

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ORACLE AMERICA, INC.,
Petitioner,

v.

REALTIME DATA LLC,
Patent Owner.

Case IPR2016-00377
Patent 9,116,908 B2

Before GEORGIANNA W. BRADEN, J. JOHN LEE, AND JASON J.
CHUNG, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Petitioner, Oracle America, Inc., filed a Petition requesting an *inter partes* review of claims 1, 2, 4–6, 9, 11, 21, 22, 24, and 25 of U.S. Patent No. 9,116,908 (Ex. 1001, “the ’908 patent”). Paper 2 (“Pet.”). In response, Patent Owner, Realtime Data LLC, filed a Preliminary Response. Paper 6 (“Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons set forth below, we deny institution of *inter partes* review of the ’908 patent.

A. Related Proceedings

Petitioner informs us of the following co-pending litigation matters that would affect or could be affected by a decision in this proceeding: *Realtime Data LLC v Actian Corporation et al.*, E.D. Tex. Case No. 6:2015-cv-00463, *Realtime Data LLC v Dropbox, Inc.*, E.D. Tex. Case No. 6:2015-cv-00465, *Realtime Data LLC v EchoStar Corporation et al.*, E.D. Tex. Case No. 6:2015-cv-00466, *Realtime Data LLC v Oracle America, Inc., Hewlett-Packard Co. and HP Enterprise Services, LLC*, E.D. Tex. Case No. 6:2015-cv-00467, *Realtime Data LLC v Riverbed Technology, Inc. et al.*, E.D. Tex. Case No. 6:2015-cv-00468, *Realtime Data LLC v SAP America, Inc. et al.*, E.D. Tex. Case No. 6:2015-cv-00469, *Realtime Data LLC v Teradata Corporation et al.*, E.D. Tex. Case No. 6:2015-cv-00470, all filed on May 8, 2015. Pet. 4.

Petitioner also informs us of concurrently filed IPR2016-00373 (challenging U.S. Patent No. 7,378,992); IPR2016-00374 (challenging U.S. Patent No. 8,643,513); IPR2016-00375 (challenging U.S. Patent No. 7,415,530); and IPR2016-00376 (challenging U.S. Patent No. 7,415,530).
Id.

B. The '908 Patent

The '908 patent describes systems and methods “for providing accelerated data storage and retrieval utilizing lossless data compression and decompression.” Ex. 1001, Abs. Figure 8 of the '908 patent is reproduced below.

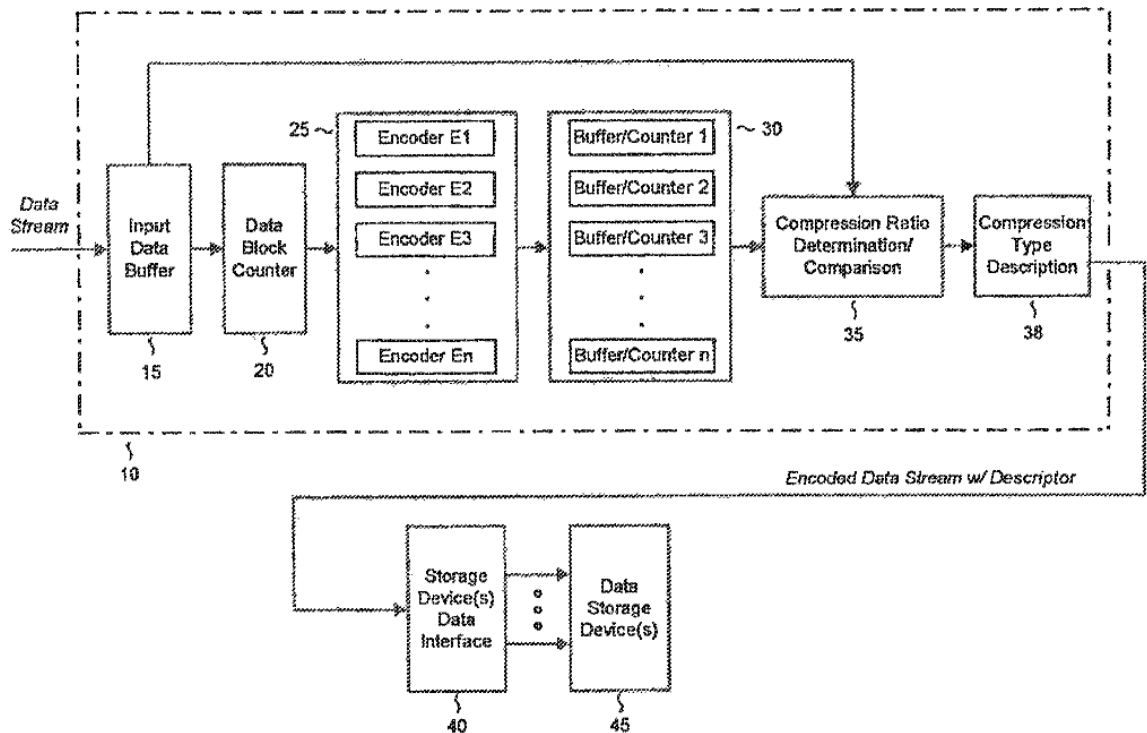


FIGURE 8

Figure 8 of the '908 patent is a detailed block diagram of a system for accelerated data storage according to a preferred embodiment. Ex. 1001, 4:14–16. Data storage accelerator 10 receives data blocks from an input data

stream into input data buffer 15. *Id.* at 11:49–52. Data block counter 20 determines the size of the input data block. *Id.* at 11:56–60. Encoder module 25 performs data compression using encoders E1, E2, E3, . . . En. *Id.* at 11:66–67. The encoders each perform lossless encoding, such as run length, Huffman, Lempel-Ziv Dictionary Compression, arithmetic coding, data compaction, and data null suppression. *Id.* at 12:1–10. Different encoders may encode data using the same or different encoding types. *Id.* at 12:5–10. Buffer counter module 30 determines the size of the encoded data blocks output from encoder module 25, and compression ratio module 35 determines a compression ratio for each of the encoders. *Id.* at 12:40–51. Compression ratio module 35 determines whether the compression ratio achieved by any of the encoders exceeds a predetermined threshold. *Id.* at 51–59. Description module 38 appends a compression type descriptor to each encoded data block selected for output indicating the compression format of the encoded data block. *Id.* at 12:59–67. The encoded data block is then output for storage. *Id.* at 13:3–41.

According to the '908 patent, accelerated data storage is achieved when the compression ratio of the input data stream is sufficient to satisfy a storage speed of a memory device receiving the compressed data. *Id.* at 5:52–6:3. For example, a 60 megabytes per second input data stream that is compressed at a ratio of at least 3:1 can be stored in a memory device capable of only 20 megabytes per second storage. *Id.*

C. Challenged Claims

As noted above, Petitioner challenges claims 1, 2, 4–6, 9, 11, 21, 22, 24, and 25 of the '908 patent, of which claims 1, 21, and 25 are independent

claims. Claim 1 is illustrative of the challenged claims and is reproduced below:

1. A system comprising:

a memory device; and

a data accelerator configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block;

wherein the compressed first and second data blocks are stored on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form.

Ex. 1001, 18:50–62.

D. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability:

References	Basis	Claims Challenged
Kawashima ¹ and Sebastian ²	§ 103	1, 2, 4–6, 9, 11, 21, 22, 24, and 25

II. DISCUSSION

A. Claim Construction

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278–79 (Fed. Cir. 2015), *cert. granted sub nom. Cuozzo Speed Techs., LLC v. Lee*, No. 15–446, 2016 WL 3369425 (U.S. June 20, 2016). Consistent with the broadest reasonable

¹ U.S. Patent No. 5,805,932; filed Feb. 13, 1996, (Ex. 1003, “Kawashima”)

² U.S. Patent No. 6,253,264; filed Mar. 6, 1998, (Ex. 1004, “Sebastian”)

construction, claim terms are presumed to have their ordinary and customary meaning as understood by a person of ordinary skill in the art in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Also, we must be careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (“limitations are not to be read into the claims from the specification”). An inventor, however, may provide a meaning for a term that is different from its ordinary meaning by defining the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner proposes to construe “the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form” as “wherein the time to compress and store the first and second data blocks is less than the time to store the first and second data blocks without compressing them.” Pet. 15.

Patent Owner challenges this proposed construction as omitting the limitation “on the memory device” from the construction. Prelim. Resp. 12–13. Specifically, the claims require that “the compression and storage occurs faster than the first and second data blocks are able to be stored *on the memory device* in uncompressed form” (emphasis added). Ex. 1001, 18:59–62; 20:1–5, 33–36; *see also* Prelim Resp. 13.

We decline to adopt Petitioner’s proposed claim construction, at least because Petitioner’s proposed claim construction omits the claimed “memory device” and its relationship to the faster storage limitation. *See* Prelim. Resp. 13. As noted by Patent Owner, “a claim should be constructed

so that each word in the claim has meaning.” *Id.*, citing *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006) and *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A.1970). Accordingly, no claim terms require express construction for purposes of this Decision. See *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

B. Principles of Law

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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 a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

In that regard, an obviousness analysis “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at 418; see also *Translogic*, 504 F.3d at 1259, 1262. A prima facie case of obviousness is established when the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. *In re Rinehart*, 531 F.2d 1048, 1051 (CCPA 1976).

C. Challenge of Claims 1, 2, 4–6, 9, 11, 21, 22, 24, and 25 Based on Kawashima and Sebastian

Petitioner asserts that claims 1, 2, 4–6, 9, 11, 21, 22, 24, and 25 are unpatentable under 35 U.S.C. § 103(a) in view of Kawashima and Sebastian. Pet. 6. To support its contentions, Petitioner provides explanations as to how the prior art allegedly teaches or suggests each claim limitation. *Id.* at 29–56. Petitioner also relies upon the Declaration of Dr. James Storer, who has been retained as a declarant by Petitioner for the instant proceeding. Ex. 1002.

1. Overview of Kawashima (Ex. 1003)

Kawashima teaches systems and methods for transmitting data compressed by a loss-less data compression process between memories, communication devices, processors, or a host computer and an external memory. Ex. 1003, 1:8–12. Kawashima teaches that because data is stored in blocks, compressing data may not result in reduced storage requirements in some instances. *Id.* at 2:36–64.

Kawashima teaches, with respect to Figs. 43–44 described in the Background Art section, that:

If data is compressed according to the loss-less data compression process to shorten a time required to transfer data between a computer and an external memory device for the purpose of using communication lines more effectively, then a transfer time t_{AC1} required for transmitting the compressed data is shorter than a transfer time t_{A1} required for transmitting the uncompressed data, as shown in FIG. 43 of the accompanying drawings.

When the data is compressed, a time t_{B1} required for data compression/expansion is newly needed in addition to an actual data transfer time t_{C1} . However, since the data to be actually transmitted is compressed, the apparent data length is reduced. Therefore, the data compression shortens the transfer time as a

whole. In order to shorten the transfer time, it is necessary to compress the data rapidly to reduce the time t_{B1} required for data compression/expansion.

Ex. 1003, 3:8–23.

That is, the Background Art of Kawashima, illustrated in Figs. 43–44, teaches that rapid compression is required so that the increased transfer speed due to reduced data size is not outweighed by the compression time. *Id.* at 3:21–23.

To solve the problem of compression resulting in no space savings, Kawashima teaches that the data transmitting apparatus may include means to change a preset compression ratio based on system requirements. *Id.* at 7:1–14. Figure 8 of Kawashima, reproduced below, illustrates a block diagram of a data processing apparatus according to an embodiment of Kawashima:

FIG. 8

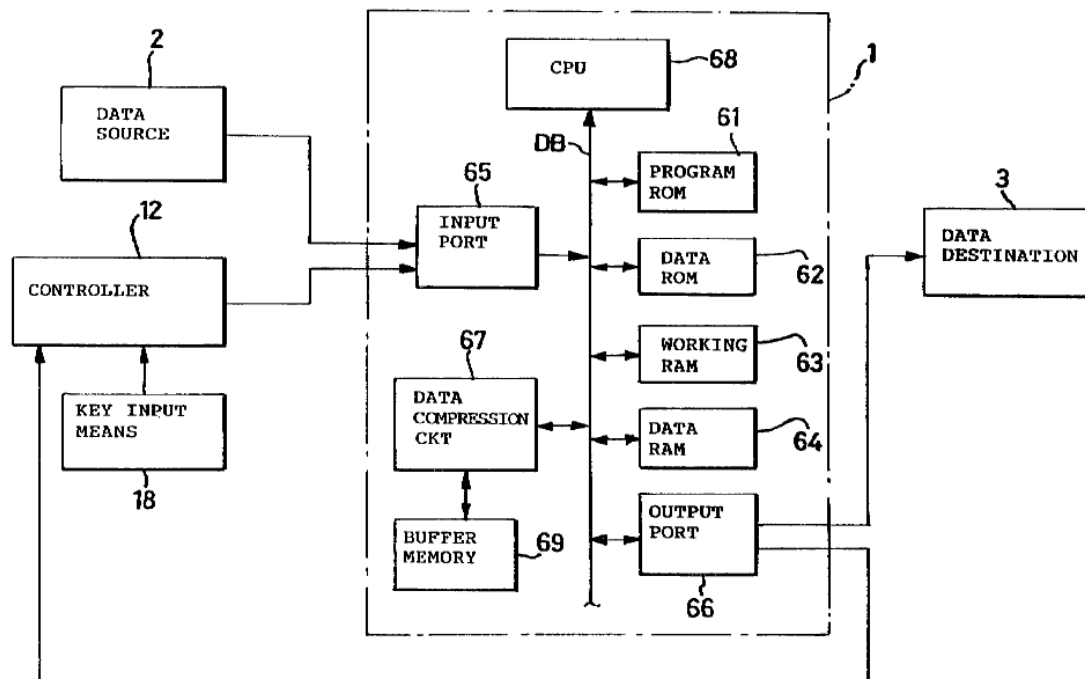


Figure 8 of Kawashima illustrates a block diagram of a data processing apparatus according to an embodiment of Kawashima.

Kawashima describes that:

When data transferred from the data source 2 is compressed by the data compression circuit 67, the data transmitting apparatus 1 transfers the compressed data to the data destination 3 if the compression ratio or the difference between the data length of the data prior to being compressed (hereinafter referred to as "pre-compression data" which has the same meaning as the uncompressed data described above) and the data length of the data after being compressed (hereinafter referred to as "compressed data") is equal to or greater than a predetermined value, and transfers the pre-compression data to the data destination 3 if the compression ratio or the data length difference is smaller than the predetermined value.

Id. at 25:61–26:6.

2. Overview of Sebastian (Ex. 1004)

Sebastian teaches a preferred coding network that integrates format-specific compression into a general purpose compression tool that serves a wide range of data formats. Ex. 1004, Abs., 1:45–50. Sebastian teaches that source data is parsed into blocks of similar data and each parsed block is compressed using a respectively selected compression algorithm. *Id.* at Abs. According to Sebastian, the algorithm can be chosen from a static model of the data or it can be adaptive to the data in the parsed block. *Id.* Sebastian teaches that the parsed blocks are then combined into an encoded data file. *Id.*

In one embodiment, Sebastian teaches a system with different “filters” that each support a specific “data format,” such as for Excel XLS worksheets or Word DOC files. *Id.* at 1:50–51. If an installed filter “matches the format

of the data to be encoded, the advantages of format-specific compression can be realized for that data.” *Id.* at 1:55–57. Otherwise, a “generic” filter is used which achieves performance similar to other non-specific data compression systems (such as PKZip, Stacker, etc.). *Id.* at 1:58–60; *see also id.* at 4:9–23 (other suitable generic filters include those similar to Lempel-Ziv (LZ) variants).

Sebastian also discloses an embodiment with a preferred encoder using a Base-Filter-Resource (BFR) network, which is shown in Figure 2, reproduced below.

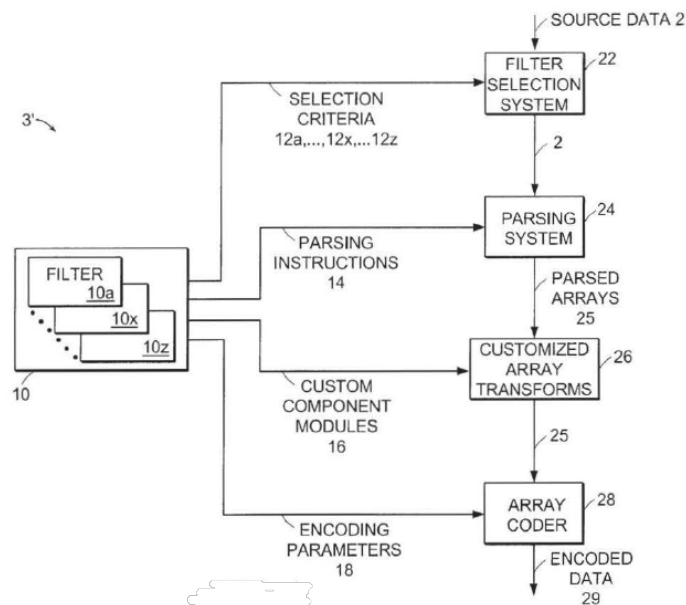


Figure 2 illustrates that encoder 3' is based on the use of a plurality of filters 10a, . . . , 10x, . . . , 10z which serve specific file formats. *See id.* at 4:1–3. According to Sebastian, one filter 10a may support several versions of the DBF database format, while another filter 10z may support several versions of the DOC format used by the Microsoft Word software program. *Id.* at 4:3–6. Sebastian teaches that the individual filters provide respective selection criteria 12 to filter selection system 22, which receives source data

2 and checks the selection criteria 12a, . . . , 12x, . . . , 12z of all filters 10a, . . . , 10x, . . . , 10z installed in the system to see if any of them support the source data's format. *Id.* at 4:6–12. If the specific filters do not, then a “generic” filter is used, which provides compression performance similar to other generic compression systems, such as Lempel-Ziv (LZ) engines. *Id.* at 4:12–15. Sebastian then teaches that in a particular preferred embodiment of the invention, the generic compression system would use an SZTP compression engine. *Id.* at 4:15–17.

3. Analysis

a. Independent Claim 1

Petitioner contends the combination of Kawashima and Sebastian teaches or suggests each element of the challenged claims. Pet. 29–56. The Petition, however, does not present sufficient information to sustain Petitioner's challenge.

Claim 1 recites “a memory device.” Furthermore, the claim recites other limitations that refer to this memory device: (1) “wherein the compressed first and second data blocks are stored *on the memory device*;” and (2) “the compression and storage occurs faster than the first and second data blocks are able to be stored *on the memory device* in uncompressed form” (emphases added). Thus, the language of the claim provides clearly that each of these limitations must be met with respect to the *same* memory device.

The Petition asserts that Kawashima teaches the recited “memory device.” Pet. 33–34. Petitioner, however, identifies multiple structures in Kawashima that it contends teaches the recited “memory device” limitations. For example, the Petition states, “the data compression circuit 67

compresses input data and stores it in a given area in the *data RAM 64* (memory) for further transmission to an *external memory device* located at data destination 3.” *Id.* at 34 (emphases added, internal citations and quotation marks omitted). The Petition also identifies “memory 22” in Figure 3 of Kawashima as the recited memory device. *Id.* It is unclear whether the Petition is identifying data RAM 64, the external memory device, memory 22, or a combination of all three as the recited memory device of claim 1.

With respect to the requirement that the compressed first and second data blocks are stored *on the memory device*, Petitioner identifies (1) the data transmitted to the memory 22 as the data destination, illustrated in Figure 3; and (2) data stored in RAM 64 destined for data destination 3, illustrated in Figure 8. Pet. 38–39. But, with respect to the requirement that the compression and storage occurs faster than the first and second data blocks are able to be stored *on the memory device* in uncompressed form, Petitioner identifies the transmission of compressed data to an external memory device, illustrated in Figures 43–44 described in the background art section, as satisfying this limitation. Pet. 39–41. Petitioner does not explain adequately how memory 22, which is external to the data transmitting apparatus in Figure 3, RAM 64, which is internal to the data transmitting apparatus in Figure 8 of Kawashima, and/or an external memory device discussed with respect to background art, can meet the claim 1 limitation “memory device” when different structures from different embodiments are identified for each claim limitation. As discussed *supra*, each recitation of “memory device” in claim 1 refers to the *same* “memory device” throughout claim 1; thus, it is unclear how the cited portions of Kawashima’s disparate memory devices

from varying embodiments relied on by Petitioner teach claim 1's *same* "memory device."

Petitioner, therefore, fails to explain how Kawashima and Sebastian teach an individual memory device that meets the limitations of claim 1. To the extent Petitioner intended to allege that multiple structures in Kawashima together teach these limitations, the Petition does not explain such an allegation clearly, nor does it explain how or why a person of ordinary skill would have combined those different elements—some from different embodiments of Kawashima—to arrive at the recited memory device and its claimed characteristics. *See Boston Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009) (holding that two embodiments in a single reference could be combined to render a claim obvious where an ordinary artisan would have been motivated to combine them).

Petitioner bears the burden to demonstrate a reasonable likelihood of prevailing on its asserted ground of unpatentability. *See* 35 U.S.C. § 314(a). By failing to identify clearly the specific aspects of the prior art that it alleges teaches each of the "memory device" limitations of claim 1, Petitioner has not met its burden. Moreover, our Rule 42.104(b) requires a petition seeking *inter partes* review to "specify where each element of the claim is found in the prior art patents or printed publications relied upon," and to explain "the relevance of the evidence to the challenge raised, including identifying specific portions of the evidence that support the challenge." 37 C.F.R. § 42.104(b)(3), (4). Here, the Petition does not provide enough information to meet the standard of Rule 42.104(b), which is fatal to Petitioner's case. *See, e.g., T-Mobile USA Inc. v Mobile Telecomms.*

Techs., LLC, Case IPR2015-00017, 2015 WL 1777146, at *8 (PTAB Apr. 8, 2015).

b. Claims 2, 4–6, 9, 11, 21, 22, 24, and 25

Claims 2, 4–6, 9, and 11 depend from Claim 1, and suffer the same deficiencies of Claim 1, discussed *supra*. Independent Claim 21 recites similar features as Claim 1, discussed *supra*, and Petitioner does not argue separately these features of Claim 21, but simply refers back to the arguments with respect to Claim 1. Pet. 51–53. Claims 22 and 24 depend from Claim 21, and suffer the same deficiencies of Claim 21. Independent Claim 25 recites similar features as Claim 1, discussed *supra*, and Petitioner does not argue separately these features of Claim 25, but simply refers back to the arguments with respect to Claim 1. Pet. 54–56.

III. CONCLUSION

For the foregoing reasons, we are not persuaded that the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail in establishing unpatentability of claims 1, 2, 4–6, 9, 11, 21, 22, 24, and 25 as obvious over Kawashima and Sebastian.

IV. ORDER

For the reasons given, it is

ORDERED that that the Petition is *denied* as to all challenged claims and no trial is instituted.

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