

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

Samsung Electronics Co., Ltd.,
Petitioner,

v.

One-E-Way, Inc.,
Patent Owner.

Case: IPR2025-01541
U.S. Patent No. 9,107,000

**PATENT OWNER ONE-E-WAY, INC.'S
PRELIMINARY RESPONSE**

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EXHIBIT LIST
Previously Filed (Petitioner)

Ex.	Description
1001	U.S. Patent No. 9,107,000 to Woolfork (“’000 patent”)
1002	File history of U.S. Application No. 13/356,949, filed January 24, 2012 (“the 2012 application”)
1003	File history of U.S. Application No. 10/027,391, filed December 21, 2001 (“the 2001 application”), as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1003
1004	U.S. Publication No. 2003/0118196 (“the ’196-Publication”), as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1004
1005	File history of U.S. Application No. 10/648,012, filed August 26, 2003 (“the 2003 application”), as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1005
1006	U.S. Patent No. 7,412,294, as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1006
1007	Excerpts from file history of U.S. Application No. 12/144,729, filed July 12, 2008 (“the 2008 application”), as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1007
1008	Comparison of the 2003 application as-filed with the 2001 application as-filed, as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1008
1009	Comparison of figures from the 2003 and 2001 applications as filed, as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1009
1010	Comparison of the ’294 patent with the as-filed 2003 application, as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1010
1011	Comparison of the 2008 application as-filed with the 2018 application as-filed
1012	Declaration of Michael Davies
1013	<i>One-E-Way, Inc. v. Apple Inc.</i> , No. 2:20-cv-06339, Dkt. 86 (C.D. Cal. Mar. 9, 2022) (“Apple Markman order”)
1014	<i>In the Matter of Certain Consumer Elecs. And Display Devices with Graphics Processing and Graphics Processing Units Therein</i> ,

Ex.	Description
	337-TA-943, Order 12 (ITC July 24, 2015) (“ITC <i>Markman</i> order”)
1015	U.S. Patent No. 6,744,808 (“Walley”)
1016	U.S. Patent No. 5,546,424 (“Miyake”)
1017	Reserved
1018	“Wireless Communications: Principles & Practice” by Theodore S. Rappaport (1996) (“Rappaport”)
1019	Reserved
1020	Reserved
1021	U.S. Patent No. 6,256,303 (“Drakoulis”)
1022	“The Communications Handbook” (1997) by Jerry D. Gibson (“Gibson”)
1023	One-E-Way’s Opening Claim Construction Brief <i>One-E-Way, Inc. v. Apple Inc.</i> , 2:20-cv-6339-JSK-PD (D.I. 65) (C.D. Cal. Dec. 6, 2021)
1024	Order Re Motion For Summary Judgment of Non-Infringement (“ <i>Apple</i> Summary Judgment Order”) <i>One-E-Way, Inc. v. Apple Inc.</i> , 2:20-cv-6339-JSK-PD (D.I. 102) (C.D. Cal. June 15, 2022)
1025	Library of Congress Record for “Wireless Communications: Principles & Practice” by Theodore S. Rappaport (1996)
1026	U.S. Patent No. 5,933,421
1027	Library of Congress Record for “The Communications Handbook” (1997)
1028	U.S. Patent No. 5,953,669
1029	Opinion Affirming <i>Apple</i> Summary Judgment Order <i>One-E-Way, Inc. v. Apple Inc.</i> , 2022-2020 (D.I. 32) (Aug. 14, 2023)
1030	<i>Curriculum Vitae</i> , Michael Allan Martin Davies

Currently Filed (Patent Owner)

Ex.	Description
2001	One-E-Way, Inc.'s webpage available at http://one-e-way.com/
2002	One-E-Way, Inc.'s webpage available at http://one-e-way.com/about-us/
2003	Image of the packaging for One-E-Way, Inc.'s E-Clip Series products available at https://www.walmart.com/ip/E-Clip-Series-Headphone-Transmitter-Bundle/447919826
2004	Certified letter from One-E-Way, Inc. to Samsung Electronics dated April 10, 2020.
2005	Letter from Samsung Electronics Co., Ltd. to One-E-Way, Inc. dated April 22, 2020
2006	Excerpts from the file history of Petitioner's U.S. Application No. 12/565,909
2007	Order Granting Defendants' Motion to Stay Pending IPR in <i>One-E-Way, Inc. v. Dell Techs. Inc., et al.</i> , 1:24-cv-01558-RP (LEAD) (Dkt. 89)
2008	Scheduling Order in <i>One-E-Way, Inc. v. Dell Techs. Inc., et al.</i> , 1:24-cv-01558-RP (LEAD) (Dkt. 42)
2009	Preliminary Invalidity Contentions "Cover Document" of Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. and a Consolidated Co-defendant served in <i>One-E-Way, Inc. v. Dell Techs. Inc., et al.</i> , 1:24-cv-01558-RP (LEAD) on August 14, 2025
2010	U.S. Patent No. 10,129,627 to Woolfork ("627 patent")
2011	C. Rudell <i>et al.</i> , "Recent Developments in High Integration Multi-Standard CMOS Transceivers For Personal Communication Systems," <i>Proceedings. 1998 International Symposium on Low Power Electronics and Design (IEEE)</i>
2012	Neil McManus, <i>NEWS WATCH: HEAD PHONES; Juggle Music and Calls With Ease</i> , The New York Times (July 29, 2004)
2013	Photograph of BlueTake's i-Phono BT420 stereo headphones purchased in 2004 with the internal chipset exposed and a advertising image from BlueTake of the same product
2014	GCT Semiconductor, Inc., <i>Direct conversion CMOS RF Receiver datasheet</i> , (2001)

2015	“Data and Computer Communications Networking and Internetworking” (2001) by Hura <i>et. al</i>
2016	“Spread Spectrum Systems with Commercial Applications (3 rd Edition)” (1994) by R. Dixon
2017	“Digital Communication Techniques: Signal Design and Detection” (1994) by M. Simon <i>et. al</i>
2018	Texas Instruments Inc., <i>The Design and Demonstration of an Advanced Data Collection/Position Locating System</i> (1978)
2019	“Modulated Coding for Intersymbol Interference Channels” (2001) by Xiang-Gen Xia
2020	“The Communications Handbook” (1997) by Jerry D. Gibson (“Gibson”)

I. INTRODUCTION

Patent Owner One-E-Way, Inc. (“Patent Owner” or “OEW”) respectfully submits this Patent Owner Preliminary Response in response to Samsung Electronics Co., Ltd.’s (“Petitioner”) Petition for Inter Partes Review of Claims 1-5, 8-12 of U.S. Patent No. 9,107,000 (the “Petition”). It is being timely filed on or before December 30, 2025. 37 C.F.R. §§ 42.107(b). OEW respectfully requests that the Director deny institution of a trial with respect to all of the claims of United States Patent No. 9,107,000 (the “’000 patent” or “Challenged Patent”).

The Board should exercise its discretion and deny institution for the reasons set forth in the Patent Owner Discretionary Denial Brief filed November 21, 2025. *See* Paper 6. Even if the Board determines under its discretion that it should institute review, which the Board should not, the Board should deny the Petition because Petitioner is not reasonably likely to prevail on any Challenged Claim.

Petitioner’s attempt to use Patent Owner’s own publication as invalidating prior art in Ground 1 is based on an incorrect interpretation of the rules regarding new matter and is counter to clear guidance from the Federal Circuit on the issue. Tellingly, for Grounds 2-4, Petitioner has found no reference that anticipates the Challenged Claims. Instead, Petitioner attempts to cobble together multiple pieces of prior art that a POSA would not have been motivated to combine and that fail to disclose critical elements of the Challenged Claims regardless. All grounds to

institute review should be denied.

II. BACKGROUND OF THE INVENTION AND OVERVIEW OF THE CHALLENGED PATENT

A. DEVELOPMENT OF THE INVENTION

Earl Woolfork is the named inventor of the Challenged Patent. Mr. Woolfork first conceived of his wireless audio inventions in the late 1990's while exercising outdoors at the popular Santa Monica Steps in Los Angeles and noticing how many people were having trouble with the wires connecting their audio players to their headsets. Using his background in electrical engineering, Mr. Woolfork set out to create an invention that would allow people to enjoy high quality music without the complications of wires. Consequently, Mr. Woolfork conceived of a mobile audio transmitter and separate mobile receiver that directly communicated using radio signals to provide high quality audio data. Mr. Woolfork assigned the resulting patent rights to his company established in 2004, One-E-Way, Inc.,¹ where he is the Founder and CEO.

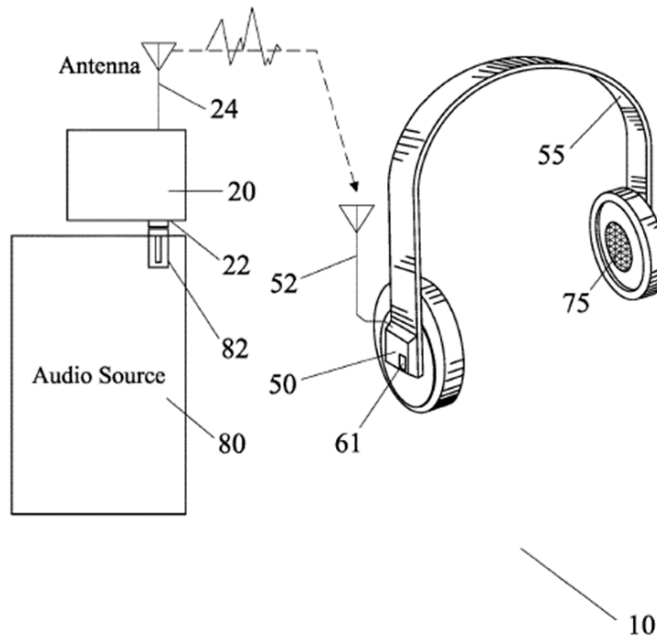
OEW is a family-run business that worked to commercialize Mr. Woolfork's inventions for nearly two decades. OEW faced tremendous business adversity and lacked the access and connections within the industry's distribution channels that naturally catered to the larger electronics companies but was nonetheless able to

¹ <http://one-e-way.com/about-us/>.

release a product and achieve some modest sales. In parallel with its commercialization efforts, OEW has been able to sustain itself through successful litigation and licensing efforts with major international electronics companies. OEW has now successfully enforced and licensed its patents, including through an action at the International Trade Commission, with the some of the most respected names in international consumer audio, such as Sony, Sennheiser, and GN Netcom.

B. EMBODIMENTS OF THE INVENTION

The Challenged Patent is generally directed to a wireless digital audio system. EX1001 at 1:55-61. The patent’s focus on a wireless audio system, including a transmitter and a headphone, is represented in Figure 1, which is described as “a wireless digital audio system in accordance with the present invention and shows the transmitter and receiver communicating directly:



Id. at Fig. 1 and 2:15-16. The patent discloses techniques to improve listening quality while reducing interference in order to provide private listening. The patent explains that, even when multiple such systems operate in a shared space, “[e]ach receiver headphone 50 user may be able to listen (privately) to high fidelity audio music, using any of the audio devices listed previously, without the use of wires, and without interference from any other receiver headphone 50 user, even when operated within a shared space.” *Id.* at 3:34-28. This is achieved through a series of disclosed components within the system’s claimed transmitter and/or receiver.

C. PROSECUTION HISTORY

Each application in the Challenged Patent’s family properly claims priority to the prior applications in the chain. This is undisputed.

1. The 2001 Application

On December 21, 2001, the earliest application to which the Challenged Patent claims priority, entitled “Wireless Digital Audio System,” was filed and assigned U.S. Application No. 10/027,391 (“the 2001 application”). EX1003. As filed, the 2001 application included a 5-page specification, 7 claims, an abstract, and 3 figures. *Id.* at 0004-22.

On June 26, 2003, shortly before abandonment, the 2001 application published as U.S. Publication 2003/0118196 (“the ’196 publication”). EX1004.

2. The 2003 Application

On August 26, 2003, Mr. Woolfork filed a CIP application entitled “Fuzzy Audio Wireless Music System,” assigned U.S. Application No. 10/648,012 (“the 2003 application”). EX1005. As filed, the 2003 application included a 6-page specification, 5 claims, an abstract, and 2 figures EX1005 at 0001-15. When filed, the 2003 application claimed priority to the 2001 application as a CIP.

D. THE PARALLEL DISTRICT COURT LITIGATION

On December 18, 2024, OEW filed a complaint against Petitioner in the Western District of Texas alleging infringement of the ’000 patent and two other related patents from the same family²—U.S. Patent No. 10,129,627 (the “’627 patent”) and U.S. Patent No. 10,468,047 (the “’047 patent”).³

E. PRIOR VALIDITY CHALLENGES

In 2020, Apple Inc. filed five IPR petitions against other member’s of the Challenged Patent’s family in in connection with parallel litigation. *See Apple Inc. v. One-E-Way, Inc.*, No. IPR2021-00283--00287, (P.T.A.B. December 4, 2020). Institution was denied on the merits for all five of Apple Inc.’s petitions because, in

² On the same day, OEW also filed complaints against Dell Technologies Inc. and Dell Inc. (1:24-cv-01558-RP) and Anker Innovations, Ltd., (1:24-cv-01559-RP) in the Western District of Texas which were subsequently consolidated with the case against Petitioner.

³ Petitioner also filed IPR petitions against the ’627 and ’047 patent on September 8, 2025 and September 16, 2025 in IPR2025-01516 and IPR2025-01540, respectively.

part, Apple Inc.’s prior art taught a CDMA system that “depends on a central controller in order to assign codes” so it did not perform CDMA “independent of any central control.” *See id.*, No. IPR2021-00283, Paper 6 at 18 (P.T.A.B. June 11, 2021) (denying institution of Apple Inc.’s petition challenging OEW’s U.S. Patent No. 8,131,391); *id.*, No. IPR2021-00284--00287, Paper 7 at 16 (P.T.A.B. June 11, 2021) (denying institution of Apple Inc.’s four petitions challenging OEW’s ’627 and ’047 patents).

In 2016, Sony Corporation filed IPR2016-01638 against U.S. Patent No. 9,282,396—one of the parent applications of the Challenged Patent—and sought to dispute the priority date of that related patent. *Sony Corp. v. One-E-Way*, IPR2016-01638, Paper 1 (P.T.A.B. Aug. 19, 2016). The IPR was instituted but terminated after oral hearing and before the Board had made a decision on the merits. *Id.*, Paper 12 (P.T.A.B. Feb. 22, 2017); *id.*, Paper 42 (P.T.A.B. Feb. 9, 2018).

IPR2016-01638 was disclosed to the PTO during prosecution of one of the parent patent applications of the Challenged Patent. *See* EX2010 at 2 (“Related U.S. Application Data” for OEW’s ’627 patent). After disclosure of that IPR challenge to the PTO, including copies of the decision on institution and the oral hearing transcript, the PTO has passed multiple continuation applications to issuance over that IPR challenge, including the Challenged Patent. *See* EX1001 (Related U.S. Application Data).

F. THE CLAIMS

Claims 1-5, 8-12 of the '000 patent (the “Challenged Claims”) are directed to specific embodiments of portable spread spectrum audio receivers and transmitters. Claims 1-3, 5, 8-10 are independent. The Challenged Claims are reproduced in full at Pet. at vii-xi.

G. PRELIMINARY CLAIM CONSTRUCTION

Petitioner proposes that six terms be construed according to the constructions adopted in an earlier proceeding involving the Challenged Patent. *See One-E-Way, Inc. v. Apple Inc.*, No. 2:20-cv-06339 (C.D. Cal.) (“the Apple Action”). Specifically, Petitioner proposes the following constructions:

Claim Term	Petitioner’s Requested Construction
“reduced intersymbol interference coding”	“coding that reduces intersymbol (inter-symbol) interference”
The term “independent” in the context of “independent” CDMA communication	“performed independent of any central control”
“unique user code”	“fixed code (bit sequence) specifically associated with one user of a device(s)”
“direct conversion module”	“module for converting radio frequency to baseband or very near baseband in a single frequency conversion without an intermediate frequency.”
“audio source”	“a device for providing audio that has an analog headphone jack”
“transmitter”	“a device that can be connected into an

	analog headphone jack to wirelessly transmit an audio signal”
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For purposes of this Preliminary Response, Patent Owner does not contest the proposed claim constructions. Patent Owner also notes that to the extent the exact form of any claim term above varies slightly from the Challenged Claims, Petitioner’s arguments do not appear to depend on such differences, and any such differences are not material to the arguments in this Preliminary Response.

H. PERSON OF ORDINARY SKILL IN THE ART

Petitioner posits that a person of ordinary skill in the art (“POSA”) of the Challenged Patent would have possessed a

Bachelor of Science degree in electrical engineering or a related field, and approximately two years of experience in the design or implementation of wireless communications systems, or the equivalent. Alternatively, a POSA has approximately six years of experience in the design or implementation of wireless communications systems, or the equivalent.

Pet. at 4-5. For purposes of this Preliminary Response, Patent Owner does not contest this level of skill proposed by Petitioner.

III. OVERVIEW OF THE CITED PRIOR ART

A. ’196 PUBLICATION (EX1004)

Mr. Woolfork’s 2001 application published on June 26, 2003 as U.S. Publication No. 2003/0118196 (“the ’196 publication”). The ’196 publication is not

prior art relative to the Challenged Claims at least because it published after the effective filing date of the Challenged Claims—December 21, 2001. Similarly to the Challenged Patent, the '196 publication is directed to “wireless digital audio systems for transmission of a signal from an audio player device to a headphone.” EX1004, Abstract.

B. WALLEY (EX1015)

Walley is U.S. Patent No. 6,744,808, bearing an issue date of June 1, 2004 and titled “Techniques to Increase Data Transmission Rate of Spread Spectrum Communications Systems.” EX1015. Walley describes improving conventional spread spectrum communications “[b]y building systems in which [sampling rate and spread spectrum code size] variables are not fixed but variable [so] manufacturers can make generic type spread spectrum controllers which can be used in a variety of applications.” *Id.*, Abstract.

C. MIYAKE (EX1016)

Miyake is U.S. Patent No. 5,546,424, bearing an issue date of August 13, 1996 and titled “Spread Spectrum Communication System.” EX1016. Miyake describes improvements to “simplify the management of individual users and individual services” in the context of spread spectrum communication systems. *Id.*, Abstract.

D. RAPPAPORT (EX1018)

Rappaport is an approximately 650-page book titled “Wireless Communications: Principles & Practice” by Theodore S. Rappaport bearing a

copyright date of 1996. EX1018 at 5. Rappaport states that “[t]he purpose of this text is to initiate the newcomer to cellular radio and wireless personal communication.” *Id.* at 14. Rappaport is not a focus of the missing claim elements Patent Owner emphasizes in this Preliminary Response.

E. GIBSON (EX1022)

Gibson is an approximately 1,500-page textbook titled “The Communications Handbook” by Editor-in-Chief Jerry D. Gibson, bearing a copyright date of 1997. EX1012 at 5. Gibson is part of “The Handbook series published by CRC Press [which] represents a truly unique approach to disseminating technical information.” *Id.* at 6. Gibson notes nearly 150 contributors to its contents and the various chapters are written by different authors that “are experts in their field.” *Id.* at 6, 11-14. Gibson is not a focus of the missing claim elements Patent Owner emphasizes in this Preliminary Response.

F. DRAKOULIS (EX1021)

Drakoulis is U.S. Patent No. 6,256,303, bearing an issue date of July 3, 2001. Drakoulis is not a focus of the missing claim elements Patent Owner emphasizes in this Preliminary Response.

IV. PETITIONER’S GROUNDS

Petitioner presents four Grounds for *inter partes* review based on a total of six references:

Exhibit	Reference	Shorthand Name
EX1004	U.S. Publication No. 2003/0118196 (“the ’196 publication”), as originally filed in <i>Sony Corp. v. One-E-Way, Inc.</i> , IPR2016-01638 as Exhibit 1004	’196 publication
EX1018	“Wireless Communications: Principles & Practice” by Theodore S. Rappaport (1996)	Rappaport
EX1015	U.S. Patent No. 6,744,808	Walley
EX1016	U.S. Patent No. 5,546,424	Miyake
EX1022	“The Communications Handbook” (1997) by Jerry D. Gibson	Gibson
EX1021	U.S. Patent No. 6,256,303	Drakoulis

The four Grounds are:

Ground	References	Basis	Challenged Claims
1	Rendered obvious by ’196 publication (EX1004) in view of Gibson (EX1022)	§ 103	1-5, 8-12
2	Rendered obvious by Walley (EX1015) in view of Miyake (EX1016) and Gibson (EX1022)	§ 103	1-5, 8-10
3	Rendered obvious by Walley (EX1015) in view of Miyake (EX1016), Gibson (EX1022), and Rappaport (EX1018)	§ 103	11-12
4	Rendered obvious by Walley (EX1015) in view of Miyake (EX1016), Gibson (EX1022), Rappaport (EX1018), and Drakoulis (EX1021)	§ 103	1-5, 8-12

V. **PETITIONER'S GROUND 1 MUST FAIL BECAUSE THE CHALLENGED CLAIMS HAVE A 2001 PRIORITY DATE**

Ground 1 is fundamentally flawed and must fail due to its reliance on the '196 publication. The '196 publication is not prior art relative to the Challenged Claims because the Challenged Claims are entitled to a priority date of December 21, 2001, the date on which the 2001 application was filed. Petitioner is incorrect that Patent Owner's amendments to the 2003 CIP application to incorporate matter disclosed in Patent Owner's original 2001 application constituted improper new matter and broke the chain of continuity that supports a claim of priority back to 2001 for the 2003 CIP application. Pet. at 5-14.

Several Examiners carefully considered the amendments to the 2003 CIP application and the record shows that the Examiners only allowed amendments that were properly supported by the 2001 application. Additionally, decisions from the Board and Federal Circuit directly addressing this specific issue—which Petitioner ignores—agree with the actions of the Examiners and establish that subject matter from a parent application may be incorporated into a CIP application by amendment prior to issuance or abandonment of the CIP application. The Federal Circuit has made clear that such an amendment is proper because the incorporated subject matter does not constitute improper new matter, and the continuity of disclosure is maintained. Petitioner, unlike Patent Owner, is unable to cite a single case in support of its position that addresses the actual circumstances surrounding the amendments

to the 2003 CIP application.

Thus, Ground 1 is based on a false premise that Patent Owner's amendments to the 2003 CIP application were invalid and created a break in continuity rendering Patent Owner's own publication to become invalidating prior art. Patent Owner's '196 publication is not prior art to the Challenged Patent.

A. PETITIONER DOES NOT DISPUTE THAT THE CHALLENGED PATENT PROPERLY CLAIMED PRIORITY TO THE FILING DATE OF THE 2001 PARENT APPLICATION OR THAT MR. WOOLFORK WAS IN POSSESSION OF THE INVENTIONS CLAIMED IN THE CHALLENGED PATENT AS OF THAT DATE.

1. Petitioner Acknowledges that the Challenged Patent, and the Intervening Patents in its Family, Properly Claimed Priority to the 2001 Application

Patent Owner's priority claims are undisputed. Petitioner does not dispute that in the 2003 CIP application, Patent Owner properly claimed priority to his 2001 application. Nor does Petitioner dispute that Patent Owner made proper priority claims under 35 U.S.C. § 120 for every subsequent application in the chain from the 2003 CIP application to the Challenged Patent. Pet. at 5 ("Each application in the '000 patent family claims priority to the prior applications in the chain.").

2. Mr. Woolfork was in Possession of the Inventions Claimed in the Challenged Patent as of Its Effective Filing Date of December 21, 2001

a) The Challenged Patent Complies with the Written Description Requirement as of the Filing Date Sought

The standard articulated by the Federal Circuit is that "the applicant must []

convey with reasonable clarity to those skilled in the art that, ***as of the filing date sought***, he or she was in possession of the invention.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64 (Fed. Cir. 1991) (emphasis added). This standard is articulated in Petitioner’s cited case law as well:

To obtain the benefit of the filing date of a parent application, the claims of the later-filed application must be supported by the written description in the parent “in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention ***as of the filing date sought.***”

Anascape, Ltd. v. Nintendo of Am. Inc., 601 F.3d 1333, 1335 (Fed. Cir. 2010) (quoting *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed.Cir.1997)) (emphasis added).

Ariad—an *en banc* Federal Circuit that reviewed the lengthy history of its written description jurisprudence—confirms the filing date sought is the appropriate date on which to evaluate whether the written description requirement is satisfied. *See generally Ariad Pharmaceuticals, Inc. v. Eli Lilly & Co.*, 598 F.3d 1336 (Fed. Cir. 2010). In reviewing a jury decision that the asserted claims of Ariad’s ’516 patent were supported by adequate written description, the Federal Circuit made clear that written description support is determined as of the filing date sought:

Much of Ariad's written description evidence, however, is legally irrelevant to the question of whether the disclosure of the '516 patent conveys to those skilled in the art that the inventors were in possession of the claimed generic invention on April 21, 1989—the effective filing date of the '516 patent. The parties disputed the effective filing date of the '516 patent, and in a detailed and well-crafted special verdict form, the jury was asked to choose between the two possible dates: April 21, 1989, and November 13, 1991. The jury chose 1989 and neither party appealed that determination. Presumably because of uncertainty over the priority date, much of Ariad's evidence was actually directed to the later date. Because written description is determined as of the filing date—April 21, 1989, in this case—evidence of what one of ordinary skill in the art knew in 1990 or 1991 cannot provide substantial evidence to the jury that the asserted claims were supported by adequate written description. *See Vas-Cath*, 935 F.2d at 1563-64 (holding that a written description analysis occurs “as of the filing date sought”).

Ariad, 598 F.3d at 1355. While the effective filing date had been determined by the jury to be April 21, 1989, both of the two possible effective filing dates, i.e. April 21, 1989 and November 13, 1991 corresponded to filing dates of earlier related applications, and not to the actual filing date of the '516 patent, which was June 5, 1995.

b) *Petitioner Does Not Dispute that Mr. Woolfork was in Possession of the Inventions Claimed in the Challenged Patent as of its Claimed Priority Date*

Petitioner does not dispute that Mr. Woolfork possessed the inventions claimed in the Challenged Patent as of its effective filing date of December 21, 2001—the filing date of the 2001 application. Indeed, Petitioner devotes 22 pages of its Petition to explaining precisely how Mr. Woolfork was in possession of the inventions of the Challenged Patent as of December 21, 2001. Pet. at 17-39. Specifically, Petitioner maps the limitations of every independent claim of the Challenged Claims almost solely⁴ to the subject matter disclosed in the 2001 application via citations to the '196 publication and the declaration of Petitioner's expert. *Id.* (citing EX1004 and EX1012). Thus, Petitioner overwhelmingly confirms, rather than challenges, that Mr. Woolfork had the requisite possession of the inventions claimed in the Challenged Patent as of its effective filing date.

⁴ In its related petitions filed against Patent Owner's '047 and '627 patents, Petitioner relies on the '196 publication as the sole prior art reference in ground 1 of those petitions. Here, Petitioner combines the Gibson reference with the '196 publication to address the “packet” limitations of the Challenged Claims of the '000 patent to argue that “a POSA would find it obvious to use packets to implement the system described in the '196-Publication.” *See, e.g.,* Pet. at 20-21.

B. IT IS UNDISPUTED THAT THE AMENDMENTS TO THE 2003 CIP APPLICATION DISCLOSED SUBJECT MATTER THAT WAS ALREADY DISCLOSED IN THE 2001 APPLICATION, AS EVIDENCED BY THE PATENT OFFICE'S ALLOWANCE OF THE AMENDMENTS

The Examiners overseeing prosecution of the 2003 CIP application were careful to prevent the introduction of impermissible new matter to the application during prosecution. For example, Mr. Woolfork submitted several proposed amendments to the 2003 CIP application's specification and if one of these proposed amendments sought to include impermissible new subject matter, e.g. matter that was not supported by either the 2001 parent application or the 2003 CIP application itself, the Examiner(s) rejected the requested amendment on that basis as introducing new matter. In contrast, when the subject matter included in the amendment was supported by the 2001 parent application or the 2003 CIP application, the amendment was allowed without objection

1. Several Different Patent Examiners Reviewed Numerous Amendments to the 2003 CIP Application and Plainly Understood that Subject Matter Already Disclosed in the 2001 Parent Application was Not Impermissible New Matter

During the prosecution of the 2003 CIP application, several different patent examiners reviewed amendments proposed by Mr. Woolfork for the application's specification. As the examples below show, the Examiners both (1) reviewed the subject matter of the proposed amendments; and (2) understood that subject matter

already disclosed in the 2001 application could be incorporated by amendment into the 2003 CIP application without running afoul of restrictions on the addition of new matter.

a) *Patent Examiners Reviewed and Rejected Mr. Woolfork's Request to Add New Figures to the 2003 CIP Application Because the Subject Matter of the Proposed Figures Was Not Supported by the 2003 CIP or the Parent 2001 Application*

In one instance, Primary Examiners Andrew Graham and Huyen Le considered Mr. Woolfork's request to amend his 2003 CIP application by adding new figures 2 and 3. The Examiners studied the new figures and concluded that "[n]ew matter is incorporated by this drawing by virtue of its altered shown order, which suggests the bandpass filtering of a spread spectrum and digitally demodulated signals, which is *not clearly supported by the present or parent application.*" EX1005 at -0226. (emphasis added). It is evident Examiners Graham and Le understood that the subject matter of the rejected figures would not have been improper new matter if they were supported by either the 2003 CIP application itself or the parent 2001 application.

b) *Patent Examiners Reviewed and Approved Adding Figures 2 and 3 from the 2001 Parent Application*

Supervisory Patent Examiner Sinh Tran and Primary Patent Examiner Andrew Flanders conducted an interview with Mr. Woolfork concerning adding figures to the 2003 CIP application. In their summary of that interview, the

Examiners explained that “Applicant agreed to submit new drawings representing the drawings originally filed in the parent application, *thus overcoming the new matter rejections.*” EX1005 at –0368 (emphasis added). Thus, Examiners Tran and Flanders understood, just like Examiners Graham and Le above, that the subject matter of the proposed figures was not improper new matter if they found support in the 2001 parent application. Consequently, after agreeing to this suggestion, Mr. Woolfork’s subsequent amendment to add the drawings from the 2001 parent application was entered without objection.

c) *Patent Examiners Reviewed and Approved an Amendment to Add Language Regarding Differential Phase Shift Keying in the 2003 CIP Application*

Supervisory Examiner Tran and Primary Examiner Flanders considered Mr. Woolfork’s request to amend paragraph 9 (“paragraph [009]”) of the 2003 CIP application specification to disclose a “DPSK (differential phase shift key) transmitter or module.” EX1005 at –0376-77. The Examiners approved Mr. Woolfork’s request to add this language referring to differential phase shift keying (DPSK). Pet. 14 (citing EX1005 – 0377). Again, the DPSK technique was not new matter at least because Mr. Woolfork had already disclosed it in his 2001 parent application⁵—a fact noted by Petitioner itself when arguing that 2003 CIP

⁵ As discussed below, the DPSK amendment was also supported by the 2003 CIP application as filed.

application did not provide the same type of disclosure. *See* Pet. at 8-9 (noting the explicit presence of DPSK in the 2001 parent application); *id.* at 12. It is again evident that the Examiners understood that the DPSK technique was not impermissible new matter at least because Mr. Woolfork had explicitly disclosed it in his parent 2001 application.

d) Supervisory Patent Examiner Tran Reviewed and Approved Mr. Woolfork's Request to Incorporate by Reference the Entirety of the 2001 Parent Application

Supervisory Examiner Sinh Tran rejected many proposed amendments on new matter grounds (*see, e.g.* EX1005 at -0476-78), but Examiner Tran also allowed without objection an amendment to the 2003 CIP application to add a statement incorporating by reference the 2001 parent application during prosecution of the 2003 CIP application:

Amendments to the Specification:

Please amend the title of the invention on page 1 as follows:

--WIRELESS DIGITAL AUDIO MUSIC SYSTEM --

Please amend the paragraph which begins on page 1, line 2 and ends on page 1, line 3, as follows:

-- This utility patent application is a continuation-in-part of U.S. patent application Serial No. 10/027,391, filed December 21, 2001, for "Wireless Digital Audio System," published under US 2003/0118196 A1 on June 26, 2003, now abandoned, which is incorporated herein in its entirety by reference ~~which patent application is pending.--~~

EX1005 at -0375.

Further, the Patent Office subsequently granted a request for a certificate of correction to more correctly detail the genealogy of the patent:

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 7,412,294 B1
APPLICATION NO. : 10/648012
DATED : August 12, 2008
INVENTOR(S) : C. Earl Woolfork

Page 1 of 1

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1, line 3, cancel the text beginning with "This utility patent application" to "entirety by reference." in column 1, lines 7-8, and insert the following text:

--This application is a continuation-in-part of U.S. patent application No. 10/027,391, filed on December 21, 2001, now abandoned, the disclosure of which is incorporated herein in its entirety by reference.--

EX1005 at –1037.

Petitioner does not dispute that while the 2003 CIP application was still pending, the specification was amended to incorporate by reference the entirety of the parent 2001 application. Pet. at 12 (citing EX1005 – 0375).

2. The Examiners’ Determinations that Mr. Woolfork’s Amendments Did Not Introduce Impermissible New Matter are Entitled to Deference

Petitioner cannot dispute that four Patent Examiners carefully reviewed Mr. Woolfork’s requested amendments throughout prosecution of the 2003 CIP application to ensure that no new matter was introduced into the specification. The prosecution history plainly reflects the Examiner’s careful scrutiny to permit only those amendments supported by either the 2001 application or the 2003 CIP application.

The Federal Circuit has made clear that:

[I]n the context of a validity challenge based on new matter, the fact that the United States Patent and Trademark Office (“PTO”) has allowed an amendment without objection “is entitled to *an especially weighty presumption of correctness*” in a subsequent validity challenge based on the alleged introduction of new matter.

Commonwealth Sci. & Indus. Rsch. Organisation v. Buffalo Tech. (USA), Inc., 542 F.3d 1363, 1380 (Fed. Cir. 2008) (quoting *Brooktree Corp. v. Advanced Micro Devices, Inc.*, 977 F.2d 1555, 1574-75 (Fed. Cir. 1992)) (emphasis added).

Here, as discussed above, there is a large amount of evidence reflecting the Examiners' careful consideration and determinations regarding the introduction of new matter to the 2003 CIP application during prosecution. For example, the Examiners (1) rejected proposed new figures as new matter until Mr. Woolfork agreed to base the new figures on those already disclosed in the 2001 parent application; (2) allowed another amendment to referring to differential phase shift keying (DPSK); and (3) allowed Mr. Woolfork's amendment to incorporate by reference the entire subject matter of the 2001 application. As held in *Brooktree* and reinforced in *Commonwealth*, and as further warranted here, the vigilant determinations of the Examiners overseeing the prosecution of 2003 CIP application regarding new matter "are entitled to [an] especially weighty presumption of correctness." *Id.*

C. THE FEDERAL CIRCUIT'S CASELAW AGREES WITH THE EXAMINERS' PRIOR DETERMINATIONS THAT THE AMENDMENTS TO THE 2003 CIP APPLICATION WERE PERMISSIBLE TO DISCLOSE SUBJECT MATTER THAT HAD ALREADY BEEN DISCLOSED IN THE 2001 PARENT APPLICATION

Multiple Federal Circuit cases confirm that the 2003 CIP application was properly amended, without introducing new matter, to disclose the subject matter that had already been disclosed in the 2001 parent application. One of the Federal Circuit cases discussed below—*In re Reiffin*—involves an appeal from a Board of Patent Appeals and Interferences decision and directly states that in the

circumstances of the 2003 CIP application, the amendments made to the 2003 CIP application were permissible.

1. *In re Reiffin* Directly Endorses Amending a Pending Application in the Same Circumstances as the 2003 CIP Application Amendments

In re Reiffin, involved the Federal Circuit's consideration of the Board's rejection of claims under reexamination directed to spell-checking and grammar-checking functions in computer software programs for a lack of written description support. 340 F. App'x 651, 652, 658 (Fed. Cir. July 27, 2009). The patentee had arguably included written description support for this claimed subject matter in a parent application, but had omitted that support from the application that led to the patent under subsequent reexamination. *Id.* at 658. The Board rejected the argument that the patentee should have been permitted to amend the patent *during reexamination* to add the omitted material from the parent application. *Id.* However, in reaching this conclusion in the decision below, the Board stated:

Patent Owner could have amended the 1994 application while it was pending to incorporate subject matter from the 1990 application. However, by allowing the 1994 application to issue . . . without the [supporting] subject matter, Patent Owner created a break in the chain of disclosures, which cannot be cured by amendment.

Ex parte Reiffin, App. No. 2007-2127, 2007 WL 2814119, at *65 (B. P. A. I. Sept. 25, 2007) (emphasis added). So, while the Board rejected the patentee's attempt

during reexamination to incorporate subject matter from a parent application, *i.e.*, after the application had issued, the Board made clear that incorporating subject matter disclosed in a parent application would have been proper if done while the application was still pending. *Id.*

The Federal Circuit found the Board's reasoning in this regard to be "sound" and confirmed the propriety of amending a pending CIP application to incorporate subject matter from a parent application:

In a continuation-in-part application, an applicant is free to add matter from earlier related applications in a chain of co-pending applications in order to reap the benefit of the full scope of the inventions disclosed in the applicant's earlier disclosure.

In re Reiffin, 340 F. App'x at 659 (emphasis added). This statement by the Federal Circuit makes plain that matter from an earlier application can be added to a related, co-pending application. In contrast to Petitioner's suggestion, the Federal Circuit did not state that such matter can be added only by the filing date of the related, co-pending application. The Federal Circuit's very next sentence further affirms an applicant like Mr. Woolfork's freedom to add such matter, and to modify the patent, before the related, co-pending application *issues*:

Once the patent issues, however, the scope of the patentee's ***freedom to modify*** the patent, whether through reexamination or reissue, is limited.

In re Reiffin, 340 F. App'x at 659 (emphasis added). The Federal Circuit's recognition here that the propriety of adding subject matter from a parent application is measured against patent *issuance*, as opposed to patent *filing*, echoes the *Reiffin* Board's decision below that the prosecution record is fixed at patent issuance, not patent filing. *See Ex parte Reiffin*, 2007 WL 2814119, at *66 ("Once the patent issues, the record is fixed and new matter may not be added.").

Moreover, the Federal Circuit also made clear that the new matter prohibition under 35 U.S.C. § 132 does not apply to this circumstance:

It is true that the statutory prohibition against introducing "new matter" [under Section 132] does not apply in the limited circumstance in which the application incorporates material from an earlier application in a chain of co-pending applications.

Id.

While under the facts of *Reiffin*, the Federal Circuit affirmed the Board's rejection of the claims because the chain of co-pending applications had been broken by the issuance of the patent under reexamination, (*id.* at 660)⁶ Mr. Woolfork avoided such an occurrence during the prosecution of the 2003 CIP application and

⁶ While *In re Reiffin* is a nonprecedential decision, the fact remains that *In re Reiffin* is the only authority either Petitioner or Patent Owner has been able to locate that discusses amendments in the same circumstances as those surrounding amendments to the 2003 CIP application and can be taken as guidance from the Federal Circuit on that issue, especially because it was based on interpretation of the precedential *Litton* decision.

made the types of amendments to the specification the Federal Circuit explicitly endorsed as permissible.

2. *Litton v. Whirlpool* Unambiguously States That Matter Disclosed in a Parent Application Can Be Added to a Pending CIP Application After Filing and Receive the Filing Date of the Parent Application

In *Litton v. Whirlpool*, 728 F.2d 1423 (Fed. Cir. 1984), the Federal Circuit addressed, in relevant part, the priority date of Litton’s patent, which had issued from a CIP application. Specifically, Litton filed an original patent application and, after two office actions and a final rejection, Litton decided to file a continuation application along with a preliminary amendment with claims reciting a microwave door having a thin sheet of metal that was “self-supporting” and “shatterproof.” *Id.* at 1435. The original parent application did not expressly limit the metal sheet as being “self-supporting” or “shatterproof.” *Id.* The PTO rejected the claims on the basis that the terms “self-supporting” and “shatterproof” constituted new matter. *Id.*

Litton then filed a proposed amendment to the specification to indicate that the metal sheet is “self-supporting” and “shatterproof.” *Id.* Litton argued in accompanying remarks that the terms “self-supporting” and “shatterproof” were not new matter because they were inherent qualities of the metal sheet as disclosed in the original patent application. *Id.* However, the PTO again rejected the claims as being drawn to new matter. *Id.* at 1435-36.

After an oral interview with the PTO, Litton filed another amendment leaving the words “self-supporting” and “shatterproof” in both the specification and the claims and requested that the PTO re-characterize the continuation application as a CIP application. *Id.* The PTO then allowed the patent. *Id.*

The district court agreed with Litton that the PTO had abandoned its position that the terms “self-supporting” and “shatterproof” were new matter. On appeal, Litton again argued that “self-supporting” and “shatterproof” were inherent to the parent application and thus could not be new matter. The Federal Circuit rejected Litton’s inherency argument because file history evidence showed that Litton knew it was including new matter when it responded to a new matter rejection by converting its continuation application to a CIP application. *Id.* at 1439.

In assessing Litton’s arguments, the Federal Circuit explained that CIP applications often generate two effective filing dates, where actual new matter in a CIP application has the filing date of the CIP application and matter shared with a parent application has the earlier filing date of the parent application. *Id.* at 1438. The Federal Circuit stated that “[i]f matter added through amendment to a C-I-P application is deemed inherent in whatever the original parent application discloses, however, that matter also is entitled to the filing date of the original, parent application.” *Id.*

Accordingly, the Federal Circuit has stated that matter from a parent application—even if only inherent in the parent application—may be added to a CIP application by amendment and will have the filing date of the parent application. This principle applies with even more force to the present situation, because Patent Owner incorporated the subject matter explicitly and by reference, and thus the added matter was directly disclosed, and not merely inherent, in the parent application.

3. Petitioner’s Cases Do Not Address the Present Facts and Do Not Suggest That Continuity of Disclosure Was Not Maintained During the Prosecution of the 2003 CIP Application

None of Petitioner’s cited cases even purport to address the particular circumstances here concerning the propriety of amending a CIP application prior to issuance to expressly disclose or incorporate by reference subject matter already disclosed in a parent application. Petitioner’s cited references do little more than reflect the general prohibition against adding new matter after an application is filed and Petitioner does not delve into the facts of its cases likely for that reason.

Petitioner claims that “PR must show that the claimed invention was disclosed in the earlier applications as originally filed,” but that characterization is not found anywhere in the caselaw, is an incorrect representation of the governing standard, and contradicts the practice of multiple patent examiners during prosecution of the 2003 CIP application. *See* Pet. at 6-7 (citing 35 U.S.C. §120 (2012) and *Anascape*,

601 F.3d at 1337) (emphasis in original).

a) *Anascape does not address the present facts or support Petitioner's characterization*

Petitioner primarily attempts to rely on *Anascape* to support Petitioner's contention about the requisite report "as originally filed," but *Anascape* is directed to a different situation than presented by the Petition. Pet. at 6-7, 13 (citing *Anascape*, 601 F.3d at 1337).

Anascape does not address any amendment to a continuing application to disclose subject matter already disclosed in a parent application, nor does it provide any suggestion that such an amendment would be an improper introduction of new matter. Rather, *Anascape* only concerns whether a parent application itself supported claims that issued from a continuation application. *See generally Anascape*, 601 F.3d at 1337-41. The Federal Circuit reviewed the specific language of the *Anascape* parent application and held that the language in the parents did not support the claims of the asserted patent and that the asserted patent was thus not entitled to the parent's priority date. *Id.* at 1337-41. Here, unlike *Anascape*, there is no question that the 2001 parent application supports (1) the claims that issued from the 2003 CIP application,⁷ which Petitioner does not dispute; and (2) the claims of the Challenged

⁷ These claims can be found in U.S. Patent No. 7,412,294. EX1006.

Patent, as Petitioner itself has demonstrated via its obviousness arguments predicated on the '196 publication.

b) Lockwood does not address the present facts

Similarly, Petitioner's *Lockwood* case also does not address any amendment to a continuing application to disclose subject matter already disclosed in a parent application and provides no authority or guidance that such an amendment introduces impermissible new matter, as Petitioner contends. In *Lockwood*, the Court analyzed a patent applicant's failure to incorporate subject matter disclosed in a grandparent application into intervening parent applications and it was undisputed that one of the intervening parent applications did not describe an individual terminal including a video disk player. *See Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). The Federal Circuit ultimately agreed with the district court that the relevant patent-in-suit was not entitled to claim priority through the intervening parent applications to the original grandparent due to the lack of disclosure in the intervening application as issued. *Id.* Here, unlike *Lockwood*, there is no dispute that the claims of the Challenged Patent are fully supported by the amended 2003 CIP application that issued as the '294 patent.

c) *MPEP § 201.06(c)(IV) Does Not Preclude Incorporating by Reference Subject Matter from an Earlier, Co-Pending Parent Application*

Petitioner specifically attacks Patent Owner’s amendment incorporating by reference the 2001 application by attempting to rely on MPEP § 201.06(c)(IV)⁸ to argue that the incorporation statement “constitutes improper new matter” and was thus “ineffective in establishing continuity of disclosure back to the 2001 application.” Pet. at 12-13. As discussed above, this amendment was allowed by the Examiners at the time and included in a certificate of correction, but nonetheless while Petitioner does not cite a particular portion of Section 201.06(c)(IV) as alleged support, in a related petition, Petitioner relied upon this sentence from Section 201.06(c)(IV):

An incorporation by reference statement added after an application’s filing date is not effective because no new matter can be added to an application after its filing date (*see 35 U.S.C. 132(a)*).

Samsung Electronics Co., Ltd. v. One-E-Way, Inc., No. IPR2025-01540, Paper 2 at 25 (Sept. 8, 2025) (citing MPEP § 201.06(c)(IV) (emphasis added)).

The emphasized portion of MPEP § 201.06(c)(IV) referring to 35 U.S.C. § 132 was cropped out of Petitioner’s related petition (*see id.*), but the MPEP’s citation

⁸ Additionally, MPEP § 201.06 governs divisional applications. While a divisional application is a “continuing” application like a CIP, the MPEP treats divisional applications separately from CIP applications. *See* MPEP §§ 201.02, 201.08 (titled “Continuation-in-Part Application”).

to 35 U.S.C. § 132 in that sentence makes clear that this sentence merely reflects the general prohibition against new matter as set forth in Section 132(a)—a prohibition the Federal Circuit has made clear *does not apply* when, as here, Patent Owner incorporates material from an earlier application in a chain of co-pending applications. *See Reiffin*, 2009 WL 2222341, at *8 (“It is true that the statutory prohibition against introducing ‘new matter’ [under 35 U.S.C. § 132] in a patent application does not apply in the limited circumstance in which the application incorporates material from an earlier application in a chain of co-pending applications.”).

(1) The MPEP Does Not have the Force of Law

Although the MPEP does not support Petitioner’s argument, it also does not have the force of law regardless. For example, the Federal Circuit has explained that while “an agency’s interpretation of a statute it administers is entitled to deference . . . the courts are the final authorities on issues of statutory construction. They must reject administrative constructions of the statute, whether reached by adjudication or by rulemaking, that are inconsistent with the statutory mandate or that frustrate the policy that Congress sought to implement.” In *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1425 (Fed. Cir. 1988) (internal quotations and citations omitted).

Here, the Examiners’ actions allowing certain amendments to the 2003 CIP application agree with Patent Owner’s position regarding the permissibility of those

amendments under the MPEP or otherwise. Regardless, even if the amendments to the 2003 CIP application were in contravention of the MPEP (which they were not), the construction and application of statutes by the federal courts—including the construction and application of 35 U.S.C. §§ 112, 132 as discussed above—is what ultimately must control in the end and the Federal Circuit’s caselaw permits the amendments to the 2003 CIP application.

D. THE 2003 CIP APPLICATION AS FILED PROVIDES SUFFICIENT SUPPORT FOR THE CHALLENGED CLAIMS AND THERE WAS NO BREAK IN CONTINUITY

Even assuming *arguendo* Petitioner’s false premise that the 2003 CIP application, as filed, must support the Challenged Claims in order to avoid breaking the continuity of disclosure to the 2001 application, the record nonetheless shows that the 2003 CIP application as filed satisfied 35 U.S.C. §112.⁹ In particular, the 2003 CIP application as filed provides sufficient disclosure of “a direct conversion module, “differential phase shift keying (DPSK)” and “intersymbol interference.”

The written description requirement of 35 U.S.C. §112 is distinct from the enablement requirement:

Since its inception, this court has consistently held that § 112, first paragraph, contains a written description requirement separate from

⁹ As explained above, Petitioner itself has demonstrated that Mr. Woolfork was in possession of the inventions described by the Challenged Claims as of the filing date of the 2003 CIP application by relying almost exclusively on the ’196 publication to support invalidity in Ground 1.

enablement, and we have articulated a fairly uniform standard, which we now affirm. Specifically, the description must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed. In other words, the test for sufficiency is whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.

Ariad Pharms., Inc. v. Eli Lilly & Co., 598 F.3d 1336, 1351 (Fed. Cir. 2010) (internal citations and alterations omitted). Further, disclosures in the prior art may be considered to more accurately judge “what the specification reasonably conveys to the skilled artisan who has knowledge of the prior art.” *Hologic, Inc. v. Smith & Nephew, Inc.*, 884 F.3d 1357, 1364 (Fed. Cir. 2018) (citing *Ariad*, 598 F.3d at 1351).

1. As of the Filing of the 2003 Application, a POSA Would Have Recognized Mr. Woolfork Was in Possession of a “Direct Conversion Receiver”

At the time of the filing of the 2003 CIP application, a POSA would have understood the application to sufficiently indicate Mr. Woolfork was in possession of a “direct conversion receiver,” as claimed in the context of the Challenged Claims. A POSA would have been familiar with a direct conversion receiver and the necessity of its use in Mr. Woolfork’s invention based on its functional attributes and the particular advantages it provides relative to the only potential alternative component—a superheterodyne receiver—which was functionally obsolete at the time of Mr. Woolfork’s invention.

Petitioner and its declarant explain that a direct conversion receiver was a “known frequency conversion/demodulation technique” that had advantages relative to what used to be the “normal superheterodyne approach” in the prior art. Pet. at 50 (citing EX1022 at 1322-23 and EX1012, ¶¶259-265). Moreover, Petitioner explains that a “POSA would have understood that a receiver, such as wireless headphones, would benefit from a component suitable for ‘low power consumption and low cost’ designs,” (Pet. at 50) which is what was disclosed by the 2003 CIP application’s wireless, battery-powered audio system where power consumption would be understood to be a critical concern by a POSA.

Further, a POSA would not have understood the 2003 CIP application as filed to teach the use of a superheterodyne receiver because of the numerous drawbacks of that architecture and the widespread use of direct conversion receivers in devices like Mr. Woolfork’s that required high frequency down conversion translation. For example, one article from 1998 explains that “[t]he high-Q associated with the discrete components found on a superheterodyne receiver is difficult and somewhat impractical to realize at high frequency as an integrated solution” EX2011 at 2 (p. 150). This article also supports that a POSA would understand a direct conversion receiver would necessarily be used in a wireless audio product like Mr. Woolfork’s and explains the two options—a direct conversion homodyne receiver or direct conversion Low-IF receiver. *See id.* at 2 (explaining that “[i]n a [direct conversion]

homodyne receiver, all of the channels are frequency translated to baseband” and “the Low-IF receiver architecture is used to frequency translate all of the desired channels to a low intermediate frequency,” i.e. very near baseband).

Notably, the first wireless music headphone related to Mr. Woolfork’s invention was the Bluetake i-phono 420. *See* EX2012. The Bluetake headphones utilized a direct conversion receiver. *See* EX2013 at 1-2 (showing the inclusion of the GDM1202 chip from GCT Semiconductor, Inc. in Bluetake’s i-phono 420 headphones); EX2014 at 1-4 (showing that the GDM1202 chip used in the Bluetake device included a direct conversion receiver).

A POSA would have understood Mr. Woolfork to reasonably be in possession of a direct conversion receiver based on the 2003 CIP application as filed when viewed in the context of the POSA’s knowledge of the prior art.

2. As of the Filing of the 2003 Application, a POSA Would Have Recognized Mr. Woolfork Was in Possession of “Differential Phase Shift Keying (DPSK)”

A POSA would have understood Mr. Woolfork to be in possession of “differential phase shift keying (DPSK)” at the time of the filing of the 2003 CIP application, as claimed in the context of the Challenged Claims. For example, the 2003 CIP application explained the invention “may utilize Manchester encoding/decoding schemes.” EX1005 at 0007 (¶0014). A POSA would understand there are many types of Manchester encoding schemes including Differential

Manchester encoding. *See generally* EX2015 at 4 (p. 292) (explaining relative to Manchester encoding “[a]nother encoding technique which is equally popular and widely used is *differential Manchester encoding*” and similarly differential bi-phase generally).

Similarly, a POSA would know that a Manchester encoding scheme is bi-phase, which is “phase shift keying (PSK).” *See generally* EX2016 at 3 (p. 19) (discussing “biphase-modulated (PSK)”), *see also id.* at 4 (Appendix 1) (explaining that bi-phase is “a term used to signify two-phase (+/-90°) phase shift keying”); EX2017 at 2 (p. 66) (discussing a “biphase (Manchester)” signal). Critically, “biphase (Manchester)” has all kinds of variations, including “biphase M” and “biphase S” wherein they each are differentially encoded phase shift keying (DPSK). *See, e.g.,* EX2018 at 9 (p. 2-36) (discussing “biphase M and S data can be generated from *differentially encoded* NRZ data.”) (emphasis added).

Consequently, the culmination of a POSA’s knowledge of the prior art combined with the 2003 CIP application’s discussion of the use of “Manchester encoding/decoding schemes” would reasonably suggest to a POSA at that time that Mr. Woolfork was in possession of “differential phase shift keying (DPSK)” in the context of his invention in the Challenged Claims.

3. As of the Filing of the 2003 Application, a POSA Would Have Recognized Mr. Woolfork Was in Possession of “Reduced Intersymbol Interference”

Finally, A POSA would have understood Mr. Woolfork was in possession of processing wireless transmissions to “reduce intersymbol interference (ISI)” at the time of the filing of the 2003 CIP application, as claimed in the context of the Challenged Claims.

The 2003 CIP application at filing discussed issues of signal quality and how to address those issues in multiple contexts. For example, in one instance “[t]he fuzzy logic detector technique, combined with *convolutional error detection and correction techniques*, may enable the FAWM system 10 to operate in most any environment.” EX1005 at -0008 ([¶0019]) (emphasis added); *see also id.* at -0006 (describing techniques to address accurate detection of user code bits in [¶0013]).

Petitioner acknowledges that ISI may be reduced by partial response signaling (PRS) and an encoding, e.g. precoding:

[A] signal can be encoded by introducing a “controlled amount of intersymbol” inference “at the transmitter, which can be removed at the receiver” using “partial-response (PR) signaling” (EX1022, 329) and then “precod[ing]” the signal “in such a way as to compensate for...intersymbol interference.”

Pet. at 51-52 (citing EX1022 (Gibson) at 329, 333). A POSA would understand that PRS utilizes convolutional encoding, as disclosed in the 2003 CIP application, to

process a signal to reduce intersymbol interference, so Petitioner has implicitly affirmed a POSA's understanding, i.e. that the convolution technique disclosed in the 2003 CIP application at filing indicates that Mr. Woolfork was in possession of the "reduced intersymbol interference" aspect of his Challenged Claims when the 2003 CIP application was filed. *See* EX2019 at 20 (p. 4) (explaining that "[m]odulated coding (MC) . . . **is an error correction coding (ECC), in particular a convolutional coding,**" and "**MC is a generalization of the [Partial response signaling] PRS**"). Also, the 2003 CIP application disclosed encoding at the transmitter prior to transmission "[t]o reduce the effects of channel noise, the battery powered transmitter 20 may use convolutional encoding." EX1005 at -0005 (¶0009).

Moreover, Petitioner's language referenced above regarding partial response signaling comes from a discussion in Gibson regarding partial response duobinary signaling (or duobinary PR). *See* EX1022 at 333. Duobinary PR is additionally significant here because while it is a partial response error correction technique for reducing intersymbol interference, it also utilizes differential encoding for precoding. *See* EX2017 at 3 (p. 572). ("To get around the problem of error propagation, Lender [6] suggests a means of avoiding the necessity for ISI compensation (subtracting out the single ISI) at the receiver. His scheme suggests that we precode the data [using these equations] This simple **encoding scheme is identical to differential encoding** described in Chapter 7 in connection with

differential detection of BPSK modulation.”) (emphasis added). As shown above, differential encoding (DPSK) at the transmitter was part of the 2003 CIP application as filed and Petitioner has shown that Lender first proposed duobinary PR. EX1022 at 67 (p. 330) (“Duobinary PR was first proposed by Lender”).

In sum, based on the 2003 CIP application’s disclosure of the use of “convolutional error detection and correction techniques” and “reduc[ing] the effects of channel noise . . . us[ing] convolutional encoding” in the context of its overall disclosure and a POSA’s knowledge of partial response signaling and precoding at the transmitter, as also demonstrated by Petitioner, a POSA would understand Mr. Woolfork was in possession of “reduced intersymbol interference” when the 2003 CIP application was filed. Petitioner’s argument that partial response signaling/precoding is a method to reduce ISI further supports this conclusion. *See* Pet. at 51-52.

VI. THE PETITION FAILS TO SHOW THAT THERE IS A REASONABLE LIKELIHOOD THAT ANY CLAIM IS UNPATENTABLE UNDER GROUND 2

Petitioner’s Ground 2 relies on Walley as the primary reference of a three-reference obviousness combination. Pet. at 39. As a primary reference, Walley cannot satisfy Petitioner’s burden of showing there is “a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

In particular, Walley discloses fundamentally different methods from the Challenged Patent, and fails to disclose several key elements present in every Challenged Claim. For purposes of this Preliminary Response, Patent Owner will focus on the absence of “*independent* code division multiple access communication (CDMA)” from Petitioner’s prior art.¹⁰

Petitioner requests that “[t]he term ‘independent’ in the context of ‘independent’ CDMA communication” should be construed to mean “performed independent of any central control.” Pet. at 43-44 (citing Pet. at Section II.C). Patent Owner agrees with this construction and there is no basis on this record to alter that construction.

Assuming limiting preambles, every Challenged Claim requires the use of “independent code division multiple access communication” as that limitation is included in each of the independent claims of the Challenged Claims. Pet. at viii-xi (see limitations [1P], [2P], [3C], [5P], [8B], [9P], and [10B]). Thus, if Petitioner’s challenge fails with respect to only this element institution is unwarranted.

¹⁰ As discussed *supra*, disclosure of “independent CDMA” was also found to be lacking from the prior art relied upon in Apple Inc.’s previous *inter partes* review petitions filed against the Challenged Patent.

A. NEITHER MIYAKE NOR MIYAKE IN VIEW OF WALLEY DISCLOSES *INDEPENDENT* CDMA

For Ground 2, Petitioner argues that “Miyake alone and in view of Walley teach a receiver...further configured for independent CDMA operation” for all independent claims of the Challenged Patent.¹¹ *See* Pet. at 46 (discussing [1P]); *id.* at 56 (mapping [2P] to [1P]); *id.* at 61 (mapping [3C] to [1P] in relevant part); *id.* at 63 (mapping [5P] to [1P]); *id.* at 68 (mapping [8B] to [3C] in relevant part); *id.* at 69 (mapping [9P] to [1P] and [10B] to [8B] in relevant part).

Petitioner presents two sentences in support of the supposed disclosure of independent CDMA in Miyake and one sentence in support of the same in Walley:

Miyake teaches a *receiver is configured to use independent code division multiple access communication* as Miyake teaches that “the spreading code set on the transmitter side should coincide with the spreading code set on the receiver side” and “those spreading codes should differ from those for the other channel users who also use this communication system.” EX1016, 6:63-7:18. The *one-to-one relationship* between Miyake’s receiver and transmitter teaches this definition as *it does not require any centralized control*. EX1012, ¶¶250-255. Additionally, Walley teaches that an orthogonal code is used to separate the transmissions of interest from the rest, so that the

¹¹ As discussed *infra*, Petitioner also makes the same argument for Grounds 3 and 4 regarding “independent code division multiple access communication.”

receiver only communicates with the transmitter of interest. EX1012, ¶¶250-255.

Pet. at 46 (emphasis added). The present record fails to support either of Petitioner's arguments.

1. The Record Fails to Show That Either Miyake or Walley Discloses a “One-to-One Relationship”

Petitioner uses its unsupported “one-to-one relationship” characterization as the conclusory basis for its argument that Miyake and Miyake in view of Walley do not disclose any centralized control. *See* Pet. at 46. However, as discussed at length in the following sections, the record does not support Petitioner's argument. The purported support offered by Petitioner for the teaching of a “one-to-one relationship” is a citation¹² to Petitioner's declarant, in particular:

The one-to-one relationship between Miyake's receiver and transmitter teaches this definition as it does not require any centralized control. Additionally, Walley teaches that an orthogonal code is used to separate the transmissions of interest from the rest, so that the receiver only communicates with the transmitter of interest.

EX1012, ¶255. However, Petitioner's declarant *parrots verbatim* Petitioner's conclusory statement about the supposed one-to-one relationships without providing sufficient explanation or citing any specific evidence for this conclusion.

¹² Pet. at 46 (citing EX1012, ¶¶250-255)

a) *There is No Evidence of a One-to-One Relationship in Miyake*

Before summarily concluding that Miyake discloses a one-to-one relationship, Petitioner quotes two phrases from one sentence in Miyake: “‘the spreading code set on the transmitter side should coincide with the spreading code set on the receiver side’ and ‘those spreading codes should differ from those for the other channel users who also use this communication system.’” *See* Pet. at 46 (quoting EX1016, 6:63-7:18). However, nothing in those citations mentions any supposed “one-to-one correspondence” and neither Petitioner nor its declarant provide supporting analysis justifying Petitioner’s description of this as a one-to-one relationship.

Petitioner’s cited portion of Miyake in fact does not establish any one-to-one relationship because all it says is that a spreading code set on the receiver side should be compatible with the spreading code set on the transmitter side and that those spreading codes should differ from other users of the communication system. What Petitioner fails to realize is that Miyake’s statement in this regard does not require or even suggest a one-to-one relationship between the receiver and transmitter. For example, conventional cell phone architecture of the time could be described as a one-to-one relationship by Petitioner’s logic since Petitioner suggests all that is required is for one receiver/transmitter to communicate only with another transmitter/receiver and that is what occurs between two mobile phones during a call. However, a POSA would be well aware that in this “one-to-one relationship”

other components, e.g. a cell tower or base station, nonetheless operated between the two mobile phones during communication. *See, e.g.*, EX1012 at ¶254 (describing the CDMA IS-95 U.S. digital cellular system and its use of base stations with portable phones)

Petitioner's scant evidence from and analysis of Miyake is insufficient to establish a "one-to-one relationship" in Miyake in any way that is meaningful to the disclosure of *independent* CDMA in the Challenged Claims.

b) There is No Evidence of a One-to-One Relationship in Walley

Like Miyake, Walley contains no discussion of a one-to-one relationship so Petitioner attempts to justify Walley's supposed disclosure of a one-to-one relationship based on a vague and unsupported reference to Walley's use of "an orthogonal code . . . to separate the transmissions of interest from the rest, so that the receiver only communicates with the transmitter of interest." *See* Pet. at 46 (citing EX1012, ¶¶250-55 which parrots Petitioner's statement verbatim). Even ignoring that Petitioner and its declarant fail to provide any citations to Walley's specific use of orthogonal codes, Walley is replete with descriptions of its system's use of a base station or central controller, as discussed in detail below.

Walley does not disclose a "one-to-one relationship" in any meaningful manner, either alone or in combination with Miyake and absent any actual evidence in the record, the conclusory statement that Miyake and/or Walley allegedly disclose

“one-to-one correspondence” is insufficient to meet Petitioner’s burden on this Petition. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1382-84 (Fed. Cir. 2016).

2. The Record Fails to Support Petitioner’s Assertion That Miyake Alone or in View of Walley Does Not Suggest Centralized Control

a) Petitioner Fails to Show a Lack of Central Control in Miyake

Petitioner’s only justification for the teaching or suggestion of a lack of centralized control in Miyake is based entirely on one sentence regarding the (non-existent) one-to-one relationship discussed above in Miyake. *See* Pet. at 46 (“The one-to-one relationship between Miyake’s receiver and transmitter teaches [independent CDMA] as it does not require any centralized control. EX1012, ¶¶250-255”). Petitioner cites EX1012 in support of this conclusion, but again Petitioner’s declarant merely *parrots verbatim* the same justification for the lack of central control in Miyake. EX1012, ¶255. Petitioner’s assertion is insufficient to satisfy Petitioner’s burden on this Petition as it is not only incorrect but also lacks “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)

Petitioner’s unexplained conclusion regarding a lack of central control in Miyake must fail for several reasons. First, Petitioner’s conclusion is premised only on the supposed one-to-one relationship in Miyake, which as explained above, is not taught by Miyake. Second, Petitioner notably fails to provide any actual evidence on

this record establishing that Miyake’s design in fact precludes centralized control. Third, assuming *arguendo* a “one-to-one relationship” was taught by Miyake, Petitioner does not provide any supporting evidence or analysis explaining how that leads to the conclusion that there is necessarily a lack of central control involved in performing CDMA in Miyake. For example, as mentioned above, conventional cell phone architecture of the time could be described as a one-to-one relationship by Petitioner’s logic since one user’s mobile phone communicates only with another user’s phone during a call between the two phones, but there is no question those two mobile phones (i.e. transmitters/receivers) are communicating via a cell phone tower (i.e. base station) in the middle that is exercising central control over the communication, including the code spreading. *See, e.g.*, EX1012 at ¶254 (describing the CDMA IS-95 U.S. digital cellular system and its use of base stations with portable phones).

b) Miyake Affirmatively Teaches the Use of Central Control

Perhaps most importantly, Miyake’s disclosure actually teaches the use of central control in performing CDMA. Notably, the PTAB previously found that assignment of spreading codes by a central controller meant independent CDMA was not disclosed by a reference. Specifically, as discussed *supra*, when denying the five prior *inter partes* review petitions Apple Inc. filed against other member’s of the Challenged Patent’s family, the PTAB found that with respect to the primary

reference, “Ham’s CDMA system depends on a central controller in order to assign codes in a manner that maintains orthogonality, and, thus, does not teach CDMA performed ‘independent of any central control.’” *See Apple Inc. v. One-E-Way, Inc.*, No. IPR2021-00283, Paper 6 at 18 (P.T.A.B. June 11, 2021) (denying institution of Apple Inc.’s petition challenging OEW’s U.S. Patent No. 8,131,391); *see also id.*, No. IPR2021-00284--00287, Paper 7 at 16 (P.T.A.B. June 11, 2021) (denying institution of Apple Inc.’s four petitions challenging OEW’s ’627 and ’047 patents).

Accordingly, one example of Miyake’s use of central control is its discussion of assigning spreading codes to users based on the users’ common attributes. In one instance, Miyake explains that

[S]preading codes are assigned user by user in the conventional spread spectrum communication system, whereas the present invention forms hierarchical spread bands corresponding to spreading codes in spread spectrum communication, specifically *assigns first spreading codes to individual users who share the same attribute*, such as the same service, and assigns a second spreading code to the attribute of a common service, so that various kinds of services can be determined by the bandwidths of information to be transmitted.

.....

Other attribute classification schemes may include *grouping by users in a common organization* and *grouping by users who share a place*.

EX1016, 5:12-29 (emphasis added). At the time of the invention, a POSA would understand this method of assigning spreading codes based on common user attributes to require the involvement of a central authority or control in order to provide the means for the system to be able to identify the common attributes between the users in the first place. In other words, Miyake's system requires the use of a centralized database or record of user attributes (e.g. common organization or shared place) in order to be able to appropriately identify common attributes between users of Miyake's system and then assign the spreading codes accordingly. If there was no central control involved in Miyake's system, the system would not be able to function as described.

Further evidence of Miyake's teaching of central control is found in its discussion of users sharing a frequency band on a time basis. Miyake explains that in the type of spread spectrum communication system its system is built on "a plurality of users [] perform communication while sharing one wide frequency band on a *time and spatial basis*." EX1016 at 1:13-14 (emphasis added). A POSA would understand that this description of sharing a frequency band on a time and spatial basis would necessarily require the involvement of a central station in order to perform the requisite allocation of respective time slots (time basis) to the different users.

This method of allocating time slots by a central station would be more generally understood by a POSA as a time division multiple access (“TDMA”) communication method. *See, e.g.*, EX1015 at 1:21-23 (“Other systems employ Time Division Multiple Access (TDMA). In time division multiple access the time that each transmitter may broadcast is limited to a time slot.”); EX2020 at 2 (p. 209) (“TDMA, whereby all users occupy the same bandwidth but transmit in disjoint intervals of time.”). A POSA would further understand that a TDMA method can be used with the CDMA method also discussed in Miyake as part of a hybrid method known as time division CDMA (“TCDMA”), but TCDMA would nonetheless still require the involvement of a central control to perform the allocation of time slots to users. *See, e.g.*, EX1018 at 60 (“Time Division CDMA (TCDMA) - In a TCDMA (also called TDMA/ CDMA) system, different spreading codes are assigned to different cells. Within each cell, only one user per cell is allotted a particular time slot. Thus at any time, only one CDMA user is transmitting in each cell.”).

Further, Miyake’s discussion of power control in the context of the “number of allowable users” of its spread spectrum communication system further evidences the involvement of a central controller. *See* EX1016, 4:1-11. Miyake explains that “the number of users which can be accommodated in the system is maximum when signals sent from respective users have an equal reception power P.” *Id.*, 4:8-10. A POSA would interpret Miyake’s concern with managing this reception power as an

indication of the use of a central controller in Miyake's system because this balancing of power is known to be controlled by the inclusion of TDMA (time basis) because each transmitter transmits at an allotted time, instead of all at once. Essentially, Miyake's transmitters in the spread spectrum system are all designed to radiate at the same power, and this radiated signal is predetermined to meet the receiver at a particular power (*see* EX1016, 4:13-14 (describing Miyake's equations "(1)" and "(2)"), thus, with only one transmitter radiating at a time "equal receptive power" is maintained. When reception powers are unbalanced some users' signals may overpower and interfere with the signals of other users; this is known as the "near-far effect" because it often occurs when one user's transmitter/receiver is much closer to the receptive receiver than the rest, in that circumstance one user can overpower another user. *See generally* EX1018 at 61-62. A POSA would understand a central controller is required to manage this reception power or near-far effect by having transmitters transmit at separate times and Miyake teaches time basis, e.g. TDMA as discussed above. *See, e.g.*, EX1016 at 1:13-14.

Moreover, Miyake's stated design objective also suggests centralized control. For example, Miyake explains that a problem in spread spectrum communication systems is that "[i]f the number of users and/or the number of services is increased, the *managing system for the users and services* which are managed together as well as *the management of those spreading codes* becomes complicated. Thus, the

system design becomes complex as a consequence.” EX1016, 2:14-19 (emphasis added). So Miyake says “[i]t is therefore an object of the present invention to provide a spread spectrum communication system which can simplify the *management of users and services* and which can be designed easily.” *Id.*, 2:24-27 (emphasis added). From this language, it can be seen that Miyake was not seeking to avoid or eliminate centralized control or management of users and their spreading codes, but rather to provide a simpler system for exercising that centralized control of users and spreading codes in a spread spectrum communication system.

The evidence that Miyake uses central control outlined above far outweighs Petitioner’s scant and conclusory evidence to the contrary. At least Miyake’s disclosure of (1) frequency sharing on a “time basis,” (2) power control, and (3) central management of user attributes and corresponding assignment of spreading codes, would make it apparent to a POSA that Miyake discloses a central system for control and thus fails to teach the *independent* CDMA limitations of the Challenged Claims.

c) Petitioner Fails to Establish a Lack of Central Control Disclosed in Walley

Petitioner’s apparent attempt to combine Walley with Miyake to further support a lack of central control in performing CDMA also fails. Petitioner presents one sentence in support of Walley’s supposed disclosure: “Additionally, Walley teaches that an orthogonal code is used to separate the transmissions of interest from

the rest, so that the receiver only communicates with the transmitter of interest.” Pet. at 46. Petitioner’s argument fails with respect to central control for all of the same reasons it did with failing to show a “one-to-one relationship,” e.g. Petitioner’s declarant merely parrots Petitioner verbatim and Petitioner does not provide any analysis or evidence in support of this conclusion about a lack of central control in Walley. The Petition does not even discuss specific uses of orthogonal codes in Walley—the apparent crux of Petitioner’s argument. *See* Pet. at 46. This lack of evidence and analysis falls far short of satisfying Petitioner’s burden.

d) Walley Teaches the Use of Central Control in Its System

In several instances, Walley discloses its system’s use of base stations or base units, which a POSA would understand to be a straightforward indication of the system’s use of central control. For example, Walley describes that:

- “The first preferred embodiment comprises a portable telephone such as illustrated using FIG. 9. The portable telephone unit ***connects to a base station*** via a signal broadcast from the portable phone.” EX1015, 10:23-26 (emphasis added).
- “A second preferred embodiment of the invention also involves a portable phone handset. In the second portable telephone embodiment, the portable phone ***again connects to the base station.***” *Id.*, 11:23-26 (emphasis added).
- “A further embodiment of the invention comprises a PDA or programmable digital assistant as shown in FIG. 10. . . .The PDA 1001

would establish communications with *a base unit.*” *Id.*, 11:61-66 (referring to FIG. 10 which depicts a sketch of a cell tower) (emphasis added).

- “For example, if a base unit were to broadcast a high fidelity music signal to the hand unit, such as when a person was placed on hold, the data requirement for transmission might be increased from the base station to the hand unit.” *Id.*, 7:36-40 (describing Walley’s base station disclosure including embodiments related to music, or headphones/speakers and showing that Walley’s base unit is a component within the base station ecosystem).

A POSA would readily understand this use of base stations to connote Walley’s use of central control. As described in Gibson, “[c]ommunications with mobiles are made from fixed sites, known as base stations (BSs)” and “[t]he mobile terminals communicate with the base station controlling the cell in which they reside.” EX2020 at 3 (p. 1160); EX1022 at 88 (p. 642). Walley cannot be said to disclose the performance of *independent* CDMA when the system it describes repeatedly invokes base stations.

3. Petitioner Has Not Demonstrated a Sufficient Motivation to Combine Miyake and Walley

Notwithstanding the lack of record evidence discussed above in the context of the “independent CDMA term,” the record further fails to establish that a POSA would have been motivated to “combine Walley’s adjustable system PN code (which can be lengthened to reduce interference) with Miyake’s user-specific spreading

code, to provide a spreading process which creates user-specific spreading codes that can be lengthened to reduce interference,” as asserted by Petitioner. Pet. at 40-41.

There is no evidence that Walley’s variable length PN code and Miyake’s assignment of multiple spreading codes were compatible or easily adapted to operate in tandem. While Walley’s proffered improvement was changing the length of the spreading code, Miyake was suggesting instead to assign multiple spreading codes; these are two fundamentally different approaches to the use of spreading codes in a spread spectrum system. Moreover, the two technologies Petitioner seeks to combine were not “known elements” that a POSA would be familiar with or expect to be able to easily adapt; rather what Petitioner seeks to combine were the key advancements or points of novelty offered by each reference, i.e. varying the length of the spreading code from Walley and using multiple spreading codes based on various attributes from Miyake.

Petitioner has failed to show sufficiently why a POSA would see a need to look to Miyake to alter the functionality of Walley or why a POSA would have expected to succeed in doing so. For this additional reason, Petitioner’s Ground 3 fails.

VII. PETITIONER’S GROUNDS 3 AND 4 FAIL FOR THE SAME REASONS AS GROUND 2

As discussed *supra*, assuming limiting preambles, every Challenged Claim requires the use of “independent code division multiple access communication” as

that limitation is included in each of the independent claims of the Challenged Claims. Pet. at viii-xi (see limitations [1P], [2P], [3C], [5P], [8B], [9P], and [10B]). Thus, if Petitioner’s challenge fails with respect to only this element institution is unwarranted.

A. PETITIONER’S GROUND 3 FAILS FOR THE SAME REASONS AS GROUND 2

For Ground 3, Petitioner argues that certain dependent claims (i.e. claims 11-12) are obvious in view of Ground 2 and the additional combination with Rappaport. *See* Pet. at 69-72. Claims 11 and 12 depend from claims 8 and 12, respectively. *See* EX1001, 8:29-37. However, Petitioner does not make any new arguments about the “independent CDMA” elements of independent claims 8 and 12 for Ground 3, but instead argues that Rappaport provides disclosure as to additional elements of the two dependent claims. *See* Pet. at 69-72.

Thus, for the same reasons provided in the context of Ground 2, the Petition should also be dismissed for Ground 3.

B. PETITIONER’S GROUND 4 FAILS FOR THE SAME REASONS AS GROUND 2

For Ground 4, Petitioner argues that the Challenged Claims are obvious for the same reasons argued in the context of Ground 2 with only some variations regarding the claimed “transmitter” and “audio source.” *See* Pet. at 72-73 (explaining that excluding the “transmitter” and “audio source” terms, “Petitioner

otherwise adopts the arguments set forth in Grounds 2 and 3 above” and “Walley in view of Miyake, Gibson, Rappaport and Drakoulis render obvious the remaining limitations of claims 1-5 and 8-12 for the same reasons provided in Grounds 2 and 3”). Accordingly, Petitioner does not make any new arguments relative to Ground 2 or 3 regarding the “independent CDMA” terms present in all independent claims of the Challenged Claims.

Thus, for the same reasons provided as Ground 2, the Petition should also be dismissed for Ground 4.

VIII. CONCLUSION

For the reasons above, Petitioner has not met its burden of showing a reasonable likelihood of prevailing. Patent Owner respectfully submits that the Board should deny institution.

Date: December 22, 2025

Respectfully submitted,

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CERTIFICATE OF WORD COUNT UNDER 37 C.F.R. § 42.24

Pursuant to 37 C.F.R. § 42.24 et seq., the undersigned certifies that this Response complies with the type-volume limitations excluding the cover page and the parts exempted by 37 C.F.R. § 42.24(a)(1). This document contains less than 14,000 words in the applicable sections as calculated by the “Word Count” feature of Microsoft Word, the word processing program used to create it.

/s/ Daniel L. Schmid

Daniel L. Schmid

CERTIFICATE OF SERVICE

I hereby certify that on December 22, 2025, a true and correct copy of the foregoing PATENT OWNER ONE-E-WAY, INC.'S PRELIMINARY RESPONSE and its supporting exhibits were served by electronic mail upon the following counsel of record for Samsung Electronics Co., Ltd.:

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