

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REOLINK INNOVATION INC. AND
SHENZHEN REOLINK TECHNOLOGY CO., LTD.,
Petitioner,

v.

THROUGHTTEK CO., LTD.,
Patent Owner.

Case IPR2024-00509
Patent No. RE47,842

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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EX1004	Prosecution History of U.S. Patent No. 9,787,498 (“the utility application”)
EX1005	Prosecution History of the ’842 patent (“the reissue application”)
EX1006	Lorex LNC100 Series User’s Guide Version 2.0 (2012), available at https://www.lorextechnology.com/downloads/ip-cameras/LNC104/LNC100_SERIES_MANUAL_EN_R2_web.pdf (“Lorex Guide”)
EX1007	U.S. Publication No. 2011/0082941 (“Kim”)
EX1008	Lorex Technology Inc., “How-to Set Up and Connect the NEW Lorex LNC100 Series IP Network Camera” (October 19, 2012), available at https://www.youtube.com/watch?v=DPaIWj2f65I (“Lorex Video”)
EX1009	Lorex Technology Inc., “How-To Get to Know New Lorex IP Wireless Network Camera” (October 5, 2012), available at https://www.youtube.com/watch?v=g9U-xhOk8kQ (“Lorex Unboxing”)
EX1010	Lorex Technology Inc., “How to Set up Wireless Network Cameras Using QR codes” (November 23, 2012), available at https://www.youtube.com/watch?v=HzJfkqg2VWY (“Lorex QR Codes”)
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EX1018	Throughtek Co. Ltd., CSJ233 P2P IP Camera Plug and View Instant Surveillance (2011) (“2011 Brochure”)
EX1019	ThroughTEK Co., Ltd. v. Reolink Innovation Inc. et al., Case No. 1-23-cv-00218 (DDE), Document 1 (Complaint), February 28, 2023
EX1020	Ford et al., Peer-to-Peer Communication Across Network Address Translators, USENIX Annual Technical Conference, pp. 179-192 (2005)
EX1021	Reolink Technology Co., Ltd., Reolink Support Initial Setup for Reolink Argus Series Cameras via Reolink App (Aug. 22, 2019), available at https://www.youtube.com/watch?v=jn2BhMmKcyg (“Reolink Video”)
EX1022	U.S. Publication No. 2014/0013100 (“Menzel”)
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EX1024	Saxena et al., Secure Device Pairing based on a Visual Channel, IEEE Symposium on Security and Privacy (2006) (“Saxena”)
EX1025	U.S. Publication No. 2010/0259549 (“Brown”)
EX1026	Scott et al., Using Visual Tags to Bypass Bluetooth Device Discovery, Mobile Computing & Communications Review, Vol. 1, No. 2 (2005) (“Scott”)
EX1027	Eppinger, TCP Connections for P2P Apps: A Software Approach to Solving the NAT Problem, Carnegie Mellon University Institute for Software Research International (2005) (“Eppinger”)

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EX1101	Second Declaration of Vlad Kardashov
EX1102	Transcript of February 21, 2025 Deposition of Yen-Kuang Chen
EX1103	Transcript of February 21, 2025 Deposition of Yu-Li Kao
EX1104	Lorex Technology Inc., Lorex L-Cloud - Redefining Consumer Networked Cameras (July 2012)
EX1105	Lorex Technology Inc., “NEW Wireless IP Camera for Mobile Phones & Tablets - LIVE PING” (Sep. 28, 2012), <i>available at</i> https://www.youtube.com/watch?v=YaCLjpJXqMg/

I. INTRODUCTION

The Patent Owner's Response ("POR") advances only limited rebuttals to Grounds 1-3. Patent Owner ("PO") does not dispute, for example, that the prior art cited in each of Grounds 1-3 discloses each element of claims 1-4 and 6-19 (the "Challenged Claims") of the '842 Patent. Nor does PO address, let alone refute, any of the multiple motivations for combining the prior art set forth in the Petition and the corroborated declaration of expert Dr. Harry Bims. Indeed, PO elected to entirely forego any cross-examination of Dr. Bims. Apart from conclusory assertions that ThroughTek's declarant was personally "unaware" of prior uses of P2P connection and image recognition technologies, PO does not address the merits of the obviousness Grounds 1-3 at all. Any such patentability arguments are now waived. *See* Scheduling Order, 9 ("may be deemed waived.").

Rather than confront the merits, PO instead focuses on unsupported and erroneous arguments that some references in Grounds 1-3 (Lorex Guide, Lorex Video, and ThroughTek-2012) should be disqualified as prior art. As demonstrated below, the evidence does not support PO's theories. PO assumes too much.

II. LOREX GUIDE AND LOREX VIDEO QUALIFY AS PRIOR ART TO THE '842 PATENT

PO attempts to dodge Grounds 1-3 by arguing that the Lorex Guide (EX1006) and Lorex Video (EX1008) references are somehow excepted as prior art under §102(b)(1)(A). Not so. According to the plain text of the statute, PO was burdened

to demonstrate that “*the* disclosure”—that of Lorex Guide and Lorex Video—was made by Lorex’s personnel who “obtained *the subject matter disclosed* directly or indirectly” from ThroughTek’s inventor. 35 U.S.C. § 102(b)(1)(A) (emphasis added). This burden surely was not met. Not even close. PO’s cited evidence fails to show that this narrow §102(b)(1)(A) exception is applicable here.

As detailed below, PO’s reliance on the § 102(b)(1)(A) exception is unavailing, and the references are properly applied as prior art in Grounds 1-3.

A. PO has Failed to Meet its Burden of Showing that § 102(b)(1)(A) Exception Applies to Lorex Guide and Lorex Video

The Petition presented undisputed evidence that Lorex Guide and Lorex Video were each publicly accessible and freely disseminated to the public before the earliest alleged filing date of the ’842 Patent (April 2013). POR., 1-2, 4-6; Pet., 1-3; EX1011, ¶¶5-10. To this point, the parties agree that Lorex Guide and Lorex video meet the requirements to qualify as printed publications under 35 U.S.C. § 102(a)(1). *See, e.g.*, POR, 4 (conceding that Lorex Guide “was published on September 12, 2012”), 6 (conceding Lorex Video “was published on October 19, 2012”). Petitioner has thus met its initial burden of production of showing that Lorex Guide and Lorex Video are prior art to the ’842 Patent, leaving to PO the burden of production in showing that the §102(b)(1)(A) exception applies. *Dynamic Drinkware, LLC v. Natl’ Graphics, Inc.*, 800 F.3d 1375 (Fed. Cir. 2015); *K/S Himpp*

v BRAGI GmbH, IPR2023-00901, Paper 39, 16 fn.11 (PTAB Nov. 24, 2024). PO has failed to meet this burden.

As noted above, for the §102(b)(1)(A) exception to apply, PO must show that “*the subject matter disclosed*” in Lorex Guide and Lorex Video—e.g., the images and video detailing the use of a QR code on the back of the LNC100 Series camera, as relied upon in the Petition—must be “obtained ... directly or indirectly from the inventor or a joint inventor” of the ’842 Patent. 35 U.S.C. §102(b)(1)(A) (emphasis added); MPEP § 2153.03 (requiring that “*the* subject matter” must be actually “communicated” (emphasis added)); *see also Sanho Corp. v. Kaijet Tech. Int’l Ltd.*, 108 F.4th 1376, 1380-81 (Fed. Cir. 2024). PO’s evidence on this critical issue does not withstand scrutiny. It fails to show that “the subject matter disclosed” in those Lorex publications was ever communicated from ThroughTek, let alone from any specific inventor of the ’842 Patent as the statute specifically requires.

The deficiencies in PO’s proof come into focus from review of the principal evidence PO cites in support of its §102(b)(1)(A) arguments, namely the Agreement (EX2001) that was apparently executed on October 11, 2012. This Agreement purports to establish a joint venture between Lorex and ThroughTek (and an unnamed Third Party). EX2001, 1-7. The terms of the Agreement provide that Lorex acknowledged ThroughTek’s “cloud connectivity services Assets,” which would be combined with the unnamed Third Party’s “manufacturing” capabilities to

create the joint venture. *Id.*, 1. Critically, ThroughTek’s “Assets” at the crux of this Agreement—which were “more particularly described on Schedule A”—have nothing to do with the QR code on the back of Lorex’s LNC100 Series cameras. EX2001, 1, 7. Instead, the Agreement centers upon “Cloud Connectivity services” that ThroughTek theoretically “will develop” for a future “end result” that “will allow” a ready-to-use API:

ASSETS

Cloud Connectivity services.

Cloud Connectivity services specializing in varied network devices, including IP cams, NAS, Set-top box, home gateway, and similar devices.

The Partner ***will develop*** connectivity services with a connection platform based on P2P (Point to Point) network connection architecture and advanced Cloud computing technology via API (Application Programming Interface) for cross-platform connection.

The end result will allow developers to utilize a ready-to-use API to build up the connection between different devices and across different operation systems.

EX2001, 7 (emphasis added); *see also id.*, 1 (“solely for the purposes”). The Agreement also includes a signature page indicating that a Lorex representative executed it on October 11, 2012—the same day as an introductory meeting between the parties. *Id.*, 6; EX1101, ¶¶8 and 18.

But these facts on pages 6 and 7 of the Agreement—the execution date and the purported technology that “will” be developed for the future “end result”—believe ThroughTek’s argument here. Namely, they highlight at least three fatal errors: (1) a “subject matter” shortcoming because technology described in the Agreement is noticeably different from the Petition’s cited disclosure of Lorex Guide and Lorex Video, (2) a temporal impossibility because Lorex’s LNC100 Series cameras (with the QR code on the back, as disclosed in Lorex Guide and Lorex Video) were already publicly marketed/sold to others well before the October 11, 2012 meeting, and (3) a legal error that taints all of PO’s assumptions. Petitioner addresses these three flaws in turn.

The “Subject Matter” Shortcoming

First, at most, the text of the Agreement indicates that the subject matter was centered upon ThroughTek’s Assets for “Cloud Connectivity Services,” and specifically that ThroughTek “will develop” in the future some type of “connectivity services with a connection platform based on P2P (Point to Point) network connection architecture and Cloud computing technology.” EX2001, 7. But the Petition does **not** rely on Lorex Guide or Lorex Video for any disclosure related to cloud connectivity or establishing P2P connections (e.g., conventional hole-punching technique). Rather, the Petition plainly cites to disclosures **of Kim** (EX1007) in Grounds 1-2 for all claim elements related to hole-punching/network

connectivity via a server. Fatally, PO never alleges that the disclosure *of Kim* was somehow obtained from ThroughTek. It was not.¹

The following excerpts exemplify the Petition’s reliance on Kim—rather than Lorex Guide or Lorex Video—to address claim elements related to connectivity via a server platform:

- **Ground 1:** “[I]n the combination, Lorex Guide’s IP camera would predictably register its ‘CamID’ ... and network addresses with a server on the Internet, *as suggested in Kim*. ... *Consistent with Kim’s teachings*, the user/terminal device and IP camera would then connect to the outside server, and when a user desires to connect to the IP camera following the instructions in Lorex Guide, the user terminal would send a tunnel query request message to the server to initiate a process for punching holes in the NATs and

¹ Moreover, Kim published more than a year before the ’842 Patent’s earliest alleged filing date. Accordingly, no exception applies to disqualify Kim as prior art under §102(b). For Ground 3, the Petition cites to ThroughTek-2012 (EX1016) for a prior art teaching of hole-punching/connectivity via a server, and ThroughTek-2012 qualifies as prior art for the reasons described in the Petition and further below in Section V. *See* Pet., 8-11, 57-58.

establishing a P2P connection with the IP camera (e.g., *as suggested by Kim's FIG. 6 process*).” Pet., 16; *generally id.*, 12-36.

- **Ground 2:** “[A] POSITA would have understood that implementing *Kim's system*, which includes a first peer node sending an ID of a second peer node to a server ..., to include a conventional QR code attached to the second peer node (as suggested by the QR code attached to the camera in the Lorex Video) would predictably provide a simple and quick mechanism for *Kim's first peer node (P1) to obtain the ID of the second peer node (P2) when establishing a P2P connection.*” Pet., 38; *generally id.*, 37-57.

In sum, PO's reliance on this Agreement related to “cloud connectivity services” misses the mark on what is required by §102(b)(1)(A) for purposes of excising the Lorex publications from the prior art domain. Nothing in this Agreement nor in Mr. Kao's testimony actually establishes that “the subject matter disclosed” in each of Lorex Guide and Lorex Video—e.g., the images and video detailing the conventional use of a QR code on the back of the Lorex camera (see Pet., pp. 23-25, 43-46, 61-62)—was communicated from Mr. Kao or any other purported inventor. Indeed, Mr. Kao conceded that ThroughTek was “not involve[d] in any Lorex publications.” EX2005, ¶ 11; EX1103, 71:11-72:13 (“never drafted or prepared any portion”); *see also* EX1101, ¶¶6-8, 20, 22. For this reason alone, PO's reach for the §102(b)(1)(A) exception falls short.

The Temporal Impossibility

Second, PO's reach for the §102(b)(1)(A) exception also suffers from a temporal impossibility. Namely, the timeline indicated by the Agreement actually shows why the §102(b)(1)(A) exception should *not* apply. As noted above, the Agreement was purported executed by Lorex on October 11, 2012 during an introductory meeting with representatives from Lorex. EX2001, 6; EX2005, ¶9; EX1101, ¶18. Noticeably, however, ***neither party executed the Agreement before the publication date of Lorex Guide, which even PO concedes occurred no later than September 12, 2012.*** POR, 4 (conceding Lorex Guide “was published on September 12, 2012” and citing to EX1006, 3 (“SEP 12 2012”)); EX1101, ¶¶5-10. Based on this record, there is no dispute that the Lorex Guide was published before the October 11, 2012 introductory meeting and Agreement executed later that day.

To be sure, PO never once acknowledges, let alone reconciles, this glaring discrepancy between the date of the Agreement and the admittedly earlier publication of Lorex Guide. No evidence of record indicates that Lorex somehow obtained the subject matter disclosed in the Lorex Guide from ThroughTek before the admitted publication date of September 12, 2012. Worse yet, it appears that ThroughTek would have had access to the Lorex Guide publication even before ThroughTek assented to the Agreement on September 18, 2012. That is why Mr. Kao conceded that ThroughTek was “not involve[d] in any Lorex publications.”

EX2005, ¶ 11; EX1101, ¶¶20 and 22. When it came to the details within the Lorex Guide, ThroughTek would have initially obtained that disclosure from Lorex, not the other way around.

ThroughTek's timeline as it applies to Lorex Video (EX1008) fares no better. Again, Mr. Kardashov already testified that this published video was generated by "internal efforts" at Lorex, not obtained from any ThroughTek inventors. EX1011, ¶13; EX1101, ¶¶11-12. And the same subject matter in the Lorex Video (e.g., detailing the conventional use of a QR code on the back of the Lorex's LNC100 Series camera) was likewise described in earlier Lorex video publications too. *See* EX1105, 0:10-1:45 (dated September 28, 2012, and showing Lorex's LNC100 Series camera (with the QR code) and Lorex's Ping app); EX1009, 2:08-2:52 (dated October 5, 2012, and showing Lorex's LNC100 Series camera with the QR code). These two videos corroborate Mr. Kardashov's personal knowledge that the subject matter disclosed in Lorex Video (EX1008) was indeed generated by Lorex alone and not obtained from ThroughTek via the later October 11, 2012 introductory meeting. EX2005, ¶9; EX1101, ¶¶5, 11. Yet again, that is why Mr. Kao conceded ThroughTek was "not involve[d] in any Lorex publications." EX2005, ¶11.

To be sure, the Agreement merely established what ThroughTek "will develop" theoretically in a future "end result" (EX2001, 7), and PO cited no evidence of any technical disclosure actually communicated from ThroughTek to Lorex

before the Lorex Video published on October 19, 2012. *See* EX1101, ¶¶5-6 (“ThroughTek was surely not involved in any way with the development of the LNC100 Series IP Camera, the Lorex Ping app, and the subject matter disclosed in Lorex Guide or Lorex Video.”). In fact, there is no evidence of exactly what was communicated from ThroughTek to Lorex on October 11, 2012 or at any time thereafter.

Regardless, ThroughTek’s meeting was too late. EX1101, ¶¶5-6, 11-12. It now relies upon a temporal impossibility.

The Fatal Legal Error: Ignoring The Statutory Text

Finally, beyond the two factual shortcomings noted above, PO invites the Board to adopt a fatal legal error. In particular, PO demands that the Board should invoke the §102(b)(1)(A) exception without any evidence that “the “subject matter disclosed” in Lorex Video and Lorex Guide is the *same* as any alleged technical disclosure communicated from ThroughTek during the October 11, 2012 introductory meeting. The exceptions under §102(b)(1) are narrow, and the law imposes a burden upon PO to meet an exacting standard. The MPEP explains, for example, that the subject matter is not the same “even if the only differences between the subject matter in the prior art disclosure ... and the subject matter previously disclosed by the inventor are mere insubstantial changes, or only trivial or obvious variations.” MPEP § 2153.02; *see also* MPEP § 2153.03 (requiring “the subject

matter” that was actually “communicated”). The Office instead requires that the disclosed subject matter be “**identical**” to the subject matter disclosed by the inventor. *Id.* (“This guidance maintains the **identical** subject matter interpretation ...”); *see also K/S Himpp v BRAGI GmbH*, IPR2023-00901, Paper 39, p. 16 footnote 11 (PTAB Nov. 24, 2024) (“only applicable when the subject matter of the intervening disclosure is the **same** as the subject matter of the earlier inventor-originated prior public disclosure.”), 16 (“the subject matters are not identical, and the two subject matters at least embody different species”).²

² While *K/S Himpp* addressed the standard in the context of the §102(b)(1)(B) exception, the exact same statutory phrase at issue (“another who obtained **the subject matter disclosed** directly or indirectly from the inventor or a joint inventor”) is likewise recited in §102(b)(1)(A). This same statutory language imposes the same burden under both §102(b)(1)(B) and §102(b)(1)(A). *See Sanho*, 108 F.4th at 1380 (“[S]ection 102(b) contains two largely parallel exceptions ...”). That is why MPEP § 2153.03—in addressing this statutory language—imposes a burden upon PO to establish both that the subject matter disclosed in Lorex Guide and Lorex Video “originated with the inventor or a joint inventor” and “that **the subject matter was communicated** by the inventor or a joint inventor.” MPEP § 2153.03.

Against this standard, PO's vague citations to the Agreement about "cloud connectivity services" that ThroughTek "will develop" (EX2001, 7) is woefully inadequate to show that "the subject matter" allegedly communicated from ThroughTek on October 11, 2012 was the *same* as the subject matter disclosed in Lorex Guide and Lorex Video. ThroughTek makes no attempt to cite evidence of this sameness. MPEP § 2153.03 (requiring "the subject matter" that was actually "communicated"); *see K/S Himpp*, Paper 39 at 11-16 ("the subject matters are not identical"); *Sanho*, 108 F.4th at 1391-91 ("no indication" and "[t]hat is clearly not enough to qualify for the exception"). Indeed, Mr. Kao concedes the opposite of what PO needed. EX2005, ¶11 (admitting ThroughTek was "not involve[d] in any Lorex publications").³

³ Mr. Kao also made a vague allegation that ThroughTek later provided to Lorex "the subject matter in the '842 patent per Exclusivity Agreement," but this suffers from three fatal flaws. EX2005, ¶10. First, such a "naked assertion" is insufficient under the law. *EmeraChem Holdings, LLC v. Volkswagen Grp. of Am., Inc.*, 859 F.3d 1341, 1345-47 (Fed. Cir. 2017); MPEP § 2155.01. Second, Mr. Kao never testified *when* this information was communicated. Neither the '842 patent nor its provisional application existed in 2012, so it follows that ThroughTek did not

Simply put, PO has failed to show that any technical disclosure communicated from ThroughTek during the October 11, 2012 introductory meeting (if any occurred at all) was actually “the subject matter disclosed” in Lorex Guide and Lorex Video. 35 U.S.C. § 102(b)(1)(A). At most, the Agreement and Mr. Kao’s testimony include only vague mentions of “cloud connectivity services” that ThroughTek “will develop” at some unspecified time after the October 11, 2012 meeting. EX2001 7; EX2005, ¶¶8-13, 34; POR, 12. This is not enough.

That is likely why the POR leaps to conclusions stretched far beyond the actual testimony of Mr. Kao or the text of the Agreement. POR, 2, 4-6. For example, the POR states “[i]n essence, the Agreement provides that *the P2P protocol along with image processing feature* disclosed in the Lorex Guide reference is developed by ThroughTek.” POR, 4-5 (emphasis added). But again, Grounds 1-2 relied upon Kim—not Lorex Guide and Lorex Video—to disclose a conventional P2P hole-punching protocol, and the Agreement never once mentioned any “image processing

provide Lorex with the subject matter “in the ’842 patent” in 2012. Third, this bare assertion is certainly not enough for ThroughTek to show that any technical disclosure allegedly communicated when the Agreement was executed was actually the *same* as the subject matter disclosed in Lorex Guide or Lorex Video. See EX1101, ¶¶6, 20; EX2005, ¶11 (“not involve[d]”).

feature” let alone the traditional “QR code on a camera” solution depicted in Lorex Guide and Lorex Video. EX1101, ¶¶8, 18. The hyperbole in the POR is telling. It strains credulity.

B. PO’s Position is Contradicted by Evidence Affirmatively Showing that the Subject Matter Disclosed in Lorex Guide and Lorex Video was not Obtained from any Inventor of the ’842 Patent

Not only has PO failed to meet its burden of production with respect to the §102(b)(1)(A) exception, but the record contains additional evidence that affirmatively contradicts PO’s narrative and demonstrates that Lorex did not obtain the subject matter disclosed in Lorex Guide and Lorex Video from any ThroughTek inventor. EX1101, ¶¶3, 5-12; EX1011, ¶13. Lorex Guide and Lorex Video both disclose Lorex’s LNC100 Series camera (and the corresponding “Ping” mobile app), which was developed and publicized by Lorex long before any meeting/Agreement with ThroughTek. EX1101, ¶¶6-7, 17-21. These features of the LNC100 Series camera were even marketed to retailers no later than June 2012, who then distributed sold the Lorex cameras to end users no later than September 2012. EX1101, ¶¶9-11 (citing to “Slide 7” of EX1104). Simply put, the LNC100 Series camera was publicly released to retail customers no later than September 2012 and was marketed in conjunction with the Lorex Ping app. EX1101, ¶¶7-8 (citing to corroborating example at EX1105). The weight of evidence confirms that the subject matter of Lorex Guide and Lorex Video developed before any Agreement with ThroughTek

and was surely not obtained from the inventors of the '842 patent during the ThroughTek-Lorex meeting on October 11, 2012. EX1101, ¶¶ 5-12.

III. PO FAILS TO REBUT PETITIONER'S SHOWING THAT THE CHALLENGED CLAIMS ARE *PRIMA FACIE* OBVIOUS OVER THE PRIOR ART COMBINATIONS IN GROUNDS 1-3

The POR fails to address nearly all of the facts set forth in the Petition's *prima facie* obviousness case. Indeed, the POR includes only a single assertion, repeated three times, that even arguably touches on the merits of the Petition. The entirety of this assertion is limited to a single sentence, reproduced below:

As remarked in the Declaration of Mr. Yen-Huang Chen, notwithstanding the existence of both Point-to-Point communication and image recognition technologies at the time of the invention, he was unaware of any suggestion to combine these two technologies to enhance user experience (EX2004, ¶21) and he regarded this advancement as both novel and not obvious. *Id.* at ¶¶19-20.

POR, 5 and 7-9. That is all.

This terse assertion fails to rebut Petitioner's hefty showing that the Challenged Claims would have been obvious over the prior art combinations in Grounds 1-3. The sentence says very little at all, in fact. For example, PO does not dispute that the references applied in Grounds 1-3 disclose all elements of the challenged claims, although PO does properly concede that "Point-to-Point communication and image recognition technologies" were known before the earliest

effective filing date. POR, 5, 7-9; EX2004, ¶¶17-18; EX2005, ¶¶4-5; EX1103, 22:8-25:1, 34:9-35:7, 45:3-48:10, 48:11-50:19; 58:21-59:17.

PO also never acknowledges, let alone disputes, any of the multiple motivations-to-combine expressly articulated in the Petition and the expert declaration of Dr. Harry Bims for Grounds 1-3. Pet., 16-19, 38-40, 58-60; EX1001, ¶¶63-71, 113-18, 156-161. Nor does PO dispute Petitioner's evidence that a POSITA would have reasonably expected success implementing the combinations articulated in Grounds 1-3 of the Petition. *Id.* Tellingly, PO also elected not to depose Dr. Bims. Simply put, PO waived its opportunity to present arguments for patentability beyond the bald, single-sentence conclusion from Dr. Chen (quoted above). *See* Scheduling Order (Paper 7), 9 ("may be deemed waived"); Consolidated Trial Practice Guide 2019 (CTPG), 94.

Still, PO's reliance on Dr. Chen's declaration, and the assertion that Dr. Chen was conveniently "unaware" of any suggestion "to combine these two technologies to enhance user experience," also suffers from multiple problems. At the outset, Dr. Chen's *personal* awareness of a motivation and what he *subjectively* regarded as novel or non-obvious are legally irrelevant. It is black-letter law that obviousness must be assessed from the perspective of a hypothetical person of ordinary skill in the art. *Intel Corp. v. PACT XPP Schweiz AG*, 61 F.4th 1373, 1379 1379-81 (Fed. Cir. 2023) ("a person of ordinary creativity, not an automaton"). Fatally, Dr. Chen's

declaration includes no tether to a POSITA at all. *See* EX1102, 47:9-18. Dr. Chen instead offers only a subjective statement that “***I*** have not seen or encounter [sic] any suggestion[] ... to adapting any image recognition technique onto the Point-to-Point practice and to enhance the users’ experience on establishing Point-to-Point connection at the time when the ’842 patent’s earliest application was filed.” EX2004, ¶20 (emphasis added); EX1102, 14:7-16:6 (“my opinion”); EX1103, 58:21-60:14. Of course, Dr. Chen would have been aware of such techniques if he had reviewed Dr. Bims’ analysis thoroughly rather than “cursorily” (EX2004, ¶9). But alas, he did not. Dr. Chen’s subjective knowledge of a prior art technique is nonetheless immaterial because a POSITA is “charged with the knowledge of all the prior art”—whether personally known to Dr. Chen or not. *In re Carlson*, 983 F.2d 1032, 1037-38 (Fed. Cir. 1993); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).⁴

⁴ The POR also contains several string cites to ¶¶7-30 of Mr. Kao’s declaration (EX2005), yet the POR itself contains no actual argument based on the contents of these paragraphs. PO has thus waived any such arguments. At most, the string cites to these paragraphs instead amount to an improper incorporation by reference. *See* 37 C.F.R. § 42.6(a)(3); *Parus Holdings, Inc. v. Google LLC*, 70 F.4th 1365, 1369-73 (Fed. Cir. 2023).

Beyond these legal errors in Dr. Chen’s analysis, the notion that the use of barcodes/visual markers for identifying devices as the target of network connections (including P2P connections) was not known before ’842 Patent is simply wrong. EX2004, 19 (bald legal conclusion of “not per se obvious”). In Dr. Bims’ uncontroverted testimony, he reviewed the state of the art before the ’842 Patent with reference to multiple prior art patents and printed publications that objectively confirm the use of visual markers for establishing connections—including P2P connections—was well known before the earliest effective filing date of the ’842 Patent. *See* EX1001, ¶¶24-34; *see also* EX1101, ¶¶14-16. As just one example, Dr. Bims reviewed the prior art Menzel reference (EX1022), which describes a process for forming a P2P connection between two endpoints by capturing images of barcodes and using the images to identify the devices with a third-party server. *See* Bims Dec. (EX1001) at ¶29; EX1022, FIGS. 5A-D, 6A-D. Like the ’842 Patent, Menzel’s techniques also rely on a third-party server to facilitate the connection, despite Dr. Chen’s personal belief that such techniques had not been used together before the ’842 Patent. And, similarly, the Lorex LNC100 Series camera was one of several IP cameras in 2012 that used a QR code on the back of the camera to establish “a direct point-to-point connection.” EX1011, ¶7. That Dr. Chen was personally “unaware” of such public disclosures is not relevant here.

For each of the reasons described above, the POR has failed to rebut the Petition's showing in Grounds 1-3 and the ample evidence cited therewith.

IV. PO FAILS TO SHOW THAT SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS RENDER THE CHALLENGED CLAIMS PATENTABLE

The POR's faint references to commercial success and unmet need as secondary considerations of non-obviousness also fail to show that the claims of the '842 Patent would have been patentable over Grounds 1-3 in this IPR. For context, the POR includes another statement, equally as terse as the statement discussed in the preceding section, that "as reflected by the commercial success of the patented product, there was an unmet need to enhance user experience through streamline system installation at the time when the '842 patent's earliest application was filed." POR, 5; *see also id.*, 7, 9 (same). But this statement again comes up far short of what the law requires.

For example, all secondary considerations arguments require the patent owner to demonstrate a nexus between the claims and the alleged secondary consideration. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) ("In order to accord substantial weight to secondary considerations in an obviousness analysis, the evidence of secondary considerations must have a 'nexus' to the claims, i.e. , there must be 'a legally and factually sufficient connection' between the evidence and the patented invention."). But the POR in this case never addresses the nexus

requirement, and PO submitted no evidence of any “nexus” between the claims of the ’842 Patent and any commercially success product. Lacking any evidence or even contention of nexus, PO’s conclusory mention of secondary considerations is a non-starter.

Worse yet, the entirety of PO’s “evidence” of commercial success stems from a single sentence in paragraph 7 of the Kao declaration. EX2005, ¶7 (terse conclusion that an unnamed product somehow “dominated the P2P market”). There is no evidence of any ThroughTek product. No evidence of any market share. No evidence of industry accolades. Nothing. Mr. Kao is a named inventor with a bold assumption. That is it. *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (“the inventor’s opinion ... alone[] is insufficient”).

As discussed above and in the Petition, Grounds 1-3 all present strong, meritorious obviousness challenges, and the evidence here fails to establish commercial success that outweighs the compelling merits of Grounds 1-3. *Newell Cos. v. Kenney Mfg. Co.*, 864 F.2d 757, 769 (Fed. Cir. 1988); *Richardson-Vicks, Inc., v. The Upjohn Co.*, 122 F.3d 1476, 1484 (Fed. Cir. 1997).

V. PO FAILS TO REBUT THE PETITION'S SHOWING THAT THROUGHTTEK-2012 IS PRIOR ART BECAUSE THE CHALLENGED CLAIMS ARE NOT ENTITLED TO THE BENEFIT OF PROVISIONAL APPLICATION'S FILING DATE

PO argues that the challenged claims are entitled to the benefit of the provisional application's filing date, but these arguments are based upon a critical legal error as explained in the *Novartis* precedent. *Novartis Pharms. Corp. v. Accord Healthcare, Inc.*, 38 F.4th 1013, 1017-20 ("Silence is generally not disclosure"). As explained in the Petition, the provisional application fails to support the negative limitation recited by Elements [1.6] and [12.6]—which requires that "the first networked monitoring device does **not** capture any image pattern associated with the terminal device for establishing the P2P connection." Pet. 8-11 (citing to *Novartis* and EX1001, ¶¶49-54) (emphasis added).

PO alleges that this negative limitation was "**inherently** implied" from the text on page 12 of the Provisional Application. POR, 10-11 (emphasis added). To be clear, there is no dispute among the parties that both the provisional application (EX1003) and the utility application (EX1004) are surely lacking any **express** description of the negative limitation in Elements [1.6] and [12.6]. Dr. Bims plainly articulated this fact. Pet., 10 (citing EX1001, ¶¶49-54 ("never so described")). PO never disputed it nor cross-examined Dr. Bims in any manner.

From here, the only remaining question is whether PO's "inherently implied" arguments squarely address the *Novartis* precedent and Dr. Bim's testimony regarding the lack of inherency. POR, 9-12. They do not.

In *Novartis*, the Federal Circuit explained that “silence will not generally suffice to support a negative claim limitation.” *Novartis*, 38 F.4th at 1017-18. The *Novartis* court astutely described the policy behind this rule—namely, if mere silence was sufficient for written description support, “then every later-added negative limitation would be supported so long as the patent makes no mention of it.” *Id.* The same policy that concerned the Federal Circuit in *Novartis* equally applies here because PO is attempting to expand the scope of its “silence” in the provisional application to necessarily import a later-added negative limitation.

PO does not dispute that the *Novartis* precedent is controlling here, but instead PO contends that the negative limitation in Elements [1.6] and [12.6] is “*inherently implied*” according to the rare exception noted in *Novartis*. POR, 10-11 (emphasis added). Here, PO is missing the mark. First, the *Novartis* court held that the negative limitation was not supported in the priority document. *Novartis*, 38 F.4th at 1020. Second, in the same section of *Novartis*, the court noted that “silence” might serve as an inherent disclosure only in the rare exception when “the record established that in a particular field, the absence of mention of a limitation ***necessarily excluded*** that limitation.” *Novartis*, 38 F.4th at 1017 (emphasis added). This “necessarily excluded” standard is important here just as it was in *Novartis*.

Here, the evidence is weighty and certainly establishes that “inherency” is not achieved via mere silence in the provisional application. For example, Dr. Bims

specifically testified about known options showing that the negative limitation was not inherent/necessarily present from silence alone. EX1001, ¶¶51-53 (citing examples showing the conventional option of bi-directional image capture when establishing connections between devices, and citing to corroborating exhibits EX1024, EX1021, EX1021, and EX1004); Pet., 9-10. All of this evidence remains uncontroverted. PO refuted none of it. And because the evidence confirms the negative limitation surely was not “necessarily” disclosed from the silence of the provisional application, the law mandates that it was not “inherently” disclosed therein. *Novartis*, 38 F.4th at 1017; *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159 (Fed. Cir. 1998) (“must necessarily be present”). For this reason alone, PO’s “inherently implied” arguments crumble under the *Novartis* precedent.

Worse yet, not only did PO fail to proffer evidence pertaining to the “necessarily excluded” standard in *Novartis*, PO never even acknowledged this legal test at all. Instead, PO essentially proposed a new test—arguing that “a POSITA ***could readily understand*** and make the invention based on the information provided in the ‘262 application.” POR, 9-11 (emphasis added). This is not enough. The critical test is not whether a skilled artisan “could” understand how to build the claimed system with the negative limitation, it is whether the silence in the provisional application mandates “necessarily” only the negative limitation. *Novartis*, 38 F.4th at 1017 (stringent requirement for “necessarily excluded”).

Again, the uncontroverted in the record already establishes that the negative limitation in Elements [1.6] and [12.6] was not “necessarily” required to achieve the claimed P2P connection—there were many known options. EX1001, ¶¶51-53. PO’s proposed test of what a POSITA “could” understand misses the mark of the *Novartis* precedent.

For each of the reasons described here and in the Petition, the earliest effective filing date of the ’842 Patent is no earlier than the date when the negative limitation was initially added to the claims on September 20, 2016, and is certainly no earlier than the July 25, 2013 filing date of the ’498 Patent. Thus, ThroughTek-2012 (EX1016), which published more than a year earlier, qualifies as prior art and is not subject to any §102(b)(1)-(2) exception. Ground 3 renders obvious all challenged claims of the ’842 Patent.

VI. CONCLUSION

For the reasons discussed above and in the Petition, Petitioner submits that all the Challenged Claims are unpatentable.

Respectfully submitted,

Dated: February 26, 2025

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CERTIFICATION UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Reply to Patent Owner's Response totals 5,417, which is less than the 5,600 allowed under 37 CFR § 42.24.

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on February 26, 2025, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response and its exhibits were provided via email to the Patent Owner by serving the correspondence email address of record as follows:

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