C. Section 1001.

Dated: May 28th, 2024

George Edwards, PhD

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