

**IN UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD**

SAMSUNG ELECTRONICS CO., LTD. AND
SAMSUNG ELECTRONICS AMERICA, INC.

Petitioners,

v.

MAXELL, LTD.,
Patent Owner

Case: IPR2024-00907

U.S. Patent No. 10,129,590

**PATENT OWNER'S PRELIMINARY RESPONSE
TO PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,129,590**

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

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PATENT OWNER'S EXHIBIT LIST

Description	Exhibit #
1st Amended Docket Control Order from District Court Litigation	2001
Original Docket Control Order from District Court Litigation	2002
Maxell's Supplemental Preliminary Election of Asserted Claims	2003
Defendants' Preliminary Election of Prior Art	2004
U.S. Patent Publication No. US 2006/0203758 (Tee)	2005
U.S. Patent Publication No. US 2006/0135076 (Honkanen)	2006
Petitioner's invalidity contentions chart in District Court—Tee	2007
Petitioner's invalidity contentions chart in District Court—Honkanen	2008
Declaration of Bruce McNair	2009
L2CAP-Based Prototype Media Streaming via Bluetooth Technology	2010
https://www.nytimes.com/2009/10/19/technology/companies/19nokia.html	2011
https://www.codeproject.com/Articles/9357/Symbian-OS-design-faults	2012
https://www.engadget.com/2010-10-21-nokia-refines-development-strategy-adopts-html5-in-qt-and-ends-s.html	2013
https://www.businessinsider.com/ios-5-over-the-air-updates-2011-7	2014
https://support.apple.com/en-us/102998	2015

I. INTRODUCTION

Patent Owner Maxell, Ltd. ("Patent Owner") respectfully requests that the Board deny institution because Petitioners Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (hereinafter "Petitioner" or "Samsung") have failed to demonstrate a reasonable likelihood of success on the grounds submitted in the Petition for challenging the patentability of claims 1, 4-5, 8-12, and 14-25 ("challenged claims") of U.S. Patent No. 10,129,590 ("the '590 Patent").

First, the Board should exercise its discretion pursuant to 35 U.S.C. § 314(a) or 35 U.S.C. §325(d) and deny this petition. Application of the *Becton, Dickinson* factors weigh in favor of denying institution because most of the art relied on in the Petition was in fact considered during the '590 Patent prosecution, reexamination, and/or related applications or is cumulative to prior art considered. Moreover, application of the *Fintiv* factors weigh in favor of denying institution. One of the purposes of IPRs is to be an "effective and efficient alternative" to litigation. *Gen. Plastic Indus. Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16-17 (PTAB Sept. 6, 2017) (precedential). Here, instituting an IPR would not be an effective or efficient alternative to litigation, particularly given the stage of the co-pending District Court case *Maxell, Ltd. v. Samsung Electronics Co. Ltd. et al.*, No. Case No. 5:23-cv-00092 (E.D.Tex.) ("District Court Litigation") and the finite resources of the Board.

Second, Petitioner fails to show a reasonable likelihood of prevailing on any Ground because it has not shown that the cited references render obvious claims 1, 4-5, 8-12, and 14-25.

Accordingly, the Board should decline to institute the Petition.

II. DISCRETIONARY FACTORS FAVOR DENIAL OF INSTITUTION

The Petition should be denied pursuant to the Director's discretion to deny institution of petitions. First, the Petition should be denied pursuant to 35 U.S.C. § 325(d) because the petition argues the "same or substantially the same art previously [] presented to the Office" and fails to demonstrate "that the Office erred in a manner material to the patentability of the challenged claims." *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6, 8 (P.T.A.B. Feb. 3, 2020) (precedential). Second, the Petition should be denied pursuant to 35 U.S.C. § 314(a) and the factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020). The PTAB has the authority, where warranted, to exercise discretion to deny institution in view of the *Fintiv* factors particularly where, as here, the merits of the challenge are neither compelling nor meritorious (*see infra*, Section III). *See* "Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings With Parallel District Court Litigation," issued June 21, 2022 ("Director's Guidance").

A. 35 U.S.C. § 325(d) Weighs In Favor Of Denying Institution

The Petition should be denied pursuant to 35 U.S.C. §325(d) because the petition argues the “same or substantially the same art previously [] presented to the Office” and fails to demonstrate “that the Office erred in a manner material to the patentability of the challenged claims.” *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6, 8 (PTAB Feb. 3, 2020) (precedential). “Previously presented art includes art made of record by the Examiner, and art provided to the Office by an applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent.” *Id.* at 7-8. Further, the Board has construed “previously presented” in 35 U.S.C. §325(d) to refer to art and arguments presented to the Office *prior to* the filing of the petition at issue. *Ironsource Ltd. v. Digital Turbine Inc.*, PGR2021- 00096, Paper 14 at 52 (PTAB Jan. 6, 2022).

Specifically, the IPR-asserted art is “substantially the same” because the main reference for three grounds and a secondary reference for two other grounds—Dua—was previously considered by the Office during the reexamination of the '590 Patent, and considered during proceedings related to the '590 Patent. BT-Spec was also considered during reexamination of the '590 Patent and considered during applications related to the '590 Patent through multiple disclosures of Bluetooth technology. The remaining main reference, N93, is cumulative to references

considered by the Office. The first part of the two-part framework from *Advanced Bionics* is met here.

Under the second part, Petitioner argues that the specific combinations were not previously considered by the Office, or that the examiner materially erred in allowing the claims during reexamination. Pet. at 74. But Petitioner's challenges here are essentially a rehash of the substantive arguments made by the third-party requestor in the reexamination and fully considered by the Examiner. The Examiner's thorough examination and allowance of the '590 Patent claims was not material error. *Albany Int'l Corp. v. Kimberly-Clark Worldwide, Inc.*, PGR2021-00019, Paper 22, 8-9 (P.T.A.B. June 22, 2021) (denying institution because "[i]f a condition in the first part of the framework is satisfied and the petitioner fails to make a showing of material error, the Director generally will exercise discretion not to institute [] review.").

1. The Same Or Substantially The Same Art Was Previously Presented To The Office

The overlap between the IPR-asserted references and those submitted during reexamination and prosecution meets the first part of the two-part *Advanced Bionics* framework. In the instant case, the grounds presented by Petitioner are duplicative of the art and arguments applied by the Examiner during reexamination of the '590 Patent.

a. Dua

Dua, Petitioner's main reference for Grounds 3-5 and secondary reference for Grounds 1-2, was extensively considered during reexamination of the '590 Patent. EX1006 at 320; 361; 375. *See Clim-A-Tech Ind., Inc. v. William A. Ebert*, IPR2017-01863, Paper 13, at 18-19 (PTAB Feb. 12, 2018) (denying institution even though the 'Examiner did not base a rejection' on the reference asserted in the petition).

Petitioner's expert in this proceeding considered Dua and submitted a similar declaration on behalf of the third-party requestor supporting the '590 Patent reexamination. EX1006 at 359-422. There, the Examiner considered Dr. Creusere's declaration and presentation of Dua to the Office as relevant prior art. *Id.* at 361, 375, 390. The Examiner considered Dr. Creusere's opinion that wireless communication devices such as Dua were purportedly capable of processing and communicating digital media content such as audio, video, or images to other devices:

WCDs at the time were capable of processing and communicating digital media content such as audio, video, or images to other devices. Dua at [0004]. Many WCDs could also capture new multimedia content using built-in digital cameras. Dua at [0061], [0085]; see also Barnes at [0116]—[0117].

Id. at 375. The Examiner further considered Dr. Creusere's opinions that WCDs such as described in Dua purportedly included multiple radio transceivers in a single unit:

WCDs at the time of the '590 Patent included multiple radio transceivers in a single unit that could establish connections with other devices or networks using different communication standards. These WCDs were otherwise known as multimode WCDs. Gautier at [0004]—[0005]; Sinivaara at 2:14-18; Barnes at [0008]; Su at [0007]; Rayzman at [0001]; Dua at [0014].

Id. at 375-376. Thus, Dua was extensively considered by the Examiner during the reexamination of the '590 Patent. Petitioner's claim (Pet. at 71) that the Examiner failed to address Dua substantively is pure speculation.

Dua was also considered during prosecution of the related patent, U.S. Patent No. 11,445,241. EX1001 at 2. The Board has construed "previously presented" in 35 U.S.C. § 325(d) to refer to art and arguments presented to the Office *prior to* the filing of the petition at issue. *Ironsource*, PGR2021-00096, Paper 14 at 52.

b. N93

Petitioner relies on N93 for Grounds 1, 2, 4, and 5 in combination with Dua. Petitioner asserts that N93 "discloses a multi-radio, multimedia cellular phone. N93 teaches Bluetooth, Wi-Fi, UMTS and GSM radios, user interfaces...and multimedia capabilities...." Pet. at 9. Despite the many details missing in N93 (described below in Section III), based on Petitioner's description of N93 it is cumulative to the art and arguments presented to the Office during reexamination of the '590 Patent, particularly Dua.

For example, Petitioner contends that “N93 and Dua each disclose a number of standard short-range (Bluetooth/Wi-Fi) and cellular (UMTS/GSM) radios.” Pet. at 8. Attempting to show the combination rationale of N93 with Dua, Petitioner highlights the cumulateness of N93 to Dua. Pet. at 9-10. In fact, Petitioner's strategic attempt to cast N93 as a “new previously unconsidered” reference is exposed with its heavy reliance on Dua, which Petitioner needs in order to make up for the lack of detail in N93. Indeed, as set forth further in Section III.G, Petitioner highlights the cumulateness of N93 to Dua by repeatedly citing to Dua and N93 for each element with the exact same descriptions.

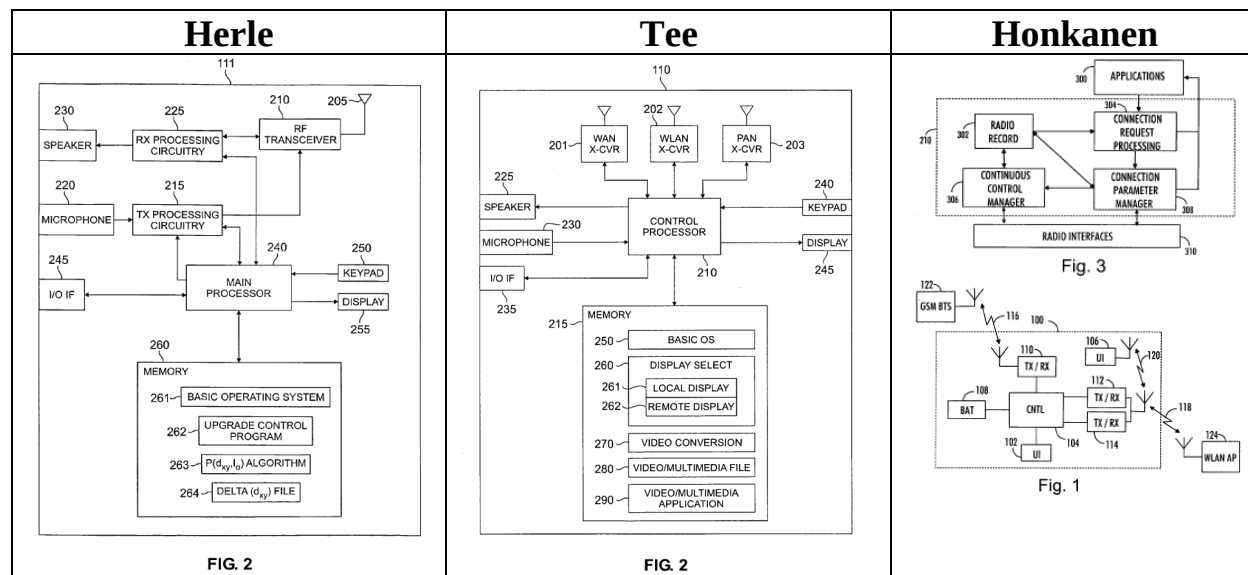
N93 is also cumulative to Tee (U.S. Patent Application Publication No. 2006/0203758) (EX2005) and Honkanen (U.S. Patent Application Publication No. 2006/0135076) (EX2006), both of which were extensively considered during the reexamination of the '590 Patent. *E.g.*, EX1006 at 16, 31, 33, 35-36. Tee and Honkanen's cumulateness is apparent by how Petitioner treats the references in their invalidity contentions in the District Court Litigation. For example, for Claim element 1[d] for Ground 1, Petitioner relies on pp. 12, 23-29, and 125 of N93. EX1010. Petitioner also contends that Tee and Honkanen disclose an imaging circuit capable of receiving video information and still picture information via an optical system. EX2007; EX2008.

For at least these reasons, N93 is cumulative to art and arguments presented to the Office during reexamination of the '590 Patent, particularly Dua, Tee, and Honkanen.

c. Herle

Petitioner relies on Herle in each Ground for its purported teaching of an over-the-air (OTA) update for software. But Herle is cumulative to the art and arguments presented to the Office during reexamination of the '590 Patent, particularly Tee and Honkanen.

For example, Petitioner utilizes Herle in connection with Claim Element 1[1] Pet. at 38-40. In so doing, Petitioner points to Figures 2-4 of Herle, but these disclosures are cumulative to Tee and Honkanen:



Compare Pet. at 39 (and EX1009, Fig.2) with EX2005, Fig. 2 and EX2006 Figs. 1 and 3. Indeed, Figs. 2 of Herle and Tee, respectively, are remarkably similar. That

Tee and Honkanen are cumulative to Herle can also be demonstrated by Petitioner's use of Tee and Honkanen for the same claim element in its invalidity contentions in the District Court Litigation. *See* EX2007 and EX2008.

d. BT-Spec/3GPP-Spec/Kao

Petitioner uses BT-Spec, 3GPP-Spec, and Kao in Grounds 2 and 5 “as secondary references teaching the modulation schemes and frequencies used by the standards-based radios disclosed in Dua, N93, Rooyen and Desai.” Pet. at 7. But each of these references was either considered during the reexamination of the '590 Patent or is cumulative to other art considered during the reexamination. For example, BT-Spec (EX1014), used by Petitioner in Grounds 2 and 5, is cumulative to the over *950 references* to Bluetooth technology in the prosecution history of the reexamination.

3GPP-Spec is cumulative to Dua because, according to Petitioner, Dua discloses “Bluetooth, Wi-Fi, **GSM**, and **UMTS** radios and Dua further discloses the radios are implemented as a short range transceiver 108 and a network transceiver 105.” Pet. at 54 (emphasis added). 3GPP-Spec is also cumulative to at least Tee insofar as Tee's WAN transceiver 201 may be a GSM/GPRS/EDGE transceiver. EX1006 at 196; 380 (Dr. Creusere opining regarding Tee's WAN transceiver 201).

Kao is also cumulative to Dua because, according to Petitioner, Dua discloses “Bluetooth, **Wi-Fi**, GSM, and UMTS radios and Dua further discloses the radios are

implemented as a short range transceiver 108 and a network transceiver 105.” Pet. at 54 (emphasis added). Petitioner’s use of Kao for its disclosure of Wi-Fi is also cumulative to at least Tee and Honkanen. See EX1006 at 223. As further explained by Dr. Creusere describing his view on the disclosures of Tee and Honkanen:

Tee teaches a scenario in which a video stream is received via WiFi and is simultaneously relayed via Bluetooth.... Indeed, Honkanen itself expressly identifies Bluetooth and WLAN as two wireless technologies that are subject to potentially severe interference. Honkanen at [0004].

Id. at 404-406. In light of the disclosures of Tee and Honkanen, considered by the Examiner as suggested by Dr. Creusere during reexamination of the ’590 Patent, Kao is merely cumulative to Tee and Honkanen.

e. Rooyen/Desai

Petitioner uses Rooyen and Desai as secondary references also for Grounds 2 and 5 for the purported “teaching that the standards-based radios disclosed in Dua and N93 may be implemented as separate or combined radio circuits.” Pet. at 7. More specifically, Rooyen is used for its purported disclosure of UMTS/GSM and Desai for its purported disclosure of Bluetooth/Wi-Fi. Rooyen and Desai are cumulative to other art considered by the Examiner during the reexamination of the ’590 Patent. For example, there were numerous UMTS/GSM and Bluetooth/Wi-Fi references.

As one example, Desai is cumulative to BT-Spec which was considered during the reexamination. Desai is also cumulative to Tee and Honkanen for the reasons set forth above regarding why Kao is also cumulative. As detailed above, there are over 950 references to Bluetooth in the reexamination file history. There are 60 references to WiFi in the reexamination file history.

With respect to Rooyen's use for its disclosure of UMTS/GSM, it is merely cumulative to Dua and Tee, as further detailed above with respect to the cumulativeness of 3GPP-Spec. Indeed, there are over 300 references to UMTS/GSM in the reexamination file history.

Rooyen and Desai were also considered during prosecution of the related '241 Patent. EX1003 at 77. The Board has construed "previously presented" in 35 U.S.C. § 325(d) to refer to art and arguments presented to the Office *prior* to the filing of the petition at issue. *Ironsource*, PGR2021-00096, Paper 14 at 52.

2. Petitioner Fails To Demonstrate A Material Error By The Office

Petitioner broadly claims that "the examiner erred in allowing the claims during reexamination without performing a proper prior art search for the added 'software update' limitation." Petitioner makes no further argument as to why the examiner's search was not proper, or what Petitioner would have done differently, and for good reason: during reexamination the third-party and Dr. Creusere put

forward what they thought was the best prior art, and the examiner reviewed that art in light of the claims, including the claim amendments made during the reexamination. Nowhere in the petition is it explained why the Examiner's allowance of the claims over Tee and Honkanen was material error, and many of Petitioner's arguments are simply a rehash of the reexamination request thoroughly considered by the Office.

B. 35 U.S.C. § 314(a) Weighs in Favor of Denying Institution

The Petition should be denied pursuant to 35 U.S.C. § 314(a) because, as set forth below, not only are there significant flaws in Petitioner's analysis that fail the "compelling merits" standard, but the circumstances of the parallel District Court Litigation necessitate denial of the Petition under the Board's precedent. In the Petition, Petitioner does not argue that any *Fintiv* factor, other than factor 6, supports institution. Nor has Petitioner made a *Sotera* stipulation. Every factor considered in relation to efficiency, fairness, and the merits supports denial. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11, at 6 (P.T.A.B. Mar. 20, 2020) (precedential).

The Petition should be denied because the invalidity arguments Petitioner raises here will be resolved in the District Court Litigation long before this proceeding will conclude. While Petitioner acknowledges the District Court Litigation in the Petition, it failed to inform the Board that the District Court Litigation will be complete long before any final decision would issue in this

proceeding. Nor did Petitioner inform the Board that the trial date of May 2025 for the District Court Litigation was scheduled back in January 2024. EX2002. The jury trial adjudicating the validity of the '590 Patent will conclude seven months before any Final Written Decision issues in this proceeding.

Not only will the District Court Litigation conclude long before this proceeding, but it will also resolve the invalidity arguments that Petitioner raises in the instant Petition. The prior art references relied on in this proceeding are the same, or substantially the same, as those at issue in the District Court Litigation. Additionally, the challenged claims are substantially the same as those asserted in the District Court Litigation.

Thus, any questions of whether the grounds of invalidity raised in Petitioner's Petition invalidate the asserted claims of the '590 Patent will be decided in the District Court Litigation at least seven months prior to a Final Written Decision in this proceeding.

Accordingly, the Board should exercise its discretion under § 314(a) and deny the Petition because institution of this proceeding would not be consistent with the objective of the AIA to "provide an effective and efficient alternative to district court litigation." *Gen. Plastic*, IPR2016-01357, Paper 19, at 16–17.

1. No Stay Of The Parallel District Court Litigation

There is no stay of the parallel District Court Litigation. Even if the Petition were instituted and Petitioner filed a motion to stay the District Court Litigation, prejudice, tactical disadvantage to Maxell, the late stage of the litigation, and the lack of potential simplification would weigh strongly against such a motion. *See Lennon Image Techs., LLC v. Macy's Retail Holdings, Inc.*, 2:13-CV-00235-JRG, 2014 WL 4652117, at *1 (E.D.Tex. Sept. 18, 2014). The statutory deadline for institution is not until after fact discovery closes and after the Court has conducted a *Markman* hearing. EX2001. Such facts make it unlikely that the District Court Litigation will be stayed. *See Intell. Ventures II v. FedEx Corp.*, No. 2:16-cv-00980-JRG, Dkt. 141 at 5 (E.D.Tex. Oct. 24, 2017).

2. Proximity Of The District Court's Trial Date

The proximity of the District Court Litigation's trial date to the Board's projected statutory deadline for a Final Written Decision strongly weighs in favor of discretionary denial. The parties' trial is scheduled for May 19, 2025. EX2002 (Original Docket Control Order). Petitioner knew of this trial date four months prior to filing the Petition. *Id.* Pursuant to 35 U.S.C. §§ 314(b)(1) and 316(a)(11), the projected statutory deadline for a Final Written Decision of this Petition is December 13, 2025. 35 U.S.C. §314(b)(1). As the District Court's trial will be almost six months before the projected statutory deadline, this factor weighs strongly in favor

of denying institution. *See Samsung Elecs. Am., Inc. v. Uniloc 2017 LLC*, IPR2019-01218, Paper 7, at 7-10 (P.T.A.B. Jan. 7, 2020) (denying institution where jury selection was scheduled for approximately six months before trial in the Board proceeding would conclude); *Next Caller Inc. v. TrustID, Inc.*, IPR2019-00961, -00962, Paper 10, at 8-16 (P.T.A.B. Oct. 16, 2019) (denying institution where trial was scheduled to conclude “several months,” before a final decision would be due).

The proximity of the trial favors denial of institution.

3. Significant Investment In The Parallel Proceeding

The parties' investment in the parallel proceeding weighs in favor of discretionary denial. In the District Court Litigation, the Court has already entered a Docket Control Order (Dkt. 45), Discovery Order (Dkt. 46), and Protective Order (Dkt. 47). The Court has also conducted a *Markman* Hearing (Dkt. 84). Discovery is also well under way, and fact discovery including depositions of numerous foreign inventors and foreign engineers will be complete on October 29, 2024, over a month before the Institution Decision in this proceeding.

The parties have already exchanged infringement contentions pursuant to P.R. 3-1, and invalidity contentions pursuant to P.R. 3-3, completed claim construction briefing and a trial date is set for May 19, 2025, which is only five months after a decision on Institution. EX2001. Thus, the parties' and Court's substantial investment in this proceeding weighs in favor of denial of institution under this

factor. *10X Genomics, Inc. v. President and Fellows of Harvard College*, IPR2023-01299, Paper 15, at 17-18 (P.T.A.B. March 7, 2024) (finding, under similar facts, that the parties have made a substantial investment in the parallel proceeding as of the time of the Institution Decision).

4. There Is Significant Overlap Between Issues Raised In The Petition And In The District Court Litigation

The issues in this proceeding are substantially the same as in the District Court Litigation. Here, Petitioner asserts that Claims 1, 4-5, 8-12, and 14-25 of the '590 Patent are unpatentable. Pet. at 1. These claims include the asserted claims against Petitioner in the District Court Litigation. Not only will the District Court Litigation conclude long before this proceeding, but it will also resolve the invalidity arguments that Petitioner raises in the instant Petition. The prior art references relied on in this proceeding are the same, or substantially the same, as those at issue in the District Court Litigation. Additionally, the challenged claims are substantially the same as those asserted in the District Court Litigation. See EX2003.

Petitioner's failure to make a *Sotera* stipulation also weighs against institution. Contrary to making a *Sotera* stipulation, Petitioner has indicated that it will be wasting the Board and District Court's resources by pursuing the same invalidity defenses using the same prior art in this proceeding and parallel District Court litigation. See EX2004. Given that the Petition is directed toward substantially

the same claims, grounds, arguments, and significantly overlapping evidence at issue in the parallel District Court Litigation, and since Petitioner has not sought to mitigate any of these concerns, this factor favors denial of institution.

5. The Parallel District Court Litigation And The Petition Involve The Same Parties

Petitioners are parties to the District Court Litigation. This factor weighs in favor of discretionary denial.

6. Other Factors Favor Discretionary Denial

The Petition does not present a strong case on the merits, let alone a “compelling meritorious challenge,” further supporting denial of institution. *See infra* Section III. Petitioner also does not identify any other factors which weigh against discretionary denial. Pet. at 73-74.

Thus, when viewing the factors together, the Petition should be denied in the Director's discretion under 35 U.S.C. § 314(a).

III. THE PETITION DOES NOT SHOW A REASONABLE LIKELIHOOD OF PREVAILING WITH RESPECT TO ANY CHALLENGED CLAIM

While application of the *Fintiv* factors and *Becton, Dickinson* factors weigh in favor of denial of institution, institution should also be denied because the petition fails to show a reasonable likelihood of prevailing with respect to any challenged claim.

A. U.S Patent No. 10,129,590

Conventional techniques prior to this patent connected video processing apparatuses with each other by establishing analog connections to transmit video and audio signals. EX2009 (Decl. Bruce McNair) ¶34. The inventors realized a need for simultaneous video transmission and connection to the Internet or a home network using multiple radio communication circuits that would not interfere. EX2009, ¶¶34-36, 41. Thus, the '590 Patent disclosed and claimed techniques whereby a video processing apparatus can include multiple radio communication circuits implementing different transmission schemes, such that these circuits could be controlled to transfer video to another apparatus via one of the circuits, while another circuit could be used to allow the apparatus to connect to the Internet or a home network. *Id.*; *see also* EX1004 Fig. 4. The patent also teaches that a controller is used to “variably control the radio transmission assignment” for the multiple radio communication circuits “in response to an indication from [a] user.” *Id.*

B. '590 Patent Family Prosecution History

U.S. Application No. 15/208,886 (the “'886 Application”), which issued as the '590 Patent, was filed on 7/13/2016. The '886 Application claimed priority to a series of continuation applications, (1) U.S. Application No. 12/260,410, filed on October 29, 2008, now U.S. Patent No. 9,420,212, and (2) J.P. Application No. 2007/306750, now J.P. Patent No. 503,359.

The '590 Patent was subject to an *ex parte* reexamination No. 90/014,651, filed January 12, 2021. On November 15, 2021, the USPTO confirmed the patentability of the '590 Patent.

C. Person Of Ordinary Skill In The Art

For purposes of this preliminary response only, Patent Owner agrees with Petitioner's definition of a POSITA.

D. Petitioner's References

The Petition raises the following five grounds based on eight references.

Ground	'590 Patent Claim(s)	Type of Challenge	Primary Reference	Secondary Reference(s)
1	1, 4-5, 8-12, 14-25	§ 103	N93	(1) Dua (2) Herle
2	1, 4-5, 8-12, 14-25	§ 103	N93	(1) Dua (2) Herle (3) Rooyen (4) Desai (5) BT-Spec (6) 3GPP-Spec (7) Kao
3	1, 4-5, 8-12, 14-25	§ 103	Dua	(1) Herle
4	1, 4-5, 8-12, 14-25	§ 103	Dua	(1) Herle (2) N93
5	1, 4-5, 8-12, 14-25	§ 103	Dua	(1) Herle (2) N93 (3) Rooyen (4) Desai (5) BT-Spec (6) 3GPP-Spec (7) Kao

E. Claim Construction

Given the multiple reasons why the Petition should not be instituted, including 35 U.S.C. §325(d) and 35 U.S.C. §314, and to minimize the disputes that the Board needs to address at this preliminary stage, for the purposes of this Preliminary Response only, Patent Owner simply applies Petitioner's own constructions to show how the Petitioner has not met its burden under 37 CFR §42.104(b)(4).

Patent Owner, however, reserves all rights to dispute Petitioner's proposed construction with the support of expert testimony to the extent the Board decides to institute review of this Petition.

F. Grounds 1, 2, 4, and 5 Fail Because Petitioner Has Failed to Show that N93, BT-Spec, and 3GPP-Spec Constitute Prior Art

For public accessibility, the "ultimate question is whether the reference was 'available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it.'" *Voter Verified, Inc. v. Premiere Election Solutions*, 689 F.3d 1374, 1380 (Fed. Cir. 2012).

Petitioner relies on the purported archival of N93, BT-Spec, and 3GPP-Spec using the Wayback Machine and a Wayback Affidavit. EX1007 ¶1. However, Petitioner provides no evidence that N93, BT-Spec, or 3GPP-Spec were disseminated to the interested public before the critical date. For example, the Affidavit only states that the Wayback Machine is searchable by web address (or

URL) but Petitioner fails to offer any evidence or argument that a POSITA would know of N93 or its specific URL (http://nds1.nokia.com/phones/files/guides/Nokia_N93-1_UG_en.pdf). See EX1007 ¶¶3, 7. Further, the Petition fails to offer any evidence or argument that the N93 webpage was indexed through search engines or otherwise and thus locatable by a search engine. Petitioner offers speculation that a URL may have been momentarily available on April 23, 2007, and no evidence that this URL was available for more than a moment in time to be able to searched and found by a POSITA. See EX1007 (stating that “each file [is] preserved as it existed at a particular point in time.”). Petition’s failure to provide this evidence or argument is critical. See *Samsung Elecs. Co. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1372 (Fed. Cir. 2019) (“[A] work is not publicly accessible if the only people who know how to find it are the ones who created it.”).

The Board has found a nearly identical situation (including use of the same standard Wayback affidavit), to be insufficient for showing public access in *First Solar, Inc. v. Rovshan Sade*, IPR2023-00881, Paper 13 at 19 (PTAB Nov. 16, 2023). Just like in *First Solar*, Petitioner includes no evidence or argument that a POSITA would know or be able to find the web address and the reference on the website. See EX1007 ¶¶3, 7. Further, the Petition fails to offer any evidence or argument that the N93, BT-Spec, and 3GPP-Spec webpages were indexed through search engines or

otherwise and thus locatable by a search engine. Petitioner's failure to provide this evidence or argument is critical. *See, e.g., Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 774 (Fed. Cir. 2018) (stating test for public accessibility is determined based on whether reference was "meaningfully indexed such that an interested artisan exercising reasonable diligence would have found it); *see also Samsung Elecs. Co.*, 929 F.3d at 1372 ("[A] work is not publicly accessible if the only people who know how to find it are the ones who created it.").

Additionally, the Affidavit states the following:

The date indicated by an extended URL applies to a preserved instance of a file for a **given URL**, but **not necessarily to any other files linked therein**. Thus, in the case of a page constituted by a primary HTML file and **other separate files** (e.g., files with images, audio, multimedia, design elements, or **other embedded content**) linked within that primary HTML file, the primary HTML file and the **other files** will each have their own respective extended URLs and **may not have been archived on the same dates**.

EX1007 ¶5 (emphasis added). Thus, the Affidavit itself calls into question whether the ".pdf" user manual that was embedded within the HTML file was archived on April 23, 2007. At most, nds1.nokia.com is the HTML file and may have been indexed on April 23, 2007, but the .pdf file would fall into "embedded content" and may not have been archived on the same dates, as the declaration itself states. This

is further strengthened by the fact that there is no evidence of this URL being available from after April 2007 through Dec 2011.¹

For 3GPP-Spec, Petitioner further fails to provide evidence of public access because it relies on a different document than the one purportedly authenticated through the Affidavit. *Compare, e.g.*, EX1007 at 165 *with* EX1015 at 1.

G. Grounds 1-5 Fail Because Petitioner Does Not Adequately Articulate a Combination of the Prior Art's Teachings

Petitioner's obviousness analysis lacks sufficient articulated reasons with rational underpinnings to support any of the combinations it asserts in Grounds 1-5. "It is Petitioner's burden to explain specifically how the references would be combined to produce the claimed invention." *Lowe's Home Centers, LLC v. Epistar Corp.*, IPR2018-00932, Paper 7 at 19 (PTAB Nov. 1, 2018) (citing *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016)). Indeed, this requirement is set out in the statutory text of 35 U.S.C. §312(a)(3)—"the petition identifies, in writing and **with particularity**, each claim challenged, the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge

¹This further calls into question whether the .zip files (which would fall into "embedded content" as well) for the 3GPP and Bluetooth folders were also archived on the same dates as the URLs for the HTML files that would link to the .zip files. *See* Ex. 1007.

to each claim.” *See Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20 (March 6, 2019) (informative) (denying institution based on failure to identify grounds with particularity). For each of the individual reasons herein, the Petition lacks this explanation and therefore Grounds 1-5 fail and should not be instituted.

For Ground 1, the Petition recites what N93, Dua, and Herle purportedly teach *individually* (e.g., Pet. at 18-20) but fails to assert “what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *Willis Elec. Co., Ltd. v. Polygroup Macau Ltd.*, 777 Fed. Appx. 495, 501 (Fed. Cir. 2019) (citing *In re. Keller*, 642 F.2d 413, 425 (CCPA 1981)). But “the Board tends to reject a ‘pick-and-choose’ approach to the presentation of evidence.” *Trend Micro Inc. v. Open Text Inc.*, IPR2023-00692, Paper 8 at 28 (PTAB Nov. 6, 2023) (denying institution where “Petitioner’s case is lacking a clear roadmap of which reference it relies on to disclose which limitation”). Such an approach is “challenging to follow and makes it difficult to piece together in order to understand Petitioner’s proposed combination or modification.” *Lyft, Inc. v. Quartz Auto Techs., LLC*, IPR2020-01450, Paper 7 at 17-20 (PTAB Mar. 4, 2021) (denying institution where petitioner “does not articulate adequately how it proposes to modify one of the references or to combine the two references’ teachings”).

Here, the Petition is organized such that Petitioner attempts to address the combination of N93, Dua, Herle, and the alleged motivation to combine up front,

Pet. at 9-17, and then the Petition makes fleeting references to the purported combination within individual limitations. *E.g.*, Pet. at 33-35 (limitation [1.j]), 36-38 (limitation [1.k]). However, neither the generic motivation to combine section nor the cursory mentions of a combination meets Petitioner's burden to explain the obviousness ground.

Petitioner's general motivation-to-combine discussion makes only conclusory statements that a POSITA would have combined N93 and Dua with respect to "Dua's Implementation Details," "video transmissions/receipt over one radio and a 'simultaneous' connection of a second radio to an internet or home network," and "NFC," and fails to map these motivations to each specific claim limitation. *See* Pet. at 9-17. Rationales on why a POSITA would combine multiple references without addressing particular elements for which Petitioner is relying on are insufficient. While the features of a secondary reference need not be bodily incorporated into the structure of the primary reference, a "clear, evidence-supported account of the contemplated workings of the combination is a prerequisite to adequately explaining and supporting a conclusion that a relevant skilled artisan would have been motivated to make the combination and reasonably expect success in doing so" is required. *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017). Accordingly, Petitioner's non-specific approach to the N93-Dua-Herle combination cannot meet its burden to establish a reasonable likelihood of success.

ADT LLC v. Vivint, Inc., IPR2022-00642, Paper 7 at 13-14 (PTAB Oct. 4, 2022) (denying institution where the petition mapped each limitation to both references but “without any discussion of the interplay between these two references”); *LG Electronics, Inc. v. Cellular Communications Equipment LLC*, IPR2016-00197, Paper 7 at 8 (PTAB Apr. 29, 2016) (denying institution where the petition purported to provide some rationale on why an ordinary artisan would combine two references, but the rationale did not address the particular element for which the Petitioner was relying on a reference).

Further, Petitioner's limitation-specific analysis of the independent claim merely discusses the teachings of N93, Dua, and Herle individually and does not provide an “account of the contemplated workings of the combination.” *Personal Web Techs.*, 848 F.3d at 994. The table below includes, for each limitation in claim 1, Petitioner's discussion of each reference and the purported combination:

Claim Limitation	Petitioner's Asserted Reference
[1.pre]	“The combination discloses or renders obvious a “video processing apparatus (multi-radio, multimedia cellular phone).” Pet. at 18.
[1.a]	“The combination discloses or renders obvious [[1.a]].” Pet. at 18 (discussing N93 and Dua individually without discussing combination).

[1.b]	"The combination discloses or renders obvious [[1.b]]." Pet. at 20-21 (discussing N93 and Dua individually without discussing combination).
[1.c]	"The combination discloses or renders obvious [[1.c]]." Pet. at 22 (discussing N93 and Dua individually without discussing combination).
[1.d]	"The combination discloses or renders obvious [[1.d]]." Pet. at 24 (discussing N93 and Dua individually without discussing combination).
[1.e]	"The combination discloses or renders obvious [[1.e]]." Pet. at 25 (discussing N93 and Dua individually without discussing combination).
[1.f]	"The combination discloses or renders obvious [[1.f]]." Pet. at 27 (discussing N93 and Dua individually without discussing combination).
[1.g]	"The combination discloses or renders obvious [[1.g]]." Pet. at 28 (discussing N93 and Dua individually without discussing combination).
[1.h]	"The combination discloses or renders obvious [[1.h]]." Pet. at 29 (discussing N93 and Dua individually without discussing combination).
[1.i]	"The combination discloses or renders obvious [[1.i]]." Pet. at 32 (discussing N93 and Dua individually without discussing combination).
[1.j]	"The combination discloses or renders obvious [[1.j]]." Pet. at 35 (discussing a rationale regarding only one portion of [1.j]).

[1.k]	"The combination discloses or renders obvious [[1.k]]." (discussing N93 and Dua individually without discussing combination).
[1.l]	"It would have been obvious to a POSITA to implement Herle's OTA upgrade process in the combination using the UMTS or GSM radios. <i>See</i> Section VII.A (combination)." Pet. at 40 (providing pin-cites without any analysis).

The Petition never stays true to one primary reference and secondary references in this combination. Rather, the Petition attempts to discuss the "combination" while only relying on descriptions of individual references separately and no rationale to combine with respect to the limitation. Such approaches are insufficient to establish obviousness under Section 103. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) ("A patent composed of several elements is not proved obvious by merely demonstrating that each of its elements was, independently, known in the prior art.").

In some instances, Petitioner cites lengthy portions of its own grounds as support without any explanation as to what in those citations supports Petitioner's obviousness combination. As one example, when the Petition puts forth Dua, instead of N93, as the primary reference in Ground 4, the Petition merely cites back to Ground 1 for most of its discussion of specific claim limitations. *See, e.g.*, Pet. at 70-73.

The Petition is only able to substitute the same arguments for different combinations in this way because it “fails to specify what the Petitioner regards as the difference(s) between [N93] or [Dua] and the challenged claims.” *See Adaptics Ltd.*, IPR2018-01596, Paper 20 at 20. This fails to satisfy the statutory requirement for particularity in a petition for IPR because it “require[s] the Patent Owner to address whether each and every claim limitation is taught not only by each [N93] and [Dua], but by each of these reference in combination with one or more of the other references asserted in the proceeding.” *See id.* at 21 (denying institution based on Petitioner’s ground that was “not reasonably bounded in scope and unduly burdensome for both Patent Owner and the Board to address”).

Even in Ground 3, where the Petition relies *only* on a combination of Dua and Herle (and not N93), the Petitioner continuously cites back to Ground 1, where N93 is purportedly the primary reference, as its *entire* discussion for a majority of the claim limitations. *See, e.g.*, Pet. at 60-66. “It is not the Board’s job to cobble together assertions from different sections of a petition or citations of various exhibits in order to infer every possible permutation of a petitioner’s arguments,” but that is what the Petitioner asks the Board and Patent Owner to do here. *Microsoft Corp. v. FG SRC, LLC*, 860 Fed. Appx. 708, 713 (Fed. Cir. 2021). The result of Petitioner’s mix-and-match approach to combining N93, Dua, and Herle asks the Board and Patent Owner

to interpret which elements from each reference a POSITA would choose to combine, which portions of each reference should be considered when, and what the combined teachings might suggest to a POSITA.

Moreover, instituting an IPR on such a Petition would prejudice Patent Owner. Because Patent Owner is unable to discern the manner in which Petitioner suggests N93, Dua, and Herle should be combined, Patent Owner is limited in its ability to address some unspecified combination of disclosures from the Petition. *T-Mobile US, Inc. v. TracBeam LLC*, IPR2015-01687, Paper 10 at 20 (PTAB Feb. 12, 2016) (“We will not...improperly shift the burden of deciphering the arguments onto the Patent Owner”). Indeed, institution would enable Petitioner to develop arguments not initially presented in the Petition. This is also improper. *ADT*, IPR2022-00642, Paper 7 at 13-14.

Petitioner's choice to discuss the teachings of N93, Dua, and Herle separately rather than to discuss “the contemplated workings of the combination” cannot establish a reasonable likelihood of success. *Personal Web Techs.*, 848 F.3d at 994; *Trend Micro Inc.*, IPR2023-00692, Paper 8 at 28.

Grounds 2-5 rely on the same or similar combination rationale asserted in Ground 1 and should fail for the same reasons. *See, e.g.*, Pet. at 56-57 (asserting same combination rationale for Ground 2 as Ground 1); 60 (asserting same combination rationale for Ground 3 as Ground 1); 72 (asserting similar combination

rationale for Ground 4 as Ground 1); 73 (asserting same combination rationale for Ground 5 as Ground 1).

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Grounds 1-5 and institution should be denied for this reason alone.

H. Grounds 2 and 5 Fail Because Petitioner Does Not Adequately Articulate a Combination of N93's, Dua's, Herle's, Rooyen's, Desai's, BT-Spec's, 3GPP-Spec's, and Kao's Teachings

After contending that the N93-Dua-Herle combination of Ground 1 alone discloses limitations [1.a]-[1.c], [5.a]-[5.c], [9.d], [9.f], [9.h], [10.a], [10.b], [10.e], and [23.a]-[23.c], Petition at 18-23, 42, 46-47, 51, the Petition then states for Ground 2 that:

As explained for Ground 1, the combination inherently discloses the claimed modulation and transmission frequency limitations because they are required by the disclosed standards. Alternatively, they are rendered obvious by the knowledge of a POSITA. Petitioners present these references [BT-Spec, 3GPP-Spec, and Kao] as secondary references out of an abundance of caution *to the extent* the Board disagrees.

Pet. at 56. However, as the Petition only “present[s] these references as secondary references out of an abundance of caution,” the Petition is silent as to the deficiencies of N93 and Dua—indeed, Petitioner argues “the combination” of Ground 1 inherently discloses the matter for which it uses the remaining references of Grounds

2 and 5. “There is, therefore, no indication in the Petition that [Dua or N93] has any deficiencies related to th[ese] element[s]. It is thus, unclear why a person of ordinary skill would turn to [BT-Spec, 3GPP-Spec, and Kao] for the teaching of an element that, according to Petitioner, is already taught by [Dua and N93].” *See LG Elecs., Inc.*, IPR2016-00197, Paper 7 at 8 (denying institution where the Petition uses “to the extent that” language in an alleged obviousness combination). For this reason, the N93-Dua-Herle-Rooyen-Desai-BT-Spec-3GPP-Spec-Kao combination fails.

Additionally, Petitioner fails to articulate proper rationale for the N93-Dua-Herle-Rooyen-Desai-BT-Spec-3GPP-Spec-Kao combination. The mere fact that Bluetooth and 3GPP specifications were available fails to disclose actual implementation details for hardware that is compliant with those specifications. To this end, the Petition's own prior art is incompatible with the Petition's cited BT-Spec and 3GPP-Spec. For example, N93 (used as the primary reference for Grounds 1 and 2 and a secondary reference for Grounds 4 and 5) specifically recites a Bluetooth version that is *noncompliant* with the BT-Spec even though it *postdates* BT-Spec. *Compare* EX1010 (“This device is compliant with Bluetooth Specification 2.0.”) *with* EX1014 (“If the full set [of requirements] in Section 4.2 are not supported the ‘+EDR’ configuration name shall not be used in product literature.”). By adding BT-Spec and 3GPP without any evidence or argument on how to implement these standards into hardware, the Petition fails to provide an “account of the contemplated

workings of the combination” and Grounds 2 and 5 should fail for this reason as well. *Personal Web Techs.*, 848 F.3d at 994.

Petitioner also claims that 3GPP-Spec can be used to disclose the relevant worldwide 3GPP and 3GPP2 modulation schemes and frequencies of Dua. *See* Pet. at 56; *see also* EX1008 ¶[0069]. It is unclear how Dua, which was filed on May 12, 2005, would have relied on the modulation schemes and frequencies of 3GPP-Spec, which Petitioner purportedly dates at 1/7/2007, over a year *after* the filing date of Dua. *See* Pet. at 5-6; EX1008; EX1015. Even if Dua could support 3GPP and 3GPP2 standards during the time that it was filed, Petitioner offers no evidence, or even argument, that the hardware of Dua could support *new* 3GPP and 3GPP2 standards. Additionally, the fact that Dua describes compliance with 3GPP and 3GPP2 standards fails to disclose specific modulation schemes and frequencies (or even whether to use 3GPP or 3GPP2 technology) that would be implemented in a specific hardware implementation. Furthermore, the 3GPP-Spec cited by Petitioner is an unapproved document that includes an explicit statement *against* implementation. EX1015 at 1 (“The present document has not been subject to any approval process by the 3GPP Organizational Partners and **shall not be implemented.**”). Again, based on these facts, the Petition fails to provide an “account of the contemplated workings of the combination” and Grounds 2 and 5 should fail for this reason as well. *Personal Web Techs.*, 848 F.3d at 994.

Further, the Petition is unclear what is being used from BT-Spec, 3GPP-Spec, or Kao in relation with its Ground 2 arguments. While Petitioner purports to use BT-Spec, 3GPP-Spec, and Kao as “secondary references for the relevant modulations and frequencies,” Petitioner also relies on Ground 1 references and Rooyen to disclose frequencies as well. *See* Pet. at 57-59. It is unclear how and when Petitioner is purporting to bring in BT-Spec, 3GPP-Spec, and Kao when the Petition relies on other references to disclose the same claim features. This is further exacerbated by the organization of the Petition, where references are not mapped to specific claim limitations but spread throughout different sections. *See, e.g.,* Pet. at 8, 20, 56-59. Petitioner's lack of particularity improperly requires the Patent Owner and the Board to address a multiplicity of grounds, and varying subsets of the N93-Dua-Herle-Rooyen-Desai-BT-Spec-3GPP-Spec-Kao (an eight reference) combination. *See Adaptics Ltd.*, IPR2018-01596, Paper 20 (denying institution where Petitioner's reliance on ten references connected by the conjunction “and/or” resulted in “a multiplicity of grounds, none of which [was] presented with sufficient particularity”).

“It is not the Board's job to cobble together assertions . . . to infer every possible permutation,” but that is what the Petitioner asks the Board and Patent Owner to do here. *Microsoft Corp.*, 860 Fed. Appx. at 713. The result of Petitioner's mix-and-match approach to combining BT-Spec, 3GPP-Spec, and Kao asks the

Board and Patent Owner to interpret which elements from each reference a POSITA would choose to combine, which portions of each reference should be considered when, and what the combined teachings might suggest to a POSITA.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Grounds 2 and 5 and institution should be denied for this reason alone.

I. Ground 1 Fails Because N93, Dua, and Herle Do Not Disclose Elements of Claims 1, 5, 9, 10, and 23

1. N93, Dua, and Herle Do Not Render Obvious Claim Elements [1.a]-[1.c], [5.a]-[5.c], [9.d], [9.f], [9.h], [10.a], [10.b], [10.e], and [23.a]-[23.d]

Petitioner fails to show that N93 in combination with Dua and Herle disclose claim elements [1.a]-[1.c], [5.a]-[5.c], [9.d], [9.f], [9.h], [10.a], [10.b], [10.e], and [23.a]-[23.d], such as the modulation schemes and frequencies for each alleged radio communication circuit.

Petitioner asks the Board to assume that any general disclosure of Bluetooth, UMTS, GSM, and Wi-Fi capability in a device would disclose the *specific* modulation schemes or frequencies implemented in the device. *See, e.g.*, Pet. at 20. However, modulation schemes and frequencies of Bluetooth, UMTS, GSM, and Wi-Fi *vary* based on specific hardware implementations for those technologies. Petitioner's *own evidence and arguments* confirm that different devices use different modulation schemes and frequencies for Bluetooth, UMTS, GSM, and Wi-Fi. For

example, Petitioner cites different frequency bands for GSM based on different references throughout the Petition. *See, e.g.*, Pet. at 9 (listing 800/1900 MHz for GSM frequency band); Pet. at 22 (listing 900, 1800, 1900 MHz for GSM frequency band); Pet. at 23 (listing 900 and 1800 MHz for GSM frequency band). If different devices use different combinations of 800, 900, 1800, and 1900 frequency bands (among other possible GSM frequency bands not cited by Petitioner), it is unclear how any one specific combination of these frequencies can be inherent from a general disclosure of GSM. Instead, the modulation schemes and frequencies are dependent on specific hardware implementations and cannot be inherent.

Petitioner additionally relies on its expert's declaration to assert that "modulation schemes and frequencies would have been obvious based on the knowledge of a POSITA as evidenced by those same references. *See, e.g.*, EX1002, ¶¶89." Pet. at 20. The Petition makes similar statements for numerous claims throughout the petition. *See, e.g.*, Pet. at 22-24, 56. However, its cited expert's declaration merely parrots back the conclusory assertion from the Petition which it is offered to support—oftentimes verbatim. *Cf. id. with* EX1002 ¶¶89, 93, 97, 99, and 224. This approach is not proper. *See Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential) (denying institution and holding declaration is entitled to little weight when it contains an exact restatement of the petition's unsupported, conclusory assertions without any additional

supporting evidence or reasoning); *see also* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”)

Petitioner makes similar arguments regarding the independent claims [5.a]-[5.c], [9.d], [9.f], [9.h], [10.a], [10.b], [10.e], and [23.a]-[23.d]. Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 1 and institution should be denied for this reason alone.

2. N93, Dua, and Herle Do Not Render Obvious Claim Elements [1.h], [5.f], [9.i], [10.g], and [23.j]

Petitioner fails to show that N93 in combination with Dua and Herle disclose claim element [1.h]: “a controller controlling assignment of connection of each of the first, second, and third radio communication circuits.”

The Petition first cites N93 in relation to “assignment of connection of each of the first, second, and third radio communication circuits.” Specifically, the Petition refers to a variety of different user-adjustable settings related to Bluetooth, UMTS, GSM, and Wi-Fi (the alleged “first, second, and third radio communication circuits”). Pet. at 29-30. However, while the Petition relies on N93 to disclose assignment of connection, the Petition acknowledges that N93 fails to disclose a *controller controlling assignment* of connection of each of the circuits. See Pet. at

11, 29-30. The Petition therefore additionally cites Dua in relation to [1.h]. Pet. at 31.

However, Dua fails to cure the deficiencies of N93. For example, Dua fails to disclose any of the settings to “select” UMTS or GSM that the Petition cites as “assignment of connection” in N93. *See* Pet. at 29-30. In fact, Dua fails to disclose any multiband capabilities, such as the ability to connect to both UMTS and GSM. It is unclear how Dua could provide support for a *controller* controlling assignment of connection of the UMTS or GSM circuits, when Dua fails to disclose any assignment of connection of UMTS and GSM circuits in the first place.

As described above, Petition fails to tie its general motivation to combine statements to specific claim elements. *See* Pet. at 9-17. The insufficiency of these general motivation-to-combine statements is shown when attempting to link them with specific claim limitations. For example, the most seemingly relevant motivation-to-combine statement appears to be “Dua’s Implementation Details.” *See* Pet. at 11-12. Here, the Petition posits that Dua teaches the internal hardware implementation details of N93. *See id.*

However, it is unclear how Dua could teach internal hardware implementation details of N93 when Dua fails to disclose many of the capabilities, such as multiple cellular circuits (e.g., UMTS and GSM) or settings related to “assignment of connection” that are alleged as present in N93. Since Dua fails to disclose these

capabilities, it would follow that Dua fails to disclose internal hardware implementation details of these capabilities. Further, contrary to the Petition's assertion, a POSITA would not be motivated to look to Dua for internal hardware implementation details of N93 because Dua fails to disclose even similar capabilities.

Instead, Dua is focused on the integration of Radio Frequency Identification (RFID) technology in media players. Therefore, Dua lacks many details regarding “a controller controlling assignment of connection of each of the first, second, and third radio communication circuits,” such as the internal hardware implementation details of a controller controlling assignment of UMTS and GSM circuits (the alleged “second” and “third” radio communication circuits).

Additionally, as Mr. McNair explains, “a POSITA would not be motivated to combine N93 with Dua because they are different systems.” EX2009 ¶58. N93 is directed to “an advanced consumer phone that was carefully and purposely designed to include specific features, including specific form factor to mimic the form of a digital camcorder.” *See id.* Also, the “N93 phone went through rigorous testing to meet consumer guidelines” and “was carefully designed to include specific features while excluding other features that were undesirable for the product.” *Id.* “N93 discloses various warnings against any type of modification of the phone:

- 'Use only batteries, chargers, and **enhancements** approved by Nokia for use with this particular model. The use of any other types may invalidate any approval or warranty, and may be **dangerous**,' EX1010 at 9,
- 'Use only approved **enhancements** and batteries. Do not connect incompatible products,' EX1010 at 7,
- 'Do not attempt to open the device other than as instructed in this guide,' EX1010 at 125, and
- 'Use only the supplied or an approved replacement antenna. **Unauthorized** antennas, **modifications**, or attachments could **damage the device** and may violate regulations governing radio services.' EX1010 at 125."

EX2009 ¶58.

Conversely, Dua is directed to a media player integrated with RFID technology and capable of storing and processing of large amounts of media content. *Id.* For example, Dua discloses that "the media player 100 is a pocket sized device that allows a user to store a large collection of digital audio/music, video, images, presentations, animation, Internet content, and other types of media" and "[i]n accordance with the invention,...the media player 100 can automatically convert the media into a format that is supported by the stereo." *Id.*

A POSITA would not be motivated to combine the components from Dua's media player device with N93's advanced proprietary, closed-system device, because Dua and N93 required different hardware and software that would be difficult to integrate onto a mobile device. EX2009, ¶60. There was not an obvious

benefit or rationale to improving an already advanced device with new capabilities that would potentially interfere with previous functionalities. *Id.* ¶60. Mobile devices are “resource-constrained” and therefore it would involve more than ordinary skill to include Bluetooth, UMTS, GSM, Wi-Fi, and NFC capabilities onto one device. *Id.* ¶61. For example, a POSITA would not find it obvious to combine all these alleged radio communication circuits because of the difficulty in designing and building an operable device that would support functionalities of all these alleged radio communication circuits. EX2009, ¶61.

Mr. McNair further explains that “[c]ombining multiple different systems can be quite challenging as each separate communications system has local oscillators and intermediate frequency stages that can cause internal interference with the others. In addition, each requires different clock signals and local oscillators that create sources of external interference that make it more difficult to meet FCC Part 15 requirements.” EX2009 ¶62; *see generally* 47 C.F.R. pt. 15 (2024). “In general, a designer is highly motivated to reduce the number of signal sources to an absolute minimum to avoid the problems of meeting FCC Part 15 requirements.” *Id.*

Additionally, a POSITA would not be motivated to modify N93 with any radio circuit because N93 teaches away from any such modification. *See id.* ¶63. For example, adding or modifying the radio circuits of N93 would require the changing/addition of an antenna. *See id.* “But N93 explicitly states that

‘Unauthorized antennas, modifications, or attachments could damage the device and may violate regulations governing radio services....Thus, a POSITA would not make any such modification to N93 because a POSITA would not want to damage the device or violate any regulations.’ *Id.*

Also, “N93 teaches away from any modification or enhancements without first seeking approval from Nokia because any such modifications ‘may be dangerous.’ A POSITA would not be motivated to make dangerous modifications.” EX2009 ¶64 (citing EX1010 at 9). “In addition, Petitioner never explains how a POSITA would be motivated to first obtain approval from Nokia to make the proposed modifications. Indeed, Nokia is highly unlikely to provide any such modifications in the first place because they had already designed a very specialized ‘computer’ with specific design constraints, regulations, and marketing strategies in mind.” *Id.* ¶64.

The Petition also fails to acknowledge the specificity of hardware components needed to support different capabilities. “For example, hardware that supports one Bluetooth version or minimal interference with other communication capabilities cannot be assumed to support every other Bluetooth version as well.” *Id.* ¶65. However, this is exactly what the Petition assumes. The Petition conflates different versions of Bluetooth, UMTS, GSM, NFC, and Wi-Fi with each other without consideration for the actual hardware implementation of the different combinations.

For example, the Petition cites N93 for its disclosure of Bluetooth 2.0 and 802.11b/g capabilities, but cites modulation schemes and frequencies for *different* versions of Bluetooth and Wi-Fi. *See, e.g.*, Pet. at 8-9; *see also* EX2009 ¶65. Petitioner thus fails to assert proper combinations because it erroneously assumes that different versions of Bluetooth, UMTS, GSM, NFC, and Wi-Fi can be swapped for one another with no consideration for the actual hardware implementation of these combinations. *See id.*

Modifying Dua or N93 to add additional radio communication circuitry would not “involve only routine skill” and would not have “a reasonable expectation of success.” EX1002 ¶72. As Mr. McNair explains, “each device with radio communication circuitry has to comply with certain regulations; undergoes rigorous testing to comply with such regulations; includes specific interfaces, transceivers, antennas, amplifiers, firmware and software to account for transmission and reception paths; and specific design constraints/requirements to avoid interference between such radio communication circuitry and their transmission and reception paths.” EX2009 ¶71. “N93 warns against modifications of such devices and explains that such modifications can be ‘dangerous,’ can ‘damage’ the device, and can ‘violate regulations governing radio services.’” *Id.* Modifications to Dua or N93 would not involve “routine skill” and would not have a reasonable expectation of success. *Id.* “A POSITA would avoid making ‘dangerous’ modifications that could

damage' the device and cause violation of 'regulations governing radio services.'”

Id.

“Any modification/addition of circuitry to N93 or Dua, would require a significant redesign, retesting, and regulatory approval, which is well beyond routine skill because it would involve coordination between numerous engineering teams (hardware design, firmware design, software design; hardware testing, firmware testing, software testing; regulatory testing) and legal team (regulatory submissions and approval).” EX2009 ¶71. Accordingly, the modifications are not obvious. *Id.*

Although potentially of different scope, elements [5.f], [9.i], [10.g], and [23.j] of the other independent claims recite features similar to that of [1.h] and are therefore not obvious over the combination of N93, Dua, and Herle for at least the same reasons [1.h] is not obvious over the combination of N93, Dua, and Herle.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim challenged in Ground 1.

3. N93, Dua, and Herle Do Not Render Obvious Claim Elements [1.k], [5.h], [9.k], [10.c], and [23.l]

Petitioner fails to show that N93 in combination with Dua and Herle discloses claim element [1.k].

For example, the Petition relies on N93 to set forth several disjointed theories in an attempt to show the simultaneous use of Bluetooth (the alleged “first radio

communication circuit”) to transmit video information and UMTS (the alleged “second radio communication circuit”) to connect to the internet. *See* Pet. at 36-38. All of the Petition’s theories merely show *individual* actions and not *simultaneous* actions by a single system.

Additionally, the Petition only addresses individual portions of the claim element and fails to address the claim element as a whole. For example, the Petition fails to address a “controller controlling” during its actions of using Bluetooth to transmit video information (the alleged “first radio communication circuit transmits video information”) and using UMTS to connect to the Internet (the alleged “second radio communication circuit connects to the internet”). There is no explanation of the role any controller plays during Petitioner’s description of these actions. Because the Petition fails to connect these actions to a controller, it fails to address other possibilities (e.g., multiple possible processors or modems) that can be executing control to perform any alleged “simultaneous” actions. For example, the Bluetooth radio and UMTS radio may have their own processor or modem to execute control to perform these actions, instead of a single controller.

Petitioner makes similar errors when citing Dua. Petitioner cites Figures 8a-11 and accompanying descriptions of Dua to disclose [1.k] to allege live video streaming over Bluetooth while simultaneously connecting to the internet to receive video data. *See* Pet. at 36-37. These cited sections of Dua disclose varying actions of media player 100A and 100B in connecting with other devices. Figure 10 of Dua is reproduced below for reference.

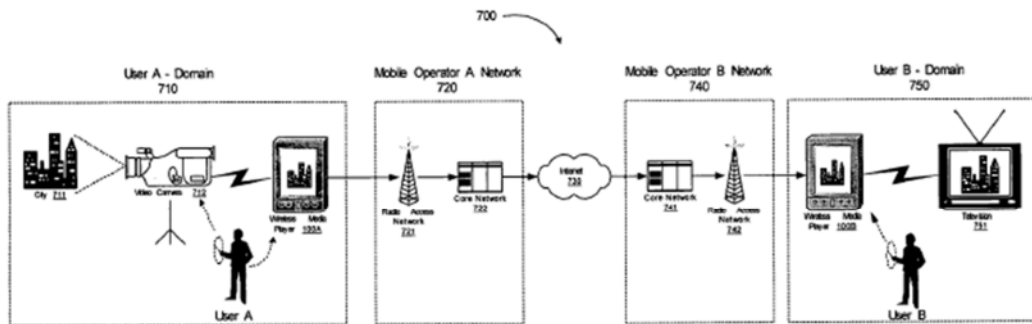
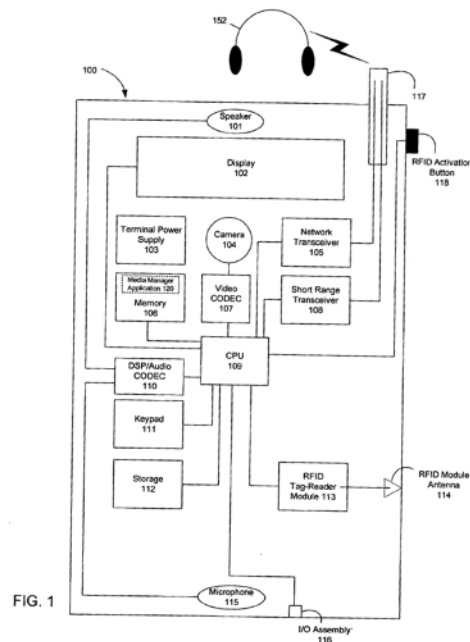


FIG. 10

Based on these sections, the Petition alleges that Dua discloses “player 100A receiving video via Bluetooth and transmitting the video via UMTS to internet 730.” *See* Pet. at 36-37. The Petition fails to actually map these actions to a controller controlling each of the first and second communication circuit. Dua merely discloses a high level functional representation of a media player terminal interface with no actual details on the network transceiver itself. *See* Dua Fig. 1.



Therefore, Dua fails to disclose actual details of the network transceiver (e.g., processors or modems in the network transceiver) that can be executing control to perform any alleged actions. For example, as stated above, a POSITA would know that different controllers may execute control of the short range transceiver and network transceiver of Dua.

Additionally, the Petition makes conclusory assumptions that video streaming is occurring over Bluetooth (instead of a different wireless protocol) without providing evidence from either reference to support its allegations. Petitioner only provides evidence that Dua discloses transmission of media files over Bluetooth but fails to provide evidence that Dua discloses video streaming over Bluetooth. Dua merely states that a video camera is “recording a city landscape 711 and simultaneously transmitting the video feed to the wireless media player 100A” and

does not specify that the user is using *Bluetooth* to stream live video. EX1008 ¶[0192].

In fact, N93 and Dua explicitly exclude the Bluetooth profile, the Video Distribution Profile, that is needed to support streaming video over Bluetooth. *See* EX1022 at 1, 8; EX1010 at 84 (listing supported Bluetooth profiles including “Basic Printing Profile, Generic Access Profile, Headset Profile, Hands-Free Profile and excluding Video Distribution Profile); EX1008, ¶[0138] (listing examples of supported Bluetooth profiles as “handsfree,” and “handset”). Additionally, Dua’s mention of Bluetooth streaming is limited to *audio* streaming and Bluetooth is explicitly mentioned in scenarios involving audio streaming while not mentioned in any scenario involving video streaming. *Compare, e.g.*, EX1008 ¶[0126] (describing a media player and headset paired via Bluetooth), *id.* ¶[0128] (describing a two media players that are paired to transmit *music* via Bluetooth), *and id.* ¶[0159] (describing a Bluetooth-enabled stereo), *with id.* ¶¶[0196]-[0187] (describing converting packetized streaming to a broadcast signal but *not* use of Bluetooth).

As explained by Mr. McNair, “[a] POSITA would not assume simultaneous video streaming over Bluetooth in N93 or Dua’s systems and cellular service as proposed by Petitioner.” EX2009 ¶86. “N93 and Dua are completely silent about simultaneously using the circuit combination proposed by Petitioner. At most, they disclose using these circuits in different instances of time. A POSITA would not be

motivated to specifically arrive at this combination of simultaneous communications specifically because Bluetooth circuitry disclosed in Dua and N93 had various bandwidth limitations. For example, streaming video requires substantial data transfer rates and low latency.” See EX2009 ¶86; EX2010 at 225 (“Bluetooth wireless technology is a hot research topic...Unfortunately, It is not suitable for traditional media encoding and real time transition [] due to limited bandwidth[,], high degree of error rates[,], and the time varying nature of radio link.”).

Additionally, “[t]o stream video over Bluetooth in N93 or Dua while simultaneously using UMTS circuit, video data must be heavily compressed to fit into Bluetooth’s bandwidth.” EX2009 ¶87. “This compression would result in loss of quality. The Bluetooth circuitry of Dua and N93 also has higher latency than other wireless communication technologies, such as Wi-Fi, that would cause delays, synchronization issues, etc. with video streaming. Therefore, a POSITA would not be motivated to specifically arrive at the proposed combination of simultaneous communication specifically using Bluetooth for video streaming and UMTS for cellular communication, as such exchanges would come with its challenges.” See EX2009 ¶87; EX2010 at 236 (“Media streaming over Bluetooth connection is a huge challenge. Although all devices support Bluetooth technology, it requires an enhancement in the buffering scheme.”).

“Integrating video streaming over Bluetooth onto a cellular device with other communication hardware would create difficulties because of the limited resources, design constraints, regulatory compliance etc. A POSITA would use existing circuitry and solutions in N93 or Dua to stream video non-simultaneously or over additional circuitry (e.g., WiFi) instead of specifically arriving at the claimed combination based on hindsight.” See EX2009 ¶87.

After alleging that N93 and Dua each individually disclose element [1.k], Petitioner then depends on a “combination” of N93 and Dua to disclose this element. See Pet. at 13. The Petition relies on circular reasoning to support its allegations. For example, Petitioner states:

Given there is no teaching in either of Dua or N93 that simultaneous data connections over the Bluetooth and UMTS radios should be prohibited, and because of the explicit teachings above that it should be supported, a POSITA would have had no motivation to create a prohibition against simultaneous data connections in the combination.

Pet. at 14. Here, the Petition is relying on the *absence* of prohibiting a feature to support a positive disclosure of the feature. This type of circular reasoning cannot be enough to establish a finding of obviousness. See *In re Van Os*, 844 F.3d 1359, 1361 (Fed. Cir. 2017) (“Absent some articulated rationale, a finding that a combination of prior art would have been ‘common sense’ or ‘intuitive’ is no different than merely stating the combination ‘would have been obvious.’”).

Although potentially of different scope, elements [5.h], [9.k], [10.c], and [23.l] of the other independent claims recite features similar to that of [1.k] and are therefore not obvious over the combination of N93, Dua, and Herle for at least the same reasons [1.k] is not obvious over the combination of N93, Dua, and Herle.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim challenged in Ground 1.

4. N93, Dua, and Herle Do Not Render Obvious Claim Elements [1.l], [5.i], [9.l], [10.j], and [23.m]

Petitioner fails to show that N93 in combination with Dua and Herle discloses claim element [1.l] that requires updating of an operating system.

At the time of the '590 Patent, it would not have been obvious to a POSITA to combine N93 with Dua and Herle. Petitioner's statement as to why N93, Dua, and Herle should be combined is conclusory and unsupported by sufficient evidence and analysis.

Claim element [1.l] requires at least: (a) receiving a signal from the internet indicating that an update for an operating system of the video processing apparatus is available; (b) executing an update process such that an updated operating system of the video processing apparatus is stored in the video processing apparatus after execution of the update process; and (c) executing the update process by the video processing apparatus itself.

N93 fails to disclose any of these three sub-elements and further, the Petition fails to provide any evidence or arguments to the contrary. The Petition only asserts that N93 discloses application downloads. *See* Pet. at 38. Regarding applications, N93 discloses updating applications using a “pull type system.” *See* EX1010 at 115 (“You can use Nokia Application Installer in Nokia PC Suite to install an application to your device.”). Therefore, N93 only discloses pulling updates (rather than “receiving a signal from the internet indicating that an update” is available) for *applications* and not its operating system.

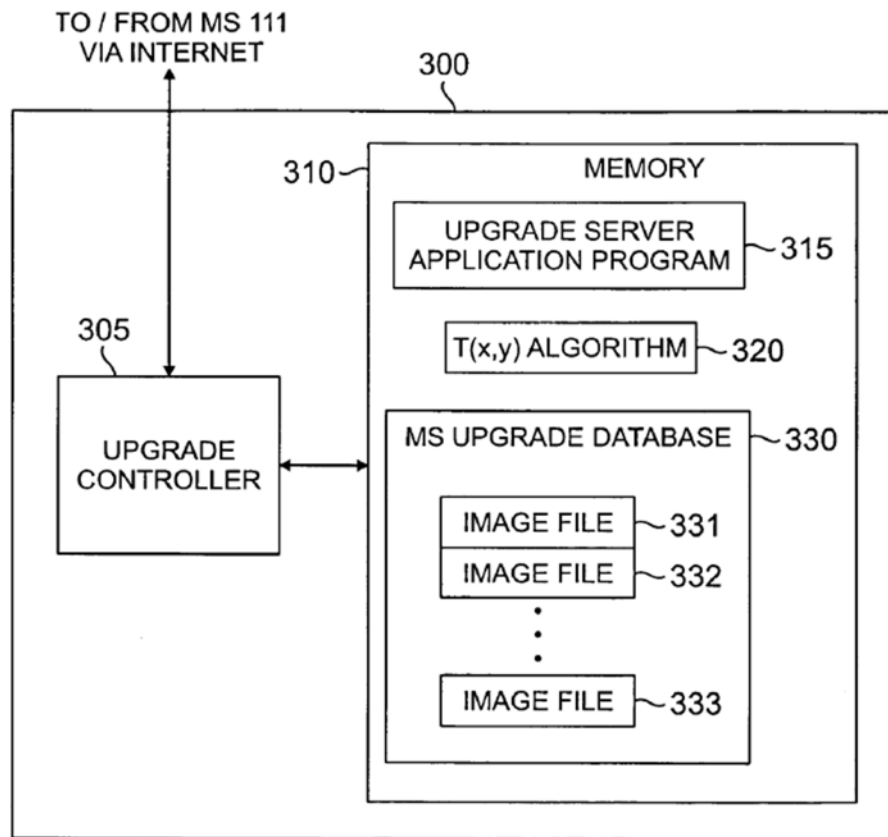
N93 further discloses both memory concerns and security concerns with updates. *See* EX1010 at 22 (“After you install applications to a compatible memory card, installation files (.sis) remain in the device memory. The files may use **large amounts of memory** and prevent you from storing other files.”) (emphasis added); *id.* at 72 (“Only install and use applications and other software from trusted sources, such as applications that are Symbian Signed or have passed the Java Verified™ testing.”).

Dua also fails to disclose [1.1] with Petitioner failing to provide any evidence or arguments to the contrary. Petitioner merely asserts that Dua’s “devices may be ‘updated’ with new [media processing] capabilities.” *See* Pet. at 15-16. Dua discloses updating media capabilities, RFID tags, and data stored in “device profile.” EX1008 ¶¶[0143], [0151], [0154]. Dua is completely silent regarding receiving any

indication over the internet or updating the **operating system**. Dua further discloses “[k]nown over-the-air techniques for configuration between two devices have also proven to be generally **insecure**.” *Id.* ¶[0009].

Based on this, Petitioner fails to establish that it would have been obvious to combine N93, Dua, and Herle, because the Petition fails to map the rationale towards actual claim elements, which are directed to updates to an *operating system*. *See* Pet. at 16. There is no disclosure or any suggestion in N93 or Dua of **updating an operating system**. Instead, they both teach a “secure” environment and teach away from over the air upgrades. *See* EX1008 ¶[0009]; EX1010 at 72.

Petitioner only alleges that N93 and Dua disclose “updating or repairing an existing application” or that Dua’s “devices may be ‘updated’ with new [media processing] capabilities.” *See* Pet. at 15-16. There is no evidence regarding whether the operating systems in N93 and Dua could be updated at all. In this case, “it is unclear why a POSITA would look to Herle to incorporate delta-based over-the-air updates for operating systems for two devices that *do not support updates for operating systems*...Herle describes improving mobiles devices *already capable* of performing operating system upgrades.” EX2009 ¶78. Herle also discloses “specific requirements to enable OTA delta updates, including the creation of an ‘upgrade server 300’ with specific software, hardware, and network capabilities. EX2009 ¶76; *see* EX1009 Fig. 3.



EX1009 Fig. 3. “At a minimum, Herle requires provisioning of a specially designed server having an upgrade server application program 315, T(x,y) algorithm 320 to generate change files, an upgrade database 330, and an upgrade controller 305....Next, Herle requires that each mobile station be equipped with a specially programed upgrade control program 262, which requires additional memory resources, and an algorithm program 263 to be able to handle a delta file.” EX2009 ¶77.

“Beyond improper hindsight, there is no motivation to overhaul N93 or Dua’s system to add the option of OTA updates. For example, N93 was a consumer device

from Nokia being sold worldwide....In order to have a uniform customer experience, Nokia would need to have servers all over the world to be able to support updates to its operating system. Adding such servers would increase the costs and require a significant infrastructure investment. In addition, given the high number of phones sold, the MS upgrade database 330 would need to have numerous versions of 'image files' 331-333 to be able to accurately generate delta files for a particular device that needs to be updated." EX2009 ¶78.

"N93 specifically instructs against downloading software that are not Symbian Signed or have passed the Java Verified™ testing, meaning Nokia was averse to having third-party servers host such upgrade programming. Further, Symbian was not an open source operating system until after 2009....Instead, it was a proprietary operating system with a very complex file structure and features." See EX2009 ¶79; EX2011; EX2012 ("a large OS, containing hundreds of classes and thousands of member functions").

Servers would need "large amounts of processing resources and memory just to be able to implement Herle's system and generate delta files. Petitioner has also not explained whether the limited bandwidth of the UMTS/GSM systems of N93 and Dua will be able to handle receiving such delta files over cellular networks." See EX2009 ¶80.

“Similarly, significant computing resources would be needed on the devices of N93 and Dua to determine the differences between the received delta file and the existing operating system, compare them, then execute a process whereby the phone is reimaged with a completely new operating system. N93 specifically recites limited memory resources....There is no explanation by Petitioner how N93 or Dua's limited memory and/or processor resources would handle such a significant reimaging of the operating system. Additionally, Petitioner fails to reconcile the fact that Dua specifically calls over the air configurations ‘generally insecure.’” EX2009 ¶81; *see* EX1008 ¶[0009].

“Further, historical evidence shows it was not obvious to implement OTA operating system updates for specialized devices like N93 or Dua in light of systems like Herle. For example, development history of the Symbian operating system (the operating system of N93) refutes Petitioner's contention that it would have been obvious to combine N93's teachings with Herle's teaching of OTA updates for operating system.” EX2009 ¶82; *see* EX2013.

Mr. McNair also notes that other specialized devices “had delays in implementing OTA operating system updates, even in light of delta-based update technology of Herle.” EX2009 ¶83. For example, Apple did not support OTA operating system updates until the release of iOS 5.0 in 2011. EX2009 ¶83; EX2014; *see also* EX2015.

Therefore, a POSITA would not find implementing OTA updates to operating system of Herle into N93 or Dua to be a matter of routine skill. EX2009 ¶84. “To the contrary, the state of the art at that time shows that updates to closed and proprietary operating systems were not supported at that time in view of memory constraints, network bandwidth concerns, and the desire of entities to limit access to their proprietary operating systems.” EX2009 ¶84. Mr. McNair notes:

This is confirmed by Herle's own disclosures because just to achieve OTA updates, Herle discloses a specialized system with significant investments in network infrastructure that requires specialized servers working in conjunction with specialized software on each device to accomplish this task. To accomplish Herle's disclosure, a system would need to be designed from the start to comply with all of Herle's requirements, which is not something that can be achieved retroactively in a proprietary and close-ended device like N93 or Dua. Petitioner fails to address this evidence or the state of the art of implementing OTA updates in operating systems of proprietary systems, instead just providing a conclusory and hindsight driven analysis.

Id.

Therefore, a POSITA would not have considered it obvious to combine N93, Dua, and Herle. Although potentially of different scope, elements [5.i], [9.1], [10.j], and [23.m] of the other independent claims recite features similar to that of [1.1] and

are therefore not obvious over the combination of N93, Dua, and Herle for at least the same reasons [1.l] is not obvious over the combination of N93, Dua, and Herle.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim challenged in Ground 1.

J. Ground 2 Fails Because N93, Dua, Herle, Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao Do Not Disclose Elements [1.a]-[1.c], [1.h], [1.k], [1.l], [5.a]-[5.c], [5.f]-[5.i], [9.d], [9.f], [9.h]-[9.l], [10.a]-[10.c], [10.e], [10.g], [10.h], [10.j], [23.a]-[23.d], and [23.j]-[23.m]

For Ground 2, Petitioner relies on many similar arguments as Ground 1, but attempts to use Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao to fill in various gaps of the teachings of N93, Dua, and Herle. Specifically, Petitioner relies on disclosures of Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao for modulations and frequencies in elements [1.a]-[1.c] and “circuit” implementation details. *See* Pet. at 53-56.

As mentioned above in relation to Section III.H, Petitioner's obviousness analysis lacks sufficient articulated reasons with rational underpinnings to support the combination of N93, Dua, Herle, Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao. *See* Pet. at 53-56. Moreover, Petitioner relies heavily on the same arguments presented with respect to Ground 1 for Ground 2. For example, in its general combination rationales, the Petition fails to assert any additional combination arguments with respect to N93, Dua, and Herle, and only asserts combination arguments for Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao. *See* Pet. at 53-56.

Therefore, Ground 2 should fail for at least the same reasons given above with respect to Ground 1.

In addition, through the addition of five additional references, the Petition conflates different versions of the different wireless communication technologies and substitutes capabilities of one version for another without explanation. For example, while Petitioner's primary reference, N93 specifies Bluetooth 2.0 and 802.11b/g capabilities, the Petition alleges a combination with other references that use Bluetooth 2.0 + EDR capabilities, 802.11a capabilities, and other various capabilities not disclosed in N93. *See, e.g.*, EX1010 at 18, 84 (specifying Bluetooth 2.0 and 802.11b/g capabilities); EX1014 at 49 (disclosing specification for Bluetooth 2.0+EDR); EX1008 Fig. 7 (disclosing 802.11a/b/g/n capabilities).

The Petition erroneously assumes that different versions of wireless communication technologies can be mixed-and-matched interchangeably, even though different design considerations and hardware considerations would be needed for each version, as well as for combinations of different versions. As set forth above, with respect to Ground 1, designing a device to support different wireless communication technologies is a complex endeavor, and requires at least more thought than mix-and-matching different technologies without consideration for the interplay between the different technologies.

With respect to claim elements [1.h], [1.j]-[1.l], [5.f]-[5.i], [9.i]-[9.l], [10.c], [10.g], [10.h], [10.j], and [23.j]-[23.m], the Petition merely refers back to Ground 1, while citing Ground 2 with regard to “circuits.” *See, e.g.*, Pet. at 59. Therefore, claim elements [1.h], [1.j]-[1.l], [5.f]-[5.i], [9.i]-[9.l], [10.c], [10.g], [10.h], [10.j], and [23.j]-[23.m] are not disclosed under Ground 2 for at least the same reasons given in Ground 1.

Thus, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 2.

K. Ground 3 Fails Because Dua and Herle Do Not Disclose Elements [1.a]-[1.c], [1.h], [1.k], [1.l], [5.a]-[5.c], [5.f]-[5.i], [9.d], [9.f], [9.h]-[9.l], [10.a]-[10.c], [10.e], [10.g], [10.h], [10.j], [23.a]-[23.d], and [23.j]-[23.m]

For Ground 3, Petitioner relies on a combination of Dua and Herle. The Petitioner relies on “everything in Ground 1” except for the subject matter from N93. Pet. at 60. As with prior grounds, Petitioner relies on cursory analysis and fails to show that Dua and Herle, either alone or together, render the claims unpatentable.

Petitioner relies on the same combination rationale as Ground 1 and should therefore fail for at least the reasons given above with respect to Ground 1. *See* Pet. at 60; Additionally, Petitioner relies on substantially the same arguments for specific claim elements that were presented for Ground 1, and should therefore fail for the reasons given above with respect to Ground 1.

1. Dua and Herle Do Not Render Obvious Claim Elements [1.h], [1.k], [1.l], [5.f], [5.h], [5.i], [9.i], [9.k], [9.l], [10.3], [10.g], [10.j], [23.j], [23.l], and [23.m]

Petitioner merely cites back to Ground 1. *See, e.g.*, Pet. at 60, 63-66. Therefore, claim elements [1.h], [1.k], [1.l], [5.f], [5.h], [5.i], [9.i], [9.k], [9.l], [10.3], [10.g], [10.j], [23.j], [23.l], and [23.m] are not disclosed under Ground 3 for at least the same reasons given in Ground 1.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim in Ground 3.

2. Dua and Herle Do Not Render Obvious Claim Elements [1.j], [5.g], [9.j], [10.h], and [23.k]

Petitioner fails to show that the Dua-Herle combination discloses claim element [1.j]. The Petition lays forth three different theories for “when an indication from the user indicates to transmit video information using the first radio communication circuit, the controller assigns a connection to the first radio communication circuit for transmitting the video information.” Pet. at 60-63. Even without addressing each of the three different theories, the Petition is deficient because it fails to address the *entire* claim element. For example, the Petition fails to address “wherein the controller controls assignment of connection for *each* of the first *and second* radio communication circuit in response to receiving an indication

from a user” (emphasis added). The Petition makes no mention of its alleged “second radio communication circuit,” UMTS, in relation to this claim element at all.

Although potentially of different scope, elements [5.g], [9.j], [10.h], and [23.k] recite features similar to that of [1.j] and are therefore not obvious over the combination Dua and Herle for at least the same reasons [1.j] is not obvious over the combination of Dua and Herle.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim challenged in Ground 3.

L. Ground 4 Fails Because Dua, Herle, and N93 Do Not Disclose Elements [1.a]-[1.c], [1.h], [1.k], [1.l], [5.a]-[5.c], [5.f]-[5.i], [9.d], [9.f], [9.h]-[9.l], [10.a]-[10.c], [10.e], [10.g], [10.h], [10.j], [23.a]-[23.d], and [23.j]-[23.m]

1. Petitioner Does Not Adequately Articulate a Combination of Dua's, Herle's, and N93's Teachings

For Ground 4, Petitioner relies on the same prior art as presented for Ground 1, merely in a different order. *See* Pet. at 66. As with prior grounds, Petitioner relies on cursory analysis and fails to show that Dua, Herle, and N93, either alone or together, render the claims unpatentable.

Petitioner relies on the same combination rationale as Ground 1 and should therefore fail for at least the reasons given above with respect to Ground 1. Additionally, Petitioner relies on substantially the same arguments for specific claim

elements that were presented for Ground 1, and should therefore fail for the reasons given above with respect to Ground 1.

Therefore, Petitioner failed to establish a reasonable likelihood of success of any claim challenged in Ground 4.

M. Ground 5 Fails Because Dua, Herle, N93, Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao Do Not Disclose Elements [1.a]-[1.c], [1.h], [1.k], [1.l], [5.a]-[5.c], [5.f]-[5.i], [9.d], [9.f], [9.h]-[9.l], [10.a]-[10.c], [10.e], [10.g], [10.h], [10.j], [23.a]-[23.d], and [23.j]-[23.m]

For Ground 5, Petitioner relies on the same references used for Ground 2, but using a different order of references. *See* Pet. at 73. For at least the reasons given above with respect to Grounds 1-4, Petitioner does not adequately articulate a combination of Dua, Herle, N93, Rooyen, Desai, BT-Spec, 3GPP-Spec, and Kao teachings. Petitioner fails to cite any additional support for any of the claim elements. *See* Pet. at 73. Therefore Ground 5 fails for at least the same reasons given above with respect to Grounds 1-4.

IV. CONCLUSION

For at least the foregoing reasons, the Board should deny institution of the Petition.

Patent No. 10,129,590
Patent Owner's Preliminary Response

Dated: September 13, 2024

Respectfully submitted,

/Robert G. Pluta /
Robert G. Pluta (Reg. No. 50,970)
MAYER BROWN LLP
71 S. Wacker Drive
Chicago, IL 60606
Telephone: (312) 701-8641
Fax: (312) 706-8144
rpluta@mayerbrown.com

Saqib J. Siddiqui (Reg. No. 68,626)
MAYER BROWN LLP
1999 K Street NW
Washington DC, 20006
ssiddiqui@mayerbrown.com

Counsel for Maxell, Ltd.

CERTIFICATE OF SERVICE

I hereby certify that on this 13th day of September, 2024, a copy of the attached PATENT OWNER PRELIMINARY RESPONSE TO PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,129,590, together with all exhibits was served by electronic mail to the attorneys of record, at the following addresses:

Brian Erickson
Brian.Erickson@us.dlapiper.com

Gianni Minutoli
Gianni.Minutoli@us.dlapiper.com

Roshan K. Bhattarai
Roshan.Bhattarai@us.dlapiper.com

With a courtesy copy by electronic mail to:
dla-samsung-maxell@us.dlapiper.com

Respectfully submitted,

Date: September 13, 2024

By: / Robert G. Pluta/
Robert G. Pluta (Reg. No. 50,970)

Counsel for Maxell, Ltd.

CERTIFICATION PURSUANT TO 37 C.F.R. § 42.24(d)

Pursuant 37 CFR 42.24(d), the undersigned certifies that this Preliminary Response and complies with the type-volume limitation of 37 CFR §42.24(a). The word count application of the word processing program used to prepare this Preliminary Response indicates that the Preliminary Response contains 13,585 words, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

Respectfully submitted,

/ Robert G. Pluta /
Robert G. Pluta (Reg. No. 50,970)