

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

<p>WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,</p> <p>Plaintiff,</p> <p>v.</p> <p>HP INC.</p> <p>Defendant.</p>	<p>Civil Case No. 2:24-cv-00752-JRG [Lead Case]</p>
<p>WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,</p> <p>Plaintiff,</p> <p>v.</p> <p>SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.</p> <p>Defendants.</p>	<p>Civil Case No. 2:24-cv-00746-JRG [Member Case]</p>
<p>WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,</p> <p>Plaintiff,</p> <p>v.</p> <p>HP INC.</p> <p>Defendant.</p>	<p>Civil Case No. 2:24-cv-00764-JRG [Member Case]</p>

<p>WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,</p> <p style="text-align: center;">Plaintiff,</p> <p>v.</p> <p>SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC.</p> <p style="text-align: center;">Defendants.</p>	<p>Civil Case No. 2:24-cv-00765-JRG [Member Case]</p>
<p>WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,</p> <p style="text-align: center;">Plaintiff,</p> <p>v.</p> <p>ASKEY COMPUTER CORP., ASKEY INTERNATIONAL CORP.</p> <p style="text-align: center;">Defendants.</p>	<p>Civil Case No. 2:24-cv-00766-JRG [Member Case]</p>
<p>WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,</p> <p style="text-align: center;">Plaintiff,</p> <p>v.</p> <p>ASKEY COMPUTER CORP., ASKEY INTERNATIONAL CORP.</p> <p style="text-align: center;">Defendants.</p>	<p>Civil Case No. 2:24-cv-00753-JRG-RSP [Member Case]</p>

**DEFENDANTS' P.R. 3-3 AND 3-4 INVALIDITY CONTENTIONS
AND SUBJECT MATTER ELIGIBILITY CONTENTIONS**

Pursuant to Docket Control Order (Dkt. No. 47) and Local Patent Rule 3-3, Defendants Samsung Electronics Co., Ltd. and, Samsung Electronics America, Inc., and HP, Inc. (collectively,

IEEE 11-16-0916,” TID value of ALL ACK signaling,” <https://mentor.ieee.org/802.11/dcn/16/11-16-0917-01-00ax-text-for-tid-value-of-all-ack-signaling.docx>; IEEE 11-16-1426, “DL/UL indication in MU-RTS,” <https://mentor.ieee.org/802.11/dcn/16/11-16-1426-00-00ax-dl-ul-indication-in-mu-rts.pptx>. By virtue of their collaborations, one or more of the listed inventors was aware of the claimed subject matter invented by these collaborators. See e.g., US 2017/0048048 (“Seok 048”); US 9,585166 (“Seok 166”).

H. U.S. Patent No. 11,129,163

Invalidity claim charts identifying disclosures in the references identified in Tables 1-G, 2-G, and 3-G as to the Asserted Claims of the ’163 patent are provided in attached Exhibits G1-G24²⁹ and Appendix G.

Table 1-G: Prior Art Patents and Printed Publications for the ’163 patent

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue/ Publication	Filing Date
RG-1	US 2017/0223731 (“Lee 731”)	Aug. 3, 2017	Aug. 6, 2014
RG-2	WO 2016/021858 (“Lee 858”)	Feb. 11, 2016	Aug. 6, 2014
RG-3	IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”)	Mar. 2, 2016	N/A
RG-4	IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”)	Jan. 18, 2016	N/A
RG-5	Evgeny Khorov et al., <i>IEEE 802.11ax: How to Build High Efficiency WLANs</i> , 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”)	Nov. 2015	N/A
RG-6	US 2016/0249397 (“Seok 397”)	Aug. 25, 2016	Feb. 23, 2016
RG-7	US 10,666,368 (“Barriac 368”)	May 26, 2020	Sept. 15, 2015
RG-8	US 10,321,485 (“Noh 485”)	Jun. 11, 2019	Dec. 14, 2015
RG-9	US 2016/0345258 (“Zhou 258”)	Nov. 24, 2016	May 22, 2015
RG-10	US 2021/0243787 (“Oteri 787”)	Aug. 5, 2021	Jan 14, 2016
RG-11	US 2017/0127352 (“Park ’352”)	May 4, 2017	Feb. 26, 2015
RG-12	US 2017/0188306 (“Park 306”)	June 29, 2017	Feb. 6, 2015
RG-13	US 2015/0124744 (“Zhu 744”)	May 7, 2015	Oct. 29, 2014

²⁹ Plaintiff reserves its right to rely on patent or patent application publications that are in the same family as the charted references as well as other revisions of the charted IEEE documents.

No.	Patent No. or Title (Primary Inventor/Author)	Date of Issue/ Publication	Filing Date
RG-14	WO 2017/031640 (“Du 640”)	Mar. 2, 2017	Aug. 21, 2015
RG-15	US 2017/0078887 (“Barriac 887”)	Mar. 16, 2017	Sept. 15, 2015
RG-16	IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”)	Mar. 14, 2016	N/A
RG-17	US 2016/0330663 (“Zhou 663”)	Nov. 10, 2016	May 6, 2015
RG-18	EP 2986066A (“Nelson 066”)	Feb. 17, 2016	Feb. 23, 2001
RG-19	US 2019/082387 (“Kim 387”)	Mar. 14, 2019	Apr. 26, 2016
RG-20	US 2016/330685 (“Asterjadhi 685”)	Nov. 10, 2016	Oct. 20, 2015
RG-21	US 2017/257817 (“Itagaki 817”)	Sept. 7, 2017	Dec. 25, 2015
RG-22	IEEE 802.11-2012 (“802.11-2012”)	2012	N/A
RG-23	IEEE 802.11ac (“802.11ac”)	2013	N/A
RG-24	IEEE 802.11ax/D1.0	2016	N/A

Further, Defendants are actively searching for information regarding at least the following devices and inventions:

Table 2-G: Prior Art Systems and Inventions for the ’163 patent

No.	Name of System or Invention	Date of Sale / Offer for Sale / Public Use
RG-25	Systems implementing IEEE 802.11ac (“Wi-Fi 5”) ³⁰	2013
RG-26	HP Spectre 13 (2013 Model)	October 2013
RG-27	HP Envy 17 (2014 Model)	February 2014
RG-28	Samsung Galaxy S4 Smartphone	April 2013
RG-29	Samsung Galaxy Note 3 Smartphone	October 2013
RG-30	Samsung Galaxy Tab Pro	February 2014
RG-31	Samsung Galaxy Tab S	July 2014
RG-32	Samsung ATIV Book 9 (2014 Edition)	May 2014
RG-33	Samsung ATIV Book 9 (2015 Edition)	December 2015

For each of the prior art devices identified above, Defendants have listed and produced one or more documents as evidence of the relevant features and functionality. Defendants have

³⁰ The attached invalidity chart over IEEE 802.11ac (RG-23) demonstrates how the systems implementing IEEE 802.11ac, listed in Table 2-G, disclose each element of each asserted claim.

obtained or are in the process of obtaining the identified devices and will make them available for inspection. To the extent that one or more documents (*e.g.*, user manual) may be used to describe aspects of a particular device, that device is a single reference for prior art purposes under 35 U.S.C. § 102. Some or all of the corroborating references may also separately qualify as prior art publications under 35 U.S.C. § 102 and may be used as invalidating references under 35 U.S.C. §§ 102 and/or 103.

Discovery is ongoing, and Defendants may serve third parties with document subpoenas. One or more of these devices, along with related documentation, may be invalidating, and Defendants reserve the right to supplement these contentions accordingly.

In addition, Defendants identify, responsive to Plaintiff's infringement contentions, the following patents, publications, and systems as evidence of the state of the art as it relates to Wi-Fi, basic service set ("BSS"), and overlapping basic service set ("OBSS") systems and solutions:³¹

- US 2006/0050661
- KR 2016-0004955
- EP 2,681,864
- JP 2015-165676
- KR 10-1212423
- KR 2015-0073855
- US 2016/0198500
- US 2015/0163028
- EP 2,959,624
- US 7,912,489
- JP 5,329,244
- US 2012/0163317
- US 7,715,442
- EP 2,534,769
- US 2008/0310391
- US 7,821,976

³¹ Plaintiff reserves its right to rely on any unlisted patents, patent application publications, provisional applications that are related to the listed reference.

- KR 2014-0101740
- US 2015/0124677
- EP 2,936,752
- KR 2015-0035569
- US 7,751,429
- US 2014/0153505
- US 8,867,563
- KR 10-0605371
- EP 1,977,543
- KR 10-1024926
- US 8,040,898
- US 8,619,814
- US 8,477,805
- US 9,130,812
- US 8,670,427
- US 2004/0213180
- US 8,811,507
- US 8,630,272
- US 8,681,612
- KR 2012-0081040
- JP 2011-004100
- JP 2010-178129
- US 2008/0031191
- KR 2014-0037693
- US 8,630,367
- US 2017/0006661
- US 2018/0270038
- CN 101360020A
- KR 2016-0045023
- KR 2016-0055718
- EP 3,188,431
- EP 2,529,490
- US 9,516,642
- EP 2,619,919
- US 9,641,234
- KR 2019-0111162
- KR 2018-0048909
- JP WO2-018062494
- EP 3,611,989
- KR 10-1674631
- EP 3,598,831
- JP WO2-015182372
- KR 2013-0112929
- JP 6,062,742

- US 9,668,250
- KR 2019-0111162
- US 20170/094685
- US 2016/0135225
- US 2017/0187848
- US 2017/0171888
- US 2017/0257817
- US 2016/0150514
- US 10,588,165
- US 2017/0127448
- IEEE 802.11-13/0500r1 “IEEE P802.11 Wireless LANs Proposed TGah Draft Amendment”
- IEEE 802.11-15/1326r2 “NAV Considerations for UL MU Response Follow Up”
- IEEE 802.11-15/0595r2 “Discussion on The Receiver Behavior for DSC/CCAC with BSS Color”
- IEEE 802.11-15/1075r1 “Number of BSS Color Bits”
- IEEE 802.11-13/1207r1 “CID 205 BSSID Color Bits”

Each of these references show that OBSSs, BSS color, intra-BSS and basic network allocation vectors (“NAVs”), recognizing BSS color collisions, doze state power save operations, and spatial reuse is/are not novel, and was/were well-known in the art for many years. In light of the references discussed herein, the Asserted Claims of the ’163 patent cannot be valid.

Defendants’ reference to a particular product, device, or software program in these contentions should be interpreted as a reference to the system itself and any corresponding patents, publications, or product literature relating to the cited system. Upon information and belief, the systems were publicly disclosed, used, sold, or offered for sale in the United States before the alleged priority date of the Asserted Claims of the ’163 patent. Defendants’ investigation of such prior art systems is still ongoing and discovery has not yet been received from third parties who may have information concerning such prior art systems. Accordingly, subsequent discovery may reveal information that affects the disclosures and contentions herein. For example, subsequent discovery may provide additional information regarding

whether or not any of the third party prior art systems anticipate or render obvious the Asserted Claims of the '163 patent. As such, Defendants reserve all rights to supplement their invalidity contentions.

Many of the inventive, research, design, and development activities concerning these systems and technologies occurred in the United States before the alleged priority date of the Asserted Claims of the '163 patent. Defendants have obtained, and are in the process of obtaining, additional information regarding the dates by which the cited products and services were publicly disclosed, used, sold, or offered for sale, the circumstances under which the research, design, and development activities were conducted, and the identities of the particular individuals involved in such activities through publicly available patents, publications, and product literature. The actual dates, circumstances, and identities of individuals will be the subject of third party discovery during this lawsuit, which Defendants reserve the right to rely upon to corroborate the prior art status of the prior art identified herein. Defendants reserve the right to modify, amend, or supplement these contentions if additional information becomes available during the course of this lawsuit. Furthermore, Defendants will make all such devices, software programs, or other products in Defendants' possession, custody, or control available for inspection by Plaintiff.

Consequently, Defendants reserve the right to amend, modify, or supplement these Invalidity Contentions should additional information become available to them through discovery.

I. U.S. Patent No. 11,700,597

As mentioned above, Defendants have not yet completed their search or discovery concerning additional prior art. Moreover, the exemplary combinations are provided based on Defendants' current understanding of the Asserted Claims and Plaintiff's apparent view of the scope of those claims as shown, for example, in Plaintiff's Infringement Contentions. Further, a *Markman* Order has not yet been issued in this case. As such, Defendants' inclusion of exemplary combinations does not preclude them from identifying other invalidating combinations as appropriate, and Defendants reserve the right to identify additional specific combinations as well as to detail and explain such combinations.

7. U.S. Patent No. 11,129,163

Pursuant to P.R. 3-3(a) and (b), Defendants identify in Appendix G the prior art references that render obvious the Asserted Claims of the '163 patent and include below exemplary combinations showing the obviousness of the '163 patent Asserted Claims in view of the prior art. To the extent Plaintiff contends that an element is not disclosed in any one of the anticipatory references described in Appendix G, the limitation would have been obvious in light of the disclosures within the reference and the knowledge of one of skill in the art at the time of the '163 patent. Moreover, to the extent Plaintiff contends that an element is not disclosed in any one of the anticipatory references described in Appendix G, such reference may be combined with any other references listed in Appendix G for such element, thereby rendering the claims invalid for obviousness.

To the extent a finder of fact determines that a limitation of any of the '163 patent Asserted Claims is not disclosed by one of the references identified above pursuant to P.R. 3-3(a), the claim is nevertheless unpatentable as obvious because they contain nothing that constitutes a patentable innovation. To the extent a finder of fact determines that a limitation of the '163 patent Asserted Claims is not anticipated, it does not go beyond combining familiar elements according to known

methods to achieve predictable results or does more than choose between clear alternatives known to those of ordinary skill in the art.

a) Obviousness Rationale

For at least the reasons described in these contentions, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those prior art references identified in Appendix G along with the knowledge of one of ordinary skill in the art to meet the limitations of the '163 patent Asserted Claims. Moreover, as mentioned above, Defendants have not yet completed their search or discovery concerning additional prior art. As such, Defendants' inclusion of exemplary combinations does not preclude them from identifying other invalidating combinations as appropriate, and Defendants reserve the right to identify additional specific combinations as well as to detail and explain such combinations.

To the extent not anticipated, the '163 patent Asserted Claims represent no more than the result of ordinary variations of the prior art. Defendants further believe that no showing of a specific motivation to combine prior art is required to combine the references disclosed above and in the attached charts, as each combination of art would have no unexpected results, and at most would simply represent a known alternative to one of skill in the art. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 415-16 (2007) (rejecting the Federal Circuit's "rigid" application of the teaching, suggestion, or motivation to combine test, instead espousing an "expansive and flexible" approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is "a person of ordinary creativity, not an automaton" and "in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420-21. Nevertheless, in addition to the information contained elsewhere in these contentions, Defendants identify motivation and reason to combine the cited art.

One or more combinations of the prior art references identified in Appendix G would have

been obvious because these references would have been combined using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element for another to obtain predictable results; and/or a teaching, suggestion, or motivation in the prior art generally. In addition, it would have been obvious to try combining the prior art references identified above because there were only a finite number of predictable solutions and/or because known work in one field of endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. Further, the combinations of the prior art references identified in Appendix G would have been obvious because the combinations represent known potential options with a reasonable expectation of success.

Additional evidence that there would have been a motivation to combine the prior art references identified above includes the interrelated teachings of multiple prior art references; common authorship; the effects of demands known to the design community or present in the marketplace; the existence of a known problem for which there was an obvious solution encompassed by the '163 patent Asserted Claims; the existence of a known need or problem in the field of the endeavor at the time of the alleged invention(s); and the background knowledge that would have been possessed by a person having ordinary skill in the art.

Thus, the motivation to combine the teachings of the prior art references disclosed in Appendix G is found in the references themselves and also in: (1) the nature of the problem being solved; (2) the express, implied and inherent teachings of the prior art; (3) the knowledge of persons of ordinary skill in the art; (4) the predictable results obtained in combining the different elements of the prior art; (5) the predictable results obtained in simple substitution of one known element for another; (6) the use of a known technique to improve similar devices, methods, or

products in the same way; (7) the predictable results obtained in applying a known technique to a known device, method, or product ready for improvement; (8) the finite number of identified predictable solutions that had a reasonable expectation of success; and (9) known work in various technological fields that could be applied to the same or different technological fields based on design incentives or other market forces.

Additionally, it would be obvious to one of skill in the art to consult and/or combine any of the prior art listed in Appendix G because all of these references relate to the same area of technology and/or are from analogous art. The '163 patent Asserted Claims are generally directed to disallowing processes that are based on BSS color. *See, e.g.*, '163 patent at 3:60-64, 21:16-23, 21:41-47, 51:13-18, 51:28-33, 51:54-60, cl. 1, cl. 9. The prior art references generally relate to 802.11 WLAN technology. The references, like the '163 patent, are also reasonably pertinent to wireless communications issues in the PHY and MAC layers or issues related to overlapping basic service sets or BSS color. A person of ordinary skill would have understood that these related or analogous references can generally be combined to yield predictable results. Additionally, a person of ordinary skill would have found it obvious to leverage solutions to one WLAN technical problem in order to solve a different, but analogous, WLAN technical problem. Moreover, the technical complexity of WLAN technology would have motivated a person of ordinary skill to search for and consult references from within the field before considering references from outside the technical field. A person of ordinary skill would have motivated to combine these related or analogous art to provide benefits of each reference.

Similarly, it would be obvious to one of skill in the art to consult and/or combine any of the prior art listed in Appendix G because all of these references are works by people in the same technical field. For example, many of the authors of the prior art references are members of the

same IEEE 802.11ax High Efficiency (HE) working group. *See e.g.*, IEEE 802.11-16/0024r1 (“Stacey 0024”) (identifying authors of prior art references, such as Stacey, Cariou, Merline, Jeongki Kim, Wentink). Moreover, one of ordinary skill in the art would have recognized that members of an IEEE working group frequently collaborate with, and build on, each other’s work. Thus, one of ordinary skill in the art would have recognized that the works of the same IEEE working group are likely compatible or otherwise work harmoniously when combined.

The ’163 patent Asserted Claims merely unite old elements, well known in the field, with no change in their respective function or result. Given the interrelated teachings of the prior art, the effects of demands known to the design community or present in the marketplace, and the background knowledge possessed by a person having ordinary skill in the art, it would have been obvious for one of ordinary skill in the art to combine these familiar elements, disclosed and/or embodied in the prior art listed above to practice the ’163 patent Asserted Claims.

All of the ’163 patent Asserted Claims are directed to disallowing processes that are based on BSS color. Such technology, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff’s infringement contentions, was widely known before the alleged priority date of the ’163 Patent, as evidenced by the references in Appendix G. *See, e.g.*, Lee 731 at Abstract, [0007]-[0010], [0012]-[0014], [0016], [0017], [0045]-[0047], [0051], [0055], [0058]-[0061], [0064], [0064], [0065], [0067]-[0069], [0071]-[0080], [0082]-[0086], [0088]-[0090], Figure 2, Figure 3, Figure 5, Figure 7, Figure 8; Lee 858 at [7]-[10], [12]-[14], [16], [17], [45]-[47], [51], [56], [61]-[64], [67], [68], [71]-[73], [75]-[79], [81]-[85], [88]-[92], [94]-[96], Figure 2, Figure 3, Figure 5, Figure 6, Figure 8; Stacey 0024 at 28, 29, 35, 24, 46, 48-49; Ko 0042 at 2-8; Khorov at 2-5; Seok 397 at Abstract, [0012]-[0014], [0023], [0073], [0078], [0079], [0089], [0090], [0101], [0157], [0188], [0189], [0195], [0240], [0241], [0283]- [0285], [0296], [0311],

Figure 1, Figure 4, Figure 5, Figure 7, Figure 8, Figure 12, Figure 15; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Noh 485 at 2:2-8, 10:1-13, 12:18-24, 12:44-13:47, 15:14-18, 15:39-53, 15:60-65, 16:18-26, 16:33-40, 16:58-64, 17:44-52, 17:62-65, 19:2-10, 20:22-51, 23:40-45; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0070], [0072], [0075], [0083]-[0087], [0091], [0097], [0100], [0105]-[0107], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at Abstract, [0003], [0040], [0051], [0071], [0072], [0078], [0106], [0108]-[0112]; Park 352 at [0044], [0075], [0076], [0103], [0104], [0107], [0119]-[0121], [0134], [0159], [0161], [0173].

One of ordinary skill in the art would have been motivated to combine any of the references in Appendix G because, at the time of the alleged invention, BSS color collisions were a common problem with a well-known solution. In particular, common problems (*i.e.*, BSS color collisions) with conventional techniques for OBSS wireless communication were known to persons of ordinary skill in the art. *See, e.g.*, Khorov at 5 (“In .11ax, the size is increased at least up to 6 bits to reduce error probability [36], since BSS colors of two neighboring BSS can collide.”); Zhou 258 at Abstract (“For example, the BSSs may use the same value for X-bit color indicators which results in a color collision if the BSSs are neighbor BSSs.”); Ko 0396 at 2 (“Due to the lack of BSS color values, there may be the case that neighboring BSSs use the same BSS color value . . . This case is referred as ‘BSS color collision’ hereinafter.”); Kim 387 at [0006] (“However, since the number of bits for representing BSS color information used by the STA to distinguish whether the received frame is intended for the STA is limited, it may cause not only a BSS color collision with a neighboring BSS but also malfunction of the STA.”); Itagaki 817 at [0073] (“[T]he COLOR

field includes 3 bits, and there are only 8 possible choices . . . Therefore, BSS COLOR overlapping between BSSes (OBSSes) having overlapping communication ranges”). BSS color collision is a subset of contention-related issues that commonly arise in wireless communications (including, but not limited to, Wi-Fi) and of which a POSITA would have been aware at the time of the alleged invention. *See, e.g.*, Nelson 066 at [0003] (“[A] collision can occur on the radio channel when two or more transmitter devices transmit on the radio channel simultaneously.”). A POSITA would have understood that in the event of a BSS color collision, use of BSS color may be an ineffective means for classifying PPDU as either inter-BSS or intra-BSS. A POSITA would have been aware that in the event of identifier contention/collision generally, an obvious solution is to disable or disallow use of the identifier. In particular, disabling and/or disallowing BSS color use was well-known at the time of the alleged invention. *See, e.g.*, Lee 731 at Abstract (disclosing a “coloring disable bit”); Barriac 887 at [0098] (“APs can selectively allow or disallow reuse of the wireless medium based on a ‘BSS distance.’”). Thus, a POSITA would have found it obvious to disable/disallow BSS color use in the event of a BSS color collision. Doing so would have amounted to (1) combining prior art elements (*i.e.*, BSS color collision and disabling/disallowing BSS color use) according to known methods to yield predictable results, (2) applying a known technique (*i.e.*, disabling or disallowing use of BSS color) to a known device ready for improvement (*i.e.*, a Wi-Fi device experiencing a BSS color collision) to yield predictable results. It would also have been obvious to a POSITA to try disabling BSS color use in the event of a BSS color collision, as use of other identifiers (*e.g.*, MAC address) to classify PPDU was well-known at the time.

Before the time of the ’163 patent, wireless communication terminals were well known to one of skill in the art. *See, e.g.*, Lee 731 at Abstract, [0005], [0007], [0008], [0010]-[0014], [0032]-

[0036], [0039]- [0041], [0062]-[0065], [0067]-[0073], [0076]-[0080], [0082]-[0086], [0088]-[0090], [0092]-[0097], Figure 1, Figure 2, Figure 7, Figure 8; Lee 858 at Abstract, [5], [7], [8], [10]-[14], [32]-[36], [39]-[41], [65]-[68], [71]-[77], [81]-[85], [88]-[92], [94]-[96], [98]-[103], Figure 1, Figure 2, Figure 7, Figure 8; Stacey 0024 at 6-7, 11-12, 15-17, 22, 40-42, 45-52; Ko 0042 at 2-8, 10; Khorov at 1-5; Seok 397 at Abstract, [0005], [0007], [0008], [0012], [0019], [0045]-[0047], [0075], [0076], [0080], [0125], [0400]- [0402], cl. 1, Figure 1, Figure 5; Barriac 368 at 1:54-61, 10:17-23, 10:31-42, 10:64-11:15, 11:16-23, 11:53-60, 11:61-12:9, 12:32-42, 12:43-55, 12:56-62, 13:13-27, 27:4-18; Noh 485 at 4:34-50, 5:58-60, 6:31-40, 10:20-33, 11:14-23, 26:37-46; Zhou 258 at [0003], [0004], [0033], [0033], [0086], [0091], Figure 9, Figure 10, Figure 11A, Figure 11B, Figure 12A, Figure 12B; Oteri 787 at Abstract, [0002], [0027], [0028], [0036], [0047], [0048], [0050], [0051], [0053]-[0055], [0060], [0061], [0128], Figure 1A, Figure 1B; Park 352 at [0004], [0010], [0011], [0030], [0037], [0038], Claim 1, Claim 6, Figure , Figure 15.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that wireless communication terminals may include a transceiver. *See, e.g.*, Lee 731 at Abstract, [0002], [0007]-[0011], [0013], [0014], [0032], [0033], [0035], [0036], [0065], [0067]-[0069], [0073], [0076]-[0080], [0082]-[0086], [0088]- [0090], [0092], [0093], Figure 1, Figure 2, Figure 7, Figure 8; Lee 858 at Abstract, [2]-[11], [13], [14], [32], [33], [35], [36], [68], [71]-[73], [77], [81]-[85], [88]-[92], [94]-[96], [98], [99], Figure 1, Figure 2, Figure 7, Figure 8; Stacey 0024 at 38, 39, 55-60, 93, 124; Ko 0042 at 2-5, 7; Khorov at 1-5; Seok 397 at [0006], [0013], [0047], [0051], [0052], [0073], [0078], [0080], [0082], [0101], [0157], [0178], [0237], [0301], [0313], [0314], Figure 1, Figure 4, Figure 5, Figure 7, Figure 8; Barriac 368 at 3:24-34; 3:38-52, 6:61-7:3, 7:33-41, 10:57-63, 12:32-42, 12:43-55, 23:42-49, 24:60-67, 25:10-17, 25:24-31; Noh 485 at 5:58-

60, 6:1-6, 6:7-10, 6:44-54, 7:7-12, 7:24-29, 7:60-8:3, 8:10-17, 8:60-9:3, 9:4-20, 11:30-41, 11:42-56, 11:57-63, 12:49-55, 15:19-53, 15:54-16:40, 18:6-24; Zhou 258 at [0070], [0086], [0090], [0091], [0092], [0100], [0107], Figure 9, Figure 10, Figure 11A, Figure 11B, Figure 12A, Figure 12B; Oteri 787 at [0028], [0029], [0037]-[0039], [0042], [0046], [0053], [0128], Figure 1A, Figure 1B; Park 352 at Abstract, [0005]-[0007], [0010], [0011], [0038], Figure 1, Figure 15.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that wireless communication terminals may include a processor. *See, e.g.,* Lee 731 at [0008], [0092], [0093], [0095]-[0097], Figure 2, Figure; Lee 858 at [8], [98], [99], [101], [102], [103], Figure 2, Figure 8; Stacey 0024 at 26, 40, 102, 108, 117, 120-121; Ko 0042 at 2-5, 7; Khorov at 1-5; Seok 397 at Abstract, [0006], [0013], [0020], [0021], [0047]-[0051], [0055], [0056], [0058], [0060], [0062], [0064]-[0066], [0069], [0071], [0072], [0284], Figure 1- Figure 3; Barriac 368 at 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 6:61-7:3, 7:7-20, 7:21-32 [0034], 7:33-41, 11:61-12:9, 12:10-20, 12:21-31, 12:43-55, 13:4-13, 23:33-41, 23:50-55, 24:60-67, 25:1-9, 25:18-23, 26:13-28; Noh 485 at 5:58-60, 6:55-60, 6:61-7:6, 7:7-12, 6:44-54, 26:20-30, 26:37-46; Zhou 258 at [0009], [0086], [0091], [0099], [0100], [0101], [0104], [0105], [0107], [0108], [0109], [0134], [0135], [0136], Figure 9, Figure 10, Figure 11A, Figure 11B, Figure 12A, Figure 12B; Oteri 787 at [0038], [0039], [0043]-[0046], [0053]-[0055], [0059], [0128], Figure 1A, Figure 1B; Park 352 at [0011], [0187]-[0198], Figure 1, Figure 15.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a processor may be configured to receive a physical layer convergence procedure ("PLCP") processing data unit ("PPDU"). *See, e.g.,* Lee 731 at Abstract, [0007]-[0010], [0012]-

[0014], [0016], [0017], [0045]-[0047], [0051], [0055], [0058]-[0061], [0064], [0064], [0065], [0067]-[0069], [0071]-[0080], [0082]-[0086], [0088]-[0090], Figure 2, Figure 3, Figure 5, Figure 7, Figure 8; Lee 858 at [7]-[10], [12]-[14], [16], [17], [45]-[47], [51], [56], [61]-[64], [67], [68], [71]-[73], [75]-[79], [81]-[85], [88]-[92], [94]-[96], Figure 2, Figure 3, Figure 5, Figure 6, Figure 8; Stacey 0024 at 28, 29, 35, 24, 46, 48-49; Ko 0042 at 2-8; Khorov at 2-5; Seok 397 at Abstract, [0012]-[0014], [0023], [0073], [0078], [0079], [0089], [0090], [0101], [0157], [0188], [0189], [0195], [0240], [0241], [0283]- [0285], [0296], [0311], Figure1, Figure 4, Figure 5, Figure 7, Figure 8, Figure 12, Figure 15; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Noh 485 at 2:2-8, 10:1-13, 12:18-24, 12:44-13:47, 15:14-18, 15:39-53, 15:60-65, 16:18-26, 16:33-40, 16:58-64, 17:44-52, 17:62-65, 19:2-10, 20:22-51, 23:40-45; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0070], [0072], [0075], [0083]-[0087], [0091], [0097], [0100], [0105]-[0107], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at Abstract, [0003], [0040], [0051], [0071], [0072], [0078], [0106], [0108]-[0112]; Park 352 at [0044], [0075], [0076], [0103], [0104], [0107], [0119]- [0121], [0134], [0159], [0161], [0173].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a processor may be configured not to use a Basic Service Set (BSS) color when signaling information indicates that an operation based on the BSS color is not allowed. *See, e.g.*, Lee 731 at Abstract, [0007]-[0010], [0012]-[0014], [0016], [0017], [0045]-[0047], [0051], [0055], [0058]-[0061], [0064], [0064], [0065], [0067]-[0069], [0071]-[0080], [0082]-[0086], [0088]-

[0090], Figure 2, Figure 3, Figure 5, Figure 7, Figure 8; Lee 858 at [7]-[10], [12]-[14], [16], [17], [45]-[47], [51], [56], [61]-[64], [67], [68], [71]-[73], [75]-[79], [81]-[85], [88]-[92], [94]-[96], Figure 2, Figure 3, Figure 5, Figure 6, Figure 8; Stacey 0024 at 28, 29, 35, 24, 46, 48-49; Ko 0042 at 2-8; Khorov at 2-5; Seok 397 at Abstract, [0012]-[0014], [0023], [0073], [0078], [0079], [0089], [0090], [0101], [0157], [0188], [0189], [0195], [0240], [0241], [0283]- [0285], [0296], [0311], Figure1, Figure 4, Figure 5, Figure 7, Figure 8, Figure 12, Figure 15; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Noh 485 at 2:2-8, 10:1-13, 12:18-24, 12:44-13:47, 15:14-18, 15:39-53, 15:60-65, 16:18-26, 16:33-40, 16:58-64, 17:44-52, 17:62-65, 19:2-10, 20:22-51, 23:40-45; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0070], [0072], [0075], [0083]-[0087], [0091], [0097], [0100], [0105]-[0107], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at Abstract, [0003], [0040], [0051], [0071], [0072], [0078], [0106], [0108]-[0112]; Park 352 at [0044], [0075], [0076], [0103], [0104], [0107], [0119]- [0121], [0134], [0159], [0161], [0173]. For reasons described above, it would have been obvious to incorporate disabling or disallowing BSS color use (*e.g.*, in the event of a detected BSS color collision).

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that BSS color is an identifier of a BSS. *See, e.g.*, Lee 731 at Abstract, [0007]-[0014], [0017], [0034], [0037], [0038], [0040], [0041], [0062]-[0064], [0067]- [0068], [0071]- [0075], [0082], [0083], [0085], [0089], Figure 1, Figure 2, Figure 8; Lee 858 at Abstract, [7]-[14], [17], [34], [37]-[38], [40], [41], [65]-[67], [71]-[72], [75]-[70], [88], [89], [91], [95], Figure 1, Figure 2,

Figure 8; Stacey 0024 at 24, 46, 49; Ko 0042 at 2-8; Khorov at 2, 4-5; Seok 397 at Abstract, [0012]-[0014], [0283]- [0285], [0296], [0311], [0354]; Barriac 368 at 2:60-69, 3:11-23, 4:8-16, 5:1-10, 6:1-10, 13:45-61, 20:53-62, 20:63-21:5, 21:6-23, 23:17-24; Noh 485 at 15:39-53, 15:60-65, 16:18-26, 17:44-52, 17:62-65, 19:2-10, 20:22-51, 23:40-45; Zhou 258 at [0003], [0004], [0005], [0006], [0044], [0049], [0067]; Oteri 787 at Abstract, [0003], [0071], [0072], [0078], [0106], [0108]-[0112]; Park 352 at [0044], [0103], [0104], [0107], [0119], [0120], [0159], [0161], [0173].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that signaling information can be transmitted from a base wireless communication terminal to which a receiving wireless communication terminal is associated. *See, e.g.*, Lee 731 at [0034]-[0036], [0040], [0041], [0062], [0063], [0065], [0067], [0069], Figure 1, Figure 2, Figure 7, Figure 8; Lee 858 at [34], [35], [36], [40], [41], [65], [66], [68], [71], [73], Figure 1, Figure 2, Figure 7, Figure 8; Stacey 0024 at 24, 46, 48-49, 54-55, 78-80, 80-85, 85-91; Ko 0042 at 2-5, 7; Khorov at 1-5; Seok 397 at [0187], [0189], [0230], [0232], [0240], [0241], [0243], [0283]- [0285], [0343], [0345], [0346], [0369], Figure 22; Barriac 368 at 13:13-27, 16:14-43, 20:29-38, 20:39-50, 21:6-23 21:48-58; Noh 485 at 12:44-49, 14:59-65, 16:4-8, 16:9-17, 16:27-32, 16:53-57, 17:34-36, 22:9-21, 22:31-43, 23:1-4, 23:9-21, 25:29-31; Zhou 258 at [0004], [0006], [0016], [0049], [0051], [0066], [0070], [0078], [0085], [0087], [0088], [0093], [0118]; Oteri 787 at [0040], [0051], [0054], [0081], [0082], [0086], [0088], [0117]; Park 352 at [0039], [0061], [0065], [0066], [0075], [0078], [0103], [0181].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a processor can be configured not to set an Intra-BSS Network Allocation Vector

(NAV) by using the BSS color indicated by a signaling field of the PPDU when the signaling information indicates that the operation based on the BSS color is not allowed. *See, e.g.*, Lee 731 at [0052]-[0055], [0057], [0070]-[0073], [0076]-[0080], [0082], [0084], [0086], [0088], Figure 5; Lee 858 at [53]-[57], [74]-[77], [81]-[85], [88], [90], [92], [94], Figure 5; Stacey 0024 at 26-27, 32, 37-38, 42-43, 46-47, 49; Ko 0042 at 2; Khorov at 1-5; Seok 397 at [0081], [0083], [0085]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Noh 485 at 1:18-22, 1:57-2:8, 2:34-38, 11:24-29, 11:42-56, 13:55-14:9, 14:23-32, 15:54-59, 15:66-16:8, 16:18-26; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049], [0050], [0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at [0052], [0061], [0071], [0078], [0106], [0112]; Park 352 at [0137]-[0139], [0178]-[0180]. Moreover, a POSITA would have understood that setting an inter- or intra-BSS NAV requires classifying a PPDU as either inter or intra-BSS. *See, e.g.*, Stacey 0024 at 39-40. Thus, it would have been obvious to a POSITA that when BSS color cannot, or should not, be used (*e.g.*, in the event of a BSS color collision), then BSS color cannot, or should not, be used for setting an inter- or intra-BSS NAV. This amounts to combining prior art elements according to known methods to yield predictable results. Moreover, the references disclosing both the BSS color collision scenario and inter-/intra-BSS NAV would have provided a POSITA with a teaching, suggestion, or motivation to combine one with the other.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement

contentions, that an Intra-BSS NAV is different from a Basic NAV and is a NAV which is set based on an Intra-BSS PPDU. *See, e.g.*, Lee 731 at [0052]-[0055], [0057], [0063], [0064], [0082], [0084], [0086], [0088], [0090], Figure 5; Lee 858 at [53]-[57], [66], [67], [88], [89], [92], [94], [96], Figure 5; Stacey 0024 at 26-27, 32, 37-38, 42-43, 46-47, 49; Ko 0042 at 2, 4, 7-8, 10; Khorov at 1-5; Seok 397 at [0081], [0083], [0085]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Noh 485 at 1:57-2:8, 2:34-38, 13:55-14:9, 15:54-59, 15:66-16:8, 16:18-26; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at [0052], [0061], [0071], [0078], [0106], [0112]; Park '352 at [0098], [0102], [0104], [0118], [0122], [0137]-[0139], [0178]-[0180].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a Basic NAV is set based on an Inter-BSS PPDU or a PPDU which is not able to be identified as the Inter-BSS PPDU or the Intra-BSS PPDU. *See, e.g.*, Lee 731 at [0052], [0053], [0054]-[0056], [0063]-[0064], [0082], [0084], [0086], [0088], [0090], Figure 5; Lee 858 at [0053]-[0057], [66], [67], [88], [90], [92], [94], [96], Figure 5; Stacey 0024 at 26-27, 32, 37-38, 42-43, 46-47, 49; Ko 0042 at 3, 4, 7; Khorov at 1-5; Seok 397 at [0081], [0083], [0085]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-

47; Noh 485 at 1:57-2:8, 2:34-38, 13:55-14:9, 15:54-59, 15:66-16:8, 16:33-40, 17:5-10; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at [0052], [0061], [0071], [0078], [0106], [0112]; Park '352 at [0098], [0102], [0104], [0118], [0122], [0137]-[0139], [0178]-[0180].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a PPDU can include a TXOP Duration field in the signaling field of the PPDU and a medium access control (MAC) frame which includes a duration field. *See, e.g.*, Lee 731 at [0035], [0052], [0053], [0054]-[0056], [0065], [0070]-[0073], [0076]-[0080], [0082], [0084], [0086], [0088], [0090], Figure 5, Figure 7; Lee 858") at [35], [53], [54], [55]-[57], [68], [74]-[77], [81]-[85], [88], [90], [92], [94], [96], Figure 5, Figure 7; Stacey 0024 at 37-38, 80, 81, 82; Ko 0042 at 2, 4, 5, 7, 10; Khorov at 1-5; Seok 397 at [0081], [0083], [0085], [0095], [0105]- [0107], [0253], [0259], [0261], [0262]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Noh 485 at 2:57-59, 16:18-26, 21:28-32, 21:42-53, 18:43-48; Zhou 258 at [0005], [0006], [0017], [0044], [0045], [0046], [0049], [0050], [0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at [0080], [0083], [0090], [0096], [0120], [0121]; Park '352 at [0060], [0138], [0139], [0143], [0145], [0152]- [0153], [0155], [0196], Claim 2, Claim 7.

It was well-known to one of skill in the art before the time of the '163 patent, at least

partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that the TXOP Duration field indicates information used for setting the Intra-BSS NAV and the Basic NAV. *See, e.g.*, Lee 731 at [0052]-[0056], [0063], Figure 5; Lee 858 at [53]-[57], [66], [67], Figure 5; Stacey 0024 at 37-38, 80, 81, 82; Ko 0042 at 2, 4, 5, 7, 10; Khorov at 1-5; Seok 397") at [0081], [0083], [0085], [0095], [0105]- [0107], [0253], [0259], [0261], [0262]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258") at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at [0052], [0061], [0071], [0078], [0080], [0083], [0090], [0096], [0106], [0112], [0120], [0121]; Park '352 at [0137]-[0139], [0178]-[0180], [0196], Claim 2, Claim 7.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that the duration field indicates information used for setting the Intra-BSS NAV and the Basic NAV. *See, e.g.*, Lee 731 at [0052]-[0056], [0063], [0064], Figure 5; Lee 858 at [53]-[57], [66], [67], Figure 5; Stacey 0024 at 37-38, 80, 81, 82; Ko 0042 at 2, 4, 5, 7, 10; Khorov at 1-5; Seok 397 at [0081], [0083], [0085], [0095], [0105]- [0107], [0253], [0259], [0261], [0262]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0005], [0006], [0017], [0044]- [0046], [0049]- [0051], [0054],

[0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at [0052], [0061], [0071], [0078], [0080], [0083], [0090], [0096], [0106], [0112], [0120], [0121]; Park '352 at [0060], [0137]-[0139], [0143], [0145], [0152], [0153], [0155], [0178]-[0180].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that the processor can be configured not to use the TXOP Duration field for setting the Intra-BSS NAV or the Basic NAV when the wireless communication terminal gets a valid signaling field of the MAC frame. *See, e.g.*, Lee 731 at [0035], [0052]- [0056], [0062]-[0065], Figure 5, Figure 7; Lee 858 at [35], [53]-[57], [65]-[68], Figure 5, Figure 7; Stacey 0024 at 37-38, 80, 81, 82; Ko 0042 at 2, 4, 5, 7, 10; Khorov at 1-5; Seok 397 at [0081], [0083], [0085], [0095], [0105]- [0107], [0253], [0259], [0261], [0262]; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049], [0050], [0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787") at [0052], [0061], [0071], [0078], [0080], [0083], [0090], [0096], [0106], [0112], [0120], [0121]; Park '352 at [0060], [0137]-[0139], [0143], [0145], [0152], [0153], [0155], [0178]-[0180].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that the processor can be configured to signal that the operation based on the BSS color is not allowed when the wireless communication terminal recognizes that a BSS color

collision has occurred. *See, e.g.*, Lee 731 at [0062]-[0064]; Lee 858 at [65]-[67]; Stacey 0024 at 32, 41, 46, 48-49; Ko 0042 at 4, 6, 8; Khorov at 1, 2, 4, 5; Seok 397 at [0023], [0073], [0078], [0079], [0284], [0327], [0329], [0354], [0356], [0359], Figure 4, Figure 5; Barriac 368 at Abstract, 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at Abstract, [0003], [0040], [0051], [0057], [0071], [0072], [0078], [0106], [0108]- [0112]; Park '352 at [0046], [0081], [0083], [0103], [0104], [0107], [0111], [0116], [0117], [0119], [0127], [0132], [0134], [0140], [0173]. Moreover, a POSITA would have understood that a BSS color collision scenario is one reason to disallow/disable BSS color use. *See, e.g.*, Khorov at 5 (“In 11ax, the size is increased at least up to 6 bits to reduce error probability [36], since BSS colors of two neighboring BSS can collide.”); Zhou 258 at Abstract (“For example, the BSSs may use the same value for X-bit color indicators which results in a color collision if the BSSs are neighbor BSSs.”); Ko 0396 at 2 (“Due to the lack of BSS color values, there may be the case that neighboring BSSs use the same BSS color value . . . This case is referred as ‘BSS color collision’ hereinafter.”); Kim 387 at [0006] (“However, since the number of bits for representing BSS color information used by the STA to distinguish whether the received frame is intended for the STA is limited, it may cause not only a BSS color collision with a neighboring BSS but also malfunction of the STA.”); Itagaki 817 at [0073] (“[T]he COLOR field includes 3 bits, and there are only 8 possible choices . . . Therefore, BSS COLOR overlapping between BSSes (OBSSes) having overlapping communication ranges”). A POSITA would further have understood that, in

the event of a BSS color collision, an AP would ideally update the BSS color to rectify the color collision. *See, e.g.*, Itagaki 817 at [0192]. Thus, a POSITA would have found it obvious to configure a device to signal when a BSS color collision is detected. *See, e.g., id.*, Zhou 258 at [0005], [0017]-[0018]. This amounts to combining prior art elements according to known methods to yield predictable results.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a BSS color collision represents that different BSSs correspond to one BSS color. *See, e.g.*, Lee 731 at [0062]-[0064]; Lee 858 at [65]-[67]; Stacey 0024 at 32, 41, 46, 48-49; Ko 0042 at 2, 4, 5, 6, 8; Khorov at 1, 2, 4, 5; Seok 397 at [0023], [0073], [0078], [0079], [0284], [0327], [0329], [0354], [0356], [0359], Figure 4, Figure 5; Barriac 368 at Abstract 2:60-67, 3:11-23, 4:8-16, 5:1-10, 15:38-67, 21:6-23; Zhou 258 at [0005], [0006], [0017], [0044]-[0046], [0049]-[0051], [0054], [0056], [0065], [0069], [0072], [0075], [0083], [0086], [0091], [0100], [0105], [0106], [0109], [0110], [0113], [0117], [0121], [0125]; Oteri 787 at Abstract, [0003], [0040], [0051], [0057], [0071], [0072], [0078], [0106], [0108]- [0112]; Park '352 at [0046], [0081], [0083], [0103], [0104], [0107], [0111], [0116], [0117], [0119], [0127], [0132], [0134], [0140], [0173].

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that the processor can be configured to determine that BSS color collision has occurred based on address fields of a medium access control (MAC) frame. *See, e.g.*, Lee 731 at [0035], [0052], [0062]-[0065], [0082], [0090], Figure 7; Lee 858 at [35], [65]-[68], [88], [96]; Stacey 0024 at pg. 32, 41, 46, 48-49; Ko 0042 at pg. 4, 6, 7, 8; Khorov at pg. 2, 4, 5; Seok 397 at

[0023], [0073], [0078], [0079], [0217], [0240], [0241], [0284], [0327], [0329], [354], [356], [359], Figure 4, Figure 5; Barriac 368 at 13:45-61; Zhou 258 at [0016], [0070], [0078], [0080], [0096], [0103], [0119]; Oteri 787 at [0071]; Park '352 at [0037], [0043], [0075], [0120], [0139], [0143], [0153], [0159], [0166], [0174]. A POSITA would have understood that a MAC address is a unique identifier for a BSS and thus would have found it obvious to use MAC address to determine whether a BSS color collision has occurred. *See, e.g.*, Zhou 258 at [0016]. This amounts to combining prior art elements according to known methods to yield predictable results.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that an operation based on the BSS color includes entering a doze state of a power save operation based on a BSS color indicated by a signaling field of the PPDU. *See, e.g.*, Lee 731 at [0070]-[0073], [0076]- [0080], [0082], [0084], [0086], [0088], [0090]; Lee 858 at [74]-[77], [81]-[85], [88], [90], [92], [94], [96], Figure 7; Stacey 0024 at pg. 35, 36-37, 48-50; Ko 0042 at pg. 2, 5, 6, 8; Khorov at pg. 1-5; Seok 397 at [0096], [0235], [0236], [0284], cl 18, Table II; Barriac 368 at Abstract 2:11-20 , 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7 , 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0003], [0004], [0048]- [0050], [0084]; Oteri 787 at [0072], [0078], [0106], [0107]; Park '352 at [0004], [0005], [0007], [0012], [0058]-[0062], [0064], [0071], [0083], [0107], [0110], [0113], [0114], [0123], [0124], [0131], [0135]-[0140], [0147], [0148], [0155], [0163], [0196], Figure 6, Figure 8, Figure 9, Figure 10. Moreover, a POSITA would have understood that setting entering/not entering a doze state may require classifying a PPDU as either inter or intra-BSS. *See, e.g.*, Stacey 0024 at 50-51. Thus, it would have been obvious to a POSITA that when

BSS color cannot, or should not, be used (*e.g.*, in the event of a BSS color collision), then BSS color cannot, or should not, be used for deciding whether to enter a doze state. This amounts to combining prior art elements according to known methods to yield predictable results. Moreover, the references disclosing both the BSS color collision scenario and doze state power save operations would have provided a POSITA with a teaching, suggestion, or motivation to combine one with the other.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that the power save operation is an operation for the wireless communication terminal to enter the doze state until an end of a received PPDU which is an Intra-BSS PPDU. *See, e.g.*, Lee 731 at [0070]-[0073], [0076]- [0080], [0084], [0086], [0088], [0090]; Lee 858 at [74]-[77], [82]-[84], [88], [90], [92], [94], [96]; Stacey 0024 at pg. 35, 36-37, 48-50; Ko 0042 at pg. 2, 5, 6, 8; Khorov at pg. 1-5; Seok 397 at [0096], [0235], [0236], [0284], cl 18, Table II; Barriac 368 at Abstract 2:11-20, 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7, 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0003], [0004], [0048]- [0050], [0084]; Oteri 787 at [0072], [0078], [0106], [0107]; Park '352 at [0004], [0005], [0007], [0012], [0058]-[0062], [0064], [0068], [0071], [0083], [0107], [0110], [0113], [0114], [0123], [0124], [0131], [0135]-[0140], [0147], [0148], [0155], [0163], [0196], Figure 6, Figure 8, Figure 9, Figure 10.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that a processor can be configured not to perform a spatial reuse operation when the

BSS color indicated by the signaling field of the PPDU is a predetermined value. *See, e.g.*, Lee 731 at [0070]-[0073], [0076]-[0080], [0082], [0084], [0086], [0088], [0090]; Lee 858 at [74]-[77], [81]-[85], [90], [92], [94], [96]; Stacey 0024 at pg. 46-47, 48-49; Ko 0042 at pg. 2, 4, 6; Khorov at pg. 1-5; Seok 397 at [0265], [0280], [0292], [0311], [0324], [0351], [0379], [0380], [0381], [0384]-[0387], [0389]- [0393], [0395], [0396], Figure 22, Figure 23, Figure 24, Figure 25; Barriac 368 at Abstract 2:11-20 , 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7 , 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0003]; Oteri 787 at [0071], [0078], [0107]; Park '352 at [0103], [0104], [0107], [0119], [0173]. Moreover, a POSITA would have understood that performing spatial reuse may require classifying a PPDU as either inter or intra-BSS. *See, e.g.*, Stacey 0024 at 48-50. Thus, it would have been obvious to a POSITA that when BSS color cannot, or should not, be used (*e.g.*, in the event of a BSS color collision), then BSS color cannot, or should not, be used for spatial reuse. This amounts to combining prior art elements according to known methods to yield predictable results. Moreover, the references disclosing both the BSS color collision scenario and spatial reuse operations would have provided a POSITA with a teaching, suggestion, or motivation to combine one with the other. Moreover, a POSITA would have found it obvious that a predetermined BSS color value could signal when certain operations (including spatial reuse operations) based on BSS color are disallowed. *See, e.g.*, Stacey 0024 at 26.

It was well-known to one of skill in the art before the time of the '163 patent, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, that predetermined value of BSS color indicated by the signaling field can be 0. *See, e.g.*, Lee 731 at [0070]-[0073], [0076]-[0080], [0082], [0084], [0086], [0088], [0090]; Stacey 0024

at pg. 46-47, 48-49; Ko 0042 at pg. 2, 4, 6; Khorov at pg. 1-5; Seok 397 at [0265], [0280], [0292], [0311], [0324], [0351], [0379], [0380], [0381], [0384]-[0387], [0389]- [0393], [0395], [0396]; Barriac 368 at Abstract 2:11-20 , 2:51-59, 2:60-67, 3:11-23, 3:24-34, 3:38-52, 3:65-4:7 , 4:8-16, 4:59-67, 5:1-10, 5:57-67, 6:1-9, 6:35-49, 6:57-60, 6:61-7:3, 7:7-20, 7:21-32, 7:33-41, 7:42-47, 8:7-18, 8:28-33, 8:65-9:9, 9:20-25, 11:61-12:9, 12:43-55, 13:13-27, 13:28-61, 15:8-37, 17:4-18, 17:19-27, 19:40-47; Zhou 258 at [0003]; Oteri 787 at [0071], [0078], [0107]; Park '352 at [0103], [0104], [0107], [0119], [0173]. Moreover, a POSITA would have found it obvious that a predetermined BSS color value of 0 could signal when certain operations (including spatial reuse operations) based on BSS color are disallowed. *See, e.g.*, Stacey 0024 at 26.

In addition, the prior art also provided sets of finite, identified, predictable solutions for known problems that would have been obvious to those of ordinary skill to try with a reasonable expectation of success. For example, it would have been obvious to one of skill in the art at the time that the disclosures relating to disabling/disallowing operations based on BSS color (*e.g.*, spatial reuse and NAV setting) could be applied to mitigate the effects of a BSS color collision.

The prior art references provide motivations to combine because they describe the field of the Asserted Patents, teach improvements, explain desired features, and even expressly state that one of skill in the art would be able to apply their teachings to related systems or methods. *See, e.g.*, Lee 731 at [0098] (“[T]hose skilled in the art will appreciate that various modifications and variations can be made in the present invention without departing from the spirit or scope of the invention described in the appended claims”); Lee 858 at [104] (“[A] person skilled in the art will understand that the skilled person in the art can modify and change the present invention in various ways within the scope of the ideas and scope of the present invention described in the scope of the patent claims as described below”); Seok 397 at [0044] (“As those skilled in the art would realize,

the described embodiments may be modified in various different ways, without departing from the spirit or scope of the invention”).

Further, the prior art references provide motivations to combine because they explicitly suggest utilizing the teachings and disclosures of other references.

In accordance with these advances, the prior art could have been combined according to methods known to those of ordinary skill within the field of the '163 patent to yield predictable results. For example, it was known that an increase in density of Wi-Fi networks could cause a BSS color collision scenario or similar contention issues. *See, e.g.*, Zhou 258 at [0005] (“Systems, methods, and apparatuses for detection and resolution of basic service set (BSS) reduced version identifier collisions are described”); Ko 0042 at 6 (“Due to the lack of BSS color values, the probability of BSS color collision increases in dense environment”); *see also* Ex. G1-G24 at cl. 4, 5. It was further known that (1) use of BSS color could be disabled/disallowed and (2) certain processes/operations based on BSS color could be disabled/disallowed. *See, e.g.*, Lee 731 at Abstract (“[T]he frame includes a coloring disable bit, and when the coloring disable bit indicates that the frame is a multiuser transmission-related trigger frame, the STA does not perform a change of the CCA level without regard to information indicated by the coloring bit.”); Barriac 368 at 2:12-15 (“The method includes determining, at an access point, whether to allow reuse of the wireless medium by one or more stations in a basic service set (BSS)”); *see also* Ex. G1-G24 at cl. [1c]. Those of ordinary skill in the art could have employed known techniques to improve similar prior art devices in the same way as claimed in the '163 patent.

In addition, one of ordinary skill in the art would be motivated to combine the prior art references because the elements found in the Asserted Claims of the '163 patent are well known in the art. Indeed, the listed inventors of the Asserted Patents admitted as much in the specification

of the '163 Patent. *See, e.g.*, '163 patent at 1:33-2:58.

Moreover, it would have been obvious to one of ordinary skill in the art at the time to combine the teachings of a document submitted as part of the IEEE 802.11ax standard development process (*e.g.*, working group documents, draft specifications, technical submissions, working group meeting presentations) with a system implementing an older IEEE 802.11ac standard. For example, one of ordinary skill in the art would have been motivated to combine the teachings of a document submitted as part of the IEEE 802.11ax standard development process with a real wireless communications hardware/device to yield a working wireless communication system with the improvements and benefits offered by the new standard. In another example, one of ordinary skill in the art would have been motivated to simply substitute an older version of a wireless module implemented on a wireless device/hardware with one implementing a newer version of the standard that addresses the shortcomings of the older standard. In yet another example, one of ordinary skill in the art would have been motivated to apply the known techniques disclosed in the documents submitted as part of the IEEE 802.11ax standard development process to an older wireless communications system implementing IEEE 802.11ax to yield the predictable results of improved wireless communication performance. Further, one of ordinary skill in the art would have been prompted by the teachings in the documents submitted as part of the IEEE 802.11ax standard development process to modify the wireless communications hardware/device to meet market demands for improved wireless performance.

It would have been obvious to one of ordinary skill in the art at the time to combine teachings of a document submitted as part of IEEE 802.11ax standard development process (*e.g.*, working group documents, draft specification, technical submissions, working group meeting presentations) with teachings of a reference pertaining to hardware/devices (*e.g.*, non-access-point

stations) for wireless communications (*e.g.*, wireless local area network (WLAN)). For instance, a person of ordinary skill would have been motivated to combine the teachings of a document submitted as part of the IEEE 802.11ax standard development process—which generally address narrow technical issues and solutions—with references disclosing WLAN devices and hardware more broadly (*e.g.*, devices with transceivers and configurable processors) to yield a blueprint for a working device that addresses the technical problem disclosed in the IEEE 802.11ax standard development document. Such a combination amounts to combining known prior art elements according to known methods to yield predictable results. Further, to the extent any prior art WLAN devices/hardware documents disclose deficiencies or technical issues with the state of the art, one of ordinary skill in the art would have been prompted to combine these references with the teachings in documents submitted as part of the IEEE 802.11ax standard development process to meet market demands for improved wireless performance. This disclosure of deficiencies and/or technical issues would provide a teaching, suggestion, or motivation for a person of ordinary skill to modify the prior art reference based on the IEEE 802.11ax standard working documents.

It would have been obvious to one of ordinary skill in the art at the time to combine teachings of a document submitted as part of IEEE 802.11ax standard development process (*e.g.*, working group documents, draft specification, technical submissions, working group meeting presentations) with teachings of another document submitted as part of IEEE 802.11ax standard development process. For instance, considering the common underlying technical subject matter of the IEEE 802.11ax standard development documents, it would be obvious to one of ordinary skill to try combining the teachings of multiple documents. In doing so, a person of ordinary skill would have a reasonable expectation of success. Moreover, given the common goals and design incentives among authors of IEEE 802.11ax standard development documents (*e.g.*, improving

WLAN device performance), a person of ordinary skill would find it obvious to combine the technical solutions disclosed in multiple IEEE 802.11ax standard development documents. Further, given the additive nature of the IEEE standard development process, a person of ordinary skill would have understood that various IEEE 802.11ax standard development documents could be combined to create a cohesive solution. A person of ordinary skill would have a reasonable expectation of success in combining the teachings in these documents.

Any reference or combination of references that anticipates or makes obvious an asserted independent claim also makes obvious any asserted claim dependent on that independent claim, as the element of each dependent '163 patent Asserted Claim was known by a person of ordinary skill at the time of the alleged invention, at least partially based on, but not limited by, the claim constructions implicit in Plaintiff's infringement contentions, and it would have been obvious to combine those known elements with the independent claims at least as a matter of common sense and routine innovation. Accordingly, Defendants contend that each Asserted Claim would have been obvious not only by the combinations described in these contentions, but also by any combination of references that renders obvious an Asserted Claim.

In addition to the specific examples of motivation provided above, Defendants reserve the right to rely on the disclosures of the references listed in Appendix G for additional motivation to combine. The above-identified examples of combinations are given merely to illustrate various motivations to combine and are not intended to provide an exhaustive list of every possible combination to which the motivation may apply. Defendants reserve the right to contend that the above-described motivations to combine apply to other combinations at the appropriate time, *i.e.*, in expert reports regarding invalidity.

For at least the reasons described above, it would have been obvious to one of ordinary

skill in the art to combine each prior art reference listed in Appendix G with any other reference or references listed in Appendix G along with the knowledge of one of ordinary skill in the art to arrive at the inventions claims in the '163 patent. For example, and without limitation, the Asserted Claims of the '163 patent would have been obvious to one of ordinary skill in the art in view of the following combinations:

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2017/0223731 (“Lee 731”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
WO 2016/021858 (“Lee 858”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
Evgeny Khorov et al., <i>IEEE 802.11ax: How to Build High Efficiency WLANs</i> , 2015 Int'l Conf. on Eng'g & Telecomm. 14-19 (2015) ("Khorov")	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 ("Lee 731") • WO 2016/021858 ("Lee 858") • IEEE P802.11 802.11-16/0024r1 "Proposed TGax draft specification" ("Stacey 0024") • IEEE 802.11-16/0042r2 "BSS Color Settings for a Multiple BSSID Set" ("Ko 0042") • US 2016/0249397 ("Seok 397") • US 10,666,368 ("Barriac 368") • US 10,321,485 ("Noh 485") • US 2016/0345258 ("Zhou 258") • US 2021/0243787 ("Oteri 787") • US 2017/0127352 ("Park 352") • US 2017/0188306 ("Park 306") • US 2015/0124744 ("Zhu 744") • WO 2017/031640 ("Du 640") • US 2017/0078887 ("Barriac 887") • IEEE 802.11-16/0396r0 "Issues on BSS Color Collision" ("Ko 0396") • US 2016/0330663 ("Zhou 663") • EP 2986066A ("Nelson 066") • US 2019/082387 ("Kim 387") • US 2016/330685 ("Asterjadhi 685") • US 2017/257817 ("Itagaki 817") • IEEE Std 802.11-2012 ("802.11-2012") • IEEE Std 802.11ac ("802.11ac") • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2016/0249397 (“Seok 397”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 10,666,368 (“Barriac 368”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 10,321,485 (“Noh 485”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2016/0345258 (“Zhou 258”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2021/0243787 (“Oteri 787”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2017/0127352 (“Park 352”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
WO 2017/031640 (“Du 640”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2017/0188306 (“Park 306”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2015/0124744 (“Zhu 744”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2017/0078887 (“Barriac 887”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2016/0330663 (“Zhou 663”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
EP 2986066A (“Nelson 066”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2019/082387 (“Kim 387”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2016/330685 (“Asterjadhi 685”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
US 2017/257817 (“Itagaki 817”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title (Primary Inventor/Author))
IEEE Std 802.11-2012 (“802.11-2012”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
IEEE Std 802.11ac (“802.11ac”)	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ax/D1.0 • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
IEEE Std 802.11ax/D1.0	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • Systems implementing IEEE 802.11ac • Knowledge of a person of ordinary skill

Patent No. or Title (Primary Inventor/Author)	In Combination with One or More of: (Patent No. or Title Primary Inventor/Author)
Systems implementing IEEE 802.11ac	<ul style="list-style-type: none"> • Asserted Patents Admitted Prior Art (APA) • US 2017/0223731 (“Lee 731”) • WO 2016/021858 (“Lee 858”) • IEEE P802.11 802.11-16/0024r1 “Proposed TGax draft specification” (“Stacey 0024”) • IEEE 802.11-16/0042r2 “BSS Color Settings for a Multiple BSSID Set” (“Ko 0042”) • Evgeny Khorov et al., IEEE 802.11ax: How to Build High Efficiency WLANs, 2015 Int’l Conf. on Eng’g & Telecomm. 14-19 (2015) (“Khorov”) • US 2016/0249397 (“Seok 397”) • US 10,666,368 (“Barriac 368”) • US 10,321,485 (“Noh 485”) • US 2016/0345258 (“Zhou 258”) • US 2021/0243787 (“Oteri 787”) • US 2017/0127352 (“Park 352”) • US 2017/0188306 (“Park 306”) • US 2015/0124744 (“Zhu 744”) • WO 2017/031640 (“Du 640”) • US 2017/0078887 (“Barriac 887”) • IEEE 802.11-16/0396r0 “Issues on BSS Color Collision” (“Ko 0396”) • US 2016/0330663 (“Zhou 663”) • EP 2986066A (“Nelson 066”) • US 2019/082387 (“Kim 387”) • US 2016/330685 (“Asterjadhi 685”) • US 2017/257817 (“Itagaki 817”) • IEEE Std 802.11-2012 (“802.11-2012”) • IEEE Std 802.11ac (“802.11ac”) • IEEE Std 802.11ax/D1.0 • Knowledge of a person of ordinary skill

As mentioned above, Defendants have not yet completed their search or discovery concerning additional prior art. Moreover, the exemplary combinations are provided based on Defendants’ current understanding of the Asserted Claims and Plaintiff’s apparent view of the

scope of those claims as shown, for example, in Plaintiff's Infringement Contentions. Further, a *Markman* Order has not yet been issued in this case. As such, Defendants' inclusion of exemplary combinations does not preclude them from identifying other invalidating combinations as appropriate, and Defendants reserve the right to identify additional specific combinations as well as to detail and explain such combinations.

8. U.S. Patent No. 11,700,597

Pursuant to P.R. 3-3(a) and (b), Defendants identify in Appendix H the prior art references that render obvious the Asserted Claims of the '597 patent and include below exemplary combinations showing the obviousness of the '597 patent Asserted Claims in view of the prior art. To the extent Plaintiff contends that an element is not disclosed in any one of the anticipatory references described in Appendix H, the limitation would have been obvious in light of the disclosures within the reference and the knowledge of one of skill in the art at the time of the '597 patent. Moreover, to the extent Plaintiff contends that an element is not disclosed in any one of the anticipatory references described in Appendix H, such reference may be combined with any other references listed in Appendix H for such element, thereby rendering the claims invalid for obviousness.

To the extent a finder of fact determines that a limitation of any of the '597 patent Asserted Claims is not disclosed by one of the references identified above pursuant to P.R. 3-3(a), the claim is nevertheless unpatentable as obvious because they contain nothing that constitutes a patentable innovation. To the extent a finder of fact determines that a limitation of the '597 patent Asserted Claims is not anticipated, it does not go beyond combining familiar elements according to known methods to achieve predictable results or does more than choose between clear alternatives known to those of ordinary skill in the art.

a) Obviousness Rationale