

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ROKU, INC. and VIZIO, INC.,
Petitioners,

v.

ANCORA TECHNOLOGIES, INC.,
Patent Owner.

Case IPR2021-01406
U.S. Patent No. 6,411,941 B1

PATENT OWNER'S SUR-REPLY

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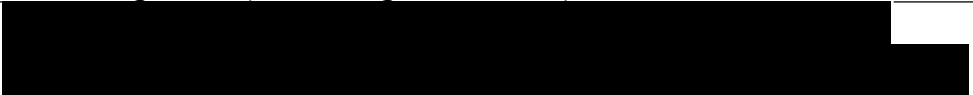
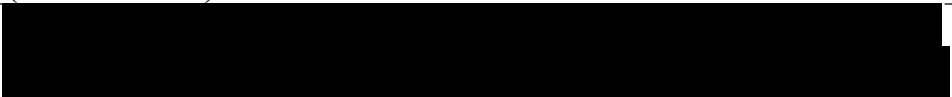
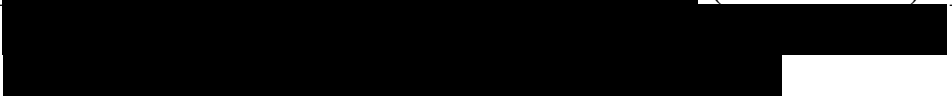
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1001	U.S. Patent No. 6,411,941 to Mullor et al. (“’941 Patent”)
1002	Image File Wrapper of U.S. Patent No. 6,411,941 (“File History”)
1003	Declaration of Andrew Wolfe, Ph.D. (“Wolfe Decl.”)
1004	U.S. Patent No. 4,658,093 (“Hellman”)
1005	U.S. Patent No. 5,892,906 (“Chou”)
1006	U.S. Patent No. 5,933,498 (“Schneck”)
1007	Reserved
1008	Reserved
1009	Reserved
1010	Reserved
1011	Claim Construction Order, <i>Ancora Techs., Inc. v. Apple Inc.</i> , No. 4:11-cv-06357 (N.D. Cal. Dec. 31, 2012) (ECF No. 107).
1012	Final Claim Constructions of the Court, <i>Ancora Techs., Inc. v. LG Elecs., Inc.</i> , No. 1:20-cv-00034 (W.D. Tex. June 2, 2020) (ECF No. 69).
1013	Supplemental Claim Construction Order, <i>Ancora Techs., Inc. v. LG Elecs., Inc.</i> , No. 1:20-cv-00034 (W.D. Tex. Aug. 19, 2020) (ECF No. 93).
1014	Joint Claim Construction and Prehearing Statement, <i>Ancora Techs., Inc. v. TCT Mobile (US), Inc.</i> , No. 8:19-cv-2192 (C.D. Cal. July 17, 2020) (ECF No. 49)
1015	European Patent Application No. EP 0766165A2 (“’165 Application”)
1016	U.S. Patent No. 5,724,425 (“’425 Patent”)
1017	U.S. Patent No. 6,138,236 (“’236 Patent”)
1018	U.S. Patent No. 5,802,592 (“’592 Patent”)
1019	U.S. Patent No. 5,835,594 (“’594 Patent”)
1020	Telephonic Markman Hearing, <i>Ancora Techs., Inc. v. TCT Mobile (US), Inc., et al.</i> , No. 8:19-cv-2192 (C.D. Cal. Oct. 15, 2020) (ECF No. 60)

1021	Telephonic Markman Hearing, <i>Ancora Techs., Inc. v. TCT Mobile (US), Inc., et al.</i> , No. 8:19-cv-2192 (C.D. Cal. Oct. 15, 2020) (ECF No. 69)
1022	Complaint, <i>Ancora Techs., Inc. v. TCL Corp., et al.</i> , No. 4:19-cv-00624 (E.D. Tex. Aug. 27, 2019) (ECF No. 1)
1023	U.S. Patent No. 5,734,819 (“Lewis”)
1024	File Wrapper of <i>Ex Parte</i> Reexamination of U.S. Patent No. 6,411,941, Control No. 90/010,560 (“560 Reexam File Wrapper”)
1025	Order Re: Joint Stipulation Re Stay Pending <i>Inter Partes</i> Review, <i>Ancora Techs., Inc. v. Vizio, Inc.</i> , No. 2:21-cv-08534 (C.D. Cal.) (ECF No. 78)
1026	Order Granting Joint Motion to Stay Pending <i>Inter Partes</i> Review, <i>Ancora Techs., Inc. v. Roku, Inc.</i> , No. 6:21-cv-00737 (W.D. Tex.) (ECF No. 33)
1027	Order Granting Joint Motion to Stay Pending <i>Inter Partes</i> Review, <i>Ancora Techs., Inc. v. Nintendo Co., Ltd., et al.</i> , No. 6:21-cv-00738 (W.D. Tex.) (ECF No. 46)
1028	Board Email Authorizing Motion For Additional Discovery, May 27, 2022
1029	Plaintiff’s Responsive Claim Construction Brief, <i>Ancora Techs., Inc., et al. v. LG Electronics, et al.</i> , Case No. 1:20-cv-00034-ADA (W.D. Tex., April 10, 2020) (ECF No. 50)
1030-1032	<i>Intentionally Left Blank</i>
1033	Declaration of Andrew Wolfe, Ph.D., in Support of Petitioners’ Reply to Patent Owner’s Response
1034	Transcript of the Deposition of Miki Mullor, July 12, 2022 (Confidential)
1035	Transcript of the Deposition of David Martin, Ph.D., July 14, 2022
1036	Plaintiff’s Opening Claim Construction Brief, <i>Ancora Techs., Inc., et al. v. LG Electronics, et al.</i> , Case No. 1:20-cv-00034-ADA (W.D. Tex., March 20, 2020) (ECF No. 44)
1037	Denon DP-35F/DP-45F Instruction Manual, Nippon Columbia Co., Ltd.
1038	Excerpt from <i>Dictionary of Computing</i> , 4 th ed., Oxford University Press, 1996
1039	U.S. Patent No. 5,568,552 to Davis

1040	Guttman, B., et al., <i>Computer Security</i> , National Institute of Standards and Technology, 1995)
1041	Kaliski, B., “PKCS #1: RSA Encryption,” RFC 2313, The Internet Society, Network Working Group, March 1998
1042	U.S. Patent No. 5,724,425 to Chang et al.
1043	U.S. Patent No. 5,935,246 to Benson
1044 – 1049	<i>Intentionally Left Blank</i>
1050	LG Settlement and License Agreement (Confidential)
1051	TCL Settlement (Confidential)
1052	Sony Settlement and License Agreement (Confidential)
1053	Microsoft Settlement and License Agreement (Confidential)
1054	Lenovo Settlement and License Agreement (Confidential)
2001	Microsoft Corporation’s Request for <i>Ex Parte</i> Reexamination Image File Wrapper, Control No. 90010560
2002	<i>Ancora Techs., Inc. v. Apple, Inc.</i> , 744 F.3d 732 (Fed. Cir. 2014)
2003	Deposition Excerpts of Jon Weissman, <i>Ancora Techs., Inc. v. HTC America, Inc.</i> , Case No. 2:16-cv-01919 (W.D. Wa. Sep. 9, 2019)
2004	Declaration of Ian Jestice, <i>Ancora Techs., Inc. v. HTC America, Inc.</i> , Case No. 2:16-cv-01919 (W.D. Wa. Aug. 26, 2019)
2005	Brief of Appellees HTC America, Inc. and HTC Corporation, <i>Ancora Techs., Inc. v. HTC America, Inc., HTC Corp.</i> , Case No. 18-1404 (Fed. Cir. Apr. 23, 2018)
2006	Declaration of Jon Weissman, <i>Ancora Techs., Inc. v. HTC America, Inc.</i> , Case No. 2:16-cv-01919 (W.D. Wa. Sep. 4, 2019)
2007	Terplan, Kornel, Morreale, Patricia, THE TELECOMMUNICATIONS HANDBOOK, CRC Press, 2000
2008	COMPUTER USER’S DICTIONARY, Microsoft Press, 1998
2009	MICROSOFT COMPUTER DICTIONARY FOURTH EDITION, Microsoft Press, 1999
2010	PC MAGAZINE ENCYCLOPEDIA, available at https://www.pcmag.com/encyclopedia (excerpt, definition of “Agent”)
2011	U.S. Patent No. 6,411,941 File History with Beeble White Paper
2012	Joint Claim Construction Chart, <i>Ancora Techs., Inc. v. TCT Mobile (US) Inc., Huizhou TCL Mobile Commc’n Co., Ltd., and Shenzhen TCL Creative Cloud Tech. Co., Ltd.</i> , Case No. 8:19-cv-02192 (Dkt. #49, 49-1, 49-2)

2013	Declaration of Dr. David Martin, Ph.D., <i>Sony Mobile Commc 'ns AB, Sony Mobile Commc 'ns, Inc., Sony Elecs. Inc., and Sony Corp. v. Ancora Techs., Inc.</i> , IPR2021-00663, Ex. 2015 (PTAB Apr. 23, 2021)
2014	U.S. Patent No. 6,189,146 (Misra)
2015	U.S. Patent No. 5,479,639 (Ewertz)
2016	Decision Denying Institution of Inter Partes Review, <i>Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. v. Ancora Technologies, Inc.</i> , IPR2020-01184
2017	Declaration of Ian Jestice, <i>Ancora Technologies Inc. v. LG Electronics Inc., LG Electronics U.S.A. Inc., Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc.</i> , Case No. 1:20-cv-00034 (Dkt. # 44-8)
2018	Declaration of Dr. David Martin (May 3, 2022)
2019	U.S. Patent No. 5,892,900 (Ginter)
2020	U.S. Patent No. 5,734,819 (Lewis)
2021	U.S. Patent No. 6,153,835 (Schwartz)
2022	<i>Ancora Techs. Inc. v. Apple, inc.</i> , Case No. 4:11-cv-06357 (Dkt. # 171-3) [Apple Inc.'s N.D. Cal. L.R. 3-3 (Invalidity) Disclosures]
2023	Petition, <i>HTC Corp. v. Ancora Techs. Inc.</i> , Case No. CBM2017-00054, Paper 1 (PTAB May 26, 2017)
2024	Institution Decision, <i>HTC Corp. v. Ancora Techs. Inc.</i> , Case No. CBM2017-00054, Paper 7 (PTAB Dec. 1, 2017)
2025	Croucher, "The BIOS Companion" (1997) (Excerpts)
2026	Transcript of Deposition of Dr. Andrew Wolfe (April 22, 2022)
2027	Joint News Release (February 14, 2005)
2028	March 25, 2022 Email from Board regarding IPR2021-01338 and IPR2021-01406
2029	[REDACTED] (Confidential)
2030	Declaration of Miki Mullor
2031	[REDACTED] (Confidential)
2032	[REDACTED] (Confidential)
2033	Reserved
2034	Reserved
2035	AIPLA statistics
2036	Reserved

2037	 (Confidential)
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2039	Redline Relative To Standard Protective Order
2040	Reserved
2041	Reserved
2042	Barron's Dictionary of Computing and Internet Terms (5th Ed. 1996)
2043	Decision Granting Institution, Case No. IPR2020-01609, Paper 7 (PTAB Feb. 16, 2021)
2044	Free On-Line Dictionary of Computing (June 6, 1999), available at http://foldoc.org/bios
2045	U.S. Patent No. 5,684,951 (Goldman)
2046	Paul C. Kocher, <i>Timing Attacks on Implementations of Diffie-Hellman, RSA, DSS, and Other Systems</i> , Proceedings of 16 th Annual Int'l Cryptology Conf. (Aug. 18–22, 1996)
2047	Ancora's Patent Owner Preliminary Response, Sony Mobile Communications AB v. Ancora Techs., Inc., Case No. IPR2021-0063, Paper 13 (PTAB Apr. 23, 2021)
2048	 (Confidential)
2049	 (Confidential)
2050	 (Confidential)
2051	 (Confidential)

I. INTRODUCTION

As discussed in Ancora's Response, both the applicants and the USPTO examiner agreed that the novelty of the '941 patent included using an OS level software program or routine to set up a verification structure in the memory of the BIOS, as recited in claims 1 and 18 of the '941 patent. Petitioners' Reply erroneously maintains that the purported novelty of the '941 patent is the mere storing a verification structure in BIOS—ignoring intrinsic evidence that emphasizes the importance of distinguishing OS level software from BIOS routines.

The Reply further relies on a series of improper, hindsight-biased arguments and assumptions relating to Hellman and Chou. Petitioners' arguments cannot overcome the differences cited in Ancora's Response. Specifically, Hellman never mentions BIOS or any operating system, and does not disclose a BIOS EEPROM. Combined, Hellman and Chou do not disclose an OS-level software program or routine for setting up a verification structure, which was the differentiator that the applicants *and the examiner* cited during prosecution of the '941 patent.

Lastly, the Reply attempts to impugn Ancora and its settlement agreements. Petitioners offer no legal basis for its theory that [REDACTED]

[REDACTED]

[REDACTED]

II. CLAIM CONSTRUCTION

A. The Plain Meaning of “Agent” Excludes Hardware in the Context of the ’941 Patent

The plain meaning of “agent” requires “a software program or routine.” (*See* POR 33.) Multiple technical dictionaries, relied on by Ancora’s expert Dr. Martin, require this meaning. (*See* Ex. 2018 ¶¶126, 133; Ex. 2007 at 2–11; Ex. 2008 at 13; Ex. 2009 at 18–19; Ex. 2010 at 1.) Petitioners argue in passing that the plain and ordinary meaning of “agent” is not limited to software. (Reply 1–2.) The Reply cites nine contiguous paragraphs of Dr. Wolfe’s declaration, does not cite either of the underlying references, and does not discuss Dr. Wolfe’s analysis, leaving the impression that it seeks to improperly incorporate Dr. Wolfe’s analysis by reference. *Cisco Sys., Inc. v. C-Cation Techs., LLC*, No. IPR2014-00454, paper 12 at 9–10 (PTAB Aug. 29, 2014) (informative) (noting impropriety of citations to an expert declaration “to support conclusory statements for which petition does not otherwise provide an argument or explanation”).

Dr. Wolfe’s supplemental declaration relies solely on a dictionary definition that relates to “robots” and a patent that discloses a unique “hardware agent”—neither of which applies in the context of the ’941 patent. (Ex. 1033 ¶5 (citing Ex. 1038 & Ex. 1039).) The Oxford Dictionary of Computing, cited by Dr. Wolfe, explicitly explains that a “robot (*see* robotics) is an example of an agent that perceives its physical environment through sensors and acts through effectors.” (Ex.

1038 at 4.) The definition does not identify any other agent comprising “hardware.” (*Id.*) The definition is inconsistent with the ’941 patent and should not be relied upon. *See Ideal Instruments, Inc. v. Rivard Instruments, Inc.*, 498 F. Supp. 2d 1131, 1153 (Fed. Cir. 2007) (“the court must choose the proper dictionary definition in light of the ‘intrinsic’ evidence of the meaning of patent terms”). The use of special hardware in the agent would be anathema to the ’941 patent, which specifically distinguishes prior art hardware-based products. (Ex. 1001 1:27–35; Ex. 2018 ¶61 (“the ’941 patent discloses using *existing* computer hardware with ‘a *conventional* BIOS module’”) (emphasis added).)

The Davis patent (Ex. 1039) cited by Dr. Wolfe likewise does not establish that “agent” is *normally* understood to include hardware. Davis does not disclose a single instance where the unmodified word “agent” is used to describe a hardware-based agent. (*See, e.g.*, Ex. 1039 8:55–9:12.) Instead, Davis consistently uses “hardware agent” as shorthand to describe an integrated circuit component. (*Id.* 3:1–10 (integrated circuit component is “a hardware agent”).) Further, usage in a patent does not necessarily indicate a word’s plain meaning since it is well known that patentees are free to act—even by implication—as their own lexicographers. *See Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300 (Fed. Cir. 2004).

B. Ancora's Interpretation of "Agent" is Not Inconsistent with Positions it Adopted in Related District Court Cases

Ancora has never opposed a construction requiring "agent" to be an "*OS level* software program or routine." Contrary to the alleged "practicing the prior art" defense at issue in *01 Communique*, Petitioners here cite no evidence that infringement or invalidity would have come out differently in any case where Ancora argued for the plain meaning of "agent." *Cf. 01 Communique Lab., Inc. v. Citrix Xyx., Inc.*, 889 F.3d 735, 741–42 (Fed. Cir. 2018) (alternate invalidity defense was allowable at trial to prevent patentee from attempting "to expand the scope of its claims"). Further, in Ancora's earlier lawsuits Ancora was opposing defendants' means-plus-function arguments. (*See* Ex. 1070 at 17 ("the parties' dispute regarding this term is whether 'agent' is a nonce word"); Ex. 1071 at 2; Ex. 1073 at 12–19; Ex. 1074 at 6–7; Ex. 1075 at 3.)

Defendants in prior district court proceedings could have argued that "agent" should be limited to the narrower "*OS level* software routine or program" asserted here. Certainly, they would have asserted this narrower construction of "agent" if it could have helped their case. In fact, defendants LG and Samsung argued that the prosecution history required the "verifying" and "acting on" steps to be performed by an OS level application. (*See* Ex. 1070 at 22 & 26.) Ancora distinguished arguments relating to the claimed agent in the "setting up step" from the subsequent "verifying" and "acting on" steps. (*See* Ex. 1071 at 17.) Specifically, the examiner's

reasons for allowance did not amount to a disavowal with respect to the “verifying” and “acting on” steps, because context suggested “the OS-level ‘agent’ is required only to ‘set up a verification structure in the erasable, non-volatile memory of the BIOS.’” (*Id.* at 18.) The district court agreed. (Ex. 1012 at 4.)

Throughout claim construction briefing in the Samsung and LG cases, Ancora noted that the claimed “agent” is OS-level. (*See* Ex. 1070 at 2, 14, & 23; Ex. 1071 at 5, 15–16, & 17–19; Ex. 1072 at 6 & 12–14.) Specifically, Ancora argued that “where the patentee intended that an OS-level program or application participate in a particular step, it amended the claims to say so specifically by adding the term ‘agent.’” (Ex. 1070 at 23; *see also id.* at 24 & 26; Ex. 1071 at 17–19.) Ancora similarly argued that “the ‘setting up’ step requires the involvement of an OS-level software program or routine (i.e. an agent).” (Ex. 1072 at 12; *see also id.* at 13–14.) In short, Ancora’s Response is consistent with arguments from the Samsung and LG cases.

Finally, differences in the burden of proof in IPR proceedings justify Ancora’s more-cautious interpretation of the claims in this matter. *See Novatis AG v. Noven Pharms., Inc.*, 853 F.3d 1289, 1294 (Fed. Cir. 2017). And applying prosecution history disclaimer here does not unfairly prejudice Petitioners. In the district court, “statements made by a patent owner during an IPR proceeding, whether before or after an institution decision, can be considered for claim construction and relied upon

to support a finding of prosecution disclaimer.” *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1362 (Fed. Cir. 2017).

C. “Agent” Is Properly Interpreted to Require an OS-Level Software Program or Routine in View of the ’941 File History

As discussed in the Response, disavowal of claim scope can be shown by the applicant’s actions during prosecution of a patent, particularly when the examiner accedes to the applicant’s position. (POR 31–32 (citing *Rembrandt Wireless Techs., LP v. Samsung Elecs. Co., Ltd.*, 853 F.3d 1370, 1376 (Fed. Cir. 2017); *Kaken Pharma. Co., Ltd. v. Iancu*, 952 F.3d 1346, 1354 (Fed. Cir. 2020).) None of Petitioners’ comments about the prosecution of the ’941 patent change the remarks offered by the applicants or the examiner. (See Reply 3–4.) And Petitioners’ appeal to extrinsic comments by the inventor, Ancora, or Ancora’s expert merits little or no weight relative to the prosecution history. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005) (extrinsic evidence is generally “less reliable than the patent and its prosecution history”). Petitioners’ “purported novelty” arguments are particularly unreliable given their lack of context—citing for example the district court’s wholly irrelevant discussion of “first non-volatile memory area of the computer.” (*Compare* Ex. 1020 at 14–18 *with* Reply 4–5 (citing Ex. 1020 at 18).) Lastly, Petitioners’ summary of the ’941 patent prosecution history does not contradict the way the Response characterized the history and the relevant references. (See POR 12–14 (Misra), 14–16 (Ewertz), 34 (applicants’ remarks).)

The *GE Lighting* case cited in the Reply is factually differentiable because there, the district court erred by limiting the scope of the disputed term based on the single embodiment disclosed in the specification. *GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1308–09 (Fed. Cir. 2014).

Here, as discussed in Ancora’s Response, both the applicants and the examiner entered remarks that require a narrower interpretation of “agent.” (POR 34–35.) The remarks in applicants’ February 5, 2002 amendment were clearly and unmistakably aimed at the function of the claimed agent—not the “selecting,” “verifying,” or “acting on” steps recited in the claims. Applicant argued that the cited references “do not teach or suggest, among other things, **storing a verification structure**, such as a software license information, in the BIOS of a computer as is recited in the present claim.” (Ex. 2011 at ANCC000151 (emphasis added).) Applicant secondly argued that there was no motivation to combine the cited references because “BIOS and OS level programs are normally mutually exclusive,” making it undesirable to combine the BIOS routines in Ewertz with Misra’s OS level **license generator**. (*Id.* at ANCC000153–54 (emphasis added).) Third, applicant argued that the invention proceeded against conventional wisdom in the art because “[t]here is no OS support whatsoever to **write** data to the system BIOS” and because the lack of a file system associated with the BIOS “is further evidence that OS level application programmers would not consider the BIOS as a **storage medium** for

license data.” (*Id.* at ANCC000154 (emphasis added).) Fourth, applicant argued that “it is clear that Misra teaches away from using the BIOS as a local ***storage area*** for licenses.” (*Id.* at ANCC000155 (emphasis added).)

The fact that the word “agent” is unstated in the February 5, 2022 amendment does not change the thrust of applicant’s arguments. After filing that amendment, applicants interviewed the examiner and agreed to further amend claim 20 (claim 18 in the ’941 patent) to add “agent.” (*Id.* at ANCC000160 (noting interview on Feb. 19, 2002).) As noted in Ancora’s Response (POR 34–35), the examiner’s reasons for allowance explained that the cited references “do not teach licensed programs running at the OS level ***interacting with a program verification structure*** stored in the BIOS” and that “a computer BIOS is not setup to ***manage*** a software license verification structure.” (Ex. 2011 at ANCC000162 (emphasis added).) The examiner further stated that “[t]he present invention overcomes this difficulty by ***using an agent to set up a verification structure*** in the erasable, non-volatile memory of the BIOS.” (*Id.*) Taken as a whole, the examiner’s statement clearly and unmistakably refers to the claimed agent.

The Board should reject Petitioners’ attempt to pin the “OS-level” limitation imposed by the prosecution history on straw-man “verifying software.” (*See* Reply 6–7.) “Verifying software” is not expressly recited in any claim in the ’941 patent, as Petitioners acknowledge. (Reply 6.) And the Reply fails to identify a single

instance where “verifying software” appears in the written description or the file history—in fact it does not. (*See* Ex. 1001; Ex. 2011.) As discussed in Ancora’s Response, the Federal Circuit used “verifying software” as shorthand to distinguish “to-be-verified software” when discussing claim construction arguments related to the “to-be-verified software.” (POR 35–36 (discussing *Ancora Techs., Inc. v. Apple, Inc.*, 74 F.3d 732, 735–36 (Fed. Cir. 2014)).) Further, the prosecution history explicitly contradicts Petitioners’ argument that only the “verifying software” must be OS-level, or that the examiner did not tie OS-level implementation to the agent. As emphasized above, the examiner noted the importance of the OS level interacting with a program verification structure and further explained that the Claim 1 embodiment overcame the art “by using an **agent** to set up a verification structure.” (Ex. 2011 at ANCC000162 (emphasis added).) The examiner likewise noted that independent claim 20 (claim 18 in the issued ’941 patent) overcame the prior art “by utilizing an **agent** to verify the application software program using the license information stored in the erasable, writable, non-volatile memory of the BIOS.” (*Id.* at ANCC000163 (emphasis added); *see also* Ex. 1071 at 17–18.)

Even if the examiner’s remarks related only to “verifying software,” Petitioners have not identified any reason why the remarks do not **also** require the agent used by the verifying software to be OS-level. As discussed above, the examiner’s remarks explicitly discuss the agent in the context of setting up the

verification structure. (Ex. 2011 at ANCC000162–63.) Requiring an OS-level agent also comports with the disclosure of the '941 patent. Dr. Martin's uncontradicted testimony establishes that the E²PROM manipulation commands disclosed in the '941 patent describe OS-level activity. (Ex. 1035 136:8–138:17; *see* Ex. 1001 1:65–2:9.)

D. The Meaning of “OS-Level” Is Reasonably Certain

The Reply argues in passing that Dr. Martin articulated several interpretations of “OS-level” at his deposition, without citing a single instance and without articulating any reason this would matter. (Reply 8.) But “absolute precision is unattainable” in patented claims. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). Dr. Wolfe, allegedly applying the knowledge of one skilled in the art, evaluates Hellman under the “varying criteria” articulated by Dr. Martin. (Ex. 1033 ¶¶27–41.) In short, the exact meaning of OS level is a non-issue.

I. NEITHER HELLMAN NOR CHOU NOR THE ALLEGED COMBINATION DISCLOSES USING AN AGENT TO SET UP A VERIFICATION STRUCTURE IN THE ERASABLE, NON-VOLATILE MEMORY OF THE BIOS

The crux of the asserted Grounds is that Hellman—which does not disclose a BIOS, an operating system, or any software routine or program (OS level or otherwise) that sets up a verification structure in the memory of the BIOS—would have rendered the claims obvious in view of Chou. The Petition and Institution Decision assert that Chou teaches storing sensitive information in the BIOS

EEPROM to reduce the risk of *tampering* with that information. (*E.g.*, Pet. 32; ID 16–17 & 26.) But Chou teaches, at most, a means for password protection that cannot be defeated by removing CMOS RAM power. (POR 52–53; Ex. 2018 ¶¶191–92.) Chou discloses an attack that deleted data stored in CMOS RAM on prior art devices, by removing power from the RAM. (Ex. 1005 1:54–62.) Chou’s design beneficially stores data in *non-volatile* EEPROM that happens also to store the BIOS. Chou does not contemplate any other type of attack that could delete its password information and does not disclose any attack that would *modify* password information. Further, Chou discloses only storing a password for use by BIOS routines that run at *startup*; including SETUP mode 105. (*Id.* 8:42–61, FIG. 10.) Petitioners attempt to fill the gaps in the express disclosures of Hellman and Chou with a series of improper hindsight arguments that follow the roadmap provided by ’941 patent’s claims, as discussed below.

A. Hellman Discloses Hardware Used to Store License Records In an EEPROM, and Replacing Hellman’s Hardware with Software Would Not Have Been Obvious

The Petition alleged that “the update unit 36 and the authorization and billing unit 13 *were both implemented* in software or a combination of software and hardware.” (Pet. 41 (citing Ex. 1003 ¶¶137–138A).) Dr. Wolfe’s original declaration never supported this theory, and instead conceded that Hellman does not explicitly teach a software-based implementation of update unit 36. (POR 60 (citing Ex. 1003

¶¶137 & 138A).) Ancora’s Response, supported by Dr. Martin, further explained why Hellman’s update unit 36 must be understood as hardware. (POR 60; Ex. 2018 ¶¶164–71.) In their Reply, Petitioners seemingly concede that Hellman does not disclose a software-based update unit 36. (*See* Reply 9.)

The Reply now argues that a skilled artisan “would have been motivated” to change the implementation of the update unit 36, shifting to a pure obviousness argument. Ancora’s Response specifically addressed Petitioners’ sole asserted motivation, relating to “changes in implementation logic” in Hellman’s update unit 36. (POR 61 (citing Ex. 2018 ¶¶174–75).)

None of Petitioners’ and Dr. Wolfe’s new obviousness arguments satisfy Petitioners’ burden to articulate a non-hindsight reason for modifying Hellman. First, the fact that “any computer” includes hardware is irrelevant. (*See* Reply 9; Ex. 1033 ¶19.) The discussion here must focus on the reasons for replacing Hellman’s switch 41, wire, and factory seals or paint—the ones used to prevent users from accessing Hellman’s hardware-based license management system.

Second, Ancora’s Response did not argue that Hellman lacks a processor—contrary to the Reply’s characterization. (*See* Reply 10.) Instead, the Response explained that Hellman’s software player 42 is *incompatible* with Petitioners’ proposed combination because the software player 42 is inactive before the update unit verifies the available values of “M.” (POR 60; Ex. 1004 10:44–54.) The Reply

ignores these facts. Hellman does not disclose any processor other than the software player 42 that could run a software version of the update unit 36. This is fatal, by itself, to Petitioners' theory of obviousness.

Third, the Reply argues that security risks associated with implementing Hellman's update unit 36 in software could have been mitigated. (Reply 11 (citing Ex. 1033 ¶¶22–23).) Dr. Wolfe cites a laundry list of tools that he now alleges would manage these security risks. (Ex. 1033.) This reiterates Dr. Martin's analysis. (Ex. 2018 ¶¶174–75.) The Reply's arguments about "routine modifications" and the "normal desire of artisans to improve" (Reply 11) are little more than window dressing for Dr. Wolfe's hindsight analysis of Hellman. Notably, Dr. Wolfe does not analyze the costs of his alleged software security tools, as compared to the alleged benefit of allowing the provider of the base unit to change the implementation logic.

Lastly, the Reply sticks to Dr. Wolfe's conclusory argument that update unit 36 "would have" been implemented as software. (Reply 11–12.) As discussed in Ancora's Response, Dr. Wolfe's declaration was littered with equivocal statements, which fail to establish any motivation for modifying Hellman's undisputedly hardware-based update unit 36. (POR 59–60.)

B. Hellman Does Not Disclose Any Operating System, Nor Would the Asserted Combination Render the Claimed Agent Obvious

Petitioners further argue that it would have been obvious in view of Hellman's and Chou's teachings to replace Hellman's hardware with *OS level* software

programs or routines to write Hellman's value "M" into Chou's BIOS memory EEPROM. As a first matter, this proposed combination is directly analogous to the art that applicants overcame during prosecution. Hellman (POR 37–43; Ex. 1004) is to Ginter (POR 8–9; Ex. 2019) and/or Misra (POR 12–14; Ex. 2014) as Chou (POR 43–46; Ex. 1005) is to Ewertz (POR 14–16). Neither the Reply nor Dr. Wolfe challenges Ancora's characterization of these references. (*See* Reply; Ex. 1033.) Like the art cited during prosecution, Hellman and Chou "singly or collectively, do not teach licensed programs running at the OS level interacting with a program verification structure stored in the BIOS to verify the program using the verification structure and having a user act on the program according to the verification." (*See* POR 19 (quoting Ex. 2011 ANCC000162).)

Petitioners and Dr. Wolfe assume that Hellman's computer would necessarily be a *general purpose desktop computer* like an ordinary *PC*, such that it would have an operating system. (Reply 12; Ex. 1033 ¶28.) They offer no basis for these logical leaps. Dr. Wolfe equivocated at his deposition, where he testified that "[t]here were certainly things that ran an ordinary Intel microprocessor on an ordinary Intel mother board that did not run an operating system" and further that "there are all kinds of computers for home use." (Ex. 2026 33:7–25.) Nevertheless, his reply declaration relies on his own testimony that he "would assume" a computer has an operating system. (Ex. 1033 ¶28 (quoting *his own* testimony at Ex. 2026 31:24–25).) Further,

the fact that operating systems were known has no bearing on whether Hellman's "computer" would have used an operating system.

Hellman does not disclose any specific software that would have been understood to operate at the OS level, unlike the '941 patent. The Reply argues that Hellman's update unit 36 "uses system resources," which consequently require the software package and the player to run at the OS level. (Reply 13 (citing Ex. 1033 ¶¶30–31).) Dr. Wolfe assumes first that Hellman's update unit 36 is implemented as software. (Ex. 1033 ¶30.) This assumption relies on his improper, equivocal argument that update unit 36 *could be* performed in software. (POR 60–61.) Likewise, Dr. Wolfe argues Hellman's software player 42 uses "operating system resources," analogizing to Dr. Martin's testimony about the '941 patent. (Ex. 1033 ¶30.) But Dr. Martin's testimony identified the '941 patent's disclosure of Lotus 1-2-3 software, which he recognized as running on an operating system. (Ex. 1035 98:4–99:7, 102:20–103:8, 105:11–106:11.) Dr. Wolfe has no such evidence for Hellman.

The Reply confuses association with causation, arguing that a program accessing and modifying data in non-volatile memory is necessarily one that operates at the OS level. (Reply 13.) Ancora's arguments about "E²PROM manipulation commands" in the context of the '941 patent have no bearing on whether Hellman discloses an operating system. The '941 patent explicitly discloses

Lotus 1-2-3 software known to run on an operating system. (Ex. 1001 2:27–32; 5:29–34.) Hellman has no similar disclosure or any suggestion that its computer includes an operating system. Therefore, “E²PROM manipulation commands” are evidence of the claimed OS-level agent disclosed in the ’941 patent, but not evidence of an operating system in Hellman’s computer.

Even if one assumes that Hellman disclosed a general-purpose desktop computer or PC, with an operating system, and even if one further assumes the software player 42 is a microprocessor, neither Petitioners nor Dr. Wolfe offer any basis for assuming that software package 17 is OS level software. Neither Hellman nor Chou motivates or otherwise discloses a reason for applying Hellman’s disclosure to verify software running at the OS level. In Chou, the verification is performed “before the computer BIOS routines can be completely executed.” (Ex. 1005 Abstract; *see also id.* 3:60–62, 4:1–5 (“If the user is not verified as authorized, the BIOS routines will not be completely executed, rendering the computer inoperative”).) This comports with Hellman’s disclosures that update unit 36 either sends or does not send a control signal such that switch 41 “*activates* software player 42.” (Ex. 1004 10:44–54.)

C. The Reply Does Not Redeem Petitioners’ Failed Motivation to Combine Arguments

1. Petitioners’ Reply Fails to Resurrect the Petition’s Flawed Motivation to Modify Hellman’s EEPROM

Ancora’s Response identified flaws in each of Petitioners’ reasons to combine (POR 52–54). The Reply argues Ancora misapprehended its theory of the combination and implies that the analysis differs if the proposed combination implemented Hellman’s existing EEPROM as BIOS memory. It does not.

First, the analysis of whether Chou’s BIOS would be implemented on Hellman’s EEPROM is the same as the analysis of whether to use Chou’s BIOS memory in place of Hellman’s EEPROM. The question in both instances is whether it would have been obvious to place the information from Hellman’s EEPROM into a single EEPROM alongside Chou’s BIOS. Petitioners maintain that Hellman’s “purpose of tamper-prevention” motivates the modification, but fail to cite any teaching in Hellman or Chou to suggest a “risk of disabling the entire computer” as a result of tampering. (*See* Reply 17.) The cited portion of Hellman (Ex. 1004 4:22–26) does not discuss tamper prevention, only controlling the number of times a piece of software is used. The cited portion of Chou (Ex. 1005 3:55–60) discusses the benefits of using BIOS *routines* to implement a security function 25—not any benefits of storing *information* in BIOS memory. Similarly, the cited portions of Dr.

Wolfe’s supplemental declaration (Ex. 1033 ¶¶49, 56) ultimately rely on a single passage from Chou (Ex. 1005 1:63–2:7) that does not support this contention.

Second, while Hellman discloses a single EEPROM chip, this offers no basis for assuming that the modified Hellman would use only a single, combined EEPROM. And Dr. Wolfe’s declaration undisputedly allows for “less than five” EEPROM modules in a computer. (Ex. 1003 ¶114.) This allows for the addition of at least one extra EEPROM for storing BIOS routines and data in Hellman’s single EEPROM device. The fact that certain computers from a single supplier might have only one EEPROM has little bearing in the context of Hellman’s specialized license control hardware.

Third, Petitioners fail to show that Hellman or Chou disclose or suggest a “risk of disabling the entire computer” as a result of tampering, for all of the reasons discussed above.

Fourth, Ancora’s analysis of Petitioners’ alleged “economic and operational efficiencies” would also be the same regardless of whether Chou’s BIOS would be implemented on Hellman’s EEPROM or Chou’s BIOS memory would be used in place of Hellman’s EEPROM. The Reply argues that a POSA would have been motivated to reduce the overall cost of the implementation (Reply 19), but it continues to ignore Schneck’s teachings regarding the benefits of a separate hardware-protected access mechanism (*see* POR 54; Ex. 1006 15:51–63). The value

of such security functions could reasonably outweigh the cost of an EEPROM chip. (POR 54.)

2. The Reply Fails to Establish a Motivation for Value “M” in Chou’s BIOS Memory

The Reply fails to identify any portion of the Petition that asserted Hellman’s license values M would have been stored *within* Chou’s BIOS as incorporated into Hellman’s EEPROM, and instead relies on Dr. Wolfe’s new declaration and a series of new arguments. (Reply 19–20.) The data disclosed by Hellman plausibly would have been stored separate from the BIOS in a combined system. No “contortion” is needed to expose the lack of reasoning in the Petition, which is the same failure the Office has identified in past IPR and reexamination proceedings. (*See* Response 55–56.) Petitioners’ attempt to add arguments through the Reply about “Chou’s teaching” is improper and untimely. *See* 37 C.F.R. § 42.23.

D. Petitioners’ Supplemental “Verification Structure” Arguments Did Not Appear in the Petition or the Supporting Wolfe Declaration

The Reply relies on a new theory that Hellman disclosed a “table” stored in non-volatile memory 37, rather than the “memory structure” of non-volatile memory 37. (*Compare* Pet. 41 *with* Reply 14–15.) In support, the reply cites six paragraphs of supplemental declaration testimony from Dr. Wolfe. (Reply 15 (citing Ex. 1033 ¶¶42–47).) The Board should restrict Petitioners to the theories raised in the Petition. *See* 37 C.F.R. § 42.23.

II. PETITIONERS' MODIFIED HELLMAN, ASSERTED AGAINST DEPENDENT CLAIMS 3, 8, 9, AND 14, RELIES ON THE '941 PATENT AS THE ROADMAP FOR SELECTING A SINGLE SPECIFIC EMBODIMENT IN A PARTICULAR WAY

Petitioners' improper hindsight cannot support Ground 2, which is uniquely asserted against claims 3, 8, 9, and 14. Because Ancora identified the embodiments of Hellman that would be inoperable as modified, Petitioners now cherry-pick the single embodiment that *could be* so modified. (*See* Reply 21–22.) Petitioners' analysis creates an improper “mosaic” that attempts to recreate “a facsimile of the claimed invention.” *Akzo N.V. v. United States ITC*, 808 F.2d 1471, 1481 (Fed. Cir. 1986).

As discussed in Ancora's Response, Hellman discloses many embodiments of the authorization A. (POR 64–65 (“one-way hash” versus “encrypted,” and “limited use” versus “unlimited use”).) The Petition did not distinguish among these embodiments except to note that storing the encrypted authorization A would be “*especially* useful,” and that a “POSA would have been *especially* motivated” when an unlimited number of uses was licensed. (Pet. 48 & 51.) The Reply now implicitly acknowledges that storing authorization A would *only* be useful in the unlimited use embodiment and only if not generated using a one-way hash. (Reply 21–22.) But neither Petitioners nor Dr. Wolfe offer a basis for selecting this embodiment, except that it *could work*. At most, Dr. Wolfe discusses the heightened risk associated with

storing the special value indicating unlimited uses. (Ex. 1003 ¶143.) The Board must reject this rationale.

III. OBJECTIVE EVIDENCE OF NON-OBVIOUSNESS

A. The Joint Press Release Establishes Industry Praise

The Reply fails to acknowledge that Exhibit 2027 was a *joint* press release between AMI and Ancora, making its authorship irrelevant. (*See* Reply 23–24.) In contrast to “self-serving statements” in *Cree*, the joint press release quotes AMI’s president as recognizing “great value” in BIOS based security products, clearly referencing “BIOS based security products utilizing Ancora’s Platform Security Anchor™ (PSA) technology (as described in US Patent 6,411,941).” (Ex. 2027.) The press release and the Alliance Agreement both explicitly and exclusively reference the ’941 patent, making their nexus to the patent clear. (Ex. 2029 at 1; Ex. 2027.) Further, Mr. Mullor testified that AMI invested in the development of a product under the Alliance Agreement, which embodied the ’941 patent. (Ex. 1034 92:15–95:17; *see also id.* 51:22–53:2; 62:13–63:10.) This collective AMI evidence is indisputably shows industry praise of the ’941 patent.

B. Additional Settlement Agreements Show the Value of the ’941 Patent

In response to the Board’s order compelling Ancora to produce all of its license agreements (Paper 29), Ancora produced additional agreements including [REDACTED]. (Ex. 1050.) As with [REDACTED]

[REDACTED], described in the Response (POR 69–70), [REDACTED]
[REDACTED]. (Ex. 1050 at 4; *see* Ex. 2035 at 6–7.)

Like the [REDACTED] entered the agreement late in litigation (Ex. 1050 at 13–14), after the parties jointly filed a motion to stay the case [REDACTED] (Ex. 2048; Ex. 2049). The '941 patent was the sole patent at issue, and [REDACTED]
[REDACTED]
[REDACTED].

C. Settlements for Less Than the Cost of Litigation Have No Value When Evaluating Commercial Success of the '941 Patent

Petitioners cite no caselaw finding that low-dollar license agreements can *detract* from an otherwise strong showing of objective indicia of non-obviousness. (*See* Reply 25–26.) The Federal Circuit has repeatedly held that settlements for less than the cost of litigation have no bearing on the obviousness analysis. *See Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1324 (Fed. Cir. 2004); *Cole Kepro Int'l, LLC v. VSR Inds., Inc.*, 695 Fed. Appx. 566, 572 (Fed. Cir. 2017) (distinguishing “business decisions to avoid litigation, [] prior business relationships, or [] other economic reasons”); *cf. Transocean Offshore Deepwater Drilling, Inc. v. Maersk Drilling USA, Inc.*, 699 F.3d 1340, 1353 (Fed. Cir. 2012) (crediting arguments that “large, sophisticated companies would not pay royalties

exceeding the cost of litigation if the royalty did not reflect the value of the licensed technology”).

Petitioners have not cited any evidence showing that Ancora settled either the TCL or the Sony case for less than the maximum damages it could have recovered, subtracting litigation costs. Petitioners know that Ancora cannot respond substantively without divulging confidential information from those case. The Board should not countenance Petitioners’ attempt to hide behind the Sony and/or TCL protective orders.

Ancora’s Response cites two licenses, and a third is described above, each entered late in the litigation and substantially outstripping typical litigation expenses. (See POR 69–70.) Petitioners do not identify any evidence showing that these agreements were entered for reasons other than the strength of the ’941 patent. (See Reply 25.) Ancora entered multiple such settlement agreements with amounts that are multiple times the typical costs of litigation, which demonstrates a clear nexus to the ’941 patent. (See POR 69–70.) [REDACTED]

[REDACTED]

[REDACTED]

Petitioners’ irrelevant speculation and inuendo cannot overcome Ancora’s black and white evidence showing the strength of the ’941 patent.

IV. CONCLUSION

For the foregoing reasons, the Board should find the challenged claims of the '941 patent not invalid.

Respectfully submitted,
FITCH EVEN TABIN & FLANNERY LLP

Dated: August 29, 2022

By: /David A. Gosse/
David A. Gosse
Registration No. 61,511
dgosse@fitcheven.com

120 South LaSalle Street
Suite 2100
Chicago, Illinois 60603
(312) 577-7000
(312) 577-7007 (fax)

CERTIFICATE OF WORD COUNT

The undersigned hereby confirms that the foregoing Sur-Reply complies with the type-volume limitation of 37 C.F.R. § 42.24(c)(4). Excluding the items listed in 37 C.F.R. § 42.24(c) as not included in the word count, this patent owner sur-reply contains 5,485 words, calculated by the word-processing system used to prepare it.

Dated: August 29, 2022

By: /David A. Gosse/
David A. Gosse
Registration No. 61,511
dgosse@fitcheven.com

120 South LaSalle Street
Suite 2100
Chicago, Illinois 60603
(312) 577-7000
(312) 577-7007 (fax)

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on August 29, 2022, a complete and entire copy of the PATENT OWNER SUR-REPLY, was served via electronic mail to the attorneys listed below at their respective electronic mail addresses:

Lead Counsel	Back-up Counsel
Jon Wright, Reg. No. 50,720 jwright-PTAB@sternekessler.com (202) 772-8651 STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C	Lestin Kenton, Reg. No. 72,314 lkenton-PTAB@sternekessler.com (202) 772-8594 Dohm Chankong, Reg. No. 72,314 dchankong-PTAB@sternekessler.com (202) 772-8529 STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C

Dated: August 29, 2022

By: /David A. Gosse/
David A. Gosse
Reg. No. 61,511
dgosse@fitcheven.com
Nicholas T. Peters
Reg. No. 53,456
ntpete@fitcheven.com
Karen J. Wang
Reg. No. 62,503
kwang@fitcheven.com
FITCH, EVEN, TABIN & FLANNERY LLP
120 South LaSalle Street, Suite 2100
Chicago, IL 60603
(312) 577-7000
(312) 577-7007 (fax)
Attorneys for Patent Owner