

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HANSHOW AMERICA INC. AND HANSHOW
TECHNOLOGY CO., LTD.,

Petitioner,

v.

SES-IMAGOTAG INC.,

Patent Owner.

Case No. IPR2024-00208

Patent No. 11,010,709

PATENT OWNER'S PRELIMINARY RESPONSE

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	3
A.	Overview of the Technology	3
B.	Overview of the '709 Patent.....	4
C.	International Prosecution History of the '709 Patent	7
1.	French Patent Application 1557153	7
2.	Patent Cooperation Treaty Patent Application PCT/FR2016/051930	8
D.	U.S. Prosecution History of the '709 Patent	11
E.	The Wu Patent	15
III.	THE BOARD SHOULD INVOKE ITS DISCRETION UNDER SECTION 325(D) TO DENY INSTITUTION.	17
A.	Legal Standard.....	18
B.	Advanced Bionics Part One.....	20
1.	Factors (a) and (b): Wu Was Substantively Considered During Prosecution.....	20
2.	Factor (d): The Petition Offers Substantially the Same Arguments as Already Considered.	25
3.	None of the other references cited by Petitioner Affect the § 325(d) analysis.....	28
C.	Advanced Bionics Part Two.....	30
1.	Factor (c): The Wu Pub. Was Evaluated During Examination.....	30
2.	Factors (e) and (f): Petitioner Does Not Argue That the Examiner Erred or That the Evidence and Facts of the Petition Warrant Reconsideration	32

Patent Owner's Preliminary Response

IV. INSTITUTION SHOULD BE DENIED ON ALL GROUNDS BECAUSE WU DOES NOT RENDER CLAIM 1 OBVIOUS.	33
A. Petitioner Did Not Carry Its Burden of Proof	33
B. Petitioner Did Not Offer Evidence Demonstrating That the Wu Patent Teaches [1i] or [1o]	35
V. THE PETITION'S OBVIOUSNESS ARGUMENTS FOR ALL GROUNDS ARE CONCLUSORY AND LEGALLY DEFICIENT	38
VI. THERE IS NO GOOD CAUSE FOR A PRE-INSTITUTION REPLY	44
VII. CONCLUSION	45

TABLE OF AUTHORITIES

CASES

<i>Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH,</i> IPR2019-01469, Paper 6 (Feb. 13, 2020).....	18, 19, 25, 29
<i>Advanced Lighting Concepts, LLC v. Mate LLC,</i> IPR2023-01266, Paper 9 (Feb. 13, 2024).....	35
<i>Arendi S.A.R.L. v. Apple Inc.,</i> 832 F.3d 1355 (Fed. Cir. 2016)	35
<i>Becton, Dickinson & Co. v. B. Braun Melsungen AG,</i> IPR2017-01586, Paper 8 (Dec. 15, 2017)	19, 30, 33
<i>Belden Inc. v. Berk-Tek LLC,</i> 805 F.3d 1064 (Fed. Cir. 2015)	39
<i>Fasteners for Retail, Inc., v. RTC Industries, Inc.,</i> IPR2019-00994, Paper 9 (Nov. 5, 2019).....	23, 24
<i>Graham v. John Deere Co. Kan. City,</i> 383 U.S. 1 (1966)	34
<i>InTouch Techs., Inc. v. VGO Commc 'ns, Inc.,</i> 751 F.3d 1327 (Fed. Cir. 2014)	40
<i>Ivantis, Inc. v. Sight Sci., Inc.,</i> IPR2022-01529, Paper 16 (Mar. 21, 2023).....	25, 32
<i>KSR Int'l Co. v. Teleflex Inc.,</i> 550 U.S. 398 (2007)	34
<i>Millennium Pharms., Inc. v. Sandoz Inc.,</i> 862 F.3d 1356 (Fed. Cir. 2017)	34
<i>Ontel Prods. Corp. v. Guy A. Shaked Invs. Ltd.,</i> IPR2020-01703, Paper 10 (Feb. 4, 2021).....	45
<i>Puma N. Am., Inc. v. Nike, Inc.,</i> IPR2019-01042, Paper 10 (Oct. 31, 2019).....	19

Patent Owner's Preliminary Response

<i>Scientific Design Co. v. Shell Oil Co.</i> , IPR2021-01537, Paper 7 (Mar. 18, 2022).....	23, 24
<i>SMIC, Ams. v. Innovative Foundry Techs., LLC</i> , IPR2020-00837, Paper 13 (Oct. 9, 2020).....	34
<i>Sonos, Inc. v. Google, LLC</i> , IPR2021-00963, Paper 9 (Nov. 9, 2021).....	22, 30
<i>Xerox Corp. v. Bytemark, Inc.</i> , IPR2022-00624, Paper 9 (Aug. 24, 2022).....	40

STATUTES

35 U.S.C. § 103.....	34
35 U.S.C. § 312.....	34, 38
35 U.S.C. § 314.....	33, 34
35 U.S.C. § 325.....	passim

OTHER AUTHORITIES

37 C.F.R. § 42.65.....	40
MPEP § 1845.....	12

APPENDIX 1: CLAIM LISTING

Claim 1	Claim limitation
[1a]	A method for updating a planogram registered in a computer system, to reflect an addition of a shelf label in a shelf of a retail area,
[1b]	wherein the planogram comprises association data between articles of the retail area and locations of the retail area, the method comprising:
[1c]	acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label
[1d]	according to a scrolling direction of the locations of the retail area,
[1e]	the retail area having a plurality of shelf labels distributed in the retail area,
[1f]	each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article,
[1g]	each of the shelf labels being associated with a label identifier of its own,
[1h]	wherein the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label, wherein
[1i]	a location of the adjacent shelf label is preliminarily known in the planogram;
[1j]	identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:
[1k]	transmitting, by the reading device, the sequence of label identifiers to the computer system,
[1l]	updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:
[1m]	articles associated with the labels of the sequence of label identifiers, and
[1n]	locations of the articles, on the basis of an obtained location of the added shelf label, wherein

Patent Owner's Preliminary Response

[1o]	the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.
Claim 2	Claim limitation
[2a]	The method according to claim 1, wherein
[2b]	acquiring the sequence of label identifiers comprises receiving, by the reading device, an indication of relative positioning, relative to the location of the added shelf label to be located, and the adjacent label whereof the location is known to the computer system, the indication of relative positioning being transmitted by the reading device to the computer system.
Claim 3	Claim limitation
[3a]	The method according to claim 2, wherein
[3b]	receiving the indication of relative positioning comprises: identifying, from the acquisition order of the label identifiers of the sequence of label identifiers, the indication of relative positioning of the added shelf label, relative to the location of the adjacent label.
Claim 4	Claim limitation
[4a]	The method according to claim 1, further comprising:
[4b]	transmitting, by the reading device and to the computer system, data corresponding to an association between the label identifier of the added shelf label and a reference of an article with which the added shelf label is associated with.
Claim 5	Claim limitation
[5a]	The method according to claim 1, wherein
[5b]	the added shelf label is one of a plurality of electronic shelf labels to be located, the electronic shelf labels to be located being adjacent to each other in the scrolling direction of the locations of the retail area, and

Patent Owner's Preliminary Response

[5c]	wherein the acquiring comprises acquiring the label identifiers of the plurality of electronic shelf labels to be located in the order of their arrangement.
Claim 6	Claim limitation
[6a]	The method according to claim 5, wherein
[6b]	each electronic shelf label of the sequence is fitted with a radiofrequency peripheral, and wherein
[6c]	the acquiring comprises acquiring, by the reading device, the label identifiers of the electronic shelf labels by setting up
	communication via radiofrequency with the electronic shelf labels and the reading device.
Claim 7	Claim limitation
[7a]	The method according to claim 1, wherein
[7b]	the reading device comprises a displacement measuring member, and the method further comprises:
[7c]	determining, by the reading device, the displacement between the label identifier of the adjacent shelf label whereof the location is preliminarily known and the label identifier of the added shelf label.
Claim 8	Claim limitation
[8a]	The method according to claim 7, further comprising:
[8b]	determining, by the reading device, the distance between the adjacent shelf label whereof the location is known and the added shelf label to be located from the displacement of the reading device between the identifier of the adjacent shelf label whereof the location is known and the identifier of the added shelf label, and
[8c]	wherein the identifying further comprises obtaining the location of the added shelf label, by the computer system, and using the distance to update the planogram.
Claim 9	Claim limitation

Patent Owner's Preliminary Response

[9a]	The method according to claim 1, further comprising:
[9b]	acquiring, by the reading device, a label identifier of the adjacent shelf label,
[9c]	acquiring, by the reading device, a characteristic dimension of the location associated with the shelf label acquired the reading device,
[9d]	transmitting, by the reading device, the characteristic dimension of the location with the label identifier to the computer system.
Claim 10	Claim limitation
[10a]	A non-transitory computer program product comprising program code instructions for updating a planogram registered in a computer system to reflect an addition of a shelf label in a shelf of a retail area, comprising:
[10b]	acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is
	adjacent to the added shelf label
[10c]	according to a scrolling direction of the locations of the retail area,
[10d]	the retail area having a plurality of shelf labels distributed in the retail area,
[10e]	each of the shelf labels being associated with a respective article and being disposed near a respective location associated with the article,
[10f]	each of the shelf labels being associated with a label identifier of its own, wherein
[10g]	the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label, wherein
[10h]	a location of the adjacent shelf label is preliminarily known in the planogram;
[10i]	identifying a location corresponding to the added shelf label in the shelf of the retail area, comprising:
[10j]	transmitting, by the reading device, the sequence of label identifiers to the computer system,

Patent Owner's Preliminary Response

[10k]	updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining:
[10l]	the articles associated with the labels of the sequence of label identifiers, and
[10m]	the respective locations of the articles, on the basis of an obtained location of the added shelf label, wherein
[10n]	the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.
Claim 11	Claim limitation
[11a]	A system for managing a planogram,
[11b]	the planogram comprising association data between articles of a retail area and locations of the retail area, the system comprising:
[11c]	a plurality of electronic shelf labels,
[11d]	each of the shelf labels being associated with a label identifier of its own,
[11e]	a reading device adapted to acquire the label identifiers of the plurality of electronic shelf labels and
[11f]	to acquire the references of the articles associated with the electronic shelf labels,
[11g]	a computer system in which the planogram is registered,
[11h]	the computer system being configured to receive, from the reading device, a transmitted sequence of label identifiers, and
[11i]	being further configured to update the planogram by determining an obtained location of an added shelf label reflecting an addition of a shelf label of the retail area, wherein
[11j]	the obtained location is a location in the planogram which is immediately adjacent to the known location of the adjacent shelf label,
[11k]	the reading device being configured to: acquire a sequence of label identifiers comprising the label identifier of the added shelf label, and further comprising the label identifier of an adjacent shelf label which is adjacent to the added shelf label

Patent Owner's Preliminary Response

[11l]	according to a scrolling direction of the locations of the retail area, wherein
[11m]	the adjacent shelf label is either the preceding shelf label or the following shelf label in the shelf according to the scrolling direction and in relation to the added shelf label, wherein
[11n]	a location of the adjacent shelf label is preliminarily known in the planogram, and
[11o]	transmit the sequence of label identifiers to the computer system.
Claim 12	Claim limitation
[12a]	The system of claim 11, wherein
[12b]	the reading device is further configured to: acquire an indication of relative positioning, relative to the location of the added shelf label and the adjacent label; and transmit the indication to the computer system.
Claim 13	Claim limitation
[13a]	The system of claim 12, wherein
[13b]	the reading device is further configured to: identify, from the acquisition order of the label identifiers of the sequence of label identifiers, the indication of relative positioning of the added shelf label, relative to the location of the adjacent label.
Claim 14	Claim limitation
[14a]	The system of claim 11, wherein
[14b]	the reading device is further configured to: transmit to the computer system data corresponding to an association between
	the label identifier of the electronic and a reference of an article with which the added shelf label is associated with.
Claim 15	Claim limitation
[15a]	The system of claim 11, wherein
[15b]	the added shelf label is one of a plurality of electronic shelf labels to be located, the electronic shelf labels to be located being

Patent Owner's Preliminary Response

	adjacent to each other in the scrolling direction of the locations of the retail area, and
[15c]	wherein the reading device is further configured to: acquire the label identifiers of the plurality of electronic shelf labels to be located in the order of their arrangement.
Claim 16	Claim limitation
[16a]	The system of claim 15, wherein
[16b]	each electronic shelf label identified in the sequence is fitted with a radiofrequency peripheral, and wherein
[16c]	the reading device is further configured to acquire the label identifiers of the electronic shelf labels by setting up communication via radiofrequency with the electronic shelf labels and the reading device.
Claim 17	Claim limitation
[17a]	The system of claim 11, wherein
[17b]	the reading device comprises a displacement measurement member, and wherein
[17c]	the reading device is further configured to: Determine the displacement between the label identifier of the adjacent shelf label whereof the location is preliminarily known and the label identified of the added shelf label.
Claim 18	Claim limitation
[18a]	The system of claim 17, wherein
[18b]	the reading device is further configured to determine the distance between the adjacent shelf label and the added shelf label from the displacement of the reading device between the label identifier of the adjacent shelf label whereof the location is known, and the added shelf label.
Claim 19	Claim limitation
[19a]	The system of claim 18, wherein

Patent Owner's Preliminary Response

[19b]	the computer system is configured to obtain the location of the added shelf label as a function of the preliminarily known location of the adjacent shelf label and as a function of the determined distance.
Claim 20	Claim limitation
[20a]	The system of claim 11, wherein
[20b]	the computer system is further configured to: update the planogram on the basis of the sequence of label identifiers, by determining: articles associated with the labels of the sequence of label identifiers, and locations of the articles, on the basis of the obtained location of the added shelf label.

APPENDIX 2: ASSERTED GROUNDS

Petitioner asserts the following Grounds:

Grounds	Challenged Claims and References
1	Claims 1–5, 10, 11–15, 20: Wu
2	Claims 1–6, 10, 11–16, 20: Wu, Chaves
3	Claims 1–5, 7–9, 10, 11–15, 17–20: Wu, Itou, Auclair
4	Claims 1–5, 10, 11–15, 20: Wu, Fujiwara

LIST OF PATENT OWNER EXHIBITS

Exhibit	Description
2001	French patent office (Institut National De La Propriété Industrielle, or “INPI”) Preliminary Search Report, February 12, 2016
2002	French patent office (Institut National De La Propriété Industrielle, or “INPI”), “Opinion écrite” (Office Action), February 17, 2016
2003	Machine English Translation of Exhibit 2002
2004	French Patent No. 3039681 to Bottine
2005	U.S. Patent Application Publication No. 2015/0178767A1 to Wu et al.
2006	Comparison Document of Wu (Ex. 1003), Figs. 1–5E, 1:1–9:31, <i>with</i> Wu Pub. (Ex. 2005), Figs. 1–5E, ¶¶[0001]–[0076].

I. INTRODUCTION

Petitioner challenges the patentability of claims 1–20¹ (of which claims 1, 10, and 11 are independent) of U.S. Patent No. 11,010,709 (Ex. 1001, “the ’709 Patent”). Petitioner’s grounds all rely on a reference that was considered during prosecution—*three* times, by *three* different patent examiners—and was found each time not to preclude patentability. Under 35 U.S.C. § 325(d), the Board need not, and should not, revisit this well-trodden ground.

Petitioner’s four obviousness grounds all rely on a single prior-art reference—Wu²—to teach core limitations that are mapped to all the independent claims, and, therefore, to all claims. Petitioner presents Wu alone in Ground 1, Wu in combination with Chaves³ in Ground 2, Wu

¹ Patent Owner adopts Petitioner’s claim numbering for ease of reference.

² U.S. Patent 9,378,513 B2 (Ex. 1003) (“Wu” or the “Wu Patent”).

³ U.S. Patent Application Publication No. 2009/0231135 A1 (Ex. 1006).

Patent Owner's Preliminary Response
in combination with Itou⁴ and Auclair⁵ for Ground 3, and Wu in combination with Fujiwara⁶ for Ground 4. Petition, 2–3. Institution of the Petition, thus, rises and falls with Wu.

But Wu is substantively identical to its pre-grant U.S. Patent Application Publication 2015/0178767A1 (“Wu Pub.”). And the Wu Pub. was considered—and distinguished—during examination of the original French patent application to which the ’709 Patent claims priority, and during examination of the PCT application of which the ’709 Patent is a national stage entry. The records of both the French and PCT considerations of the Wu Pub. were also indisputably presented to, and considered by, the USPTO (U.S.) Examiner of the ’709 Patent.

Petitioner fails to show error by any of the multiple examiners who considered Wu. In fact, the Petition does not *acknowledge* that any

⁴ U.S. Patent Application Publication No. 2017/0293959 A1 (Ex. 1004).

⁵ U.S. Patent Application Publication No. 2013/0325638 A1 (Ex. 1005).

⁶ Japanese Unexamined Patent Application Publication No. 2008-77131 (Ex. 1008).

Patent Owner's Preliminary Response

prior examiners even considered the Wu Pub., and it fails to disclose the Wu Pub.'s relationship to the Wu Patent asserted here. Moreover, in view of Petitioner's manifest failure to locate key limitations of the '709 Patent in Wu, it is clear that the examiners were right all along—the '709 Patent is patentable over Wu.

No ground establishes a reasonable likelihood that any claim of the '709 Patent is unpatentable and the Board should deny institution.

II. BACKGROUND

A. Overview of the Technology

In retail stores, the goods on sale are displayed on shelves, and labels are placed in front of these shelves. The labels display information such as the price of the good. To easily display current information and more quickly respond to changes in price and the location of goods, many stores have transitioned to electronic shelf labels ("ESLs"). Ex. 1001, 1:26–30. With ESLs, screens display the information and are remote-controlled, including from a mobile phone. *Id.*, 1:26–30, 1:49–52. Instead of relying on geolocation methods, recent ESLs have upgraded to Near Field Communication or Radio Frequency Identification short-range radio frequency peripheral, which yields

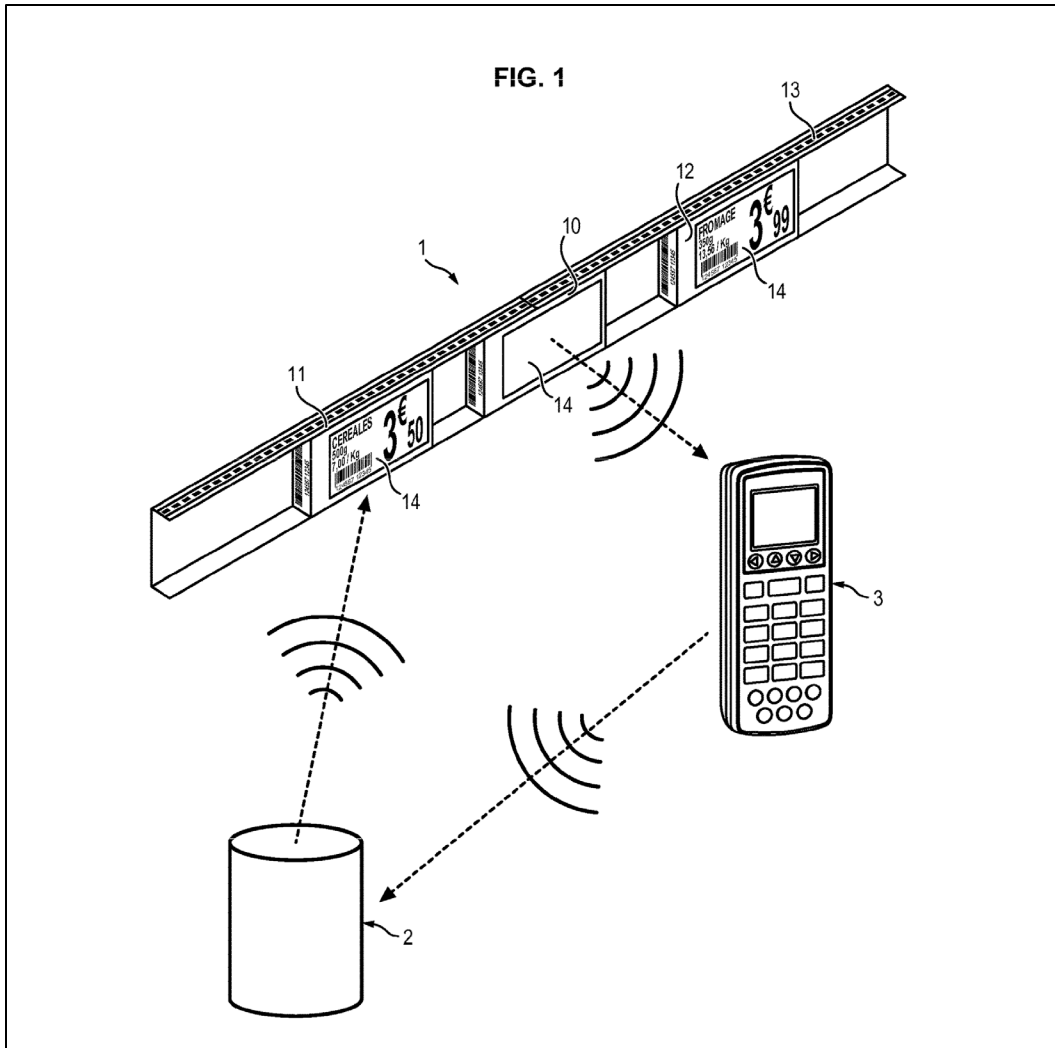
precision “of the order of a few centimeters.” *Id.*, 1:44–49, 1:63–76, 2:1–2.

B. Overview of the '709 Patent

The '709 patent discloses a method and system for updating a “planogram,” which contains a set of data that associates retail products with their respective locations in a store. Ex. 1001, 2:6–9, 2:40–44. The '709 Patent explains that planograms can sometimes be inaccurate, for example, when changes in season result in product changes on store shelves. *Id.*, 2:10–27. The '709 Patent solves the disparity between what a planogram reflects and what is actually on a store shelf by using a mobile reading device (e.g., cellular phone) to track ESL locations in a store and which products those ESLs identify at a particular location. *Id.*, *see also* 4:47–54, 4:64–5:15, 5:21–27. Knowing where products are has many advantages when deploying and updating ESLs, including the ability to advise consumers and employees of the locations of products, better management of the products for sale, and better productivity of the store. *Id.*, 9:61–67, 10:1–9.

In an exemplary system disclosed in the '709 patent (shown below), ESL 10, 11, and 12 are placed near the retail good associated with that ESL along a shelf rail 13. *Id.*, Fig. 1., 4:50–56. The ESL comprises

a label identifier and display screen 14 that displays information related to the associated article, such as its price. *Id.*, 4:49–61. The ESL also comprises a radiofrequency communication module for receiving data from a central server 2, which stores the data. *Id.*, 4:64–67, 5:4–7, 5:16–27. The ESL includes a radiofrequency peripheral with which the reading device 3 can communicate to ascertain the label identifier of the ESL. *Id.*, 5:4–8. The reading device 3 and the central server 2 can communicate with each other. *Id.*, 4:36–37. The reading device's menu is capable of various functionalities. *Id.*, 6:1–15. The exemplary system is depicted in Fig. 1 (below).



Using this exemplary system, the '709 Patent describes a method that “updates the association data between articles of a retail area and locations of said retail area.” *Id.*, 5:28–29. By altering information in the computer system, the store employee can change the “association of an article with the ESL in the region of a location,” such as when a product is replaced by another product at the same location. *Id.*, 5:28–42.

C. International Prosecution History of the '709 Patent

The '709 Patent is a United States national stage entry of international patent application PCT/FR2016/051930 (“’709 PCT”). The ’709 PCT was filed under the Patent Cooperation Treaty and designated the United States. Ex. 1001, field (86), 1:8–13. The ’709 PCT, in turn, derived from French patent application 1557153 to which the ’709 Patent claims priority. *Id.*, field (30), 1:8–13.

1. French Patent Application 1557153

The earliest priority filing to the ’709 Patent is French patent application 1557153. Ex. 1001, field (30). During examination of this application, the French patent office (Institut National De La Propriété Industrielle, or “INPI”) identified the Wu Pub., and its relevant paragraphs, in a Preliminary Search Report on February 12, 2016. Ex. 1002, 88; Ex. 2001, 9 (shown below).⁷

⁷ The INPI Preliminary Search Report is in the official file history for the ’709 Patent; as discussed below, Patent Owner provided it in an Information Disclosure Statement on June 5, 2018, and it was thereafter considered by the Examiner. Petitioner omits this search report from its Exhibit 1002 without explanation or notice. Patent Owner provides it

RÉPUBLIQUE FRANÇAISE inpi INSTITUT NATIONAL DE LA PROPRIÉTÉ INDUSTRIELLE		RAPPORT DE RECHERCHE PRÉLIMINAIRE établi sur la base des dernières revendications déposées avant le commencement de la recherche		N° d'enregistrement national FA 817165 FR 1557153	
DOCUMENTS CONSIDÉRÉS COMME PERTINENTS			Revendication(s) concernée(s)	Classement attribué à l'invention par l'INPI	
Catégorie	Citation du document avec indication, en cas de besoin, des parties pertinentes				
X A	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 juin 2015 (2015-06-25) * alinéas [0006] - [0009], [0023] - [00024], [0028] * * alinéas [0030] - [0038], [0051] - [0052], [0058] - [0063] * -----		11 1-10	G06Q10/08 G09F9/00	

INPI then, on February 17, 2016, issued an “Opinion écrite”—an office action in which the Wu Pub. was distinguished from the claimed invention. Ex. 2002 (original Written Opinion in French); Ex. 2003 (English machine translation of the same). INPI granted and issued the application as French Patent 3,039,681B1 on June 29, 2018, finding—with express reasoning—that all of Patent Owner’s then-pending claims were allowable over the Wu Pub. Ex. 2004.

2. Patent Cooperation Treaty Patent Application PCT/FR2016/051930

Patent Cooperation Treaty patent application
PCT/FR2016/051930 (“’709 PCT”) was filed on July 25, 2016, and

here as Ex. 2001. It appears in the USPTO Patent Center records as two pages of “Non Patent Literature.”

Patent Owner's Preliminary Response

claimed as its priority document French patent application 1557153—the same application allowed over the Wu Pub. Just as in the French examination, the International Search Authority (“ISA”) applied the Wu Pub. to the claims of the ’709 PCT and on October 5, 2016 issued an International Search Report. Ex. 1002, 144–145 (annotated English translation, below), 146–147 (original French report).

INTERNATIONAL SEARCH REPORT		International application No PCT/FR2016/051930
A. CLASSIFICATION OF SUBJECT MATTER INV. G06Q30/02 G06Q10/08 ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) G06Q		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO-Internal, WPI Data		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL) 25 June 2015 (2015-06-25) paragraphs [0006] - [0009], [0023] - [0024], [0028] paragraphs [0030] - [0038], [0051] - [0052], [0058] - [0063] -----	1-11

Shortly thereafter on October 14, 2016, the ISA issued an International Preliminary Report on Patentability. *Id.*, 135–40 (English translation), 127–147 (original French report). For a *second* time—once in connection with the original French application and again in connection with the PCT—the Wu Pub. was considered by an examiner and

Patent Owner's Preliminary Response

applied to Patent Owner's invention. And, once again, the invention was deemed patentable over the Wu Pub. Like INPI, the ISA provided a reasoned statement explaining why "the subject matter of claim 1 differs from [Wu's] known method ... [and] is therefore novel." The ISA determined that, among other things, the Wu Pub. did not disclose or suggest "updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area, and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known." *Id.*, 139 (annotated excerpt below).

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY		TRANSLATION
		International application No. PCT/FR2016/051930
Supplemental Box		
In case the space in any of the preceding boxes is not sufficient. Continuation of:		
Box V Reasoned statement with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement		
[1] Reference is made to the following document:		
D1	US 2015/178767 A1 (WU CHUN-HSIEN [TW] ET AL.) 25 June 2015 (2015-06-25)	
[2] <u>Independent claim 1</u>		
Document D1, which is considered to be the prior art closest to the subject matter of claim 1, discloses (see paragraphs [0006]-[0009], [0023]-[0024], [0028], [0030]-[0038], [0051]-[0052], [0058]-[0063]) a method of updating (see paragraph [0009]) association data (see paragraphs [0028], [0030]) associating between articles ("product": see paragraph [0028]) of a retail area and locations (see paragraph [0028]) of said retail area, said retail area exhibiting a plurality of shelf labels ("electronic shelf label 110": see paragraph [0024]) distributed in said retail area, each of said shelf labels ("electronic shelf label 110") being associated with an article and being disposed in proximity to a location associated with said article, each of said shelf labels ("electronic shelf label 110") being furnished with its own label identifier ("label identifying information": see paragraph [0028]), said method comprising the steps according to which, to locate (see paragraph [0031]) at least one shelf label ("electronic shelf label 110") to be located, - a reading device ("deploying device 130": see paragraph [0027]) acquires (see paragraph [0032],) label identifiers ~~a sequence of label identifiers comprising at least two label identifiers whose electronic shelf labels are adjacent in a direction of sweeping of the locations of the retail area, one of said adjacent electronic shelf labels being said electronic shelf label to be located, and another of said adjacent electronic shelf labels being an electronic shelf label whose location is known~~; - the reading device transmits ~~the sequence of identifiers~~ <i>the label identifiers</i> to a computing system ("controlling device 120": see paragraphs [0027]-[0028]), - the computing system ("controlling device 120") updates (see paragraphs [0035]-[0036]) the association data on the basis ~~of the sequence of label identifiers~~ <i>of the label identifiers</i>, by determining . ~~the articles associated with the labels of the sequence of labels,~~ . the locations ~~of said articles on the basis of the order of the labels in the sequence of labels~~; Consequently, the subject matter of claim 1 differs from this known method in that it comprises the struck-through features; it is therefore novel (PCT Article 33(2)). The problem addressed by the present invention can be considered to be that of maintaining the association data associating between articles of a retail area and locations of said retail area in accordance with the actual disposition of the articles in the retail area. The solution to this problem, as proposed in claim 1 of the present application, is considered to involve an inventive step (PCT Article 33(3)) for the following reasons: no document of the prior art either discloses or suggests updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area, and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known.		

D. U.S. Prosecution History of the '709 Patent

On January 25, 2018, Patent Owner filed an application for national stage entry into the United States of the '709 PCT—the same PCT that was already deemed novel over the Wu Pub. Ex. 1002, 116–117. The U.S. application was designated U.S. Patent Application No.

15/747,550 for U.S. examination. Ex. 1001, fields (21), (86), (87); Ex. 1002, 116–17. In information disclosure statements (“IDS”), Patent Owner disclosed to the USPTO the Wu Pub., the French Patent Office’s search report, *and* the ISA’s Preliminary Report on Patentability. Ex. 1002, 79–80, 88.

During the U.S. examination—and now for a *third time*—the Wu Pub. was compared to Patent Owner’s invention. Specifically, U.S. examiner Joseph Mutschler received copies of the international examiner’s mapping of the Wu Pub. to the claims of the parent ’709 PCT in the ISA Written Report. On June 2, 2020, Examiner Mutschler confirmed receipt and consideration of these copies on the first of two IDSs he initialed. *Id.*, 80 (below).⁸

⁸ While the IDS entry states “International Search Report,” this reflects the receipt and consideration of both the ISA Search Report and Written Opinion because they were provided to the Examiner together under that title. *See also* MPEP § 1845 (“The international search report and written opinion together serve . . . to inform the designated Offices of information that may be relevant to examination in the national phase.”).

Patent Owner's Preliminary Response

Receipt date: 01/25/2018		15/747,550 - GAU: 3627		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		Application Number		
		Filing Date		
		First Named Inventor	Philippe Bottine	
		Art Unit	N/A	
		Examiner Name	Not Yet Assigned	
		Attorney Docket Number	REGIM 3.3F-369	
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.		Ts
	1	International Search Report for Application No. PCT/FR2016/051930, mailed October 14, 2016.		
If you wish to add additional non-patent literature document citation information please click the Add button Add				
EXAMINER SIGNATURE				
Examiner Signature		/JOSEPH M MUTSCHLER/		Date Considered 06/02/2020
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.				

In this same IDS, Examiner Mutschler confirmed he also received and considered the Wu Pub. itself, along with only two other patent documents. *Id.*, 79 (annotated, below).

U.S. PATENT APPLICATION PUBLICATIONS							Remove	
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear		
	1	20150178767	A1	2015-06-25	WU et al.			
	2	20130339151	A1	2013-12-19	Bottine et al.	English language counterpart to Publication No. WO2013153290A1.		
If you wish to add additional U.S. Published Application citation information please click the Add button Add								
FOREIGN PATENT DOCUMENTS							Remove	
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ^{2,i}	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	Ts
	1	2013153290	WO	A1	2013-10-17	Store Elect Sys	Publication No. US20130339151A1 is an English language counterpart.	×
If you wish to add additional Foreign Patent Document citation information please click the Add button Add								

The Wu Pub. was, thus, a key reference considered by the U.S. examiner.

Patent Owner's Preliminary Response

As shown below, in a separate IDS containing only one entry, Examiner Mutschler also received and considered the *French* preliminary search report. *Id.*, 88 (annotated, below).

Receipt date: 06/05/2018		15/747,550 - GAU: 3627	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		Application Number	15747550
		Filing Date	2018-01-25
		First Named Inventor	Philippe Bottine
		Art Unit	N/A
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	REGIM 3.3F-369
1	French Preliminary Search Report for FR Patent Application No. 1557153, dated February 12, 2016.		
If you wish to add additional non-patent literature document citation information please click the Add button Add			
EXAMINER SIGNATURE			
Examiner Signature	/JOSEPH M MUTSCHLER/		Date Considered
		06/02/2020	
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.			

Lastly, Examiner Mutschler identified Wu on his own, as memorialized three times in his search notes. *Id.*, 84 (annotated, below).

Patent Owner's Preliminary Response

EAST Search History						
EAST Search History (Prior Art)						
Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	11	((("SES-IMAGOTAG"))).AS,AANM.	USPAT	OR	OFF	2020/06/02 15:15
L2	10	((("BOTTINE") near3 ("Philippe")) OR ((("ROBIN") near3 ("François"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	OFF	2020/06/02 15:15
S1	4	"2015178767".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 12:51
S2	2	"20150178767".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 12:51
S3	1	("2015/0178767").URPN.	USPAT	OR	OFF	2020/03/26 13:22
S4	94,297	ESL (electronic near2 shelf near2 label) (price near2 tag) (electronic near2 (tag label))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2020/03/26 13:23

Relying upon the totality of this evidence, Examiner Mutschler issued a first Office Action rejecting all eleven U.S. patent application claims over prior art other than Wu. *Id.*, 55–67. Patent Owner then amended its claims and added new claims, resulting in a notice of allowance. *Id.*, 7–15.

E. The Wu Patent

Petitioner asserts the Wu Patent as its primary reference. The Wu Patent issued from the same application as the Wu Pub. and is materially identical to the Wu Pub. Because Wu is Petitioner's primary reference and because the materially identical Wu Pub. was addressed

during prosecution, Patent Owner only discusses Wu below. Patent Owner does not, however, concede that Petitioner's description of any of the asserted art—whether discussed herein or not—is accurate or complete.

Wu discloses “[a]n electronic shelf label controlling system, an electronic shelf label installing method and an electronic shelf label updating method.” Ex. 1003, Abstract.

Via a communication gateway device 140, the controlling device 120, which stores label location 121 and content 122 information, communicates with the deploying device 130 that “read[s] the information of the shelf 901 or the electronic shelf label.” *Id.*, 2:67–3:21. A user of the controlling device 120 can also change the label location and content information stored within it, and then transmit that information to an electronic shelf label 110. *Id.*, 3:32–35.

Central to Wu is a “label content table,” shown in Fig. 5C (below).

122

label location information	label displaying information
S01_R1	product A
S01_R1.5	product B
S01_R2	product C
S02_R1	product D
S02_R1.5	product G
S02_R2	product E
S02_R3	product F

FIG. 5C

As shown there, the table includes two columns, a “label location information” column and a “label displaying information” column. It is undisputed that nothing in Wu links either of these two columns to any physical location in a retail area. Instead, Wu uses “shelf code” information, which Wu never ties to any particular physical location. *See id.*, 4:44–5:12. This is a critical distinction between Wu and the ’709 Patent.

III. THE BOARD SHOULD INVOKE ITS DISCRETION UNDER SECTION 325(D) TO DENY INSTITUTION.

Petitioner’s primary reference for all Grounds is the Wu Patent. The Wu Patent issued from the Wu Pub. and is materially identical to it. The Wu Pub. was considered multiple times in connection with the prosecution of the ’709 Patent, and as such, the Board should invoke its discretion to deny institution.

A. Legal Standard

Under § 325(d), the Director may deny institution if the challenge to the patent is based on matters previously presented to the Office. *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 7 (Feb. 13, 2020) (precedential). This is a “highly factual inquiry” that requires a two-part framework. In the first part, the Board determines “whether the same or substantially the same art previously was presented to the Office.” In the second part of the framework, the Board determines “whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.” *Id.* at 7–8. In making these determinations, the Board considers the following non-exclusive factors:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;
- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

Patent Owner's Preliminary Response

- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Id. at 9, fn.10 (citing *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (Dec. 15, 2017) (precedential as to § III.C.5, first paragraph)); *see also Puma N. Am., Inc. v. Nike, Inc.*, IPR2019-01042, Paper 10 at 9–10 (Oct. 31, 2019).

The Board first considers factors (a), (b), and (d) to determine if the same or substantially the same art was previously presented to the Office. If so, the Board proceeds to factors (c), (e), and (f) to determine whether the Office erred in a manner material to the patentability of the challenged claims. *Advanced Bionics*, IPR2019-01469, Paper 6 at 10.

B. *Advanced Bionics* Part One**1. Factors (a) and (b): Wu Was Substantively Considered During Prosecution**

There can be no doubt that the Wu Patent—Petitioner's primary reference—is materially identical to the Wu Pub. The Wu Patent issued from U.S. Patent Application No. 14/333,941, which was published as the Wu Pub. The Wu Pub. differs from the Wu Patent only with respect to the claims—which Petitioner does not cite. *Compare* Wu (Ex. 1003), Figs. 1–5E, 1:1–9:31, *with* Wu Pub. (Ex. 2005), Figs. 1–5E, ¶¶[0001]–[0076]. The Wu Patent and the Wu Pub. contain identical specifications, as an electronic comparison shows. *See* Ex. 2006 (showing only citation differences—*e.g.*, paragraph vs. column/line number—between the Wu Publication and the Wu Patent, and no differences in the respective figures). The disclosures of the Wu Pub. and Wu Patent are, therefore, effectively identical.

There can also be no doubt that the Wu Pub. was “considered”—extensively—during prosecution. As described above in Sections II.C and II.D, the Wu Pub. was considered by *three* examiners, during *three* different examinations, in *three* relevant fora—U.S. prosecution of the '709 Patent, prosecution of the '709 PCT, and prosecution of the original French application. Ex. 1002, 79–80 (Information Disclosure

Patent Owner's Preliminary Response

Statement listing Wu and International Search Report), 84 (Examiner search results rendering Wu), 87–88 (IDS listing French Preliminary Search Report for French Application No. 1557153). Before the USPTO, the Examiner of the '709 Patent gave record consideration to the Wu Pub. *and* acknowledged his additional consideration of *all of its supporting analysis* contained in the International and French search reports. In fact, each is cited on the face of the '709 Patent as depicted in the annotated figured below. Ex. 1001, field (56) ("References Cited").

(10) Patent No.: US 11,010,709 B2	
(45) Date of Patent: May 18, 2021	
(56) References Cited	
U.S. PATENT DOCUMENTS	
2008/0198001 A1*	8/2008 Sarma G06Q 10/087 340/539.1
2011/0102144 A1*	5/2011 Okina G06Q 30/02 340/5.91
(Continued)	
FOREIGN PATENT DOCUMENTS	
JP	2011096038 A * 5/2011
JP	2014199645 A * 10/2014
WO	2013153290 A1 10/2013
OTHER PUBLICATIONS	
International Search Report for Application No. PCT/FR2016/051930, dated Oct. 14, 2016.	
(Continued)	
(56) References Cited	
U.S. PATENT DOCUMENTS	
2013/0339151 A1	12/2013 Bottine et al.
2015/0178767 A1	6/2015 Wu et al.
OTHER PUBLICATIONS	
French Preliminary Search Report for FR Patent Application No. 1557153, dated Feb. 12, 2016.	

Wu applied in International Examination

Wu

Wu applied in Foreign Examination

Patent Owner's Preliminary Response

It does not matter that the Wu Pub. was initially cited in foreign or international search reports, as the Board typically finds such references “considered” for purposes of § 325(d).

For example, in *Ocado Group PLC v. Autostore Tech. AS*, the Board rejected a petitioner's argument that a reference was not “considered” after the patent owner demonstrated that the reference had been cited to, and discussed in, an International Preliminary Report on Patentability (“IPRP”) and foreign Search Report, which—like here—were both submitted to the U.S. Examiner during the prosecution of the challenged Patent. IPR2021-00398, Paper 10 at 23 (July 21, 2021).

Husky Injection Molding Sys. v. Plastipak Packaging, Inc. is similar. There, petitioner relied on a reference that appeared on a European counterpart application for the challenged patent. The search report contained a “description of [the reference's] teachings with respect to [the] claimed subject matter.” IPR2020-00438, Paper 23 at 12–13 (July 29, 2020); *see also Sonos, Inc. v. Google, LLC*, IPR2021-00963, Paper 9 at 9–10 (Nov. 9, 2021) (denying institution under § 325(d) where Examiner considered reference *and* “a European Search Report identifying that [reference] does not teach the synchronization requirement of

the claims”). The European search report was sufficient to trigger discretionary denial of institution under §325(d).

Petitioner never grapples with the starring role of the Wu Pub. throughout the examination of the ’709 Patent. Instead, Petitioner entirely ignores the Wu Pub., and offers only a single paragraph addressing Section 325(d) that is both factually and legally incorrect. It is factually incorrect because Petitioner states that the Examiner “initial[ed] the asserted art in an IDS, but did not indicate a substantive evaluation of the asserted art.” Petition, 91. This is incorrect for two separate reasons. First, it is incorrect because the Examiner initialed an IDS concerning the Wu Pub., not the Wu Patent asserted here. Second, it is incorrect because the Examiner *did* indicate substantive evaluation of the European search history, as shown on the face of the ’709 Patent.

Petitioner’s Section 325(d) paragraph is incorrect on the law because it cites *Scientific Design Co. v. Shell Oil Co.*, IPR2021-01537, Paper 7 at 25 (Mar. 18, 2022), and *Fasteners for Retail, Inc., v. RTC Industries, Inc.*, IPR2019-00994, Paper 9 at 10 (Nov. 5, 2019). See Petition, 91. Neither case concerns facts even remotely similar to this case.

In *Scientific Design*, for example, an Examiner initialed an IDS that contained nearly *one hundred* references. More importantly, the

references were not, as they are here, records of analysis provided by other examiners sitting in other patent offices applying the relevant art to the claimed invention. IPR2021-01537, Paper 7 at 25.

As for *Fasteners for Retail*, the applicant “submitted hundreds of references, and the examiner was left considering *over 1,000 prior art documents*.” IPR2019-00994, Paper 9 at 9 (emphasis original). By contrast, in the examination of the ’709 Patent, only five prior-art references were submitted by the applicant; one was the Wu Pub. itself, and two others considered whether the Wu Pub. rendered the claimed subject matter of the ’709 patent unpatentable. Ex. 1002, 79–80, 87–88. Indeed, a total of nine references are cited on the face of the ’709 Patent, and three of these involved Wu. Furthermore, the file history indicates that U.S. Examiner Mutschler *independently* conducted a targeted search based on the Wu Pub. *Id.*, 84. Thus, this is not a circumstance like *Scientific Design* or *Fasteners for Retail* where a petitioner can credibly say that a reference was not considered because it was included in a wash of hundreds of other references. Instead, the Wu Pub. was one of the central references at issue during the three examinations.

Finally, Petitioner seems to suggest that the Wu Pub. was not “considered” for purposes of § 325(d) because it was not part of a

rejection. But that does not matter because “there is no requirement that [the] Examiner needs to rely on a reference in a rejection during prosecution in order for the reference to be ‘considered’ during prosecution.” *Ivantis, Inc. v. Sight Sci., Inc.*, IPR2022-01529, Paper 16, at 17 n.8 (Mar. 21, 2023) (citing *Advanced Bionics*, IPR2019-01469, Paper 6 at 7–8).

2. Factor (d): The Petition Offers Substantially the Same Arguments as Already Considered.

Factor (d) “pertains to arguments made ‘during examination’” but also is intended to be applicable “more broadly” to “arguments previously presented to the Office during *any* proceeding.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 10 (emphasis in original). The question for factor (d) is, thus, whether the Petition presents some new or different analysis than what was previously before the Office.

The Petition never argues, let alone demonstrates, that Wu should be applied differently by the Board than the Wu Pub. was applied in the previous French, PCT, or U.S. examinations. To the contrary, Petitioner seeks to apply Wu in effectively the same way as the Wu Pub. was applied during the international and U.S. prosecution. In fact, Petitioner even cites the same portions of the Wu Patent that the examiners cited in the Wu Pub. *Compare* Petition, with Ex. 1002, 139 and Ex. 2001, 9.

Patent Owner's Preliminary Response

In one specific example showing the overlap between the prosecution and Petition, the chart below shows how the Petitioner mapped claim limitation [1g] to the Wu Patent (left), and how the French examiner mapped claim [1g] to the Wu Pub. (right). Petition, 23; Ex. 2001, 9.

Petition	Citation in Preliminary French Search Report (Ex. 2001)
<u>Claim limitation [1g]:</u> each of the shelf labels being associated with a label identifier of its own,	
<u>Wu (Ex. 1003), 3:59–61:</u> “In step S101, the deploying device 130 obtains the label identifying information of the electronic shelf label 110 to be installed.”	<u>Wu Pub. (Ex. 2005), ¶[0032]:</u> “In step S101, the deploying device 130 obtains the label identifying information of the electronic shelf label 110 to be installed.”
<u>Wu (Ex. 1003), 1:45–48:</u> “The controlling device stores a label location table. The label location table records a relationship between a label identifying information and a label location information of the electronic shelf label.”	<u>Wu Pub. (Ex. 2005), ¶[0007]:</u> “According to one embodiment, an electronic shelf label controlling system is provided. The electronic shelf label controlling system comprises at least an electronic shelf label, a controlling device, a deploying device and a communication gateway device. The electronic shelf label is disposed on a shelf. The controlling device stores a label location table. The label location table records a relationship between a label identifying information and a label location information of the electronic shelf label. The deploying device is

Patent Owner's Preliminary Response

	used for obtaining the label identifying information. The communication gateway device is used for communicating the controlling device, the deploying device and the electronic shelf label.”
--	--

In another example of extensive overlap between the prosecution and the Petition, the International Search Authority found that the Wu Pub. did not disclose or suggest “updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area, and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known.” Ex. 1002, 139. Petitioner claims that the Wu Patent meets the equivalent limitation in independent claims 1, 10, and 11 of the ’709 Patent. *See* Petition, 13–20, 30–32. Yet, Petitioner does not suggest that the PCT Written Opinion was wrong, and provides no analysis or evidence that its interpretation of this limitation is different.

In short, the Petition offers little more than a retread of the same considerations that were before three separate offices on three separate occasions. There is nothing in the Petition’s approach to the Wu Patent—or, for that matter, any other cited asserted reference—that is in

any way materially different from what three examiners already considered and rejected.

3. None of the other references cited by Petitioner Affect the § 325(d) analysis

All four asserted Grounds rely on the Wu Patent for multiple claim limitations, and, as above, Wu was already before the Patent Office. While Grounds 2, 3, and 4 add additional secondary references, institution remains unwarranted, because the arguments made with the additional references are substantially the same as those made for Wu. *Compare* Petition, 14, *with* Petition, 53, 70–71, 84–85. The Petition not only does not apply the secondary references in Grounds 2–4 in a manner different from Wu, it in fact *highlights* the similarity of the references to justify its obviousness combinations, further supporting that institution should be denied under 35 U.S.C § 325(d). *See* Petition, 60–64, 79-80, 89.

For example, for Ground 2, the Petition states that “Wu already discloses acquiring, by a reading device, label identifiers of a label to be added as well as of at least one adjacent label, and transmitting these label identifiers to the computer system,” and “Chaves expressly discloses acquiring, by a reading device, a sequence of label identifiers, and transmitting these label identifiers to the computer system.”

Petition, 60. This is the same “acquiring” argument as Wu. For Ground 3, the Petition states that “Wu already discloses acquiring, by a reading device, label identifiers of a label to be added as well as of at least one adjacent label, and transmitting these label identifiers to the computer system,” and “Itou expressly discloses acquiring, by a reading device, a sequence of label identifiers, and transmitting these label identifiers to the computer system,” which is the same “acquiring” argument as Wu. Ground 4 states that “Wu already discloses acquiring, by a reading device, label identifiers of a label to be added as well as of at least one adjacent label, and transmitting these label identifiers to the computer system,” and “Fujiwara then expressly discloses acquiring, by a reading device, a sequence of label identifiers, and transmitting these label identifiers to the computer system,” which is, again, the same argument as made for Wu, with no difference from Chaves or Itou. Petition, 89.

Under the *Advanced Bionics* framework, Petitioner's arguments under the secondary references in Grounds 2, 3, and 4 were all previously considered by the Office in the context of the Wu Pub.

Factors (a), (b), and (d) weigh in favor of denial of institution. Thus, *Advanced Bionics* requires the Board to consider factors (c), (e), and (f).

C. *Advanced Bionics* Part Two**1. Factor (c): The Wu Pub. Was Evaluated During Examination**

Factor (c) considers “the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection.” *Becton, Dickinson*, IPR2017-01586, Paper 8 at 17–18. Petitioner argues that “the Examiner did not apply [Wu] against the claims, discuss it, or indicate a substantive evaluation of it.” Petition, 91. This is incorrect.

As explained above, while the *Wu Patent* was not evaluated during examination, the materially identical *Wu Pub.* was extensively considered during examination both in the U.S. and abroad. *See supra* Sections II.C and II.D; Ex. 1002, 88, 139; *Husky Injection Molding*, IPR2020-00438, Paper 23 at 16–17; *Sonos*, IPR2021-00963, Paper 9 at 9–10. The International Preliminary Report on Patentability, and its detailed Written Opinion, substantively considered the *Wu Pub.* and expressly concluded that it does not disclose or suggest “updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area,

and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known.” Ex. 1002, 139. The color-coded chart below shows how the Preliminary Report’s analysis corresponds to limitations of claim 1 of the ’709 Patent.

Written Opinion of the ISA	'709 Patent, Claim 1 (relevant parts excerpted)
“[P]roposed claim 1 of the present application, is considered to involve an inventive step (PCT Article 33(3)) for the following reasons: no document of the prior art either discloses or suggests[—]	
updating data of associations relating to the association between articles of a retail area and locations of said retail area, by way of the acquisition, by a reading device, of a sequence of at least two label identifiers whose labels are adjacent, in a direction of sweeping of the locations of the retail area, and one of whose identifiers corresponds to the label to be located, and the other to a label whose location is known.”	[1a] A method for updating a planogram . . . , the method comprising:
	[1c] acquiring, by a reading device, a sequence of label identifiers comprising a label identifier of an added shelf label reflecting an addition of the shelf label in the shelf of the retail area, and also comprising a label identifier of an adjacent shelf label which is adjacent to the added shelf label
	[1d] according to a scrolling direction of the locations of the retail area,
	[1i] updating, by the computer system, the planogram on the basis of the sequence of label identifiers, by determining: . . .

	[1n] locations of the articles, on the basis of an obtained location of the added shelf label , wherein
	[1o] the obtained location is a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.

The U.S. Examiner's signature on the two IDS forms also indicate that he considered, not only the Wu Pub., but also the detailed analyses of that reference in the two search reports for related applications. The Wu Pub. was not part of a rejection during the U.S. examination, but that is neither required nor surprising given that two other examiners determined that the claimed subject matter was allowable over the Wu Pub. *See Ivantis*, IPR2022-01529, Paper 16 at 17 n.8 (“there is no requirement that the Examiner needs to rely on a reference in a rejection during prosecution in order for the reference to be ‘considered’ during prosecution”).

2. Factors (e) and (f): Petitioner Does Not Argue That the Examiner Erred or That the Evidence and Facts of the Petition Warrant Reconsideration

Factors (e) and (f) consider “whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art” and “the extent to which additional evidence and facts

presented in the Petition warrant reconsideration of the prior art or arguments.” *Becton, Dickinson*, IPR2017-01586, Paper 8, 17–18. Petitioner does not argue that the Examiner was incorrect. Petition, 91. Instead, Petitioner entirely ignores the extensive prosecution history as it relates to the Wu Pub. As a result, these factors also weigh in favor of denying institution.

Patent Owner has repeatedly and consistently claimed the invention recited in the '709 Patent in a manner that distinguishes Wu, to the satisfaction of multiple examiners both in the United States and abroad. The Board should deny institution under § 325(d).

IV. INSTITUTION SHOULD BE DENIED ON ALL GROUNDS BECAUSE WU DOES NOT RENDER CLAIM 1 OBVIOUS

Even if the Board declines to exercise its discretion to deny institution under 35 U.S.C. § 325(d), the Board should deny institution under 35 U.S.C. § 314(a) because the Petition does not demonstrate a reasonable likelihood that any challenged claim is unpatentable.

A. Petitioner Did Not Carry Its Burden of Proof

“Petitioner bears the burden on institution of demonstrating a reasonable likelihood that it will prevail in showing the unpatentability of at least one claim . . . Petitioner must file a Petition that . . .

‘identifies . . . the evidence that supports the grounds for the challenge to each claim.’” *SMIC, Ams. v. Innovative Foundry Techs., LLC*, IPR2020-00837, Paper 13 at 13–14 (Oct. 9, 2020) (citing 35 U.S.C. §§ 314(a), 312(a)(3)).

A claim is invalid under 35 U.S.C. § 103(a) only if “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made” to the POSITA. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (internal quotation marks and citation omitted). An obviousness determination must be based on four factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the art; and (4) objective indicia of nonobviousness. *Id.* at 406 (citing *Graham v. John Deere Co. Kan. City*, 383 U.S. 1, 17–18 (1966)). A party alleging obviousness is “required to place themselves in the minds of those of ordinary skill in the relevant art *at the time the invention was made*, to determine whether that which is now plainly at hand would have been obvious at such earlier time.” *Millennium Pharms., Inc. v. Sandoz Inc.*, 862 F.3d 1356, 1367 (Fed. Cir. 2017) (emphasis added) (internal quotation marks and citation omitted). When a

limitation is missing from the asserted prior-art references, this gap cannot be filled simply by blanket assertions of common sense and “this is particularly true where the missing limitation goes to the heart of an invention.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362–63 (Fed. Cir. 2016) (precedential).

B. Petitioner Did Not Offer Evidence Demonstrating That the Wu Patent Teaches [1i] or [1o]

Claim limitation [1i] recites “a location of the adjacent shelf label ... preliminarily known in the planogram” and limitation [1o] recites “a location in the planogram which is adjacent to the preliminarily known location of the adjacent shelf label.” These limitations appear in independent claim 1 and again in independent claims 10 and 11, and thus, are present in all challenged claims. Because Wu fails to teach these limitations, Petitioner has not shown a reasonable likelihood that any claim in the '709 Patent is unpatentable. *See, e.g., Advanced Lighting Concepts, LLC v. Mate LLC*, IPR2023-01266, Paper 9 at 1, 21–24 (Feb. 13, 2024) (denying institution where Petitioner failed to specify where each element of the claim is found in the prior art relied upon).

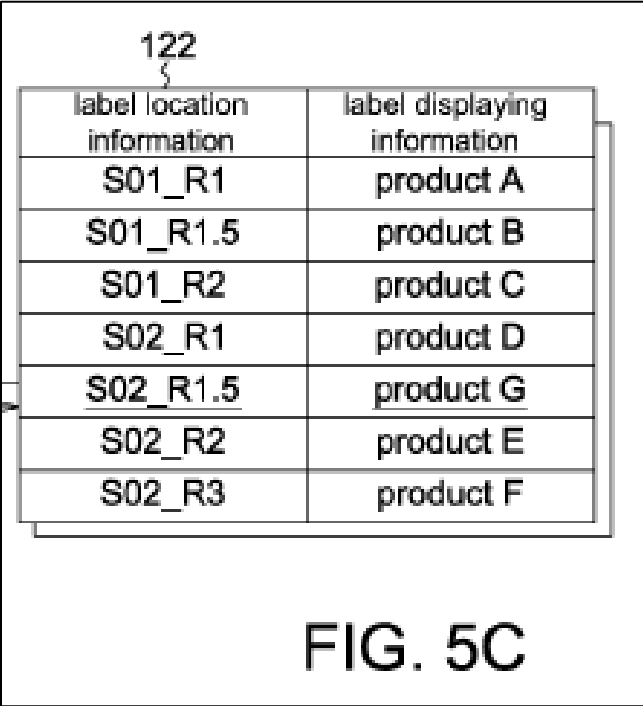
Petitioner purports to give the terms in limitations [1i] and [1o] their “ordinary and customary meaning as understood by a person of ordinary skill in the art at the time of the claimed invention.” Petition,

4.⁹ But, in fact, the Petition fails to identify in Wu any “location [] in the planogram” as that term is used. It is undisputed that the term “planogram” is not found in Wu. Petitioner asserts—without explanation or evidence—that Wu’s “label content table 122[] ... is the claimed planogram.” Petition, 11–12 (citing Ex. 1003, Fig. 5C, 3:19–21). Yet Petitioner fails to explain why a label content table would be a “planogram.”

Wu’s label content table is a simple, two-column table. It lists data like “label location information” and “label displaying information,” and nothing more. Ex. 1003, Fig. 5C (excerpted portion below). Wu does not link the information in this table to any particular product physical locations. Wu, instead, computes relative label shelf location information, “obtained by performing a mathematical extrapolation, such as addition or multiplication on the electronic shelf label

⁹ For purposes of this Preliminary Response only, Patent Owner applies Petitioner’s articulation of the level of skill in the art. Patent Owner reserves the right to further address this issue if this IPR is instituted.

110 which is already installed, such that the location codes are incremented from left to right.” *Id.* 5:5–11.



label location information	label displaying information
S01_R1	product A
S01_R1.5	product B
S01_R2	product C
S02_R1	product D
S02_R1.5	product G
S02_R2	product E
S02_R3	product F

FIG. 5C

But the Petition does not offer any evidence linking this “label location information” data to actual *product* locations as recorded or represented *in a planogram*. See Petition, 23–24, 31–32; Ex. 1001, 2:6–9. Nor does Petitioner’s expert. See Ex. 1009, ¶¶ 106, 132. As such, Petitioner offers no explanation or evidence of how label location information—which on its face does not appear to relate to a particular physical location—can meet the claim.

Without any, let alone a fulsome, explanation of why the “label location information” constitutes a planogram, Petitioner’s mappings

of subsequent claim limitations—“a location of the adjacent shelf label ... preliminarily known *in the planogram*” in limitation [1i] and “*a location in the planogram* which is adjacent to the preliminarily known location of the adjacent shelf label” in limitation [1o]—necessarily fail.

Because Petitioner relies exclusively on Wu to teach limitations [1i] and [1o], and because Petitioner fails to show how Wu in fact teaches those limitations, Petitioner has failed to meet its burden, and institution should be denied on the merits.

V. THE PETITION'S OBVIOUSNESS ARGUMENTS FOR ALL GROUNDS ARE CONCLUSORY AND LEGALLY DEFICIENT

The Petition and supporting declaration are vague, full of incorrect references, and otherwise require the Board to guess at arguments made, and supposed evidence offered, throughout. By themselves these failures are sufficient to warrant denial of institution, as “the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic*, 815 F.3d at 1363 (citing 35 U.S.C. § 312(a)(3) (requiring IPR petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)).

Patent Owner's Preliminary Response

In some cases, the Petition relies on arguments it fails to make and, in others, fails to offer support for arguments it does make. As one example of the former, the Petition argues that “a POSITA reading disclosure of Wu in combination with the disclosure of Itou and Auclair, as discussed in Section III.G.4.b....” Petition, 74. But Section III.G.4.b does not exist, and Section III.G.4 discusses the Fujiwara reference—not Wu, Itou, or Auclair. *Id.*, 83. As one example of the latter, when discussing limitation [1g] in Ground 1, the Petition alleges inherency, and yet offers no analysis or support of any kind. *Id.*, 23 (“A POSITA would recognize that [Wu] inherently discloses unique label identifiers associated with shelf labels...”).

Petitioner also lards its Petition with conclusory statements that do not support institution. For instance, Petitioner asserts throughout its Petition what a POSITA *could* have done, rather than what a POSITA *would* have done. *See id.*, 16 (“POSITA would understand that, without acquiring this second identifier in the sequence ... the reading device *could not possibly* ‘create[] the relationship...’”) (emphasis added). The Petition does not provide any explanation or evidence as to why this would be a POSITA’s understanding. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (precedential) (“[O]bviousness

Patent Owner's Preliminary Response

concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”); *InTouch Techs., Inc. v. VGO Commc’ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014) (precedential) (finding conclusory testimony that “one of ordinary skill in the art *could* combine . . . references, not that they *would* have been motivated to do so” deficient) (emphasis original).

Nor can the Petition be cured by the expert’s declaration, as the conclusory statements in the Petition are largely replicated in the declaration. 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”); *see Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15–17 (Aug. 24, 2022) (precedential) (denying institution and according “little weight” to declaration testimony that contains a verbatim restatement of a petition’s conclusory assertions without additional supporting evidence or reasoning). Indeed, the expert declaration provides no further explanation or analysis beyond the conclusions of the Petition, except that, to give the declaration a patina of legitimacy, the expert tacks on the preamble “[i]n my opinion” in a handful of places. *See Xerox*, IPR2022-00624, Paper 9 at 15–17. The

Patent Owner's Preliminary Response

expert declaration even cites *itself* without explanation, truly parroting the Petition. *See* Ex. 1009, ¶¶153, 198, 202, 203, 245, 257, 274.

The chart below shows examples of conclusory statements addressing claim 1 limitations in the Petition replicated at the cited portions of the expert declaration.

Claim	Petition	Expert Declaration (Ex. 1009)
[1a]	“To the extent that Wu does not specifically disclose a retail area, it was well known to a POSITA that such a business development with shelves on which products are arranged for consumers to choose can be a retail area. Ex. 1009, ¶67. Further, at the time of the claimed invention, it was well known to a POSITA that ESLs are widely used in retail areas, and a POSITA would be motivated to use the ESL system and accompanying planogram updating methods of Wu in a retail area (i.e., a store), which requires no changes to Wu’s system and methods and represents nothing more than the application of a known technique to a similar setting. <i>Id.</i>, ¶68.” Petition, 12–13.	“To the extent that Wu does not specifically disclose a retail area, it is well known for a POSITA that such a business development with shelves on which products are arranged for consumers to choose can be a retail area. Further, at the time of the claimed invention, it was well known to a POSITA that ESLs are widely used in retail areas, and a POSITA would be motivated to use the ESL system and accompanying planogram updating methods of Wu in a retail area (i.e., a store), which requires no changes to Wu’s system and methods and represents nothing more than the application of known technique to a similar setting.” Ex. 1009, ¶¶67–68.

Claim	Petition	Expert Declaration (Ex. 1009)
[1c]	“A POSITA would recognize that, in order for the reading device (deploying device) to complete steps S103-S106, the reading device (deploying device) acquires the location of an adjacent shelf label that was already installed. Ex. 1009, ¶80.” Petition, 16.	“In my opinion, a POSITA would recognize that, in order for the reading device (deploying device) to complete steps S103-S106, the reading device (deploying device) acquires the location of an adjacent shelf label that was already installed.” Ex. 1009, ¶80.
[1c]	“Further, a POSITA would understand that the reading device that is equipped to read shelf label identifiers can be used to read the identifier of an adjacent shelf label in order to associate the added shelf label with a location in the retail area. <i>Id.</i>, ¶85.” Petition, 17.	“In my opinion, a POSITA would understand that the reading device that is equipped to read shelf label identifiers can be used to read the identifier of an adjacent shelf label in order to associate the added shelf label with a location in the retail area.” Ex. 1009, ¶85.
[1d]	“Thus, a POSITA would recognize that the order of acquisition of identifiers, by the reading device (deploying device), is either left to right or right to left. Ex. 1009, ¶90. Accordingly, the POSITA would understand that the acquisition of the sequence of label identifiers in Wu is according to a scrolling direction of the locations of the retail area. <i>Id.</i>, ¶91.” Petition, 20.	“In my opinion, a POSITA would recognize that the order of acquisition of identifiers, by the reading device (deploying device), is either left to right or right to left. In my opinion, a POSITA would understand that the acquisition of the sequence of label identifiers in Wu is according to a scrolling direction of the locations of the retail area. <i>Id.</i>” Ex. 1009, ¶¶90–91.

Claim	Petition	Expert Declaration (Ex. 1009)
[1g]	“A POSITA would recognize that this inherently discloses unique label identifiers associated with shelf labels (that is, each shelf label is associated with a label identifier of its own), because without such unique label identifiers, the processes disclosed by Wu would not work. Ex. 1009, ¶102.” Petition, 23.	“In my opinion, a POSITA would recognize that this inherently discloses unique label identifiers associated with shelf labels (that is, each shelf label is associated with a label identifier of its own), because without such unique label identifiers, the processes disclosed by Wu would not work.” Ex. 1009, ¶102.
[1k]	“A POSITA would recognize that the flow from deploying device 130 to controlling device 120 obviously transmits the sequence of label identifiers that the deploying device 120 obtained from ESL-1 and ESL-2 to the computer system. Ex. 1009, ¶113.” Petition, 27.	“In my opinion, a POSITA would recognize that the flow from deploying device 130 to controlling device 120 obviously transmits the sequence of label identifiers that the deploying device 120 obtained from ESL-1 and ESL-2 to the computer system.” Ex. 1009, ¶113.
[1l]	“A POSITA would find it obvious that the manager does so through computer programming instructions previously stored inside the controlling device (a computer system). Ex. 1009, ¶120. A POSITA, familiar with computer systems in general and computer systems that manage information such as planograms in particular, would find it obvious that the computer	“In my opinion, a POSITA would find it obvious that the manager does so through computer programming instructions previously stored inside the controlling device (computer system). In my opinion, a POSITA, familiar with computer systems in general and computer systems that manage information such as planograms in particular, would find it obvious that the computer system of Wu can

Claim	Petition	Expert Declaration (Ex. 1009)
	system of Wu can be equipped with previously stored computer programming instructions that effect the updating as claimed in [11]. <i>Id.</i> , ¶121.” Petition, 29–30.	be equipped with previously stored computer programming instructions that effect the updating as claimed in [11].” Ex. 1009, ¶¶120–21.
[1m]	“[A] POSITA would find it obvious that the controlling device of Wu (the computer system) can update the planogram automatically without participation of human actors upon the receipt of the sequence of label identifiers. Ex. 1009, ¶124.” Petition, 30.	“As discussed, in my opinion, a POSITA would find it obvious that the controlling device of Wu (the computer system) can update the planogram automatically without participation of human actors upon the receipt of the sequence of label identifiers.” Ex. 1009, ¶124.

VI. THERE IS NO GOOD CAUSE FOR A PRE-INSTITUTION REPLY

In view of the deficiencies in the Petition discussed above, Petitioner might seek to file a pre-institution reply. But there would be no good cause for a pre-institution reply. Petitioner addressed Section 325(d), including Wu, in the Petition already, but chose to give that issue only cursory attention. All of Patent Owner's other arguments above address the merits of the Petition, and Petitioner could have—and should have—addressed these issues in the Petition itself. Petitioner would have no good cause to bolster the merits of its Petition in

Patent Owner's Preliminary Response

a pre-institution reply. *See, e.g., Ontel Prods. Corp. v. Guy A. Shaked Invs. Ltd.*, IPR2020-01703, Paper 10 at 2 (Feb. 4, 2021) (denying reply for “subjects that Petitioner should have developed in its Petition”).

VII. CONCLUSION

For all the above reasons, Petitioner has not met its burden of establishing a reasonable likelihood of success in showing that at least one claim is unpatentable as obvious over the cited art, and Patent Owner respectfully requests the Board deny institution.

February 28, 2024

Respectfully submitted,

By: /Jessica C. Kaiser/

Jessica C. Kaiser

Reg. No. 58,937

Lead Counsel for Patent Owner

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), I, Jessica C. Kaiser, certify that PATENT OWNER'S PRELIMINARY RESPONSE contains 10,034 words, excluding those portions identified in 37 C.F.R. § 42.24(a), as measured by the word-processing system used to prepare this paper.

February 28, 2024

Respectfully submitted,

By: /Jessica C. Kaiser/

Jessica C. Kaiser

Reg. No. 58,937

Lead Counsel for Patent Owner

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), I certify that on February 28, 2024, a copy of **PATENT OWNER'S PRELIMINARY RESPONSE** was served upon the below-listed counsel by electronic mail:

Hao Tan
haotan@archlakelaw.com

Shen Wang
shenwang@archlakelaw.com

Dated: February 28, 2024

By: /Jessica C. Kaiser/
Jessica C. Kaiser
Reg. No. 58,937
Lead Counsel for Patent Owner