IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

WSOU INVESTEMENTS, LLD D/B/A BRAZOS LICENSING AND DEVELOPMENT, *Plaintiff*, v. **CANON INC. AND CANON U.S.A., INC.**, *Defendants*.	**6:22-cv-00166-ADA**

CANON'S PRELIMINARY INVALIDITY CONTENTIONS

Pursuant to the Agreed Scheduling Order entered on July 1, 2022 (Dkt. No. 40) Defendants Canon Inc. and Canon U.S.A., Inc. (collectively, "Canon") hereby serve their Preliminary Invalidity Contentions for U.S. Patent No. 7,493,030 (the "'030 patent").

I. INTRODUCTORY STATEMENT

Plaintiff WSOU Investments, LLD D/B/A Brazos Licensing and Development's ("WSOU's") Preliminary Infringement Contentions served on June 2, 2022 (the "Infringement Contentions"), are vague and incomplete, and do not provide the specificity necessary to allow Canon to adequately respond. For example, the Court's Scheduling Order required WSOU to "identify the earliest priority date (*i.e.*, the earliest date of invention) for each asserted claim and produce: (1) all documents evidencing conception and reduction to practice for each claimed invention." WSOU did not comply with this order, and instead refused to firmly identify a particular alleged priority date and did not produce any conception or reduction to practice documents, and instead made the open-ended statement that the '030 patent "is entitled to a

priority date of at least June 24, 2005." Infringement Contentions at p. 5. WSOU's failure to timely produce conception and reduction to practice documents prejudices Canon's ability to prepare its invalidity contentions, especially given WSOU's assertion that the "subject matter described by the Asserted Claims, however, may have been conceived and reduced to practice prior to [June 24, 2005]." *Id*. In preparing its invalidity contentions, Canon is relying on WSOU's alleged June 24, 2005 priority date.

WSOU's Infringement Contentions are also without merit and frivolous for at least the reasons explained in Richard F. Martinelli's April 22, 2002 letter to Jonathan K. Waldrop, as well as Canon's motions to dismiss WSOU's direct infringement claims (Dkt. Nos. 15 and 30), which are incorporated herein by reference. WSOU's Infringement Contentions did not address any of these deficiencies, and WSOU's continued failure to present a *bona fide* infringement allegation has prejudiced Canon's ability to prepare these invalidity contentions.

As another example, WSOU has not provided any contentions regarding alleged induced infringement beyond the conclusory, non-factual allegation that "Canon has taken active steps with the specific intent to encourage and cause others to use each Accused Instrumentality in ways that infringe each Asserted Claim. Such active steps by Canon with specific intent to induce infringement have included, among other things, advertising, promoting, marketing, making available for use, offering to sell, and/or selling the Accused Instrumentalities to others; encouraging and influencing others to import, offer to sell, and/or sell the Accused Instrumentalities; directing and instructing others to use the Accused Instrumentalities in infringing ways; and by providing the Accused Instrumentalities to others." Infringement Contentions at p. 4.

Similarly, to the extent WSOU intended to raise any doctrine of equivalents arguments, it failed to adequately disclose any doctrine of equivalents infringement theory or provide any factual support therefor, and again did nothing more than recite the following boilerplate, conclusory language: "To the extent that Canon alleges that one or more limitations of the Asserted Claims are not literally found in the Accused Instrumentalities, Brazos alleges that such limitations are found in or practiced by the Accused Instrumentalities under the doctrine of equivalents. Any differences alleged to exist between any of the Asserted Claims and any of the Accused Instrumentalities are insubstantial and that each Accused Instrumentality also meets each limitation under the doctrine of equivalents as the identified features of the Accused Instrumentality performs substantially the same function in substantially the same way to achieve substantially the same result as the corresponding claim limitation." Infringement Contentions at p. 3.

Should WSOU's final infringement contentions be materially different from its preliminary infringement contentions or should WSOU be permitted to amend its infringement contentions or otherwise be permitted to pursue induced infringement or infringement under the doctrine of equivalents, Canon reserves the right to amend and supplement these invalidity contentions as appropriate.

Moreover, the discovery and *Markman* processes have not begun, and WSOU has not yet served its Final Infringement Contentions, and WSOU has not identified what the scope of the "plain and ordinary meaning" of the claims is. Canon has prepared these invalidity contentions without the benefit of knowing the positions WSOU may take regarding the scope of the asserted claims, how the Court may construe the asserted claims, how WSOU may interpret the Court's claim constructions, how WSOU may interpret the scope of the claims, or how WSOU may

attempt to read the claims onto the accused products. Canon specifically reserves the right to amend these invalidity contentions as the case progresses, including after receiving WSOU's Final Infringement Contentions.

Canon understands that WSOU has asserted claims 1-3, 11-20, 22, and 24 of the '030 patent, which are collectively referred to herein as the "Asserted Claims".

To the extent that these Infringement Contentions rely on or otherwise embody particular constructions of terms or phrases in the Asserted Claims, Canon is not proposing any such constructions as proper constructions of those terms or phrases. Various positions put forth in this document are predicated on WSOU's incorrect and overly broad interpretation of the claims as evidenced by its Infringement Contentions, dated June 2, 2022. Those positions are not intended to and do not necessarily reflect Canon's interpretation of the true and proper scope of WSOU's claims, and Canon reserves the right to adopt claim construction positions that differ from or even conflict with various positions put forth in this document. Nor should these invalidity contentions be interpreted as suggesting that WSOU's reading of the Asserted Claims is correct, that any of the Asserted Claims are not indefinite, or as an admission that any of Canon's products or technology infringe any claim of the Asserted Patent. Canon specifically denies any such infringement.

These invalidity contentions, including the attached exhibits, are subject to modification, amendment, and/or supplementation in the event that WSOU provides any information that it failed to provide in its Infringement Contentions or attempts to cure the deficiencies in its Infringement Contentions, in light of WSOU's Final Infringement Contentions, and/or in view of any Court's ruling regarding the construction or scope of the Asserted Claims, and new information regarding the construction or scope of the Asserted Claims, any findings as to the

priority, conception, or reduction to practice date of the Asserted Claims, and/or positions that WSOU or its expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues. Further, because discovery and the *Markman* process have not begun, Canon reserves the right to revise, amend, and/or supplement the information provided herein, including identifying and relying on additional references, should Canon's further search and analysis yield additional information or references, consistent with the applicable rules and the Federal Rules of Civil Procedure.

These invalidity contentions are based on Canon's present knowledge and Canon reserves the right to amend these contentions if it identifies new material despite Canon's reasonable efforts to prepare these contentions. Canon's investigation regarding invalidity of the '030 patent over prior art and regarding other grounds of invalidity, including those based on 35 U.S.C. §§ 101, 102, 103, and 112, is ongoing.

Moreover, prior art not included in this disclosure, whether known or unknown to Canon, may become relevant. In particular, Canon is currently unaware of the extent, if any, to which WSOU will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Canon, or will contend that any of the identified references does not qualify as prior art. The identification of any patents as prior art shall be deemed to include identification of any foreign counterpart patents. To the extent that such issues arise, Canon reserves the right to identify additional teachings in the same references or in other references that anticipate or would have made the addition of the allegedly missing limitation obvious.

II. INVALIDITY OF THE '030 PATENT

A. Invalidity Based on 35 U.S.C. § 101

Each Asserted Claim is invalid for failing to recite patentable subject matter under 35 U.S.C. § 101.

In *Alice Corp. Pty. v. CLS Bank Int'l*, 134 S. Ct. 2347 (2014), the Supreme Court established a two-part test for determining whether a claim recites patent-eligible subject matter. First, the court must determine whether the claims at issue are directed to any of the following patentable ineligible subject matter: laws of nature, natural phenomena, or abstract ideas. *Id*. at 2355. Second, if the claims are directed to ineligible subject matter, the court must then consider the claim elements—both individually and as an ordered combination—to determine whether they add an "inventive concept." *Id*. Merely claiming a generic "computer" to implement an abstract idea is not sufficient to transform the computer into a patent-eligible invention. *Id*. at 2357-50.

The Asserted Claims of the '030 patent are drawn to the abstract idea of exposing different parts of an image sensor (or film) at different focus distances. The claims are untethered to any specific implementation or environment because there are no material limitations to the concepts. *See, e.g.*, '030 patent at 2:14-18, 2:33-34 ("Increasing depth of field has been the subject of certain improvements to the arrangements of FIGS. 1 and 2A. One such prior art arrangement to increase depth of field is shown schematically at FIG. 3… The arrangement of FIG. 3 is implemented commercially in the Canon® TS-E 24 mm lens of FIG. 4"), Figs. 3-4. The numerous references in the following sections confirm that the concept of increasing the depth of field was well-known in the art at the time.

Nor do the elements of the claims—whether individually or as a whole—evidence any "inventive concept." The elements merely describe well-known image sensing steps, such as altering the optical relationship between an image sensing surface and a lens based on detected object movement or brightness. As explained in detail below and in the attached claim charts, both the concept of increasing the depth of field and the particular claim steps were well-known long before the time of the '030 patent. Merely claiming a series of generic image sensing hopping steps to implement an abstract idea is not sufficient to transform the claims into a patent-eligible invention.

Canon's investigation concerning invalidity of the '030 patent under Section 101 is ongoing. Canon thus reserves the right to supplement and/or amend its invalidity contentions with respect to § 101.

B. Invalidity Based on 35 U.S.C. §§ 102 and 103

The references in Exhibits A and B as well as the system prior art discussed below disclose elements of the Asserted Claims explicitly and/or inherently. These references may also be relied upon to show the state of the art at the relevant time and/or that elements of the Asserted Claims, or any Asserted Claim as a whole, would have been obvious to a person having ordinary skill in the art at the time of the alleged invention. Obviousness combinations are provided in the alternative to Canon's anticipation contentions and are not to be construed as suggesting that any reference included in the combinations is not by itself anticipatory.

Canon is unable to know the extent to which WSOU will contend that limitations of the Asserted Claims are not disclosed in the art identified by Canon as anticipatory. If any such issue arises with respect to any such limitation, Canon reserves the right to identify other

references and combinations that may make obvious the addition of the allegedly missing limitation.

The references discussed in Exhibits A and B as well as the system prior art discussed below are applied to the Asserted Claims.

The fact that Canon's disclosures pertain only to the Asserted Claims should not be construed to suggest that any of the other claims of the '030 patent are valid. Should WSOU be permitted to amend its infringement contentions to assert additional or alternative claims, or modify the bases for its contentions, Canon reserves the right to modify, amend, or supplement these disclosures.

Various references discussed in Exhibits A and B as well as the system prior art discussed below may be of greater or lesser relevance and different combinations of these references may be implicated depending on WSOU's Final Infringement Contentions, the Court's future rulings regarding claim scope, or WSOU's interpretation and application of the Court's future claim construction rulings. In view of Canon's uncertainty regarding how WSOU will contend the claims apply, the discussion of the different references in Exhibits A and B and the system prior art discussed below may reflect alternative applications of the prior art against the Asserted Claims. A more detailed discussion of Canon's Section 102 and/or 103 defenses will be set forth in Canon's expert report(s) on invalidity.

Canon provides pinpoint citations to exemplary portions of the prior art for the purpose of fairly disclosing the manner in which the prior art references meet the claim limitations. Such citations should not be construed to mean that other portions of the prior art references are not relevant to the invalidity of the claims. Canon specifically reserves the right to rely on the entirety of any or all of the prior art references—whether charted or not charted—as a basis for

asserting invalidity of the Asserted Claims and/or as necessary to supplement its invalidity contentions with additional citations and evidence.

1. Anticipation by Patents and Printed Publications

Based on Canon's understanding of WSOU's Infringement Contentions, at least one or more Asserted Claims are invalid as anticipated under 35 U.S.C. § 102 in view of the patent and printed publication prior art references listed below as indicated and discussed in Exhibit A, as well as any methods or systems which embody the concepts disclosed in those references. Exhibit A is a series of charts, numbered A-1 through A-13, that identify specific examples of where each claim limitation is found in a particular reference.

Table 1: List of Anticipatory References

Chart	Reference
A-1	Japanese Patent Publication No. 2003-121913 to Misawa ("Misawa"). Misawa was published on April 23, 2003.
A-2	Japanese Patent Publication No. 2003-319239 to Shibata ("Shibata"). Shibata was published on November 7, 2003.
A-3	Japanese Patent Publication No. 2002-318342 to Sugitani ("Sugitani"). Sugitani was published on October 31, 2002.[1]
A-4	Japanese Patent Publication No. 2004-120298 to Sawano ("Sawano"). Sawano was published on April 15, 2004.
A-5	Japanese Patent Publication No. 2001-103366 to Kubo ("Kubo"). Kubo was published on April 13, 2001.
A-6	U.S. Patent Publication No. 2003/0174234 to Kondo ("Kondo"). Kondo was filed on April 13, 2001 and published on September 18, 2003.
A-7	U.S. Patent Publication No. 2003/0086008 to Nagano ("Nagano"). Nagano was filed on October 24, 2002 and published on May 8, 2003.
A-8	U.S. Patent No. 4,410,804 to Stauffer ("Stauffer"). Stauffer was filed on July 13, 1981 and issued on October 18, 1983.
A-9	U.S. Patent No. 6,535,250 to Okisu ("Okisu"). Okisu was filed on June 11, 1998 and issued on March 18, 2003.

[1] As detailed in Exhibit A-3, all of the Asserted Claims are anticipated by Sugitani, except for claims 3 and 22, which are obvious in view of Sugitani.

Chart	Reference
A-10	U.S. Patent Publication No. 2003/0122956 to Sugimoto ("Sugimoto"). Sugimoto was filed on December 27, 2002 and published on July 3, 2003.
A-11	U.S. Patent Publication No. 2001/0036361 to Suda ("Suda"). Suda was filed on April 13, 2001 and published on November 1, 2001.
A-12	U.S. Patent Publication No. 2003/0081137 to Yamazaki ("Yamazaki"). Yamazaki was filed on October 24, 2022 and published on May 1, 2003.
A-13	U.S. Patent No. 5,282,045 to Mimura ("Mimura"). Mimura was filed on April 23, 1991 and issued on January 25, 1994.

Canon specifically asserts the references in the table above as anticipatory references under 35 U.S.C. §§ 102 (a), (b), and/or (e), but also asserts that the invention of such systems and/or methods prior to the alleged invention date of the asserted claims may also constitute prior art under 35 U.S.C. § 102(g), which will be confirmed as discovery progresses.

2. Anticipation by System Art

In addition to the patents and printed publications discussed above, additional products may also be prior art that invalidates at least one Asserted Claim of the '030 patent under 35 U.S.C. §§ 102 (a), (b), and/or (g). This includes, for example, products that competed with the aforementioned products in the relevant timeframe.

Prior Art Canon Cameras:

Canon has created a number of prior art products that were prior art before June 23, 2004, more than a year before the priority date of the '030 patent, all of which implement autofocus systems that either use phase detection autofocus and/or have the ability to focus objects during live view, which appears to be the basis of WSOU's allegations in its Infringement Contentions. These products include at least the following:

- The EOS-1D camera
    - Release date: December 2001. *See* https://global.canon/en/c-museum/product/dslr780.html.

- Specifications: *see id*.

- The PowerShot G5 camera
  - Release date: June 2003. *See* https://global.canon/en/c-museum/product/dcc488.html.
  - Specifications: *see id*.

- The PowerShot Pro1 camera
  - Release date: March 2004. *See* https://global.canon/en/c-museum/product/dcc493.html.
  - Specifications: *see id*.; https://support.usa.canon.com/kb/index?page=content&id=ART160678.

- The OPTURA300 camera
  - Release date: September 2003. *See* https://global.canon/en/c-museum/product/dvc694.html.
  - Specifications: *see id*.

- The ELURA 2 MC camera
  - Release date: September 2000. *See* https://global.canon/en/c-museum/product/dvc674.html.
  - Specifications: *see id*.

Discovery has not yet commended. Canon reserves the right to supplement this response as discovery progresses.

Additional Products and Reservation of Rights

Canon's investigation into additional products is ongoing. Discovery in this case has not yet completed, and thus Canon reserves the right to supplement this response to identify additional products as its investigation continues.

3. Obviousness

Based on Canon's understanding of WSOU's Infringement Contentions, Canon believes that the patent and printed publication references discussed in Exhibit A, as well as the system

art prior art references discussed above, each invalidate one or more of the Asserted Claims. Canon also contends that each charted reference in combination with the knowledge and skill of a person of ordinary skill in the art at the time of the alleged invention and/or in combination with the disclosures of other prior art would have rendered all the Asserted Claims obvious. Exemplary reasons why this is the case are explained below.

All the prior art references are from the same well-established field of frequency hopping communications and evidence teachings, suggestions, motivations, and/or other reasons to combine them in ways that render obvious all of the Asserted Claims. Moreover, such combinations would have been readily understood and predictable to persons of ordinary skill in the art at the time. Exemplary combinations of prior art that render the Asserted Claims obvious are the combinations of Sugitani and Kubo; Shibata and Kondo; Kubo and Suda; and Kubo and Nagano which are described in detail in Exhibits C-1 through C-6. Additional exemplary combinations of prior art that render the Asserted Claims obvious include the combination of any of the system Prior Art Canon Cameras discussed above (*e.g.*, the EOS-1D camera or the PowerShot Pro1 camera) and any of the patents or printed publications charted in Exhibits A-1 through A-13 (*e.g.*, Sugitani or Shibata).

Additionally, certain references within Exhibit B are grouped or categorized according to a particular claim limitation that is disclosed within each reference. References from within a group share similar reasons as to why it would have been well within the level of ordinary skill in the art and obvious to combine a reference with prior art listed in Exhibit A or with other references in Exhibit B. Thus, in addition to the specific combinations of prior art disclosed using claim charts, Canon reserves the right to rely on any combination of prior art references disclosed in these contentions.

In Exhibit B, different categories of prior art references are presented and a title is provided for each such category. The titles are provided for convenience only and do not constitute a binding characterization of what the references under that title disclose.

The Supreme Court has held that the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results. *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1739 (2007). When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. *Id*. at 1740. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

To determine whether there is an apparent reason to combine the known elements as set forth in the Asserted Claims, a court can look to interrelated teachings of multiple references; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art. *Id*. at 1740-41. For example, obviousness can be demonstrated by showing that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims. *Id*. at 1743. Any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed. *Id*. Common sense also teaches that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle. *Id*.

Thus, the motivation to combine the teachings of the prior art is found in the references disclosed in Exhibits A and B, the system prior art discussed above, and in: (1) the nature of the problem being solved; (2) the express, implied and inherent teachings of the prior art; (3) the knowledge of persons of ordinary skill in the art; (4) the fact that the prior art is generally directed towards frequency hopping within wireless communication systems; and (5) the predictable results obtained in combining the different elements of the prior art.

One of ordinary skill in the art would have therefore been motivated to make the combinations and/or modifications due to the recognition at the time of the alleged invention of a need for, in the '030 patent's words, "methods and optical devices that provide an increased depth of field." '030 patent at 1:6-7.

Indeed, the '030 patent references at least five prior art techniques directed to addressing provide an increased depth of field. *See*, *e.g.*, '030 patent at 2:14-3:32 (citing the prior technique depicted in Fig. 3, which was admittedly "implemented commercially in the Canon® TS-E 24 mm lens of FIG. 4," and the prior art disclosures in U.S. Patent Nos. 6,783,068, 6,567,126, 6,445,415, and 5,282,045). Similarly, many prior art references discussed in these contentions are expressly directed to the same solution. *See*, *e.g.*, Sugitani ¶¶ [0003-0004] ("(Problem to be solved by the invention) However, if aperture is reduced to increase the depth of field, the shutter speed becomes relatively slower, so there is a risk of blurring. Furthermore, in the case of a camera or lens with a tilting function, it is necessary to visually confirm the tilting and the operation requires advanced technical skill, and such cameras and lenses are by nature expensive and cannot be said to be something that just anybody can use…The present invention was made in light of such circumstances and has the purpose of providing a camera and camera image capture method which make it possible for anybody to take a photograph of obliquely arranged

objects such that all the objects are in focus"), Shibata ¶ [0002] ("(PRIOR ART) Imaging devices such as digital cameras have been developed to increase the depth of field of a photographic lens by performing multiple exposures of the subject, temporarily storing image data obtained from the imaging element, extracting only the in-focus portion of the stored image data, and synthesizing this data into an optimal image").

Although an "express, written motivation to combine" is not required (*Ruiz v. A.B. Chance Co.*, 357 F.3d 1270, 1276 (Fed. Cir. 2004)), these statements regarding the benefits of providing an increased depth of field confirm that one of ordinary skill in the art would look to references relating to those benefits to arrive at the claimed solution of the '030 patent.

Additionally, for at least the reasons described above and discussed in each chart in Exhibit B charts, it would have been obvious to one of ordinary skill in the art to combine any of a number of prior art references, including any combination of those identified in Exhibits A and B and the system art prior art references discussed above to meet the limitations of the Asserted Claims.

Furthermore, for at least the reasons described above and discussed in each chart in Exhibit B, the specification of the '030 patent admits that the elements of the claims were well-known at the time of the alleged invention. Incorporating these familiar elements according to known methods would yield predictable results and is accordingly obvious under *KSR*.

As set forth throughout Canon's Final Invalidity Contentions and accompanying claim charts, Canon contends that each of the Asserted Claims are obvious because each limitation of each Asserted Claim is well known or obvious, as is the combination of these limitations. Exhibit B provides charts B-1 through B-7, which set forth additional evidence of obviousness for certain claim elements. Based on Canon's understanding of WSOU's Infringement

Contentions, each list in Exhibit B identifies specific pinpoint citations exemplifying where each particular limitation can be found in the prior art references within each list. For at least the reasons explained herein and in Exhibit B, a person of ordinary skill in the art would have been motivated to combine the references in each chart in Exhibit B with any of the primary references listed in Exhibit A with respect to the limitation each chart addresses. The absence of any reference charted in Exhibit A from one or more charts of Exhibit B is not an admission that such reference does not disclose any claim limitation.

Table 2: Additional Disclosure and Evidence of Obviousness

Chart	Description
B-1	Different Exposure Periods Based on Detected Object Movement
B-2	Different Exposure Periods Based on Detected Object Brightness
B-3	Single Image Displayed on a GUI
B-4	Controlling Exposure of Pixels Individually
B-5	Moving the Lens Relative to the Sensing Surface
B-6	Determining the Distance of Multiple Objects
B-7	Exposing Image Portions Based on Object Distances

4. Additional Background References

In addition to the anticipatory and obviousness references identified above, Canon may also rely on the references in the table below to establish the state of the art and the knowledge of a person of ordinary skill in the art at the time of the alleged inventions of the Asserted Claims. The basic concepts and components in the Asserted Claims were all well-known to persons of ordinary skill in the art prior to the alleged priority date of the Asserted Patent as reflected in the references listed in the following table.

Table 3: List of Additional Background References

Reference
U.S. Patent No. 6,369,954
U.S. Patent No. 3,537,373
U.S. Patent No. 4,484,233
Cameras like the Nikon F5 that supported multiple exposures, which consisted of two or more exposures of one or more subjects on the same frame. See https://www.mir.com.my/rb/photography/hardwares/classics/NikonF5/exposure/index.htm
Canon had started developing FD-series lens supporting auto-exposure control system, as well as shutter speed-priority auto-exposure, aperture-priority auto-exposure, and program auto-exposure in the 1970s. See https://global.canon/en/c-museum/history/story05.html
Cameras like the Nikon F5 supported multiple exposures to capture multiple subjects, including small subjects located in the periphery at least by late 1990's. See http://www.mir.com.my/rb/photography/hardwares/classics/NikonF5/metering/

Discovery has not yet commenced, and Canon's prior art investigation is therefore not yet complete. Canon reserves the right to present additional items of prior art under 35 U.S.C. § 102(a), (b), (e) and/or (g), and/or 35 U.S.C. § 103 located during the course of discovery or further investigation. Canon further reserves the right to assert invalidity under 35 U.S.C. §§ 102(c), (d), and/or (f) to the extent that discovery or further investigation yields information forming the basis for such assertions.

C. Invalidity Based on 35 U.S.C. § 112

Canon lists below exemplary grounds upon which it contends that the Asserted Claims are invalid, under at least WSOU's apparent construction of the claims in its Infringement Contentions, for failure to meet one or more requirements of 35 U.S.C. § 112. This is particularly the case with respect to the apparent overbroad constructions that WSOU is applying to the Asserted Claims, which go beyond (and are not adequately described or enabled by) the

purported inventions disclosed in the '030 patent. To the extent the Asserted Claims may eventually be construed so broadly as to cover the accused products, such a construction would render the Asserted Claims invalid for failure to meet the requirements of 35 U.S.C. § 112. A more detailed discussion of Canon's written description, enablement, and indefiniteness defenses will be set forth in Canon's expert report(s) on invalidity.

Canon's investigation concerning invalidity under 35 U.S.C. § 112 is ongoing. For example, discovery has not yet commenced, and WSOU has not provided adequate infringement contentions. Thus, Canon reserves the right to supplement and/or amend its invalidity contentions with respect to § 112. Such supplementation and/or amendments may include, but are not limited to, invalidity contentions based on indefiniteness, lack of written description, and/or lack of enablement should the claims be construed under 35 U.S.C. § 112(6).

1. Written Description / Enablement

Several Asserted Claims are invalid under 35 U.S.C. § 112(1) because they fail to provide an adequate written description of certain claim limitations such that one of ordinary skill in the art would recognize that the named inventor(s) had possession of those claim limitations and/or fails to enable one of ordinary skill in the art to practice the claimed invention without undue experimentation. These claims include at least the following, as well as all claims that depend from the particularly identified claims below:

- Under WSOU's apparent interpretation of the Asserted Claims (*see*, *e.g.*, Infringement Contentions Ex. 1), all of the Asserted Claims are invalid because the specification lacks adequate written description support for the full scope of the claims and fails to enable the full scope of the claims. In particular, WSOU appears to assert that the Asserted Claims cover determining focus distance and exposure settings for objects in a scene, even if such adjustment does not accomplish the claimed requirements of spacing the image sensing surface "at different effective image distances from the lens" (claims 1-10) / "exposing a second portion of the image sensing surface while the image sensing surface is at a second effective image distance from the lens" (claims 11-14) and "maintaining an imaging surface at variable effective imaging distance from a lens"

(claims 15-25). Additional exemplary limitations that WSOU's apparent interpretation of appears to be overbroad include:

- "exposing different portions of the image sensing surface synchronous with manipulating the optical relationship by adaptively exposing said portions for different exposure periods based on detected movement of at least two objects" (claim 1)

- "exposing different portions of the image sensing surface synchronous with manipulating the optical relationship by adaptively exposing said portions for different exposure periods based on detected brightness of at least two objects" (claim 3)

- "within a continuous exposure frame: exposing a first portion of an image sensing surface while the image sensing surface is at a first effective image distance from the lens, where the first effective image distance corresponds to the first object distance, exposing a second portion of the image sensing surface while the image sensing Surface is at a second effective image distance from the lens, where the second effective image distance corresponds to the second object distance; and combining the exposed first and second portions into a single image" (claim 11)

- "during an exposure frame period, maintaining an image sensing surface at a variable effective image distance from a lens synchronously with exposing different portions of the sensing surface" (claim 15)

- "wherein at least one of maintaining the image sensing surface at a variable effective image distance and exposing different portions of the image sensing surface are adaptive to objects in a scene to be imaged at the sensing surface" (claim 16)

- "wherein exposing different portions of the image sensing surface comprises adaptively exposing said portions based on at least a detected first and second object distance" (claim 17)

2. Indefiniteness

Several Asserted Claims are invalid under 35 U.S.C. § 112(2) because they fail to particularly point out and distinctly claim the subject matter which the named inventor(s) regards as the alleged invention. The claims, read in light of the specification and file history, "fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). The claims that are

indefinite include at least those identified below and their respective dependent claims, for at least the reasons explained below:

- **"exposing different portions of the image sensing surface synchronous with manipulating the optical relationship" (asserted claims 1-3)**: asserted claims 1-3 are invalid for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention, because a person of skill in the art has no basis to understand what it means to expose portions of an image sensing surface "synchronous with" manipulating an optical relationship. Neither the claims, specification, nor the file history provide any basis to inform a person of skill in the art of the scope of this limitation.

- **"during an exposure frame period, maintaining an image sensing surface at a variable effective image distance from a lens synchronously with exposing different portions of the sensing surface" (asserted claim 15)**: asserted claim 15 is invalid for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention, because a person of skill in the art has no basis to understand what maintaining an image sensing surface "at a variable effective image distance from a lens synchronously with exposing different portions of the sensing surface" from a lens means. Neither the claims, specification, nor the file history provide any basis to inform a person of skill in the art of the scope of this limitation.

- **"adaptively exposing said portions based on at least a detected first and second object distance" (asserted claim 17)**: asserted claim 17 is invalid for failing to inform, with reasonable certainty, those skilled in the art about the scope of the invention, because a person of skill in the art has no basis to understand what adaptively exposing based on "image distance" means. Neither the claims, specification, nor the file history provide any basis to inform a person of skill in the art of the scope of this limitation.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was served or delivered electronically to all counsel of record on the 4th day of August, 2022.

/s/ Weimin Ning

Weimin Ning