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Paper 48  
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DISH NETWORK CORPORATION and  
DISH NETWORK L.L.C.,  
Petitioner,

V.

CUSTOMEDIA TECHNOLOGIES, L.L.C.,  
Patent Owner.

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Case CBM2017-00023  
Patent 8,719,090 B2

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Before MEREDITH C. PETRAVICK, MICHAEL W. KIM, and  
KALYAN K. DESHPANDE, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
Covered Business Method Patent Review  
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

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## I. INTRODUCTION

### *A. Background*

DISH Network Corporation and DISH Network L.L.C. (collectively, “Petitioner”), filed a Petition requesting a covered business method (“CBM”) patent review of claims 1–8, 17, and 23 of U.S. Patent No. 8,719,090 B2 (Ex. 1001, “the ’090 patent”). Paper 1 (“Pet.”). Customedia Technologies, L.L.C. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 7.

Pursuant to 35 U.S.C. § 324, CBM patent review was instituted on claims 1–8, 17, and 23 of the ’090 patent. Paper 11 (“Inst. Dec.”). We instituted CBM patent review on the following grounds:

<b>References</b>	<b>Basis</b>	<b>Claims</b>
N/A	§ 101	1–8, 17, and 23
N/A	§ 112 <sup>1</sup>	7
Hite <sup>2</sup>	§ 102(a) or (b)	1, 5, and 7
Hite and Hill <sup>3</sup>	§ 103(a)	1, 5, and 7

After institution, Patent Owner filed a Patent Owner’s Response (Paper 25, “PO Resp.”), and Petitioner filed a Reply to the Patent Owner’s Response (Paper 36, “Pet. Reply”). Patent Owner filed a Sur-Reply (Paper 41, “PO Sur”), and Petitioner filed a Response to the Sur-Reply (Paper 42, “Pet. Sur”).

<sup>1</sup> We refer to the pre-AIA version of 35 U.S.C. §§ 112, 102, and 103 because the ’090 patent was filed prior to the effective date of the AIA, which amended these sections.

<sup>2</sup> U.S. Patent No. 5,774,170 (issued June 30, 1998) (Ex. 1009).

<sup>3</sup> U.S. Patent No. 4,607,346 (issued Aug. 19, 1986) (Ex. 1010).

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An oral argument was held March 5, 2018. A transcript of the hearing is included in the record. Paper 47 (“Tr.”).

This Decision is a final written decision under 35 U.S.C. § 328(a) as to the patentability of the challenged claims. Based on the complete record, we determine that claims 1–8, 17, and 23 of the ’090 patent are unpatentable.

### *B. Related Proceedings*

Section 18 of the American Invents Act governs the transitional program for covered business method patent reviews. Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, § 18, 125 Stat. 284, 329–31 (2011); *see also* 37 C.F.R. §§ 42.300–304 (setting forth the rules governing the transitional program for covered business method patents). Section 18(a)(1)(B) of the AIA limits such reviews to persons, or their privies, that have been sued or charged with infringement of a covered business method patent. *See also* 37 C.F.R. § 42.302 (setting forth who may petition for a covered business method patent review). In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies that it has been sued for infringement of the ’090 patent. Pet. 2–3. The ’090 patent is the subject of *Customedia Technologies, L.L.C. v. DISH Network Corporation*, Case No. 2:16-cv-00129 (JRG) in the United States District Court for the Eastern District of Texas. *See* Pet. 1; Paper 5, 2.

Petitioner also filed a petition requesting *inter partes* review of the ’090 patent. *See* Paper 5, 2. That petition is the subject of *DISHDISH Network Corp. v. Customedia Technologies, L.L.C.*, Case No. IPR2017-00454 (PTAB Dec. 8, 2016). *See id.* In IPR2017-00454, Petitioner

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challenges claims 1–8, 17, and 23 of the '090 patent as being anticipated by Hite and as obvious over Hite and Hill, while in this CBM patent review, Petitioner does the same, but only challenges claims 1, 5, and 7 on the same grounds. We issue a final written decision in IPR2017-00454 simultaneously with this final written decision.

### *C. The '090 Patent*

The '090 patent is titled “System for Data Management and On-Demand Rental and Purchase of Digital Data Products” and issued on May 6, 2014. Ex. 1001, (45), (54). The '090 patent claims priority as a continuation of Application No. 09/383,994 (“the '994 application”), which was filed on August 26, 1999. *Id.* at (63). The '994 application claims priority as a continuation-in-part to Application No. 08/873,584 (“the '584 application”), which was filed on June 12, 1997. *Id.* Petitioner asserts that claims 1–8, 17, and 23 are not entitled to priority earlier than August 26, 1999. Pet. 17–18. Patent Owner does not dispute Petitioner’s assertion.

The '090 patent discloses a digital data management system having a remote Account-Transaction Server (“ATS”) and a local host Data Management System and Audio/Video Processor Recorder-player (“VPR/DMS”) unit. *Id.* at 4:15–19. The '090 patent discloses various objects of the digital data management system. *See id.* at 3:32–4:16. One object is to “[r]ent/lease storage space in users Data Box to personalize and target advertising to the individual preferences of the user.” *Id.* at 4:10–12; *see also id.* at 30:50–33:41 (detailed disclosure of product advertising operations). This object is the focus of the challenged claims. *See id.* at claim 1.

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Figure 16 of the '090 patent is reproduced below.

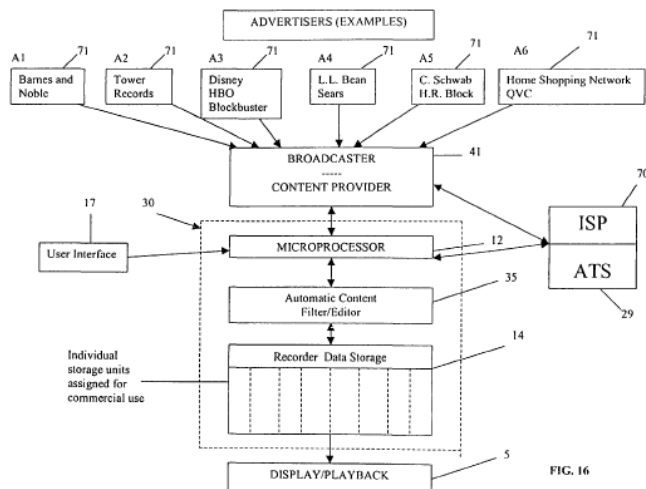


Figure 16 “illustrates the communication pathways between advertisers 71, a broadcaster content provider 41, and VPR/DMS 30.” *Id.* at 30:60–63.

Broadcaster content provider 41 transmits advertising data to VPR/DMS 30 via ATS 29, and the advertising data is recorded on individual data boxes on built-in, non-movable storage device 14. *Id.* at 31:1–15. “Advertising ‘sections’ or ‘spaces’ or ‘data boxes’ may be reserved, rented, leased or purchased from end user, content providers, broadcasters, cable/satellite distributor, or other data communications companies administering the data products and services.” *Id.* at 31:60–64. For example, a cable distributor may provide a customer with a cable set-top box and reserve certain areas to sell or lease to advertisers. *Id.* at 31:64–32:4.

Advertising data may be recorded selectively based on customer selection or activity history monitoring. *Id.* at 32:7–21. Based on customer profile data, an advertiser can place an advertising order, for example, to place an advertisement within a video magazine for selected customers. *Id.* at 32:22–33:3.

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*D. Illustrative Claim*

Of the challenged claims, claim 1 is independent, and claims 2–8, 17, and 23 depend directly or indirectly from claim 1. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A data delivery system for providing automatic delivery of multiple data products from one or more multimedia data product providers, the system comprising:

a remote account transaction server for providing multimedia data products to an end user, at least one of the multimedia products being specifically identified advertising data; and

a programmable local receiver unit for interfacing with the remote account transaction server to receive one or more of the multimedia data products and for processing and automatically recording the multimedia data products, said programmable local receiver unit including at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data, said at least one advertising data storage section being monitored and controlled by said remote account transaction server and such that said specifically identified advertising data is delivered by said remote account transaction server and stored in said at least one individually controlled and reserved advertising data storage section.

II. ANALYSIS

*A. Claim Construction*

In a covered business method patent review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.300(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131,

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2144–46 (2016) (upholding the use of the broadest reasonable interpretation approach in the similar context of *inter partes* review). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Other than the limitation below, no other claim terms need explicit construction. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy.’” (citation omitted)).

Claim 1 recites the following limitation: “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” Ex. 1001, 46:23–26. In our Institution Decision, we determined that the broadest reasonable construction, in light of the Specification of the ’090 patent, of this limitation is “individually controlled data storage section set apart just for storing the specifically identified advertising data.” Inst. Dec. 8–9. This construction is essentially Petitioner’s proposed construction and the same as the construction adopted by the district court, applying the claim construction standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), in the related proceedings. *See* Inst. Dec. 8–9; Pet. 26; Ex. 1025, 6, 9–18.

Patent Owner acknowledges our construction in the Institution Decision and states, “[f]or the purpose of this proceeding, . . . [Patent Owner] **accepts** the Board’s claim construction.” PO Resp. 27 (emphasis added). Patent Owner, however, then seeks to narrow our construction

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based upon the prosecution history to require that the reserved advertising data storage section must have some structure that actively precludes or prevents the reserved advertising data storage section from storing anything other than specifically identified advertising data. *See id.* at 54–55. Patent Owner relies upon substantially the same argument and evidence it relied upon in IPR2017-00454. *See* PO Resp. 54–55; *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case. No. IPR2017-00454, Paper 24, 16–18 (PTAB).

For the same reasons we set forth in the Final Written Decision in IPR2017-00454, we are not persuaded by Patent Owner’s argument. *See DISH Network Corp. v. Customedia Tech., L.L.C.*, Case. No. IPR2017-00454, Paper 47, 7–9 (PTAB). We determine that the broadest reasonable construction, in light of the Specification of the ’090 patent, of “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data” is “individually controlled data storage section set apart just for storing the specifically identified advertising data.” *See* Inst. Dec. 8–9.

#### *B. Covered Business Method Patent*

Section 18(d)(1) of the AIA defines a covered business method patent as “a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” *See also* 37 C.F.R. § 42.301(a) (stating the same). To determine whether a patent is a covered business method patent, “§ 18(d)(1) directs us to examine the claims when deciding whether a patent is a [covered business method] patent.” *Blue*



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*Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1340 (Fed. Cir. 2016) (stating that “the claims at issue in the instant case have an express financial component in the form of a subsidy, or financial inducement, that encourages consumers to participate in the distribution of advertisements”); *Unwired Planet, LLC v. Google, Inc.*, 841 F.3d 1376, 1382 (Fed. Cir. 2016) (“CBM patents are limited to those with claims that are directed to methods and apparatuses of particular types and with particular uses ‘in the practice, administration, or management of a financial product or service.’”).

In our Institution Decision, we determined that Petitioner had shown that the ’090 patent is eligible for CBM review. Inst. Dec. 10–15. Patent Owner urges us to reconsider and determine that the ’090 patent is not eligible for CBM review. *See* PO Resp. 31–51. We, however, are not persuaded to change our original determination.

*1. Financial Product or Service*

Petitioner asserts that “[c]laims directed to advertising constitute CBM-eligible subject matter . . . Thus, the *claims* of the ’090 Patent fall within the statutory definition of a covered business method patent.” Pet. 5–6 (emphases added). Petitioner points to limitations of claims 1, 3, 5, and 7 related to advertising, such as “an advertiser places a selected advertising order” (claim 7), “advertising rates” (claim 5), and “cost effectiveness” (claim 5). *Id.* Petitioner also asserts that claim 1 is directed to an apparatus for use in billing, because claim 1 explicitly recites a “remote account transaction server.” *Id.* at 6.

In our Decision on Institution, we found the following:

The claims of the ’090 patent, however, do explicitly recite the system selling advertising data and the transaction server billing for data, which both are financial activities. With respect to

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selling advertising data, dependent claim 10 recites that the “selected placement option and associated financial transactions can be instantly and automatically conducted directly through said system.” The “selected placement option” of claim 10 refers to the “selected placement option” of claim 5. Claim 5 recites that “the system transmits advertisement format scenarios according to a selected placement option.” The ’090 patent, thus, claims a system conducting financial transactions for the transmitting of advertisements according to a selected placement option, in other words, the selling of advertising data, which is a financial activity. In addition, other claims of the ’090 patent recite financial activities related to selling advertising. For example, claim 5 recites “an advertiser places a selected advertising order.” Claim 45 recites that “individual storage sections may be reserved, rented, leased, or purchased,” and claim 1 recites that the individual storage sections are “adapted specifically for storing the specifically identified advertising data.” *See also* Ex. 1001, claim 48 (reciting a similar limitation).

With respect to billing for data, dependent claim 15 recites that the “transaction server verifies billing information with a financial institution of a user and authorizes charging of an account of said user prior to transferring said data product to a local receiver of said user.” The “transaction server” refers to the “remote account transaction server” of independent claim 1. The ’090 patent, thus, explicitly claims a transaction server performing a billing operation, which is a financial activity. *See also* Ex. 1001, claims 19, 32 (reciting controlling data based on rental, purchase, subscription, or fee based transaction information).

Dec. 11–12.

After institution of trial, Patent Owner disclaimed claims 10, 15, 19, 32, 45, and 48. PO Resp. 8 (citing Ex. 2009). Patent Owner presents several assertions with respect to relying on these now disclaimed claims as the jurisdictional basis for conducting a covered business method review.

PO Resp. 2–18.

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*a. Statutory and Regulatory Jurisdiction*

Patent Owner first asserts that the Board's analysis, with respect to dependent claims 10, 15, 19, 32, 45 and 48, were not based on arguments set forth in the Petition, exceeded statutory jurisdiction, was inconsistent with the express language of 35 U.S.C. § 324 and 37 C.F.R. § 42.208(c), was improperly *sua sponte*, and presents substantial due process issues. PO Resp. 2–8, 14–15. Patent Owner asserts further that the express language of 35 U.S.C. § 324 and 37 C.F.R. § 42.208(c) supports their position. *Id.* Petitioner disagrees generally, and, with respect to Patent Owner's assertions concerning statutory and regulatory language, responds as follows:

Patent Owner cites to the Supreme Court's decision in *Cuozzo Speed Technologies, LLC v. Lee* for the proposition that the Board's decision to institute CBM review is limited to the particular language used by petitioner in its petition. PO Response at 3. To the contrary, *Cuozzo* rejected that argument. *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (affirming institution of IPR on claims not explicitly challenged in petition); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1274 (Fed. Cir. 2015). Moreover, Patent Owner's statutory analysis is flawed because the sections it cites relate to grounds for unpatentability, not for CBM eligibility. *See* PO Response at 4–5.

Pet. Reply 2. We agree with Petitioner.

*i. Applicable Law*

We do not read the express language of 35 U.S.C. § 324 and 37 C.F.R. § 42.208(c) in the limited manner advocated by Patent Owner. The relevant language of 35 U.S.C. § 324 is as follows:

The Director may not authorize a post-grant review to be instituted unless the Director determines that the information

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presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

As an initial matter, and as noted by Petitioner, the language of 35 U.S.C. § 324 only speaks, with explicit specificity, to unpatentability. The instant issue is jurisdiction.<sup>4</sup>

We agree with Patent Owner that a decision on institution, even concerning jurisdiction, should certainly be *based on* information presented in the petition. It does not follow, however, that a decision on institution is *narrowly limited to information expressly identified only within the four corners* of the petition, for the reasons set forth below.

We begin our analysis with the wording of the 35 U.S.C. § 324, which, in relevant part, recites “the information presented in the petition filed under section 321, *if such information is not rebutted . . .*” By its express wording, the statute contemplates taking into account rebuttal information, which, by all accounts, is the information set forth in the preliminary response to the petition. *See* 35 U.S.C. § 323 (explaining that a preliminary response may “set[] forth reasons why no post-grant review should be instituted based upon the failure of the petition to meet any requirement of this chapter.”). Information set forth in a preliminary response to the petition is not *narrowly limited to information expressly identified only within the four corners* of the petition.<sup>5</sup> In other words, a

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<sup>4</sup> Our analysis is the same with respect to 37 C.F.R. § 42.208(c).

<sup>5</sup> The relevant portion of the corresponding statute for *inter partes* review reads as follows: “the information presented in the petition filed under section 311 and any response filed under section 313 . . .” 35 U.S.C. § 314(a).

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preliminary response may raise issues relevant to institution that a petition may not have raised.

A latter portion of 35 U.S.C. § 324 recites, in relevant part, determining whether the information presented in the petition “would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” The use of the word “would” indicates that the decision on institution is a prediction in the future as to whether or not a claim *will* be held unpatentable, and within the context of the other relevant statutes, the point in time for which such a prediction is being made is at the time of final written decision. *See* 35 U.S.C. § 328(a). Under 35 U.S.C. § 326(a)(11), such a final written decision must be rendered within a specified time period following the decision on institution. During that specified time period, 35 U.S.C. § 326 contemplates a myriad of evidence and papers to be potentially entered, and considered, in coming to a final written decision. *See, e.g.*, 35 U.S.C. § 326(a)(3) (supplemental information), (a)(4) (evidence from discovery), (a)(8) (patent owner response with affidavits or declarations, and “any additional factual evidence and expert opinions”). Accordingly, when all of the above is considered together, a decision on institution is made, certainly based on the information presented in the petition, but also with a prediction as to the information that may be submitted during trial, for example, the evidence and papers enumerated above. Such evidence and papers are not *narrowly limited to information expressly identified only within the four corners* of the petition.

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In that respect, the guidance from *Cuozzo* is consistent and instructive. Specifically, in the *Cuozzo* affirmance, the Supreme Court set forth the procedural posture of the proceeding, as follows:

The Board agreed to reexamine claim 17, as well as claims 10 and 14. The Board recognized that Garmin had not expressly challenged claim 10 and claim 14 on the same obviousness ground. But, believing that “claim 17 depends on claim 14 which depends on claim 10,” the Board reasoned that Garmin had “implicitly” challenged claims 10 and 14 on the basis of the same prior inventions, and it consequently decided to review all three claims together. App. to Pet. for Cert. 188a.

*Cuozzo Speed Technologies, LLC v. Lee*, 136 S. Ct. 2131, 2138 (2016).

While certainly any analysis of whether to institute review must be *based on* the petition, the decision to institute may also be based on information that *implicitly flows from* the information set forth in the petition. Given that the patent is evidence squarely before us, implicitly flowing from every petition challenging a patent is the information contained within the patent itself. In other words, when a petition is filed against a patent, the patent is evidence and it is not unreasonable to expect Patent Owner to be familiar with *all* of the information contained in the patent, which would include all dependent claims, challenged in the petition or otherwise. *Cf. Riverwood Intern. Corp. v. R.A. Jones & Co., Inc.*, 324 F.3d 1346, 1355 (Fed. Cir. 2003) (quoting *Reading & Bates Const. Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 650 (Fed. Cir. 1984) (“It is common sense that an inventor, regardless of an admission, has knowledge of his own work.”)) In that respect, we note that Section 18(d)(1) of the AIA defines a covered business method patent as “a patent that claims . . . ,” and does not recite any further requirements concerning the nature of the claim, e.g., that the claim must be explicitly challenged in the petition. *See also* Transitional Program for Covered

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Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012) (Comment 8) (“A patent having one or more claims directed to a covered business method is a covered business method patent for purposes of the review, even if the patent includes additional claims.”).

*ii. Analysis*

As set forth above, we disagree with Patent Owner that a decision on institution is narrowly limited to information expressly identified only within the four corners of the petition, because Patent Owner ignores the statutory language. When the actual statutory language is applied, it is clear that our identification of dependent claims 10, 15, 19, 32, 45, and 48 is *based on* information expressly identified in the four corners of the Petition. Specifically, Petitioner asserts that the claims recite limitations directed to advertising to a consumer, and points to claim limitations related to ordering and selling advertisements, such as “an advertiser places a selected advertising order” (claim 7), “advertising rates” (claim 5), and “cost effectiveness” (claim 5). Pet. 5. Petitioner also asserts that the claims recite limitations related to providing a billing interface (explaining that the remote transaction server, recited by claim 1, is described in the ’090 patent as a billing interface). *Id.* at 6. Petitioner further asserts that “[c]laims directed to advertising constitute CBM-eligible subject matter . . . Thus, the *claims* of the ’090 Patent fall within the statutory definition of a covered business method patent.” *Id.* at 5–6 (emphases added). Here, Petitioner refers to “claims” in the plural.

By identifying “claims” in the plural, Petitioner is referring, explicitly, to more than one claim. Patent Owner acknowledges that Petitioner is

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referring to plural claims. *See* PO Resp. 18–23 (“The ’090 Patent Claims Identified by the Petitioner” and discussing claims 1, 3, 5, and 7). The aforementioned sentence from the Petition that refers to “claims” in the plural is, furthermore, set forth under the following heading: “The ’090 Patent’s *Claims* are Directed to Financial Transactions.” Pet. 5 (emphasis added). The Petition’s analysis cites, “[a] patent need have only one claim directed to a covered business method to be eligible for review.” Pet. 4 (citing 77 Fed. Reg. at 48,736). We read Petitioner’s discussion, in the aggregate, as asserting, explicitly, that any one of the plurality of claims of the ’090 patent is a proper basis for CBM eligibility.<sup>6</sup> We, however, acknowledge that the only claim limitations cited expressly, on pages 5–6 of the Petition, are from claims 1, 3, 5, and 7.

In light of Petitioner’s reference to the “claims,” the Board was led to, and did indeed read, each and every claim. The limitations identified expressly by Petitioner, for example, include claim 1’s “remote account transaction server,” which Petitioner argues is a billing interface. Pet. 6. Claim 15, which depends indirectly from claim 1, explicitly recites that the transaction server verifies billing information and authorizes charging of an account. Ex. 1001, 47:27–31. In our Institution Decision, we explained that the transaction server of claim 15 refers to the account transaction server of claim 1. Inst. Dec. 11–12; *cf. In re NuVasive*, 841 F.3d 966, 971, 972 (Fed. Cir. 2016) (“Although the Board is not limited to citing only portions of the prior art specifically drawn to its attention . . . , [Patent Owner] was entitled to an adequate opportunity to respond . . .”). Given that guidance from the Petition concerning claim 1, the Board additionally identified in the

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<sup>6</sup> In some respects, it is appropriate to end our inquiry here.



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Institution Decision, dependent claims 10, 15, 19, 32, 35, and 48, each of which relates to the claimed financial limitations set forth in the Petition.

Patent Owner asserts the following:

For the Board to institute CBM review on the basis of dependent claims not identified in the petition and then find that the patent owner's disclaimer was too late [is] absurd, manifestly unfair, arbitrary and capricious, and create a serious due process concern.

PO Resp. 14. For the reasons set forth above, we are unpersuaded our identification of dependent claims 10, 15, 19, 32, 45, and 48 was not based on information expressly identified in the four corners of the Petition.

Furthermore, due process requires notice and an opportunity to be heard by an impartial decision-maker. *Abbott Labs. v. Cordis Corp.*, 710 F.3d 1318, 1328 (Fed. Cir. 2013). As formal administrative adjudications, AIA trial proceedings are subject to the Administrative Procedure Act ("APA"). *See Dell Inc. v. Accelaron, LLC*, 818 F.3d 1293, 1351 (Fed. Cir. 2016); *Belden Inc. V. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015). Under the APA, the Board must inform the parties of "the matters of fact and law asserted." 5 U.S.C. § 554(b)(3). It also must give the parties an opportunity to submit facts and arguments for consideration. *Id.* § 554(c). Each party is entitled to present oral and documentary evidence in support of its case, as well as rebuttal evidence. *Id.* § 556(d).

Here, in compliance with the Administrative Procedure Act, notice concerning facts and law applicable to this issue were expressly set forth on pages 11–12 of the Institution Decision. Inst. Dec. 10–13 (explicitly identifying claims and applicable case law). Patent Owner has been provided the "opportunity to submit facts and arguments for consideration" on this issue, for example, in its Patent Owner Response. In fact, Patent

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Owner has done so. *See* PO Resp. 1–14. Accordingly, we determine that Patent Owner has been afforded due process on this issue.

*iii. Conclusion*

For the above reasons, we are unpersuaded, by Patent Owner’s assertions that the Board’s analysis, with respect to dependent claims 10, 15, 19, 32, 45, and 48, was not based on arguments set forth in the Petition, exceeded statutory jurisdiction, was inconsistent with the express language of 35 U.S.C. § 324 and 37 C.F.R. § 42.208(c), was improperly raised *sua sponte*, and presents substantial due process issues.

*b. Effect of Disclaimer*

Patent Owner asserts that, regardless of whether or not dependent claims 10, 15, 19, 32, 45, and 48 meet the finance prong for CBM eligibility, because Patent Owner disclaimed those claims, pursuant to 35 U.S.C. § 253, those claims must be treated as never having existed, and cannot constitute the basis for CBM eligibility. PO Resp. 8–14. Patent Owner asserts further that, in as much as Petitioner may rely on *J.P. Morgan Chase & Co. v. Intellectual Ventures II LLC*, Case No. CBM2014-00157, Paper 40 (PTAB Jan. 12, 2016) for the proposition that post-institution disclaimers should be treated differently, the reasoning in *J.P. Morgan Chase* is erroneous, and should not be followed. *Id.* at 11–12. Petitioner does cite *J.P. Morgan Chase*, and also asserts the following:

Patent Owner is also incorrect to argue that post-institution disclaimer of claims strips the Board of authority to institute a CBMR. PO Response at 8–14. This argument is foreclosed by *Facebook, Inc. v. Skky*[,] CBM2016-00091 (Paper 12 at \*6) (PTAB Sep. 28, 2017) (precedential) (CBM eligibility is “determined based on the claims of the challenged patent as they existed *at the time of the decision whether to institute.*”);[ ] *see*

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*also JP Morgan Chase & Co. v. Intellectual Ventures II LLC*, CBM2014-00157 (Paper 40) at 11 (PTAB Jan. 12, 2016) (jurisdiction determined as of institution). Because Patent Owner chose not to disclaim any claims before institution, the Board was correct to consider them when determining CBM eligibility. *See Arthrex, Inc. v. Smith & Nephew, Inc.*, \_\_\_ F.3d \_\_\_, No. 2017-1239, 2018 WL 522366, at \*4 (Fed. Cir. Jan. 24, 2018) (PTAB has jurisdiction to enter an adverse judgment against Patent Owner who cancels all claims before institution).

Pet. Reply 2–3 (footnote omitted). On the merits, we agree with Petitioner.

*i. Applicable Law*

In our Decision on Institution, we indicated:

A patent need have only one claim directed to a covered business method to be eligible for review. *See* Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012) (Comment 8); *see also Emerson Electric Co. v. SIPCO LLC*, Case CBM2016-00095, slip op. at 7 n.2 (PTAB Jan. 23, 2017) (Paper 12) (“Although the patentability of claims 3 and 4 are not challenged by Petitioner in this proceeding, there is no requirement that only challenged claims may be considered for purposes of determining a patent is eligible for covered business method patent review. As discussed above, a patent is eligible for review if it has at least one claim directed to a covered business method. 77 Fed. Reg. at 48,736 (Response to Comment 8).”).

Inst. Dec. 13. Since our Institution Decision, a final written decision has issued in *Emerson Electric Co. v. SIPCO LLC*, Case No. CBM2016-00095, Paper 39 (PTAB Jan. 16, 2018)<sup>7</sup>; *see also Rembrandt Wireless Technologies, LP v. Samsung Electronics Co., Ltd.*, 853 F.3d 1370,

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<sup>7</sup> A copy of the final written decision in that proceeding has been entered as Exhibit 3001.

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1383–84 (Fed. Cir. 2017); *J.P. Morgan Chase*, slip op. at 9–15; *Facebook, Inc. v. Skky, LLC*, Case No. CBM2016-00091, Paper 12, 8–12 (PTAB Sept. 28, 2017) (precedential) (expanded panel); *Westlake Services, LLC v. Credit Acceptance Corp.*, Case No. CBM2014-00176, Paper 41, 2–5 (PTAB Sept. 3, 2015).

Belated post-institution disclaimer of claims reciting a “financial activity element” does not affect our CBM patent review eligibility determination. “CBM patent review eligibility is determined based on the claims of the challenged patent *as they exist at the time of the decision whether to institute.*” *Facebook*, slip op. at 11 (emphasis added). Section 18(a)(1)(E) of the AIA provides that “[t]he Director may *institute* a transitional proceeding only for a patent that is a covered business method patent” (emphases added). Section 18(d)(1) of the AIA defines a “covered business method patent” as “a patent that *claims* a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service” (emphasis added). Hence, the decision whether to institute a CBM patent review is based on whether a patent “is” a covered business method patent, which in turn is based on what the patent “claims” *at the time of the Decision on Institution*—not as the claims may exist at some later time after institution. *See Facebook*, slip op. at 6. In other words, *Facebook* instructs us as to the effect of disclaimed claims at the time of the decision to institute review, but does not instruct us as to the treatment of disclaimed claims after a patent has been determined to be eligible for CBM review and a trial has been instituted.

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When the relevant claims are a part of the relevant patent at the time of the decision on institution, they may be considered in determining whether that patent is eligible for CBM patent review at the time of institution. Any belated disclaimer is an improper attempt to seek the specific relief set forth in 37 C.F.R. § 42.207 without complying with the rule's timeliness requirement. Specifically, under 37 C.F.R. § 42.207, titled "Preliminary response to petition," a "patent owner may file a preliminary response to the petition . . . setting forth the reasons why no post-grant review should be instituted." The rule also provides that "[t]he patent owner may file a statutory disclaimer under 35 U.S.C. 253(a) in compliance with § 1.321(a) of this chapter, disclaiming one or more claims in the patent," and "[n]o post-grant review will be instituted based on disclaimed claims." In short, when a patent owner timely files a statutory disclaimer before institution, "[n]o post-grant review will be instituted based on disclaimed claims."

Disclaimed claims are not considered in determining whether a patent is eligible for CBM patent review if a patent owner timely files a statutory disclaimer before institution. *See Facebook*, slip op. at 4 (denying institution on the sole ground that the patent is not eligible for CBM patent review because, when the patent owner filed a statutory disclaimer before its preliminary response, the panel treated the disclaimed claims as if they never existed and declined to consider petitioner's arguments that were based on the disclaimed claims). In such a situation, the Board and parties can avoid the cost and expense of the instant trial, assuming no other claim can provide standing.

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The Board’s rules are “construed to secure the just, speedy, and inexpensive resolution of every proceeding.” 37 C.F.R. § 42.1(b). The rules, including 35 C.F.R. §§ 42.1(b) and 42.207, were promulgated with the consideration of “the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter.” 35 U.S.C. § 326(b). We decline to construe our rules and procedures to encourage dilatory tactics.

A patent owner’s reliance on 35 U.S.C. § 253, to persuade us to that post-Institution Decision claim disclaimer can eliminate our CBM jurisdiction, is misplaced. While our reviewing court has “held that a disclaimer relinquishes the rights of the patent owner,” its “precedent and that of other courts have not readily extended the effects of disclaimer to situations where others besides the patentee have an interest that relates to the relinquished claims.” *Rembrandt Wireless Techs.*, 853 F.3d at 1383–84. Specifically, in part because institution is discretionary (AIA § 18(a)(1); 35 U.S.C. § 324(a)), a denial of institution does not leave a petitioner any worse off, in that petitioner is still free to challenge the patent in other forums, such as district court, and on all grounds. After institution of a CBM patent review, however, we are required by 35 U.S.C § 328(a) to “issue a final written decision with respect to the patentability of” the challenged claims in the instituted CBM patent review. Once that final written decision is issued, petitioner is subject to certain estoppels. AIA § 18(a)(1)(D) (“The petitioner . . . may not assert, either in a civil action . . . or in a proceeding before the International Trade Commission . . . that the claim is invalid on any ground that the petitioner raised during that transitional proceeding.”).

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Accordingly, because, after institution, both the petitioner and the Board also have interests that relate to the relinquished claims, we are persuaded that related post-institution disclaimer of claims reciting a “financial activity element” does not affect our CBM patent review eligibility determination. *Cf. Guinn v. Kopf*, 96 F.3d 1419, 1422 (Fed. Cir. 1996) (holding disclaimer of an allegedly interfering claim did not divest the Board of jurisdiction over the declared interference proceeding).

*ii. Analysis*

There is no dispute that dependent claims 10, 15, 19, 32, 45, and 48 were not disclaimed at the time of institution. *Compare* Inst. Dec. 7 (entered June 12, 2017); Ex. 2009 (entered Oct. 4, 2017). Accordingly, their consideration in determining whether the '090 patent is CBM eligible, at the time of institution, was proper, and the subsequent disclaimer does not deprive us of jurisdiction here.

*c. Whether Any Claim Contains “Express Financial Component”*

Patent Owner argues that “[t]he claims of the '090 Patent do not recite selling anything,” and that reciting advertising, as opposed to selling advertising, does not make the '090 patent CBM review eligible. PO Resp. 15–23. Patent Owner further argues that the selling of advertising must be central to the operation of the claim. *See id.* at 22–23. Patent Owner’s argument focuses on elements of claims 1, 5, and 7, which, according to Patent Owner, do not recite selling advertisement as a central operation of the claim. *See id.*

Petitioner replies that Patent Owner’s proffered standard is too narrow, in that while a claim must contain, “‘however phrased, a financial activity element,’ . . . [t]he Federal Circuit has never held that the financial

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element must be ‘central’ to the claims . . . .” Pet. Reply 3–4 (citing *Secure Access, LLC v. PNC Bank National Association*, 848 F.3d 1370, 1381 (Fed. Cir. 2017) *vacated as moot* 2018 WL 2186184 (Mem) \*1) (emphasis omitted).<sup>8</sup>

We disagree with Patent Owner, however, that the “express financial component” must be “central” to the claim. The primary case law support for this proposition, on which Patent Owner relies, is *Blue Calypso*. The manner in which the “central” language is set forth in *Blue Calypso* is that whether an express limitation “subsidy” was central to the claim was an explicit underlying factual finding made, by the Board, in support of an overall determination that a patent at issue in that proceeding was a covered business method patent. *See Blue Calypso*, 815 F.3d at 1339–1340 (“The Board further observed that the subsidy concept was ‘central to the claims’ . . . .”) (emphasis added); *Id.* at 1340 (“As the Board noted, the subsidy is central to the operation of the claimed invention.”) (emphasis added). While *Blue Calypso* states that such an underlying factual finding

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<sup>8</sup> Petitioner presents the language “financial activity element,” citing *Secure Access, LLC v. PNC Bank National Association*, 848 F.3d 1370, 1381 (Fed. Cir. 2017). Pet. Reply 4–5. That decision, however, was recently vacated as moot by the Supreme Court. *Secure Access, LLC v. PNC Bank National Association*, 2018 WL 2186184 \*1 (May 14, 2018) (Mem.) (“The petition for a writ of certiorari is granted. The judgment is vacated as moot, and the case is remanded to the United States Court of Appeals for the Federal Circuit with instructions to remand the case to the Patent Trial and Appeal Board to vacate the Board's order.”). Patent Owner uses the language “express financial component,” as set forth in *Blue Calypso*, 815 F.3d at 1340. We discern little substantive difference between that phrase and “financial activity element.” Accordingly, we substitute all further references to “financial activity element” with “express financial component.”



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was relevant in that case to the overall determination that the patent at issue there was a covered business method patent, we do not read it as a requirement that such be considered in all cases.

Patent Owner additionally cites *Unwired Planet* in support of its position, contending that *Unwired Planet* stands for the proposition that “claimed ‘activities ‘incidental to’ or ‘complementary to’ a financial activity’ [is] not ‘the legal standard to determine whether a patent is a CBM,’” which, according to Patent Owner, underscores the requirements that any “express financial component” must be “central” to the claim. PO Resp. 18–19 (citing *Unwired Planet*, 841 F.3d at 1382). Patent Owner’s reliance on *Unwired Planet* is misplaced, however, as *Unwired Patent* does not even discuss express claim language, let alone a requirement that some of that express claim language be “central” to the claim.

Turning to the instant proceeding, Petitioner first contends that claims of the ’090 Patent are “CBM-eligible subject matter because they are directed to advertising to a consumer.” Pet. 5–6. Petitioner points to the recitations of “specifically identified advertising data,” “plac[ing] a selected advertising order,” “advertising rates,” and “cost effectiveness” in claims 1, 3, 5, and 7. *Id.* at 5. According to Petitioner, “advertising to consumers is ‘data processing or other operations used in the practice, administration or management of a financial product or service.’” *Id.* Additionally, Petitioner asserts, “claim 1 is directed to an apparatus for use in billing—which again falls within the statutory definition of CBM eligibility.” *Id.* at 6. Petitioner points to claim 1’s recitation of a “remote account transaction server,” which is described in the ’090 patent as a billing interface. *Id.* (citing Ex. 1001, 22:13–16).

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Patent Owner argues that “[a] patent claim is not directed to a covered business method merely because it contains a limitation concerning advertising data; the advertising component of the claim must be directed to an actual financial transaction.” PO Resp. 18–20 (citing *Blue Calypso*, 815 F.3d at 1336–1340) (emphasis omitted). Patent Owner contends that although claims 1, 5, and 7 of the ’090 patent recite advertising, they do not recite selling advertising and, thus, the ’090 patent is not CBM review eligible. PO Resp. 15–23.

As explained in our Institution Decision, contrary to Patent Owner’s argument, the claims of the ’090 patent do explicitly recite the system selling advertising data and the transaction server billing for data, which both are financial activities. Inst. Dec. 11–12. As Petitioner points out, claim 7 recites, “an advertiser places a selected advertising order.” Pet. 5 (citing Ex. 1001, 46:62–64). In this context, we are persuaded that an order cannot reasonably be considered anything other than a financial transaction.<sup>9</sup> Claim 10 recites that the “selected placement option and associated *financial transactions* can be instantly and automatically conducted directly through said system.” Ex. 1001, 47:11–13 (emphasis added). The “selected placement option” of claim 10 refers to the “selected placement option” of claim 5, cited by Petitioner (Pet. 5). Claim 5 recites that “said system transmits advertising format scenarios according to a selected placement option,” and the format scenarios are analyzed based on factors, such as advertising rates or cost effectiveness. Ex. 1001, 46:48–58. The ’090 patent, viewed at the time of institution, thus, claims a system conducting financial transactions for the transmitting of advertisements according to a

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<sup>9</sup> We note that dependent claims 5 and 7 have not been disclaimed.

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selected placement option; in other words, the selling of advertising data, which is a financial activity. Dependent claim 15 recites that the “transaction server verifies billing information with a financial institution of a user and authorizes charging of an account of said user prior to transferring said data product to a local receiver of said user.” *Id.* at 47:27–31. The “transaction server” refers to the “remote account transaction server” of independent claim 1. *See id.* at 46:15. The ’090 patent, thus, also explicitly claims an account transaction server performing a billing operation, which is, again, clearly a financial activity.

Patent Owner also asserts that Petitioner’s citations to the Specification concerning financial activities cannot substitute for their absence from the claims. PO Resp. 21. We agree. Patent Owner’s assertions are misplaced, however, as, for the reasons set forth above, we find that the claims of the ’090 patent recites an express financial component, such as an advertiser placing a selected advertising order and a system that performs “financial transactions.”

*d. Conclusion*

For the foregoing reasons, we determine that Petitioner has met its burden of demonstrating that at least one claim of the ’090 patent is or was, directed to an apparatus for performing data processing used in the practice, administration, or management of a financial product or service. Consequently, the ’090 patent satisfies the “financial product or service” component of the definition for a covered business method patent under § 18(d)(1) of the AIA.

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## 2. *Technological Invention*

As set forth above, the definition for “covered business method patent” does not include patents for “technological inventions.” AIA § 18(d)(1); *see also* 37 C.F.R. § 42.301(a) (stating the same). To determine whether a patent falls within this exception, our rules prescribe a two-prong approach whereby we consider “whether the claimed subject matter as a whole [(1)] recites a technological feature that is novel and unobvious over the prior art; and [(2)] solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b). Further, the following claim drafting techniques would not typically render a patent a “technological invention”:

(a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

(b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide (“Trial Practice Guide”), 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012).

Pursuant to the two-prong framework, Petitioner argues that the claims of the ’090 patent do not meet either prong. Pet. 6–9 (citing Ex. 1001). Patent Owner disagrees for several reasons. PO Resp. 23–27 (citing Ex. 2004, 2007, 2008). We have considered Patent Owner’s

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arguments, but we are persuaded that Petitioner has shown sufficiently that the claimed invention of the '090 patent is not for a technological invention.

Turning to the first prong, we consider whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art. Petitioner asserts that the claims recite only generic computer components performing generic computer functions that were well known in the art at the time of the invention. Pet. 7 (citing Ex. 1001).

Patent Owner disagrees. PO Resp. 24–25. First, citing to its argument that certain claims are not anticipated by Hite, or obvious over Hite and Hill, Patent Owner argues that “the use of reserved storage space for advertising data in the '090 Patent was novel and unobvious over the prior art.” *Id.* at 24. For support, Patent Owner also cites to certain statements made in a Notice of Allowability. *Id.* at 25 (citing Ex. 2007, 4 ¶¶ 14–15). Those statements concern the combination of specific prior art patents and patent application publications cited during prosecution. *See* Ex. 2007 4 ¶¶ 14–15. Patent Owner’s assertions, concerning Hite, Hill, and the prior art cited in the Notice of Allowability, are misplaced. Whether Petitioner met its burden of showing, that a claim is anticipated or obvious over the cited prior art, is not commensurate with a determination that the claimed subject matter, as a whole, recites a technological feature that is novel and unobvious over the prior art. *See* 37 C.F.R. § 42.301(b); Pet. Reply 6. While the former analysis focuses on the novelty or obviousness of the claim as a whole, the latter analysis focuses on the novelty or obviousness of *specific, discrete* technological features recited in the claim as a whole.

In any event, Patent Owner’s citation to the Notice of Allowability does not support its argument that “the use of reserved storage space for

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advertising data in the '090 Patent was novel and unobvious over the prior art" (PO Resp. 24). The Notice of Allowability actually states the opposite:

Marsh et al. (US 6876974 B1) teaches [at least one data storage section being reserved for advertising data storage] literally as a designated portion of the storage device 206 having a predetermined memory capacity (e.g., 10 MB) which is specifically reserved for storage of advertisements at the time the client system software is installed. This is done to assure there is sufficient space for advertising to support the special email application taught by March et al.

Ex. 2007, 4 ¶ 14 (emphasis omitted); *see also* Pet. Reply 5–6 (citing Ex. 1002, 433 (also ¶ 14 of the Notice of Allowability)).

Further, the '090 patent, itself, tells us that all other possible technological features of claim 1 are known. As Petitioner states:

Every claim limitation recited in the '090 Patent was "known" in the art, as admitted by the patentee in the specification. *See e.g.*, Ex. 1001 at Abstract; 4:61–62; 5:5–8; 13:26–32; 13:54–60; 13:66–14:3; 14:5–8; 14:29–35; 14:35–40; 14:46–50; 15:4–6; 15:11–14; 15:14–18; 15:43–46; 18:20–23; 18:42–46; 24:26–34; 25:1–7; and 37:29–32.

Pet. 7. The '090 patent describes that the claimed programmable local receiver having a data storage section is a known device, such as a set-top box. *See* Ex. 1001, Abstract, 4:59–5:8. Considering each limitation of independent claim 1, as well as each explicit citation to the Specification expressly set forth in the Petition, we are persuaded that Petitioner has met its burden of showing, via analysis and evidence explicitly set forth on pages 6–7 of the Petition, that independent claim 1, as a whole, does not recite a technological feature that is novel or unobvious.

We need only assess whether one of the prongs set forth in 37 C.F.R. § 42.301(b) is deficient to determine whether the claims of the '090 patent

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are not for a “technological invention.” *See Apple Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016) (“We need not address this argument regarding whether the first prong of 37 C.F.R. § 42.301(b) was met, as we affirm the Board’s determination on the second prong of the regulation—that the claimed subject matter as a whole does not solve a technical problem using a technical solution.”). Nonetheless, we have considered Petitioner’s assertion that the claims of the ’090 patent are directed to the business problem of creating a transaction or commercial zone and are not directed to a technical problem. Pet. 8–9 (citing Ex. 1001, 3:32–35). Petitioner asserts that “[d]elivering targeted advertisements is decidedly nontechnical.” Pet. 8.

Patent Owner argues that the ’090 patent is directed to a technical solution to a technical problem and states:

The technical problem is how to ensure that the end user’s storage device (the local receiver of Claim 1) has enough (or any) storage for targeted advertising. The technical solution provided by the ’090 Patent is to deliver, control, and store advertising data on local receivers, such as set-top boxes, in one or more reserved data storage sections.

PO Resp. 25–26 (citing Ex. 2008, 12); *see also id.* at 31–35 (in the context of a ground of unpatentability under 35 U.S.C. § 101, assertions that patent are directed to a technological solution to a technological problem). Patent Owner cites to statements made by the applicant during prosecution to support its argument, but does not provide any citation in support from the ’090 patent itself. *See id.* at 26 (citing Ex. 2008, 12).

We are persuaded by Petitioner’s explanation as to why the claimed subject matter does not solve a technical problem with a technical solution. *See* Pet. 8–9. The ’090 patent, itself, describes that its purpose is “to provide a system that creates a transaction or commercial zone for data to be

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received, manipulated, stored, retrieved, and accessed by a user,” and that one aspect is to “[r]ent/lease storage space in users Data Box to personalize and target advertising to the individual preferences of the user.” Ex. 1001, 3:32–35, 4:10–12; *see also id.* at 31:60–64. The ’090 patent is not concerned with lack of storage space for targeted advertising. *See id.* at 30:50–33:16. Relatedly, for the same reasons discussed above in connection with the first prong, we are persuaded that the ’090 patent does not disclose a technical solution. We are persuaded that Petitioner has met its burden of showing, via analysis and evidence explicitly set forth on pages 8–9 of the Petition, that independent claim 1, as a whole, does not solve a technical problem with a technical solution.

Petitioner has met its burden of demonstrating that the ’090 patent is not for a “technological invention.”

### 3. *Conclusion*

For the reasons set forth above, we are persuaded that Petitioner has met its burden of demonstrating that the ’090 patent is covered business method patent eligible for review.

#### *C. Indefiniteness*

Claim 7 depends from claim 5 and is reproduced below:

7. The system of claim 5 wherein an advertiser places a selected advertising order which activates instant or time scheduled delivery of said selected advertising order to system customers through interaction with the transaction server.

Petitioner contends that claim 7 is unpatentable under 35 U.S.C. § 112, 2nd paragraph, for failure to particularly point out, and distinctly claim, the subject matter that the application regards as the invention. Pet. 55–57.



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Specifically, Petitioner argues that claim 7 is indefinite because it claims a mix of apparatus and method elements. *Id.* at 56 (citing *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005).) According to Petitioner, claim 7 recites a method step, but depends from claim 5, which depends from claim 1, which recites an apparatus. *Id.* at 57.

Patent Owner disputes that claim 7 is indefinite. PO Resp. 51–52. According to Patent Owner, the advertiser recited by claim 7 is not an actor or user, but an advertiser computer. *Id.* Patent Owner directs our attention to column 32, lines 28–49 of the '090 patent to show that, in the context, of the '090 patent, the advertiser is an advertiser computer. *Id.*

Pursuant to 35 U.S.C. § 112, a claim is required to “particularly point out and distinctly claim the subject matter which the applicant regards as the invention.” “[A] single claim covering both an apparatus and a method of use of that apparatus is” indefinite because “it is unclear whether infringement . . . occurs when one creates a[n infringing] system, or whether infringement occurs when the user actually uses [the system in an infringing manner].” *IPXL Holdings, LLC v. Amazon.com, Inc.*, 430 F.3d at 1384. “Nonetheless, apparatus claims are not necessarily indefinite for using functional language. If an apparatus claim is clearly limited to an apparatus possessing the recited structure and capable of performing the recited functions, then the claim is not invalid as indefinite.” *UltimatePointer LLC v. Nintendo Co.*, 816 F.3d 816, 826 (Fed. Cir. 2016) (internal quotations and citations omitted).

Contrary to Patent Owner’s argument, the additional limitation of claim 7 does not recite an advertising *computer* or more specifically, an advertising computer capable of performing a function. The plain language

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of claim 7 recites “an advertiser” performing the claimed action (“places a selected advertising order”). This is akin to a step of a method. Claim 7, however, depends from claim 5, which depends from claim 1. *See* Ex. 1001, 46:62–65 (“The system of claim 5 . . .”). Claims 1 and 5 recite systems comprising apparatuses, such as a remote account transaction server and a programmable local receiver unit. Ex. 1001, 46:12, 46:48. It, thus, is unclear whether claim 7 encompasses an apparatus or a method.

The specification of the '090 patent does not provide any further clarity. Patent Owner is correct that the '090 patent discloses an advertising computer used in connection with some aspects of the targeted advertising. *See id.* at 32:28–49. The '090 patent, however, also discloses an advertiser placing a selected advertising order. *See id.* at 32:28–67. For example, the '090 patent states: “[o]nce all format decision are made by the advertiser, it may then place the desired advertising placement order” (*id.* at 32:48–50) and “[a]nother example would allow an advertiser to make qualified yet almost instantaneous transactions for placement of advertising” (*id.* at 32:52–64).

We determine that Petitioner shows by a preponderance of the evidence that claim 7 is indefinite.<sup>10</sup>

#### *D. Section 101 Patent-Eligible Subject Matter*

Petitioner contends that claims 1–8, 17, and 23 do not recite patent eligible subject matter under 35 U.S.C. § 101, because they are directed to

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<sup>10</sup> For the purposes of efficiency, we will consider claim 7 with respect to other grounds under §§ 101, 102, and 103 asserted by Petitioner despite our determination that Petitioner has shown that claim 7 is indefinite.

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an unpatentable abstract idea, and do not contain an “inventive concept” that amounts to significantly more than the abstract idea. Pet. 31–55 (citing Exs. 1001, 1008). Patent Owner disagrees. PO Resp. 31–51 (citing Exs. 1001, 2004, 2007, 2008). Petitioner replies. Pet. Reply 8–23. Patent Owner further responded. PO Sur. 1–5. Petitioner did the same. Pet. Sur. 1–5.

### *1. Relevant Law*

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

In determining whether a claim falls within the abstract ideas exception, we are guided in our analysis by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)). In accordance with that framework, we first determine whether the claim is “directed to” a patent-ineligible abstract idea. *See Alice*, 134 S. Ct. at 2356. We evaluate “the focus of the claimed advance over the prior art to determine if the claim’s character as a whole is directed to excluded subject matter.” *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (internal quotation marks omitted). “[W]hen considering claims purportedly directed to ‘an improvement of computer functionality,’ we ‘ask whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a

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tool.” *Smartflash LLC v. Apple, Inc.*, 680 Fed. Appx. 977, 982 (Fed. Cir. Mar. 1, 2017) (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

The following method is then used to determine whether what the claim is “directed to” is an abstract idea:

[T]he decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353–54. That is the classic common law methodology for creating law when a single governing definitional context is not available. *See generally* Karl N. Llewellyn, *The Common Law Tradition: Deciding Appeals* (1960). This more flexible approach is also the approach employed by the Supreme Court. *See Alice*, 134 S. Ct. at 2355–57. We shall follow that approach here.

*Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (footnote omitted).

If the claim is “directed to” a patent-ineligible abstract idea, we then consider the elements of the claim—both individually and as an ordered combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Alice*, 134 S. Ct. at 2355. This is a search for an “inventive concept”—an element or combination of elements sufficient to ensure that the claim amounts to “significantly more” than the abstract idea itself. *Id.*

## 2. *Whether the Claims are Directed to an “Abstract Idea”*

Petitioner argues that the challenged claims are directed to the abstract idea of “delivering targeted advertising to a user” and that the remaining claim elements merely identify a generic technological environment and add routine and conventional post-solution activity. Pet. 36 (citing Ex. 1001,

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46:12–18); Pet. Reply 7–9. Patent Owner disagrees, and argues that the challenged claims are patent eligible, because they claim a specific, discrete implementation of a technological solution to a technological problem via an improvement in data management. PO Resp. 32–35 (citing Ex. 2004).

Like the parties, who focus their analysis for step one on independent claim 1, we take claim 1 as representative. *See* Pet. 36–40; PO Resp. 31–41. Claim 1 recites “[a] data delivery system for providing automatic delivery of multimedia data products from one or more multimedia data product providers” and specifies that at least one of the multimedia data products is specifically identified advertising data. Ex. 1001, 46:12–18. Claim 1 also recites that the multimedia data products are provided by a remote account transaction server, and received by a programmable local receiver unit. *Id.* at 46:15–21. The remote account transaction server monitors and controls an individually controlled and reserved advertising data storage section, and the specifically identified advertising data is stored in the individually controlled and reserved advertising data storage section. *Id.* at 46:26–32. Based on its recitations, the focus of claim 1 is the abstract idea of delivering targeted advertising to user. *See* Pet. 36–38 (citing Ex. 1008 ¶ 373, testimony of Dr. Negus). The focus of claim 1 is consistent with the ’090 patent description of renting or leasing storage space in a user’s data box to personalize and target advertising to individual users. *See* Ex. 1001, 3:32–35, 4:10–12, 31:60–64.

Patent Owner argues that “[t]he ’090 Patent is directed to solving the technical problem of how to ensure that the end user’s storage device has enough storage for targeted advertising by claiming a system to deliver, control, and store the advertising data on local receivers in reserved data

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storage sections” and not to an abstract idea. PO Resp. 32; *see also* PO Sur 2. Patent Owner relies upon the testimony of Dr. Kesan to support its argument. PO Resp. 32–35 (citing Ex. 2004, 1024–1043). Dr. Kesan testifies, “the ’090 Patent discloses a system that breaks up the total memory of a device into separate data storage sections,” which “provide to the end-user and each data supplier a virtual memory allocation out of the larger memory area.” Ex. 2004 ¶ 1026. Patent Owner’s argument, and Dr. Kesan’s testimony, is unpersuasive because they are not commensurate with the scope of claim 1. Claim 1 does not require the advertising data storage section to have any specific structure, such as separate portions that are allocated to a user or a data supplier. Nor does claim 1 require that data, other than specifically identified advertising data, be stored on the same device. *See DISH Network Corp. v. Customedia Tech., L.L.C.*, Case. No. IPR2017-00454, Paper 10, 8–9 (rejecting Patent Owner’s contention that claim 1’s advertising data storage section must be set apart from other data storage sections that are on the same data storage and that store data other than the specifically identified advertising data). Claim 1 does not require that the programmable local receiver receive any data other than specifically identified advertising data.

Patent Owner also relies upon statements, made by Petitioner’s damages experts in the related district court case, to assert that “[i]n the district court, DISH conceded that the claims’ ‘character as a whole’ is *not* directed to targeted advertising but rather a discrete technological solution to a technological problem.” PO Resp. 47 (reproducing statements of Paul C. Benoit and Christopher Bakewell from Exs. 2005, 2006). As Petitioner points out, however, “[t]hese statements come from a damages expert report

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responding to theories presented by Patent Owner’s own technical and damages experts in the underlying district court case. Petitioner’s expert was required to assume validity . . . .” Pet. Reply. 13 (emphasis omitted).

For the reasons above, we are not persuaded by Patent Owner that claim 1 is directed to a technological solution to a technological problem, and not to an abstract idea. Petitioner’s argument and evidence sufficiently show that claim 1 is directed to the concept of delivering targeted advertising to a user. *See* Pet. 36–38 (citing Ex. 1001, Ex. 1008).

The concept of delivering targeted advertising to a user is similar to concepts determined to be patent-ineligible in other cases. *See* Pet. 37–40. For example, in *Affinity Labs*, the Federal Circuit determined that the concept of providing out-of-region access to regional broadcast is an abstract idea. *Affinity Labs*, 838 F.3d at 1258. Similarly, in *Smartflash*, the Federal Circuit determined that claims reciting a method and a terminal for controlling access to and retrieving multimedia content were directed to the abstract idea of “conditioning and controlling access to data based on payment.” *Smartflash*, 680 Fed. Appx. at 982. Like claim 1, the claims at issue in *Smartflash* recited the use of components of a computer, such as a processor having code to receive multimedia content and code to control access to the multimedia content according to use rules and a memory storage. *Id.* at 4–6. The Federal Circuit determined that the claims “invoke computers merely as tools to execute fundamental economic practices.” *Id.* at 10; *see also Ultramerical, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) (finding computer-implemented system claim merely recited the abstract idea of offering media content in exchange for viewing an

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advertisement, along with routine additional steps such as restrictions on public access).

Patent Owner argues that the claim here is like the claims in cases, such as *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017), *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017), and *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018). *See* PO Resp. 35–38; PO Sur. 1–3. Patent Owner contends that, like in those cases, claim 1 requires a specific memory structure that solves a technological problem in the art and improves the functioning of computers. *See* PO Resp. 36 (“Claim 1 of the ’090 Patent requires a specific memory structure—reserve storage space . . . .”); PO Sur. 1–3 (“modifying the typical computer memory configuration to reserve storage space just for advertising data”). Patent Owner’s argument is unpersuasive, because it is not commensurate with the scope of claim 1. Claim 1 does not require the advertising data storage section to have any specific structure. *See DISH Network Corp. v. Customedia Tech., L.L.C.*, IPR2017-00454, Paper 47, 7–9 (PTAB).

For the reasons discussed above, Petitioner’s evidence and analysis sufficiently show that claim 1 of the ’090 patent is directed to the patent-ineligible abstract idea of delivering targeted advertising to a user.

### *3. Inventive Concept*

Next we turn to “the elements of each claim both individually and as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a “patent-eligible application.” *Mayo*, 566 U.S. at 1297–98. The additional elements must be more than



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“well-understood, routine, conventional activity.” *Id.* at 1298. On this record, Petitioner has made an adequate showing that the challenged claims of the ’090 patent do not add an inventive concept sufficient to ensure that the patent in practice amounts to significantly more than a patent on the abstract idea itself. *Alice*, 134 S. Ct. at 2355.

Petitioner goes into detail concerning each of claims 1–8, 17, and 23 and why each one of these claims does not, in their view, contain an inventive concept that amounts to “significantly more” than an abstract idea. Pet. 40–57. Patent Owner asserts that Petitioner has failed to meet its burden of showing, under the guidance set forth in *Berkheimer v. HP, Inc.*, 881 F.3d 1360 (Fed. Cir. 2018), a sufficient evidentiary basis for its assertions that certain claims elements are “well-understood, conventional and routine.” PO Sur. 3. Petitioner disagrees, asserting, among other arguments, that its assertions with respect to “well-understood, conventional and routine” are supported sufficiently by evidence, for example, by the prior art cited in the Petition, the testimony of Dr. Negus, and “the specification’s own admissions that all of the structural elements of the claim were well-known.” Pet. Sur. 3 (citing Pet. 40–55; Ex. 1008 ¶¶ 374–393).

With respect to claim 1, Patent Owner argues that claim 1 recites the use of non-conventional and non-generic components as well as non-conventional and non-generic arrangements of known, conventional components. PO Resp. 43–43. Specifically, Patent Owner argues that the use of a reserved storage space just for advertising data that is monitored and controlled by a remote account transaction server is an inventive concept. *Id.* at 43. Patent Owner relies upon the testimony of Dr. Kesan for support. *Id.* (citing Ex. 2004 ¶ 1037). Dr. Kesan testifies that “[c]laim 1 recites

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managing and integrating various types of advertising data, while also ensuring that there is space for such data in the system . . . ,” and concludes

the invention of sending multimedia data from a first computer to a specific section of the storage on a second computer and then continuing to monitor and control that section of the second computer from the first computer as recited in Claim 1 was not conventional or generic at the time of the invention.

Ex. 2004 ¶ 1037. Claim 1, however, does not recite managing and integrating various types of advertising data. Dr. Kesan’s testimony, thus, is misplaced, at least with respect to whether claim 1 recites an inventive concept.

Patent Owner also relies upon the same statements from the Notice of Allowability, as discussed above in connection with CBM eligibility, to argue claim 1 recites an inventive concept. *Id.* at 43–44 (citing Ex. 2007, 4 ¶¶ 14–15). The statements, however, only address the patentability of claim 1 over the prior art considered during prosecution, and not whether claim 1 recites an inventive concept in the context of a patent eligibility analysis. *See* Ex. 2007, 4 ¶¶ 14–15. A novel and non-obvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90; *see also Diamond v. Diehr*, 450 U.S. 175, 188–89 (1981) (“The ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.”).

As Petitioner argues, the ’090 patent, itself, indicates that the remaining elements of claim 1 were well known. *See* Pet. 40–45 (citing Ex. 1001 at Abstract; 4:61–62; 5:5–8; 13:26–32; 13:54–60; 13:66–14:3; 14:5–8; 14:29–35; 14:35–40; 14:46–50; 15:4–6; 15:11–14; 15:14–18; 15:43–46; 18:20–23; 18:42–46; 24:26–34; 25:1–7; and 37:29–32. Further,

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Dr. Negus’s testimony persuaded us that all of the recited components of the claims are well-known computer technology. *See* Ex. 1008 ¶¶ 374–380. Based on this evidence, we determine that Petitioner has shown sufficiently that the remaining elements of the claim 1 do not transform the nature of claim 1 into a patent-eligible application of the abstract idea. They do not add significantly more to the abstract idea.

With respect to dependent claims 2–8, 17, and 23, Patent Owner asserts that they recite non-conventional, non-generic components and non-generic arrangements of known, conventional components. Pet. 44–45. Patent Owner relies upon the testimony of Dr. Kesan for support. *Id.* (citing Ex. 2004 ¶¶ 1040–1043). Dr. Kesan’s testimony is insufficient to overcome Petitioner’s analysis and evidence that the additional elements recited by the dependent claims are conventional and generic. For example, Dr. Kesan testifies: “Claim 2 adds that specific technological solutions can be applied where multimedia data products are received at the personal media receiver unit via network television broadcast, cable television broadcast, or satellite television broadcast.” Ex. 2004 ¶ 1040. Dr. Kesan’s testimony, however, merely paraphrases claim 2 without further analysis, which is insufficient to overcome Petitioner’s analysis and evidence (Pet. 45 (citing Ex. 1001, 1:50–53; Ex. 1008 ¶ 381) that the recited components are conventional and generic. While admittedly a “battle of experts,” we are persuaded by Dr. Kesan’s opinion that we are hard-pressed to find an element in dependent claim 2 that was non-conventional or non-generic. As another example, with regards to claim 8, Dr. Kesan testifies: “Asserted dependent Claim 8 recites limiting transmission to those receiver units that the system indicates have available advertising space within a respective individually controlled and

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reserved advertising data storage section. '090 Patent at 46:64–47:4.” *Id.* ¶ 1041. Dr. Kesan’s testimony, again, merely paraphrases claim 8, and, thus, suffers from the same faults as claim 2.

Petitioner goes into detail concerning each of dependent claims 2–8, 17, and 23, and why each of these claims do not recite an inventive concept that amounts to “significantly more” than an abstract idea. Pet. 46–55. For each dependent claim, Petitioner relies upon the '090 patent itself and the testimony of Dr. Negus to show that the additional element recited by the dependent claims was routine and conventional. *Id.* (citing Ex. 1001; Ex. 1008). Petitioner evidence and analysis, which we are persuaded by and, thus, adopt as our own, sufficiently shows that dependent claims 2–8, 17, and 23 do not recite an inventive concept that amount to “significantly more.” *Id.*

#### 4. Conclusion

For the foregoing reasons, we determine that the Petitioner has shown, by a preponderance of the evidence, that claims 1–8, 17, and 23 are unpatentable under 35 U.S.C. § 101.

#### *E. Anticipation by Hite*

Relying upon substantially the same argument and evidence it relied upon in IPR2017-00454, Petitioner contends that claims 1, 5, and 7 are unpatentable under 35 U.S.C. § 102 as being anticipated by Hite. Pet. 57–79; *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case. No. IPR2017-00454, Paper 1, 20–36, 42–48 (PTAB). Likewise, relying substantially upon the same argument and evidence it relied upon in

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IPR2017-00454,<sup>11</sup> Patent Owner disputes that Hite anticipates claims 1, 5, and 7. *See* PO Resp. 52–70; *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case No. IPR2017-00454, Paper 24, 15–30, 36–39 (PTAB).

For the same reasons we set forth in the Final Written Decision in IPR2017-00454, we determine that Petitioner shows by a preponderance of the evidence that Hite anticipates claims 1, 5, and 7. *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case. No. IPR2017-00454, Paper 47, 9–19, 22–25 (PTAB).

#### *F. Obviousness over Hite and Hill*

Relying upon substantially the same argument and evidence it relied upon in IPR2017-00454, Petitioner contends that claims 1, 5, and 7 are unpatentable under 35 U.S.C. § 103 over Hite and Hill. Pet. 79–84; *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case. No. IPR2017-00454, Paper 1, 20–36, 42–48, 57–62 (PTAB). Likewise, relying substantially upon the same argument and evidence it relied upon in IPR2017-00454, Patent Owner disputes that claims 1, 5, and 7 are unpatentable over Hite and Hill. *See* PO Resp. 70–79; *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case No. IPR2017-00454, Paper 24, 15–30, 36–39, 44–55 (PTAB).

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<sup>11</sup> Patent Owner states that it “incorporates by reference the arguments presented in its response, filed contemporaneously herewith, in IPR2017-00454.” PO Resp. 52; *see also id.* at 70. Incorporation by reference of arguments from one document into another is prohibited by 37 C.F.R. § 42.6(a)(3). We, thus, have not considered any arguments not made in the Petition. Petitioner, however, relying substantially upon the same argument and evidence in the Petition that it relied upon in the IPR2017-00454 Petition.

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For the same reasons we set forth in the Final Written Decision in IPR2017-00454, we determine that Petitioner fails to show by a preponderance of the evidence that claims 1, 5, and 7 are unpatentable over Hite and Hill. *DISH Network Corp. v. Customedia Tech., L.L.C.*, Case No. IPR2017-00454, Paper 47, 31–34 (PTAB).

### III. CONCLUSION

Petitioner has met its burden of demonstrating that the '090 patent is covered business method patent eligible for review. Petitioner has also met its burden of demonstration by a preponderance of the evidence that (1) claims 1–8, 17, and 23 are unpatentable under 35 U.S.C. § 101, (2) that claim 7 is unpatentable under 35 U.S.C. § 112 and (3) Hite anticipates claims 1, 5, and 7. Petitioner fails to meet its burden of demonstration by a preponderance of the evidence that (1) claims 1–8, 17, and 23 are unpatentable under 35 U.S.C. § 103 over Hite and Hill.

This is a Final Written Decision of the Board under 35 U.S.C. § 328(a). Parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

### IV. ORDER

It is:

ORDERED that claims 1–8, 17, and 23 of the '090 patent are *unpatentable*.

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Paper No. 47  
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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DISH NETWORK CORPORATION and DISH NETWORK L.L.C.,  
Petitioner,

v.

CUSTOMEDIA TECHNOLOGIES, L.L.C.,  
Patent Owner.

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Case IPR2017-00454  
Patent 8,719,090 B2

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Before MEREDITH C. PETRAVICK, MICHAEL W. KIM, and  
KALYAN K. DESHPANDE, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*Inter Partes* Review  
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73



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## I. INTRODUCTION

### A. Background

DISH Network Corporation and DISH Network L.L.C. (collectively, “Petitioner”) filed a Petition requesting *inter partes* review of claims 1–8, 17, and 23 of U.S. Patent No. 8,719,090 B2 (Ex. 1001, “the ’090 patent”). Paper 1 (“Pet.”). Customedia Technologies, L.L.C. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6.

Pursuant to 35 U.S.C. § 314(a), we instituted *inter partes* review on the following grounds:

Ground	Claims	Prior Art
§ 102	1–8, 17, and 23	Hite <sup>1</sup>
§ 103	1–8, 17, and 23	Hite and Hill <sup>2</sup>
§ 103	1–8, 17, and 23	Hite and Picco <sup>3</sup>
§ 103	1–8, 17, and 23	Hite, Hill, and Picco <sup>4</sup>

Paper 10 (“Inst. Dec.”); Paper 44, 2.

After institution, Patent Owner filed a Patent Owner’s Response (Paper 24, “PO Resp.”) and a supplement to the Patent Owner’s Response (Paper 46). Petitioner filed a Reply to the Patent Owner’s Response (Paper 35, “Pet. Reply”) and declined to file a reply to the supplement to the Patent Owner’s Response (*see* Paper 45).

<sup>1</sup> U.S. Patent No. 5,774,170 (issued June 30, 1998) (Ex. 1009).

<sup>2</sup> U.S. Patent No. 4,607,346 (issued Aug. 19, 1986) (Ex. 1010).

<sup>3</sup> U.S. Patent No. 6,029,045 (filed Dec. 9, 1997) (Ex. 1011).

<sup>4</sup> After the Supreme Court’s decision in *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we modified our Institution Decision to institute the ground of claims 1–8, 17, and 23 as unpatentable under 35 U.S.C. § 103 over Hite, Hill, and Picco. Paper 44.

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An oral argument was held March 5, 2018. A transcript of the hearing is included in the record. Paper 43 (“Tr.”).

This Decision is a final written decision under 35 U.S.C. § 318(a) as to the patentability of the challenged claims. Based on the complete record, we determine that claims 1–3, 5–8, and 23 of the ’090 patent are unpatentable.

### *B. Related Proceedings*

The ’090 patent is the subject of *Customedia Technologies, L.L.C. v. DISH Network Corp.*, Case No. 2:16-cv-00129 (JRG) in the United States District Court for the Eastern District of Texas. *See* Pet. 1; Paper 5, 2.

Petitioner also filed a petition requesting a covered business method patent review of the ’090 patent. That petition is the subject of CBM2017-00023. *See* Paper 5, 2. In CBM2017-00023, Petitioner challenges claims 1, 5, and 7 of the ’090 patent as being anticipated by Hite and as obvious over Hite and Hill, while in this *inter partes* review, Petitioner does the same, but also challenges claims 2–4, 6, 8, 17, and 23 on the same grounds. We issue a final written decision in CBM2017-00023 simultaneously with this final written decision.

### *C. The ’090 Patent*

The ’090 patent is titled “System for Data Management and On-Demand Rental and Purchase of Digital Data Products” and issued on May 6, 2014. Ex. 1001, (45), (54). The ’090 patent claims priority as a continuation of Application No. 09/383,994 (“the ’994 application”), which was filed on August 26, 1999. *Id.* at (63). The ’994 application claims priority as a continuation-in-part to Application No. 08/873,584 (“the ’584

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application”), which was filed on June 12, 1997. *Id.* Petitioner asserts that claims 1–8, 17, and 23 of the ’090 patent are not entitled to priority to the ’584 application, because it does not provide sufficient support for the advertising-related elements of claims 1–8, 17, and 23. Pet. 9–11. Patent Owner does not dispute this assertion.

The ’090 patent discloses a digital data management system having a remote Account-Transaction Server (“ATS”) and a local host Data Management System and Audio/Video Processor Recorder-player (“VPR/DMS”) unit. *Id.* at 4:15–19. The ’090 patent discloses various objects of the digital data management system. *See id.* at 3:32–16. One object is to “[r]ent/lease storage space in users Data Box to personalize and target advertising to the individual preferences of the user.” *Id.* at 4:10–12; *see also id.* at 30:50–33:41 (detailed disclosure of product advertising operations). This object is the focus of the challenged claims. *See id.* at claim 1.

Figure 16 of the ’090 patent is reproduced below.

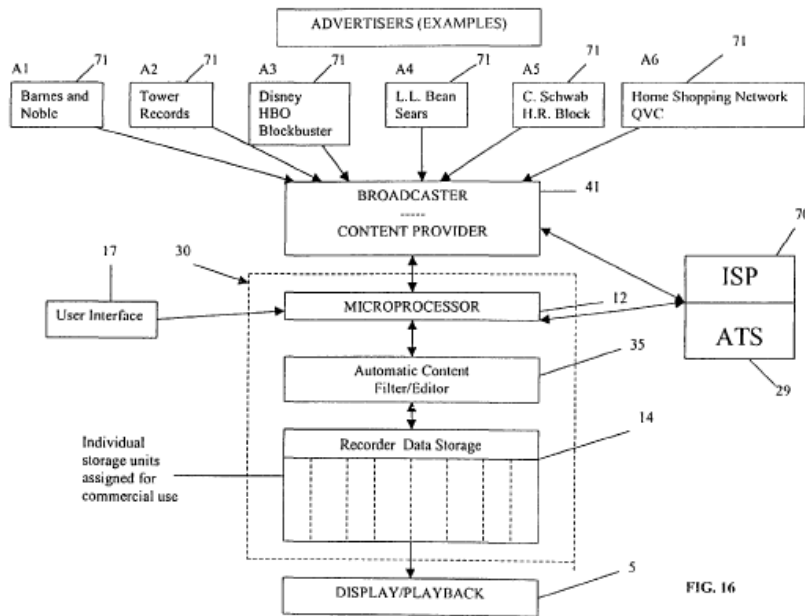


FIG. 16

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Figure 16 “illustrates the communication pathways between advertisers 71, a broadcaster content provider 41, and VPR/DMS.” *Id.* at 30:61–64.

Broadcaster content provider 41 transmits advertising data to VPR/DMS 30 via ATS 29, and the advertising data is recorded on individual data boxes on built-in, non-movable storage device 14. *Id.* at 31:1–15. “Advertising ‘sections’ or ‘spaces’ or ‘data boxes’ may be reserved, rented, leased or purchased from end user, content providers, broadcasters, cable/satellite distributor, or other data communications companies 1.” *Id.* at 31:60–64. For example, a cable distributor may provide a customer with a cable set-top box and reserve certain areas to sell or lease to advertisers. *Id.* at 31:64–32:4.

Advertising data may be recorded selectively based on customer selection or activity history monitoring. *Id.* at 32:7–21. Based on customer profile data, an advertiser can place an advertising order, for example, to place an advertisement within a video magazine for selected customers. *Id.* at 32:22–33:3.

#### *D. Illustrative Claim*

Claim 1 is independent, and claims 2–8, 17, and 23 depend directly or indirectly from claim 1. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A data delivery system for providing automatic delivery of multimedia data products from one or more multimedia data product providers, the system comprising:

a remote account transaction server for providing multimedia data products to an end user, at least one of the multimedia data products being specifically identified advertising data; and

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a programmable local receiver unit for interfacing with the remote account transaction server to receive one or more of the multimedia data products and for processing and automatically recording the multimedia data products, said programmable local receiver unit including at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data, said at least one advertising data storage section being monitored and controlled by said remote account transaction server and such that said specifically identified advertising data is delivered by said remote account transaction server and stored in said at least one individually controlled and reserved advertising data storage section.

## II. ANALYSIS

### A. Claim Construction

In an *inter partes* review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the Specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable construction approach). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Other than the limitation below, no other claim terms need explicit construction. *See, e.g., Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy.’” (Citation omitted)).

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Claim 1 recites the following limitation: “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” Ex. 1001, 46:23–26. In our Institution Decision, we determined that the broadest reasonable construction, in light of the Specification of the ’090 patent, of this limitation is “individually controlled data storage section set apart just for storing the specifically identified advertising data.” Inst. Dec. 7–10. This construction is essentially Petitioner’s proposed construction and the same as the construction adopted by the district court, applying the claim construction standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), in the related proceedings. *See* Inst. Dec. 7–10; Pet. 15; Ex. 1025, 6, 9–18.

Patent Owner acknowledges our construction in the Institution Decision and states, “[f]or the purposes of this IPR, Patent Owner **adopts** the Board[’]s construction.” PO Resp. 9 (emphasis added). Patent Owner, however, then argues that, based upon the prosecution history, this limitation is “a negative limitation that cannot be disclosed in the prior art by omission,” and that this limitation requires the *exclusive* allocation of a uniquely identified portion of storage. *Id.* at 16–18. According to Patent Owner, *exclusive* allocation means “the section is ‘*adapted* specifically for storing *only* the specifically identified advertising data.’” *Id.* at 17 (quoting Ex. 1002, 313). In addressing the prior art, Patent Owner implies that the reserved advertising data storage section must have some structure that actively precludes or prevents the reserved advertising data storage section from storing anything other than specifically identified advertising data. *See generally* PO Resp. 17–23. For example, Patent Owner asserts that the prior art must teach that video, other than the specifically identified advertising

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data, is precluded from being stored on the reserved advertising data storage section, as opposed to the prior art teaching merely the storing of specifically identified advertising data on the reserved advertising data storage section and remaining silent as to storing anything else. *See id.* Patent Owner, thus, seeks to narrow further our construction, which it adopts, purportedly.

Patent Owner does not persuade us to modify further our construction based upon the portions of the prosecution history cited in the Patent Owner's Response. To the contrary, the cited portions of the prosecution history do not support Patent Owner's argument, but instead confirm that our construction is correct. First, Patent Owner points out that it amended the limitation to recite, "the section is '*adapted* specifically for storing *only* the specifically identified advertising data'" to overcome the prior art cited by the Examiner. PO Resp. 17–18 (quoting Ex. 1002, 313). The Examiner, however, rejected the amended limitation as lacking written description support in the Specification, and Patent Owner, subsequently, again amended the limitation, to its current form, by removing the word "only" and including the word "reserved" earlier in the claim *See* Ex. 1002, 313, 338, 375–76, 398–99. Patent Owner stated that this latter amendment rendered the rejection "moot." *See id.* at 398–399. Second, Patent Owner points to a dictionary's definitions of "reserve" and "reserved" that it cited during prosecution. PO Resp. 17 (citing Ex. 1002, 365). Those dictionary definitions are:

**"Reserve"** is defined by The Random House Dictionary of the English Language, Unabridged Edition, 1967, as "3. To set apart for a particular use, purpose, service, etc.: ground reserved for gardening", and **"reserved"** is similarly defined as "1. Kept or set apart for some particular use or purpose".

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Ex 1002, 365. Contrary to Patent Owner’s argument, these definitions are consistent with our construction in the Institution Decision, in that they do not include anything concerning active preclusion or prevention. Third, Patent Owner states: “In a Notice of Allowability, the Examiner found that the patentee used ‘reserved’ in this context to refer to *exclusive* allocation of a uniquely identified portion of storage.” PO Resp. 18 (citing Ex. 1002, 432–433). Our review of pages 432 through 433 of Exhibit 1002, however, show no such thing. The Examiner makes no mention of the allocation being exclusive. *See* Ex. 1002, 432–433; Pet. 17 (discussing the same Examiner’s statements to support its proposed construction).

We determine that the broadest reasonable construction, in light of the Specification of the ’090 patent, of “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data” is “individually controlled data storage section set apart just for storing the specifically identified advertising data.” *See* Inst. Dec. 7–10.

### *B. Anticipation by Hite*

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros., Inc. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

Petitioner contends that Hite anticipates claims 1–8, 17, and 23. Pet. 20–57; Pet. Reply 1–17.

#### *i. Overview of Hite*

Hite is titled “System and Method for Delivering Targeted Advertisements to Consumers” and issued on June 30, 1998 from an



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application filed on December 13, 1994. Ex. 1009, [22], [45], [54]. Hite discloses a system that delivers TV and radio commercials targeted to individual viewers. *Id.* at 1:7–10. Hite’s Figure 1 is reproduced below.

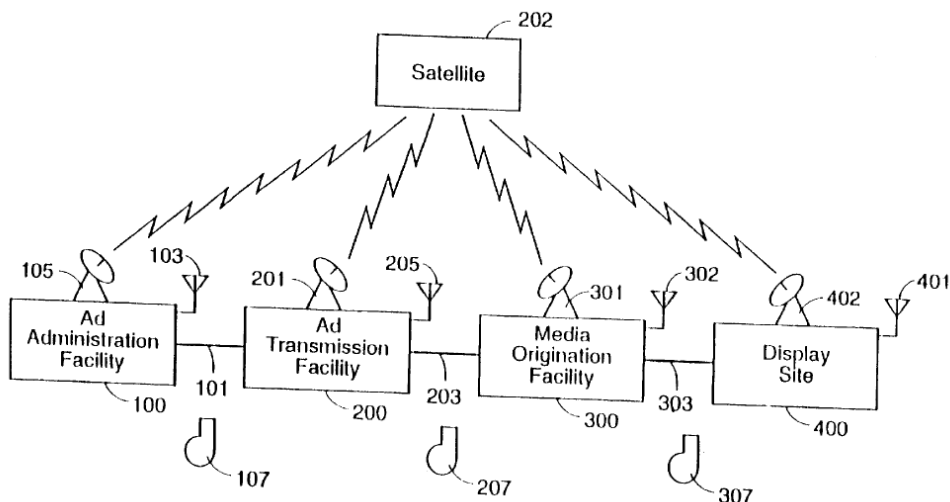


Figure 1 depicts “a basic block diagram of the system.” *Id.* at 8:52. Hite’s system includes Ad Administration Facility 100, Ad Transmission Facility 200, Media Origination Facility 300, and Display Site 400. *Id.* at Fig. 1. Hite discloses that, alternatively, Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 “may be co-located.” *Id.* at 9:39–42. Display Site 400 has an individually addressable digital recording device (“RD”), such as a set-top-box associated with a media or cable provider. Ex. 1009, 5:42–45.

Hite’s Figure 5 is reproduced below.

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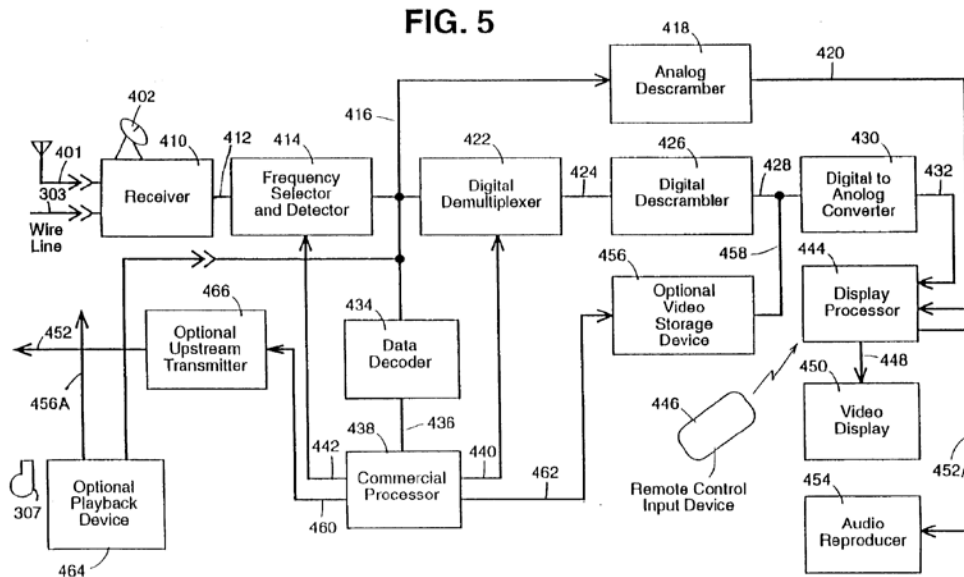


Figure 5 is a block diagram of Display Site 400. *Id.* at 13:58–59. The RD at the display site includes Commercial Processor 438 and Optional Video Storage Device 456. *Id.* at 14:12–13, 14:28–30. Receiver 410 receives broadcast signals, processes the signal, and conveys the signals to Frequency Selector and Detector 414, which then further conveys the signals to Data Decoder 434, Analog Descrambler 418, or Digital Demultiplexer 422. *Id.* at 13:59–14:10. Data Decoder 434 extracts data need by Commercial Processor 438. *Id.* at 14:3–4, 14:31–17. Analog Descrambler 418 descrambles analog signals the viewer is authorized to receive and passes them to Display Processor 444. *Id.* at 14:4–8, 14:47–51. Digital Demultiplexer 442, under the control of Commercial Processor 438, selects digital signals the viewer is authorized to receive, and passes them to Digital Descrambler 426, which then conveys the signals to Digital to Analog Converter 430, which in turn conveys the signals to Display Processor 444. *Id.* at 14:33–41.

Also, the signals from the Digital Descrambler [426] are optionally conveyed by electrical and/or optical connection 458 to an Optional Video Storage Device 456 which can either store

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or playback certain commercials under the control of signals conveyed by electrical and/or optical connection 462 from the Commercial Processor 438.

*Id.* at 14:41–46; *see also id.* at 7:38–42 (“Appropriate storage is provided at the display site to store one or more of the commercials selected by matching the commercial’s CID with that CID determined as appropriate for the display site.”), 20:6–19 (claim 63 including “a storage device for storing the plurality of advertisements”).

Hite uses commercial identifier (“CID”) codes to target commercials to individual viewers. *Id.* at 3:42–43. At Ad Administration Facility 100, CID codes are appended to commercials, based on their nature and focus. *See id.* at 3:43–44. A set of CID codes also are assigned to a viewer. *Id.* at 3:65–4:2. Prior to a commercial broadcast, a viewer’s CID codes are transmitted to the RD and stored in a storage device known as an Ad Que in commercial processor 438. *Id.* at 4:1–2, 5:46–448, 6:66–7:3, 7:12–14; 7:35–42. Hite states:

CID codes chosen for a particular display site (consumer) are transmitted to and stored in an in-home storage at the display site. *Commercials are subsequently transmitted to the in-home storage device with sufficient capacity to hold one or more commercials prior to display.* The commercials could be in analog form, but it is more efficient of transmission and storage capacity to digitize and compress the commercials prior to transmission and storage. Attached to each commercial are codes indicating the conditions and rules required to display the commercial, e.g., date, day-part, network, program context, etc. The codes of the commercials transmitted are first compared to the codes previously stored. *The commercial transmitted that is found to match is stored in the storage at the display site.* Note that the CIDs and display rules would be stored in a storage known as an Ad Queue in the commercial processor.

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*Id.* at 6:66–7:14 (emphases added). During a broadcast program, Commercial Processor 438 looks for CID codes in the program’s commercials, and replaces the program’s commercials with the commercials stored in Optional Video Storage Device 456, if the program’s commercial’s CID code matches the viewer’s CID code. *See id.* at 7:15–51, 20:6–19.

Additionally, Commercial Processor 438 can optionally cause signals to be transmitted upstream through Optional Upstream Transmitter 466. *Id.* at 14:21–28. Registration or certification codes are appended to the CID codes, and when the commercial displays, it can be transmitted upstream. *Id.* at 4:62–5:27. The commercial can then be replaced with another. *Id.* at 7:46–51.

*ii. Claim 1*

*a. Parties’ Contentions*

Relying upon the testimony of Dr. Negus (Ex. 1008) for support, Petitioner contends that Hite describes all of the limitations of claim 1. Pet. 20–36; Pet. Reply 2–10. In particular, Petitioner argues that Hite’s co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 meet the claimed “account transaction server” limitation, and that Hite’s RD at Display Site 400 meets the claimed “programmable local receiver unit” limitation. Pet. 22–28. As a part of that limitation, Petitioner contends that the RD’s Optional Video Storage Device 456 meets the claimed “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” *Id.* at 30–31. Specifically, Petitioner argues that Hite only discloses storing digital commercial signals, having associated CID codes in Optional Video Storage Device 456, and, thus, Optional Video

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Storage Device 456 is reserved for advertising data. *Id.* at 31; Pet. Reply 4–5.

Patent Owner disputes that Optional Video Storage Device 456 is an “individually controlled and reserved advertising data storage section” for a number of reasons. PO Resp. 16–23. First, Patent Owner argues Optional Video Storage Device 456 is not reserved just for storing specifically identified advertising data, because “there is nothing in *Hite* to prevent the Optional Video Storage Device from storing video other than commercials.” *Id.* at 18–22. Second, Patent Owner argues that Optional Video Storage Device 456 is not individually controlled. *Id.* at 23. Third, Patent Owner argues that the co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 do not monitor and control Video Storage Device 456. *Id.* at 23–30.

*b. Analysis*

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has shown, by a preponderance of the evidence, that claim 1 is anticipated by *Hite*.

First, Patent Owner argues Optional Video Storage Device 456 is not reserved just “for specifically identified advertising data,” because “there is nothing in *Hite* to prevent the Optional Video Storage Device from storing video other than commercials.” PO Resp. 18. According to Patent Owner’s Declarant, Dr. Kesan, because *Hite* discloses the Media Origination Facility 300 transmitting a package of programming and associated commercials to Display Site 400, the disclosed programming *could* be stored in Optional Video Storage Device 456. *Id.* at 19–20 (citing Ex. 2003 ¶ 42; Ex. 1009, 9:16–20, 9:28–33, 14:66–15:2). Patent Owner contends that Petitioner’s

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Declarant, Dr. Negus, also agrees that Optional Video Storage Device 456 *could* store digital video other than commercials. PO Resp. 20–21 (citing Ex. 2005, 29:19–25, 23:15–23, 29:7–12, 29:22–23). Patent Owner further points out that Hite states, “it will be apparent to one skilled in the art that variations and modifications are contemplated within the spirit and scope of the invention” to further bolster its argument that Optional Video Storage Device 456 could store video data other than commercials. *Id.* at 19–20 (citing Ex. 1009, 14:66–15:2; Ex. 2003 ¶ 43). Patent Owner, thus, argues that because Optional Video Storage Device 456 *could* store digital video other than commercials, Optional Video Storage Device 456 is not a reserved advertising data storage section. We disagree.

As set forth above, the broadest reasonable construction, in light of the Specification, of “at least one individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data” is an individually controlled data storage section set apart just for storing the specifically identified advertising data. *See supra* 7–9. This construction does not require an advertising data storage section that actively precludes or excludes anything other than the specifically identified advertising data. Patent Owner’s argument is unpersuasive because it is not commensurate with this construction.

Under this construction, Hite’s Optional Video Storage Device 456 meets the aforementioned limitation because it store commercials, targeted to an individual viewer, and does not store any other data. *See* Ex. 1009, 6:66–7:14, 14:28–32; Ex. 1008 ¶¶ 252–258, 260; Pet. 22–32. Dr. Negus testifies, “I don’t see Hite excluding the storage of other information on there. But I also don’t see Hite describing the storage of other information on that video storage device.” Ex. 2005, 29:23–25. We, thus, are persuaded

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that Hite's Optional Video Storage Device 456 describes a "reserved advertising data storage section adapted specifically for storing the specifically identified advertising data," as claimed. *See* Ex. 1008 ¶¶ 252–258, 260.

Patent Owner also argues that claim 1 requires the "specifically identified advertising data" to be multimedia that is downloaded, and that "[t]here is no allegation that the viewer CID codes or display rules are multimedia." PO Resp. 22. Patent Owner, thus, contends that viewer CID codes or display rules are not "specifically identified advertising data" that may be stored on the "reserved advertising data storage section." *Id.* at 22. Patent Owner's arguments are inapposite because Hite describes the viewer CID codes or display rules as stored in "an Ad Queue in" Commercial Processor 438, not stored on Optional Video Storage Device 456. Ex. 1009, 7:12–14. Claim 1 does not preclude the RD from storing non-multimedia data somewhere other than Optional Video Storage Device 456.

Similarly, Patent Owner argues that frequency indicator codes appended to a commercial's CID code is not multimedia specifically identified advertising data that may be stored on the reserved advertising data storage section. PO Resp. 22–23. Hite discloses appending a CID code, which may include a frequency indicator code, registration code, certification code, or other code, to commercials that are stored in Optional Video Storage Device 456. *See* Ex. 1009, 3:39–45; 4:19–5:16, 9:47–50. Contrary to Patent Owner's argument, Dr. Kesan testified, "[w]hen the control information is associated with those multimedia ad content, then that's part of the advertising data because it's still being set aside just for advertising data." Ex. 1026, 107:14–17. Dr. Kesan's testimony indicates that commercials, with appended CID codes, are downloaded multimedia

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specifically identified advertising data that may be stored in Optional Video Storage Device 456.<sup>5</sup> We, thus, are persuaded that Optional Video Storage Device 456 is a reserved advertising data storage section. *See* Pet 31; Pet. Reply 4–5; *see* Ex. 1008 ¶¶ 252–258, 260.

Second, Patent Owner argues that Optional Video Storage Device 456 is not individually controlled. PO Resp. 23 (citing Ex. 2003 ¶ 99). Dr. Kesan testifies that individual controls requires “control over the reserved advertising data storage section aside from other storage sections. For example, the network can control the size or functionality of the reserved advertising storage area control and leave the other data storage sections the same.” Ex. 2003 ¶ 99.

Patent Owner’s argument is unpersuasive because it is not commensurate with the scope of claim 1. Claim 1 does not require Optional Video Storage Device 456 to have multiple storage sections. *See* Pet. Reply 7; Inst. Dec. 7–9 (rejecting Patent Owner’s argument that claim 1 requires the individually controlled data storage section to be a portion of a data storage device set apart from other portions). Optional Video Storage Device 456 is part of the RD, which is an “individually addressable digital recording device . . . with a unique address.” Ex. 1009, 6:61–63, Fig. 5. The RD’s Commercial Processor 438 controls Optional Video Storage Device 456 using the CID codes targeted to the viewer. *Id.* at 14:28–30. We, thus, are persuaded that Hite describes an individually controlled

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<sup>5</sup> At oral argument, Patent Owner agrees that Dr. Kesan admitted that control data stored with commercials are specifically identified “advertising data.” Tr. 108:10–109:18. Given that a CID code appended to a commercial determines whether the commercial is displayed, we are unclear as to how such a CID code is not “control data.”



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advertising data storage section. *See* Pet. 28–32; Pet. Reply 6–7; Ex. 1008 ¶¶ 252–260.

Third, Patent Owner argues that Hite’s co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 does not monitor and control Optional Video Storage Device 456, as required by claim 1. PO Resp. 23–30. Patent Owner argues that Commercial Processor 438 controls Optional Video Storage Device 456 only, and not co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300. *Id.* at 23–26.

Patent Owner’s argument is unpersuasive because, although Hite discloses Commercial Processor 438 controlling Optional Video Storage Device 456, Commercial Processor 438 controls Optional Video Storage Device 456 according to data, including viewer CID codes, received from co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300. *See* Ex. 1009, 6:10–13, 6:61–63, 6:66–7:1, 14:3–4, 14:13–17, 14:27–32, 14:41–46; Ex. 1008 ¶¶ 246, 268; Pet. 32–33. Hite targets the CID codes to the viewer at the RD. *See id.* at 3:65–4:2. We, thus, are persuaded that Hite describes co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 controlling Optional Video Storage Device 456.

Patent Owner also argues that co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 does not monitor Optional Video Storage Device 456. PO Resp. 27–30. Patent Owner acknowledges that Hite describes an upstream communication path in which monitoring could be possible, but argues that Hite does not explicitly disclose monitoring of the Optional Video Storage Device 456. *Id.*; Ex. 1009, 14:21–28.

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Patent Owner's argument is unpersuasive because Hite describes communicating registration codes and certification codes, which indicate that a commercial has been played, from Optional Video Storage Device 456, "back upstream to the signal origination site." Ex. 1009, 4:63–5:28; Ex. 1008 ¶¶ 271–273. Hite explicitly teaches that Commercial Processor 438, via Optional Upstream Transmitter 466, conveys signals upstream on wire line 303. Ex. 1009, 14:21–26. Wire line 303 connects Media Origination Facility 300 to the RD. *See id.* at 13:58–66, Figs. 4, 5. We, thus, are persuaded that Hite describes co-located Ad Administration Facility 100, Ad Transmission Facility 200, and Media Origination Facility 300 monitoring Optional Video Storage Device 456.

For the reasons discussed above, we determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 1.

*iii. Claim 2*

Claim 2 depends from claim 1, and additionally recites, "wherein said multimedia data products are received via Network TV broadcast, Cable TV broadcast, or Satellite TV broadcast." Ex. 1001, 46:33–35. Petitioner contends Hite describes the additional limitation of claim 2, and relies upon the testimony of Dr. Negus for support. Pet. 36 (citing Ex. 1009, 5:35–37, 6:63–66, Fig. 1; Ex. 1008 ¶¶ 285, 287). Patent Owner does not dispute that Hite describes the additional limitation. *See generally* PO Resp. Hite states, "[c]ommercials can be delivered to specified homes or displays via either over-the-air broadcast or wired delivery systems." Ex. 1009, 5:35–37. Hite's Figure 5, reproduced above, show that the RD's receiver has a radio receiver 401, satellite antenna 402, and wire line 303.

We determine Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 2.

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*iv. Claim 3*

Claim 3 depends from claim 1 and additionally recites:

wherein the specifically identified advertising data is customer specific advertising data and the customer specific advertising data is recorded in raw form by said programmable local receiver unit and subsequently processed or edited by a content filter according to preprogrammed user suitability criteria.

Ex. 1001, 46:36–41.

First, Patent Owner argues that Hite does not describe customer specific advertising data, because Hite sends the same set of advertisements with the same CID codes to all customers, and does not target the local receiver of a specific customer or the local receivers of a specific group of customers. PO Resp. 31–32.

Patent Owner’s argument is unpersuasive because it is not commensurate with the scope of claim 3. Claim 3 does not require targeting the specifically identified advertising data to a customer’s receiver or a group of customer’s receivers. Claim 3 requires the specifically identified advertising data to be customer specific advertising data. Hite describes appending a CID code to target prospective viewers. Ex. 1009, 3:43–44, 3:65–4:3; Ex. 1008 ¶ 292; Pet. 37. We are persuaded that Hite’s CID code is “customer specific advertising data.”

Second, Patent Owner argues that Hite does not describe subsequently processing or editing by a content filter. PO Resp. 31–33. Patent Owner argues that this limitation requires processing or editing after recording the customer specific advertising data, and that Hite’s disclosure of selecting an appropriate commercial, by matching CID codes, does not occur after recording the commercials. PO Resp. 31–33.

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Patent Owner's argument is misplaced. Patent Owner's argument focuses on Hite's description of matching CID codes to determine commercials to store in Optional Video Storage Device 456. *See id.* Petitioner, however, points to Hite's description of Commercial Processor 438 determining a commercial, already stored in Optional Video Storage Device 456, to playback during a broadcast. Pet. 37–38 (citing Ex. 1009, 7:24–30; Ex. 1008 ¶ 293). Commercial Processor 438 matches the CID code in the stored commercial with the CID code in the broadcast. Ex. 1009, 7:24–30. We, thus, are persuaded that Hite describes subsequent processing and editing by a content filter.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 3.

*v. Claim 4*

Claim 4 depends from claim 3 and additionally recites:

wherein the customer specific advertising data is processed or edited in multiple versions by said programmable local receiver unit which are either played in real time or stored in said at least one individually controlled and reserved advertising data storage section for subsequent playback.

Ex. 1001, 46:42–47. Petitioner relies upon Hite's disclosure of playing back a commercial multiple time using a frequency indicator code or in a series using a sequencing code. Pet. 40–41 (citing Ex. 1009, 4:24–32, 4:45–51); *see also* Pet. Reply 12. Patent Owner argues that playback of a commercial multiple times is not processing or editing multiple versions of the commercial, which are then later stored. PO Resp. 33–35.

It is Petitioner's burden to show by a preponderance of the evidence that Hite anticipates claim 4. 35 U.S.C. § 316(e). Claim 4 requires that the programmable local receiver unit processes or edits a particular customer

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specific advertising data in multiple versions. Petitioner fails to show sufficiently how playing the same commercial multiple times, or playing a series of different commercials, describes processing or editing multiple versions of a particular commercial. Petitioner relies upon the testimony of Dr. Negus. *See* Pet. 40–42 (citing Ex. 1008 ¶ 306). Dr. Negus’s testimony indicates that Hite describes playback of a commercial multiple times using a frequency indicator code, but does not explain why that describes processing or editing of multiple versions of a particular commercial. *See* Ex. 1008 ¶ 306.

We determine that Petitioner fails to show, by a preponderance of the evidence, that Hite anticipates claim 4.

*vi. Claims 5 and 6*

Claim 5 depends from claim 1 and additionally recites:

wherein the specifically identified advertising data is customer specific advertising data and wherein custom software automatically analyzes one or more optimal advertising format scenarios based on one or more selected factors including total number of customers, customer profile data, customer demographics, program schedules, product showcase schedules, available advertising formats, available advertising schedules, advertising rates, ad placement timing, or cost effectiveness, and said system transmits advertising format scenarios according to a selected placement option.

Ex. 1001, 46:48–58. Claim 6 depends from claim 5, and additionally recites, “wherein preprogrammed or spontaneously programmed advertising format scenarios are automatically analyzed by said system.” *Id.* at 46:59–61.

Patent Owner makes similar arguments with respect to claims 5 and 6. *See* PO Resp. 35–38. First, Patent Owner argues that Hite does not describe customer specific advertising data for the same reasons discussed above in

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connection with claim 3. *Id.* at 35. Patent Owner's argument is unpersuasive for the same reasons as discussed above with respect to claim 3. *Supra* 20–21.

Second, Patent Owner argues that Commercial Processor 438, which is located at Display Site 400, cannot meet the additional limitations of claims 5 and 6. PO Resp. 36–38. Pointing to the '090 patent's disclosure of analyzing advertising format scenarios at the transmission site, Patent Owner argues that claims 5 and 6 require analyzing format scenarios at the transmission site and not at the display site. *See id.* at 36–38.

Patent Owner's argument is unpersuasive because it is not commensurate with the scope of claims 5 and 6. Neither claim 5 nor claim 6 specifies where analyzing advertising format scenarios occurs, and does not preclude the programmable local receiver from analyzing advertising format scenarios. Limitations appearing in the Specification, but not recited in the claim, are not read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003). It is improper to add into a claim an extraneous limitation, i.e., one that is added wholly apart from any need for the addition. *See, e.g., Hogan AB v. Dresser Indus., Inc.*, 9 F.3d 948, 950 (Fed. Cir. 1993); *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir. 1988).

As Petitioner points out, Hite discloses using cost-effectiveness, customer profile data, and customer demographics to select which CID codes to append to commercials. Pet. 43 (citing Ex. 1009, 3:56–58, 3:65–4:1, 4:34–40, 5:29–34, 7:15–20, 8:18–35; Ex. 1008 ¶¶ 317–320). The CID codes can also include registration codes and certification codes, which specify attributes of the commercials. Pet. 45–46 (citing Ex. 1009, 4:62–5:16; Ex. 1008 ¶¶ 329, 331). Commercial Processor 438 analyzes

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commercials and appended CID codes, which are transmitted to the RD. *See* Ex. 1009, 6:10–18; Ex. 1008 ¶ 316.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claims 5 and 6.

*vii. Claim 7*

Claim 7 depends from claim 5, and additionally recites, “wherein an advertiser places a selected advertising order which activates instant or time scheduled delivery of said selected advertising order to system customers through interaction with the transaction server.” Ex. 1001, 46:62–65.

Patent Owner argues that Hite does not describe this additional limitation because codes, such as a frequency indicators or sequencing codes, do not relate to when or whether to play the commercial. PO Resp. 38–39.

Patent Owner’s argument is unpersuasive. As Petitioner points out, an advertisement administrator or marketing organization selects appropriate CID codes. Pet. 47 (citing Ex. 1009, 8:28–35; Ex. 1008 ¶ 338). CID codes can include other codes, such as a frequency indicator code or a sequence code. Ex. 1009, 4:24–32, 4:45–51; *see also* Pet. 46–47. Frequency indicator codes and sequencing codes determine whether or when to play a commercial. *See id.* For example, a sequencing code can delay the playback of a commercial until after playing another commercial. Ex. 1008, 4:45–51.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 7.

*viii. Claim 8*

Claim 8 depends from claim 5 and additionally recites:

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whereby the specifically identified advertising data may [be] instantly or by time schedule transmitted to a selective customer base that system monitoring indicates have available advertising space within a respective individually controlled and reserved advertising data storage section within a respective programmable local receiver unit.

Ex. 1001, 46:66–47:4.

First, Patent Owner argues that Hite does not describe transmitting instantly, or by time scheduled delivery, specifically identified advertising data for the same reasons discussed above in connection with claim 7.

PO Resp. 39–40. Patent Owner’s argument is unpersuasive for the same reasons as discussed above regarding claim 7. *Supra* 23–24.

Second, Patent Owner argues that Hite does not describe system monitoring that indicates available advertising space within a respective “individually controlled and reserved advertising data storage section.” because Hite does not describe monitoring the amount of available space in Optional Video Storage Device 456. PO Resp. 40–41. Patent Owner’s argument is unpersuasive. As Petitioner points out, Hite discloses returning registration or certification codes upstream to the signal origination site when playing a commercial, and then replacing that commercial with one or multiple commercials. Pet. 50 (citing Ex. 1009, 7:46–15; Ex. 1008 ¶ 351). Thus, returning registration or certification codes indicate space for replacement commercials on Optional Video Storage Device 456.

We determine that Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 8.

*ix. Claim 17*

Claim 17 depends from claim 5, and additionally recites, “wherein said local receiver communicates with a portable storage medium



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recorder/player for recording to a portable storage medium and the customer specific advertising data is recorded onto said portable storage medium.”

Ex. 1001, 47:36–40.

Patent Owner argues that Hite does not disclose a portable storage medium recorder/player recording from the local receiver. PO Resp. 41–43. Patent Owner’s argument is persuasive. *Id.* Petitioner points to multiple elements of Hite’s system to meet the claimed portable storage medium recorder/player. Pet. 51–54. First, Petitioner point to suitable media 207 and physical means 307. *Id.* at 51–52 (citing Ex. 1009, 9:32–41, 12:51–55; Ex. 1008 ¶¶ 360–361). Hite, however, does not disclose the RD recording to suitable media 207 or physical means 307. *See generally* Ex. 1009. Second, Petitioner points to the RD, which can be a set-top box or personal computer, to meet the claimed portable storage medium recorder/player. Pet. 52–53 (citing Ex. 1009, 6:62–66, 14:28–30, 14:59–65; Ex. 1008 ¶¶ 363, 364, 367). Petitioner, however, also equates the RD to the claimed programmable local receiver. *See, e.g.*, Pet. 25. The RD cannot be used to meet two distinct claim elements. *See Lantech, Inc. v. Keip Mach. Co.*, 32 F.3d 542, 547 (Fed. Cir. 1994) (addressing that it is improper to map a single disclosed element to the plural recited elements when a claim requires plural distinct structural elements); *see also In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (claims requiring three separate means are not anticipated by structure containing only two means using one element twice); *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1561–64 (Fed. Cir. 1991) (holding that a claim’s “separate[ ]” “recitation of two distinct elements” should be given “full effect”).

We determine that Petitioner fails to show, by a preponderance of the evidence, that Hite anticipates claim 17.

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*x. Claim 23*

Claim 23 depends from claim 5 and additionally recites:

wherein said local receiver includes a signal processor which is capable of interpreting embedded control data associated with the customer specific advertising data for automatically processing and recording said data according to preprogrammed user suitability criteria.

Ex. 1001, 47:62–67.

Petitioner contends that Commercial Processor 438 meets the claimed signal processor. Pet. 54–57; Pet. Reply 16. Patent Owner argues that Commercial Processor 438 is not a signal processor. PO Resp. 43 (citing Ex. 2003 ¶¶ 60–61).

Patent Owner’s argument is unpersuasive. Dr. Kesan testifies that Hite does not disclose that Commercial Processor 438 is a digital signal processor. Ex. 2003 ¶ 60. Claim 23, however, requires local receiver to include only a signal processor capable of interpreting embedded control data, and not a *digital* signal processor. As Petitioner points out, Hite explicitly discloses Commercial Processor 438 processing signals. *See, e.g.*, Ex. 1009, 14:11–32; *see also* Pet. 54–57 (citing Ex. 1008 ¶¶ 374–380). Hite states: “Commercial Processor 438 can cause commercial signals to be stored or played back from the Optional Video Storage Device 456.” *Id.* at 14:28–30.

We determine Petitioner has shown, by a preponderance of the evidence, that Hite anticipates claim 23.

*C. Grounds Under 35 U.S.C. § 103*

Section 103(a) forbids issuance of a patent when “the differences between the subject matter sought to be patented

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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 ultimate determination of obviousness under § 103 is a question of law based on underlying factual findings. *In re Baxter Int’l, Inc.*, 678 F.3d 1357, 1361–62 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1996)). These underlying factual considerations consist of: (1) the “level of ordinary skill in the pertinent art,”<sup>6</sup> (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long felt but unsolved needs, failure of others, etc.”<sup>7</sup> *KSR*, 550 U.S. at 406 (quoting *Graham*, 383 U.S. at 17–18).

*i. Hite and Picco*

Relying upon the testimony of Dr. Negus (Ex. 1008), Petitioner contends that claims 1–8, 17, and 23 are unpatentable over Hite and Picco. Pet. 62–66.

*a. Overview of Picco*

Picco is titled “System and Method for Inserting Local Content into Programming Content” and issued from an application filed on December 9, 1997. Ex. 1011, [45], [54]. Picco discloses a set-top box that stores local content data, such as a targeted advertisement. *See id.* at Abstract, 6:22–37,

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<sup>6</sup> Petitioner and Patent Owner similarly define the level of ordinary skill in the art as a person having a bachelor’s degree in electrical or computer engineering or equivalent degree and some years of experience in the field. *See* Pet. 15; PO Resp. 3.

<sup>7</sup> The record contains no evidence of secondary considerations.

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12:49–52. Picco discloses an uplink facility with a scheduler that generates control signals to control the operation of the set-top box, such as instructions as to what local content is stored on the set-top box, according to viewing statistics for the set-top box. *Id.* at 7:33–48.

*b. Claim 1*

*1. Parties' Contentions*

Petitioner argues that “to the extent . . . Hite does not disclose the limitation of ‘said at least one advertising data storage section being monitored and controlled by said remote account transaction server,’” that limitation is disclosed by Picco. Pet. 62. In particular, Petitioner relies upon Picco to teach a remote account transaction server monitoring and controlling an advertising data storage section. *Id.* 62–63 (citing Ex. 1011, 7:33–48; Ex. 1008 ¶ 279). According to Petitioner, it would have been obvious to a person of ordinary skill in the art (“POSITA”) to combine Hite and Picco to facilitate further Hite’s objective of providing advertisers with less waste and greater cost effectiveness in delivering their messages to targeted consumers. Pet. 66; Ex. 1008 ¶ 281.

First, Patent Owner argues that neither Hite nor Picco, individually, discloses the claimed “individually controlled and reserved advertising data storage section adapted specifically for storing the specifically identified advertising data.” PO Resp. 56–59. Second, Patent Owner argues that there is no motivation to combine Hite with Picco because “[g]iven their similarit[ies], a person having ordinary skill in the art would not think to combine them because there would be little benefit in doing so.” *Id.* at 61.

*2. Analysis*

Upon review of Petitioner’s evidence and analysis and taking into account Patent Owner’s arguments and evidence, we determine that the

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Petitioner has shown, by a preponderance of the evidence, that claim 1 is unpatentable over Hite and Picco.

First, as discussed above in connection with claim 1, we determine that Petitioner has made a sufficient showing that Hite discloses the claimed “individually controlled and reserved advertising data storage section.” *See supra* 14–19; *see also* Pet. Reply 19–21.

Second, Patent Owner argues that Petitioner’s arguments are “mere conclusory statements[] . . . [without] articulated reasoning,” and therefore not sufficient to sustain a “legal conclusion of obviousness,” and that there is little benefit to combining Hite and Picco, because Hite already describes delivering targeted advertising to a viewer. PO Resp. 60–62. Patent Owner’s argument is not persuasive. We are persuaded that Petitioner sufficiently articulates a reason to combine Hite and Picco. *See* Pet. 66. Specifically, Dr. Negus testifies that a POSITA “would have looked to Picco’s head end, including the scheduler and statistical collator, to provide greater monitoring and control of set top boxes, such as Hite’s RD recorder” and more targeted control of advertising. Ex. 1008 ¶ 281. Petitioner’s analysis and evidence are sufficient to persuade us that it would have been obvious to a POSITA to combine Hite and Picco to arrive at the apparatus of claim 1. *See id.*

We determine that Petitioner shows, by a preponderance of the evidence, that claim 1 is unpatentable over Hite and Picco.

*c. Claims 2–8, 17, and 23*

Claims 2–8, 17, and 23 depend directly or indirectly from claim 1 and recite additional limitations. Petitioner contends that Hite discloses all of the additional limitations of claims 2–8, 17, and 23 for the same reasons discussed above in connection with anticipation by Hite. Pet. 65. For the

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same reasons as discussed above, we determine that Petitioner has shown, by a preponderance of the evidence, claims 2, 3, 5–8, and 23 are unpatentable over Hite and Picco, and fails to show, by a preponderance of the evidence, that claims 4 and 17 are unpatentable over Hite and Picco.

*ii. Hite and Hill*

Petitioner contends that claims 1–8, 17, and 23 are unpatentable over Hite and Hill. Pet. 57–62; Pet. Reply 17–18. Patent Owner disagrees. PO Resp. 44–55.

*a. Overview of Hill*

Hill is titled “Apparatus and Method for Placing Data on a Partitioned Direct Access Storage Device” and issued on August 19, 1986. Ex. 1010, [45], [54]. Hill discloses that a problem with storage of digital data on direct access storage devices is bottlenecking, which occurs when a storage device receives access requests from a processor at a faster rate than the device can sustain. *See id.* at 1:13–17. Hill solves this problem by partitioning a storage device into a plurality of devices that have different access and storage characteristics, including volume and frequency of access. *Id.* at Abstract, 2:2:47–51, 4:28–33. In one embodiment, Hill discloses partitioning a storage device into high access and low access partitions. *Id.* at 4:28–33.

*b. Parties’ Contentions*

Petitioner argues that “to the extent Hite does not sufficiently disclose a reserved advertising data storage section,” it would have been obvious to a POSITA to partition Hite’s data storage, given Hill’s teaching of partitioning a storage device according to characteristics of data, such as volume and frequency of use. Pet. 57–61.

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According to Dr. Negus, Hite’s stored commercial data or advertising data would be “accessed frequently, such as reading stored advertisement data during each preemptable time slot.” Ex. 1008 ¶ 265. Dr. Negus testifies that the combination of Hite and Hill

yields the completely predictable and desirable result that using a high access partition allocated for high access data storage of Hill to store the high access advertisement data of Hite would decrease read and write times of advertisement data stored in Hite’s “commercial storage and playback device” and/or the “optional video storage device.”

*Id.* ¶ 264. Petitioner argues, “a POSITA would have been motivated to include the teaching of a partitioned data storage device of *Hill* with the Optional Video Storage Device of *Hite*.” Pet. Reply 17. Petitioner contends that a POSITA would be motivated to combine Hite and Hill to decrease the read and write times of Hite’s optional video storage device 456. Pet. 61.

Patent Owner argues that “Dr. Negus’s reference to advertising data as ‘high access data’ is unsupported.” PO Resp. 46. Contrary to Dr. Negus’s testimony, Dr. Kesan testifies, “broadcast data needs to be accessed at the same regular speed” and “[t]here is no variance in the amount of time that broadcast data must be accessible.” Ex. 2003 ¶ 71. Patent Owner further argues that, even if the stored advertising data is high access data, a POSITA would not be motivated to combine Hite and Hill because, according to Petitioner, Optional Video Storage Device 456 does not store anything other than advertising data and, thus, there is no need for a low access section that would be empty. PO Resp. 52–53.

*c. Analysis*

Petitioner has the burden to show by a preponderance of the evidence that claims 1–8, 17, and 23 are unpatentable over Hite and Hill.

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35 U.S.C. § 316(e). Hite does not disclose that commercials or advertising data stored on Hite's optional video storage device 456 is high access data. *See generally* Ex. 1009. As Patent Owner points out (PO Resp. 46), Dr. Negus's testimony is conclusory and does not sufficiently explain why the Optional Video Storage Device 456's commercials or advertising data would be high access data. *See* Ex. 1008 ¶ 265; *see also* PO Resp. 46. Petitioner provides no other evidence or explanation. Furthermore, Hite is unconcerned with the problem of bottlenecking purportedly solved by Hill's partitioning. *See generally* Ex. 1009. We, thus, are not persuaded that a POSITA would have been motivated to partition Hite's Optional Video Storage Device 456 into high access and low access devices to decrease read and write times of advertisement data per Hill.

Further, Hite does not disclose Optional Video Storage Device 456 storing anything other than advertisement data. *See supra* 15–16. Neither Petitioner nor Dr. Negus sufficiently explain why a POSITA would have been motivated to partition Optional Video Storage Device 456 into low access and high access devices, if the Optional Video Storage Device 456 only holds high access data advertisement data. *See* Pet. 61–62; Ex. 1008 ¶¶ 264–265; *see also* PO Resp. 52–53 (citing Ex. 2003 ¶ 72).

Claims 2–8, 17, and 23 depend directly or indirectly from claim 1. We determine that Petitioner fails to show, by a preponderance of the evidence, claims 1–8, 17, and 23 are unpatentable over Hite and Hill.

*iii. Hite, Hill, and Picco*

Petitioner contends that claims 1–8, 17, and 23 are unpatentable over Hite, Hill and Picco. Pet. 66–67. Petitioner relies upon the same combination of Hite and Hill as discussed above to show that the combination of Hite, Hill, and Picco discloses the claimed reserved



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advertising data storage section. *Id.* For the same reasons as discussed above (*supra* 32–34), we determine that Petitioner fails to show, by a preponderance of the evidence, that claims 1–8, 17, and 23 are unpatentable over Hite, Hill, and Picco.

### III. CONCLUSION

On this record, we determine that Petitioner shows, by a preponderance of the evidence, that claims 1–3, 5–8, and 23 are unpatentable under 35 U.S.C. § 102 over Hite, and also under 35 U.S.C. § 103 over Hite and Picco. Petitioner fails to show, by a preponderance of the evidence, claims 4 and 17 are unpatentable under either 35 U.S.C. § 102 over Hite or under 35 U.S.C. § 103 over Hite and Picco. Petitioner also fails to show, by a preponderance of the evidence, that claims 1–8, 17, and 23 are unpatentable under 35 U.S.C. § 103 over Hite and Hill, and also under 35 U.S.C. § 103 over Hite, Hill, and Picco.

This is a final written decision of the Board under 35 U.S.C. § 318(a). Parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–3, 5–8, and 23 are *unpatentable*.

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Paper 50  
Entered: July 25, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DISH NETWORK CORPORATION and  
DISH NETWORK L.L.C.,  
Petitioner,

V.

CUSTOMEDIA TECHNOLOGIES, L.L.C.,  
Patent Owner.

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Case CBM2017-00032  
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Before MEREDITH C. PETRAVICK, MICHAEL W. KIM, and  
KALYAN K. DESHPANDE, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
Covered Business Method Patent Review  
35 U.S.C. § 328(a) and 37 C.F.R. § 42.73

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## I. INTRODUCTION

### *A. Background*

DISH Network Corporation and DISH Network L.L.C. (collectively, “Petitioner”), filed a Petition requesting a covered business method (“CBM”) patent review of claims 1–7, 16–19, 23–28, 32–36, 39, 41, and 43 of U.S. Patent No. 9,053,494 B2 (Ex. 1003, “the ’494 patent”). Paper 1 (“Pet.”). Customedia Technologies, L.L.C. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 7.

Pursuant to 35 U.S.C. § 324, CBM patent review was instituted on claims 1–7, 16–19, 23–28, 32–36, 39, 41, and 43 of the ’494 patent. Paper 10 (“Inst. Dec.”). We instituted CBM patent review on the ground of claims 1–7, 16–19, 23–28, 32–36, 39, 41, and 43 being unpatentable under 35 U.S.C. § 101.

After institution, Patent Owner filed a Corrected Patent Owner’s Response (Paper 24, “PO Resp.”) and disclaimed claims 5, 25, 39, and 43 (Ex. 2006). Petitioner filed a Reply to the Patent Owner’s Response (Paper 38, “Pet. Reply”). Patent Owner filed a Sur-Reply (Paper 40, “PO Sur”), and Petitioner filed a Response to the Sur-Reply (Paper 41, “Pet. Sur”).

An oral argument was held March 5, 2018. A transcript of the hearing is included in the record. Paper 45 (“Tr.”).

After oral hearing, the Supreme Court issued its decision in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018) on April 24, 2018. In response, the Board issued an Order instituting trial on the ground of claims

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17, 18, 23, 24, 28, and 29<sup>1</sup> under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph.<sup>2</sup> *See* Paper 46. Aside from Patent Owner “incorporat[ing] by reference the arguments in its Preliminary Response (Paper 7) and the Board’s reasons in the Institution Decision (Paper 10) for denying institution of those grounds” (Paper 48), the parties waived additional briefing. Paper 47.

This Decision is a final written decision under 35 U.S.C. § 328(a) as to the patentability of the challenged claims. Based on the complete record, we determine that claims 1–4, 6, 7, 16–19, 23, 24, 26–28, 32–36, and 41<sup>3</sup> of the ’494 patent are unpatentable.

### *B. Related Proceedings*

Section 18 of the America Invents Act governs the transitional program for covered business method patent reviews. Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, § 18, 125 Stat. 284, 329–31 (2011); *see also* 37 C.F.R. §§ 42.300–304 (setting forth the rules governing the transitional program for covered business method patents). Section 18(a)(1)(B) of the AIA limits such reviews to persons, or their privies, that have been sued or charged with infringement of a covered business method patent. *See also* 37 C.F.R. § 42.302 (setting forth who may petition for a

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<sup>1</sup> As dependent claims 5 and 25 were disclaimed (Ex. 2006) by the time of our Order (Paper 46), no trial was instituted on those claims. 37 C.F.R. § 42.107(e) (“No *inter partes* review will be instituted based on disclaimed claims.”).

<sup>2</sup> The ’494 patent has an effective filing date before the effective date of the section of the Leahy-Smith America Invents Act, Pub. L. No. 112–29, § 4(c), (e), 125 Stat. 284, 296–97 (2011), that revised 35 U.S.C. § 112. *See supra* § I.B.2. Thus, we refer to the prior version of § 112 in this decision.

<sup>3</sup> Claims 5, 25, 39, and 43 are not included in our determination because they were disclaimed (Ex. 2006).

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covered business method patent review). In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies that it has been sued for infringement of the '494 patent. Pet. 2–3. The '494 patent is the subject of *Customedia Technologies, L.L.C. v. DISH Network Corporation*, Case No. 2:16-cv-00129 (JRG) in the United States District Court for the Eastern District of Texas. See Pet. 1; Paper 5, 2.

Petitioner also filed two petitions requesting *inter partes* review of the '494 patent. See Paper 5, 2. Those petitions are the subject of *DISH Network Corp. v. Customedia Technologies, L.L.C.*, Case No. IPR2017-00717 (PTAB Jan. 18, 2017) and *DISH Network Corp. v. Customedia Technologies, L.L.C.*, Case No. IPR2017-00724 (PTAB Jan. 18, 2017). We issue final written decisions in those *inter partes* reviews simultaneously with this final written decision.

### C. The '494 Patent<sup>4</sup>

The '494 patent discloses a digital data management system, one object of which is to “[r]ent/lease storage space in [a] user[']s Data Box to

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<sup>4</sup> The '494 patent claims priority as a continuation of Application No. 10/848,238 (now U.S. Patent No. 8,719,090 (“’090 patent”)), which was filed on May 18, 2004 as a continuation of Application No. 09/383,994 (“’994 application”), filed on August 26, 1999. Ex. 1003, [63]. The '994 application, in turn, claims priority as a continuation-in-part of Application No. 08/873,584 (“’584 application”), filed on June 12, 1997. *Id.* Petitioner asserts that the challenged claims of the '494 patent are not entitled to priority to the '584 application, because it does not provide sufficient support for the advertising-related elements of the challenged claims. Pet. 18–20; see 35 U.S.C. § 120. Petitioner argues that “[e]ach and every disclosure of ‘advertising’ and any variation thereof was added in [the '994 application].” Pet. 19. Thus, according to Petitioner, the challenged claims of the '494 patent are entitled to a priority date no earlier than the

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personalize and target advertising to the individual preferences of the user.”  
 Ex. 1003, 4:5–10; *see id.* at 3:30–4:12. The disclosed system has a local  
 host Data Management System and Audio/Video Processor Recorder-player  
 (“VPR/DMS”) unit, which allows for program reception, recording,  
 processing, download, and playback, as well as a remote Account-  
 Transaction Server (“ATS”), which stores and provides programming  
 information for use with the VPR/DMS unit. *Id.* at 4:13–19, 21:42–44.

The ’494 patent discusses advertising operations of the system in  
 which broadcaster content provider 41 transmits advertising data to  
 VPR/DMS 30, and the advertising data is recorded on built-in, non-movable  
 storage device 14. *Id.* at 30:50–31:15. Figure 16 is reproduced below.

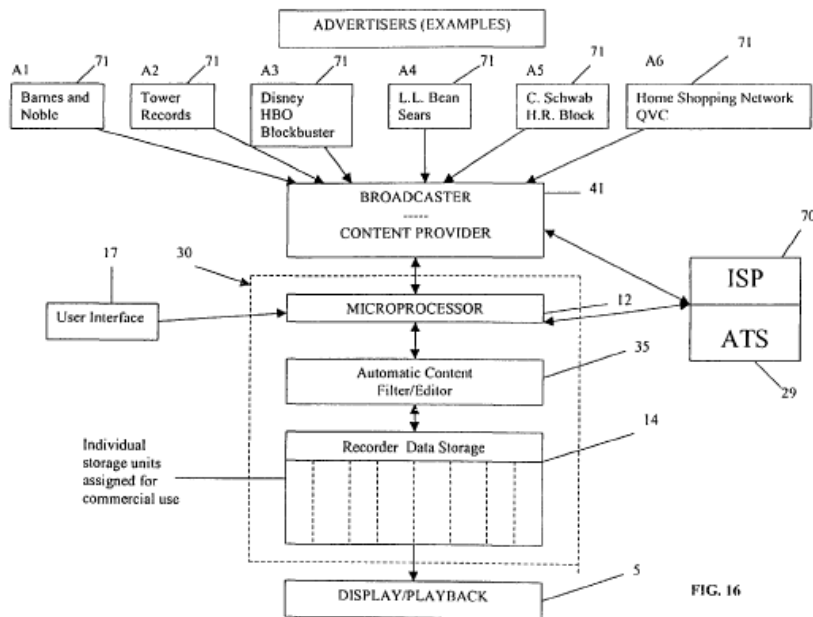


Figure 16 “illustrates the communication pathways between advertisers 71, a  
 broadcaster content provider 41, and . . . VPR/DMS 30.” *Id.* at 30:60–63.

filing date of the ’994 application, August 26, 1999. *Id.* at 20. Patent Owner  
 does not dispute Petitioner’s assertion.

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The '494 patent explains that programmable “[a]dvertising ‘sections’ or ‘spaces’ or ‘data boxes’” within VPR/DMS 30 “may be reserved, rented, leased or purchased from [an] end user, content providers, broadcasters, cable/satellite distributor, or other data communications companies administering the data products and services.” *Id.* at 31:44–64. For example, a cable distributor may provide a customer with a set-top box containing VPR/DMS 30 with built-in non-movable storage device 14, which has “certain areas that are reserved and controlled by the cable company” and that can be sold or leased to advertisers. *Id.* at 31:64–32:6.

Advertisements that are customer specific, based on customer selection or activity history monitoring, can be delivered to the advertising sections of VPR/DMS 30 and selectively recorded onto the “designated advertising ‘sections.’” *Id.* at 32:7–15; *see id.* at 31:49–60. According to the '494 patent, this provides benefits for both the advertiser and customer, including “maximizing content, establishing customer qualifications, and ultimately producing more cost efficient advertising.” *Id.* at 32:17–21.

#### *D. Illustrative Claim*

Of the challenged claims of the '494 patent, claims 1, 19, and 33 are independent. Claim 1, reproduced below, is illustrative:

1. A system for providing targeted advertising to a multimedia content end user, comprising:

at least one storage device, wherein at least one of said at least one storage device comprises at least one addressable and reserved storage space for storing digital advertising data;

at least one processor; and



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software implemented by said at least one processor wherein said software comprises a program to reserve said at least one addressable storage space and wherein said software further comprises a program to select particular advertising data suitable for targeting to at least one end user based upon predefined criteria data, wherein particular advertising data is stored in said at least one addressable and reserved storage space and is accessible to the at least one end user.

## II. ANALYSIS

### A. *Claim Construction*

Petitioner and Patent Owner dispute the construction of certain claim terms. Pet. 23–28; PO Resp. 34–46. We apply the constructions of those terms set forth in Paper 49 in this decision.

### B. *Covered Business Method Review*

Section 18(d)(1) of the AIA defines a CBM patent as “a patent that claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service, except that the term does not include patents for technological inventions.” *See also* 37 C.F.R. § 42.301(a) (stating the same). To determine whether a patent is a CBM patent, “§ 18(d)(1) directs us to examine the claims when deciding whether a patent is a [covered business method] patent.” *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1340 (Fed. Cir. 2016) (stating that “the claims at issue in the instant case have an express financial component in the form of a subsidy, or financial inducement, that encourages consumers to participate in the distribution of advertisements”); *Unwired Planet, LLC v. Google, Inc.*, 841

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F.3d 1376, 1382 (Fed. Cir. 2016) (“CBM patents are limited to those with claims that are directed to methods and apparatuses of particular types and with particular uses ‘in the practice, administration, or management of a financial product or service.’”).

In our Institution Decision, we determined that Petitioner had shown that the ’494 patent is eligible for CBM review. Inst. Dec. 6–14. Patent Owner urges us to reconsider and determine that the ’490 patent is not eligible for CBM review. See PO Resp. 2–34. We conclude that our original determination is correct.

### *1. Financial Product or Service*

Petitioner contends that the ’494 patent claims, specifically challenged independent claims 1, 19, and 33 and their dependent claims, are “used in the practice, administration, or management of a financial product or service,” because they are directed to “targeted advertising and monitoring of consumer purchasing information.” Pet. 5–7; see Pet. Reply 2–10. Petitioner directs our attention to the recitation of “providing targeted advertising” in claims 1, 19, and 33; “monitoring a *product rental or purchase*” in claims 5, 25, and 39; and an “optimal advertising placement option is based upon analysis of . . . *advertising rates*, ad placement timing, [and/or] *cost effectiveness*” in claim 43. *Id.* at 5 (quoting Ex. 1003, 46:13–14, 46:51–52, 48:20–21, 49:2, 49:59–60, 51:18–21) (alteration in original). Petitioner contends that its position is supported by the U.S. Court of Appeals for the Federal Circuit’s decision in *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331 (Fed. Cir. 2016), which determined “that claims involving the distribution of advertisements qualified as a financial activity.” Pet. 6.

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In our Decision on Institution, we found the following:

Here, we are persuaded by Petitioner’s showing that the ’494 patent satisfies the “financial product or service” requirement. Independent claims 1, 19, and 33, and thus their dependent claims, are directed to a system or device for “providing targeted advertising” to end user(s) in which “particular advertising data,” “targeted” to user(s) based on certain “criteria data,” is made “accessible,” “present[ed],” or “deliver[ed]” to user(s). Ex. 1003, 46:13–28, 48:20–32, 49:59–50:13; Pet. 5. Several dependent claims add express financial elements to these systems and devices. Specifically, as Petitioner points out, challenged dependent claims 5, 25, and 39<sup>1</sup> recite that “suitability criteria data is collected by at least one method selected from the group consisting of . . . monitoring a *product rental or purchase* by an end user.” Ex. 1003, 48:46–52, 48:61–49:3, 50:34–45 (emphasis added); Pet. 5. In addition, challenged dependent claim 43 requires a system configured to produce “at least one optimal advertising placement option for delivering targeted advertising data . . . based upon analysis of at least one criteria from a group consisting of: a total number of customers, customer profile data, customer suitability data, customer demographics, . . . *advertising rates*, . . . *cost effectiveness*, and combinations thereof.” Ex. 1003, 51:8–21 (emphases added); *see id.* at 32:19–21; Pet. 5.

Accordingly, at least claims 5, 25, 39, and 43 recite a system or device for providing targeted advertising to user(s) based on the collection and/or analysis of data directed to expressly financial activities or elements, including product purchases and rentals, advertising rates, or cost effectiveness. On this record, we are persuaded that at least these claims of the ’494 patent recite an “apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service,” as prescribed by the AIA’s definition of a covered business method patent, and more generally, “contain[] . . . a financial activity element,” consistent with Federal Circuit precedent interpreting and applying this definition. AIA § 18(d)(1); *Secure Access*, 848 F.3d at 1381.

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Inst. Dec. 8–9. Additionally, in a footnote, we noted that dependent claims 8, 53, and 55, which Petitioner does not challenge, recite limitations corresponding to challenged claims 5, 25, 29, and 43. *Id.* at 9, fn. 3.

After institution of trial, Patent Owner disclaimed claims 5, 25, 39, and 43, but not claims 8, 53, and 55. PO Resp. 3 (citing Ex. 2006). Patent Owner presents several assertions with respect to relying on these now disclaimed claims as the jurisdictional basis for conducting a covered business method review. PO Resp. 2–34.

*a. Effect of Disclaimer*

Patent Owner asserts that, regardless of whether or not dependent claims 5, 25, 39, and 43 meet the finance prong for CBM eligibility, because Patent Owner disclaimed those claims, pursuant to 35 U.S.C. § 253, those claims must be treated as never having existed, and cannot constitute the basis for CBM eligibility. PO Resp. 2–8. Patent Owner asserts further that, in as much as Petitioner may rely on *J.P. Morgan Chase & Co. v. Intellectual Ventures II LLC*, Case No. CBM2014-00157, Paper 40 (PTAB Jan. 12, 2016) for the proposition that post-institution disclaimers should be treated differently, the reasoning in *J.P. Morgan Chase* is erroneous, and should not be followed. *Id.* at 6. Petitioner does cite *J.P. Morgan Chase*, and also asserts the following:

Patent Owner compounds its misapplication of law by arguing that post-institution disclaimer of claims strips the Board of its authority to consider those claims. PO Response at 2-8. This argument is also foreclosed by the Board’s decision in *Facebook, Inc. v. Skky*[,] CBM2016-00091 (Paper 12) (precedential) (PTAB Sep. 28, 2017). There, an expanded panel held that CBM eligibility is “determined based on the claims of the challenged patent as they existed ***at the time of the decision whether to institute.***” *Id.* at 6.<sup>1</sup> Moreover, other panels of the Board have

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previously reasoned that the Board need not determine “whether petitioner has standing throughout the proceeding.” *JP Morgan Chase & Co. v. Intellectual Ventures II LLC*, CBM2014-00157 (Paper 40) at 11 (PTAB Jan. 12, 2016). Because Patent Owner chose not to disclaim any claims before institution, the Board was correct to consider them when determining CBM eligibility.

Pet. Reply 3–4 (footnote omitted). On the merits, we agree with Petitioner.

Belated post-institution disclaimer of claims reciting a “financial activity element” does not affect our CBM patent review eligibility determination. “CBM patent review eligibility is determined based on the claims of the challenged patent *as they exist at the time of the decision whether to institute.*” *Facebook*, slip op. at 11 (emphasis added). Section 18(a)(1)(E) of the AIA provides that “[t]he Director may *institute* a transitional proceeding only for a patent that is a covered business method patent” (emphases added). Section 18(d)(1) of the AIA defines a “covered business method patent” as “a patent that *claims* a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service” (emphasis added). Hence, the decision whether to institute a CBM patent review is based on whether a patent “is” a covered business method patent, which in turn is based on what the patent “claims” *at the time of the Decision on Institution*—not as the claims may exist at some later time after institution. *See Facebook*, slip op. at 6. In other words, *Facebook* instructs us as to the effect of disclaimed claims at the time of the decision to institute review, but does not instruct us as to the treatment of disclaimed claims after a patent has been determined to be eligible for CBM review and a trial has been instituted.

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When the relevant claims are a part of the relevant patent at the time of the decision on institution, they may be considered in determining whether that patent is eligible for CBM patent review at the time of institution. Any belated disclaimer is an improper attempt to seek the specific relief set forth in 37 C.F.R. § 42.207 without complying with the rule's timeliness requirement. Specifically, under 37 C.F.R. § 42.207, titled "Preliminary response to petition," a "patent owner may file a preliminary response to the petition . . . setting forth the reasons why no post-grant review should be instituted." The rule also provides that "[t]he patent owner may file a statutory disclaimer under 35 U.S.C. 253(a) in compliance with § 1.321(a) of this chapter, disclaiming one or more claims in the patent," and "[n]o post-grant review will be instituted based on disclaimed claims." In short, when a patent owner timely files a statutory disclaimer before institution, "[n]o post-grant review will be instituted based on disclaimed claims."

Disclaimed claims are not considered in determining whether a patent is eligible for CBM patent review if a patent owner timely files a statutory disclaimer before institution. *See Facebook*, slip op. at 4 (denying institution on the sole ground that the patent is not eligible for CBM patent review because, when the patent owner filed a statutory disclaimer before its preliminary response, the panel treated the disclaimed claims as if they never existed and declined to consider petitioner's arguments that were based on the disclaimed claims). In such a situation, the Board and parties can avoid the cost and expense of the instant trial, assuming no other claim can provide standing.

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The Board's rules are "construed to secure the just, speedy, and inexpensive resolution of every proceeding." 37 C.F.R. § 42.1(b). The rules, including 35 C.F.R. §§ 42.1(b) and 42.207, were promulgated with the consideration of "the effect of any such regulation on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Office to timely complete proceedings instituted under this chapter." 35 U.S.C. § 326(b). We decline to construe our rules and procedures to encourage dilatory tactics.

A patent owner's reliance on 35 U.S.C. § 253, to persuade us that post-Institution Decision claim disclaimer can eliminate our CBM jurisdiction, is misplaced. While our reviewing court has "held that a disclaimer relinquishes the rights of the patent owner," its "precedent and that of other courts have not readily extended the effects of disclaimer to situations where others besides the patentee have an interest that relates to the relinquished claims." *Rembrandt Wireless Techs.*, 853 F.3d at 1383–84. That is relevant here because a denial of institution does not leave a petitioner any worse off, in that petitioner is still free to challenge the patent in other forums, such as district court, and on all grounds. But, after institution of a CBM patent review, we are required by 35 U.S.C § 328(a) to "issue a final written decision with respect to the patentability of" the challenged claims in the instituted CBM patent review. Once that final written decision is issued, petitioner is subject to certain estoppels. AIA § 18(a)(1)(D) ("The petitioner . . . may not assert, either in a civil action . . . or in a proceeding before the International Trade Commission . . . that the claim is invalid on any ground that the petitioner raised during that transitional proceeding."). Accordingly, because, after institution, both the

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petitioner and the Board also have interests that relate to the relinquished claims, we are persuaded that related post-institution disclaimer of claims reciting a “financial activity element” does not affect our CBM patent review eligibility determination. *Cf. Guinn v. Kopf*, 96 F.3d 1419, 1422 (Fed. Cir. 1996) (holding disclaimer of an allegedly interfering claim did not divest the Board of jurisdiction over the declared interference proceeding).

There is no dispute that dependent claims 5, 25, 39, and 43 were not disclaimed at the time of institution. *Compare* Inst. Dec. 10 (entered July 28, 2017); Ex. 2006 (entered Oct. 4, 2017). Accordingly, their consideration in determining whether the ’494 patent is CBM eligible, at the time of institution, was proper, and the subsequent disclaimer does not deprive us of jurisdiction here.

*b. Statutory and Regulatory Jurisdiction*

Patent Owner acknowledges the Institution Decision’s statement, “that dependent claims 8, 53, and 55, which are not challenged, recite limitations corresponding to challenged claims 5, 25, 39, and 43 discussed in the Petitioner and our analysis.” PO Resp. 8 (quoting Inst. Dec. 9, fn. 3). Patent Owner argues that “[t]he Board may not rely on Claims 8, 53, and 55 to justify CBM review,” because Petitioner did not expressly raise claims 8, 53, and 55 in the Petition. PO Resp. 8–12. According to Petitioner, 35 U.S.C. § “324 cabins the Board’s review” to only those claims expressly raised in Petition, regardless of whether other claims recite the same pertinent limitations. *Id.* at 12.

Patent Owner’s argument is moot because, as we explained in our Institution Decision, “at least claims 5, 25, 39, and 43 recite a system or device . . . directed to expressly financial activities or elements, including



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product purchases and rentals, advertising rates, or cost effectiveness.” Inst. Dec. 9. Patent Owner does not dispute that Petitioner expressly points to claims 1, 5, 19, 25, 33, and 39 in the Petition. *See* PO Resp. 8–9, 12; Pet. 5.

*c. Express Financial Component*

Petitioner argues that the ’494 patent claims, specifically challenged independent claims 1, 19, and 33 and their dependent claims, are “used in the practice, administration, or management of a financial product or service,” because they are directed to “targeted advertising and monitoring of consumer purchasing information.” Pet. 5–7; *see* Pet. Reply 4–8.

Petitioner directs our attention to the recitation of “monitoring a *product rental or purchase*” in claims 5, 25, and 39; and an “optimal advertising placement option is based upon analysis of . . . *advertising rates*, ad placement timing, [and/or] *cost effectiveness*” in claim 43. Pet. 5 (quoting Ex. 1003, 46:13–14, 46:51–52, 48:20–21, 49:2, 49:59–60, 51:18–21) (alteration in original).

Patent Owner disagrees that claims 5, 25, 39, and 43 recite an express financial element, because none of claims 5, 25, 29, and 43 recites any type of financial transaction, inducement, or subsidy of the type at issue in *Blue Calypso* or *Google Inc. v. Zuili*, CBM2016-00021, Paper 11 (PTAB June 1, 2016). PO Resp. 18–26. For claims 5, 25, and 39, Patent Owner argues that the recitation of “monitoring a product rental or purchase by at least one of the end users” is not a financial activity, because it is part of a larger scheme that describes how routine targeted advertising occurs.” *Id.* at 22–24. For claim 43, Patent Owner argues that the recitations of “advertising rates” and “cost effectiveness” are likewise only methods of collecting data that may be used to target. *Id.* at 34.

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As an initial matter, we note that the determination of whether a patent claims an express financial product is not limited to whether it claims a financial transaction, financial inducement or subsidy of the types at issue in *Blue Calypso* and *Zuili*. To determine whether a patent meets the “financial product or service” requirement of the AIA’s definition of a covered business method patent, we must determine whether the patent includes a claim that “[w]hen properly construed in light of the written description,” “contains, however phrased, a financial activity element.” *Secure Access, LLC v. PNC Bank Nat’l Ass’n*, 848 F.3d 1370, 1381 (Fed. Cir. 2017) (*vacated as moot* 2018 WL 2186184 (Mem) \*1).<sup>5</sup> The statutory definition extends to claims that cover a “wide range of finance-related activities,” *Versata*, 793 F.3d at 1325, or that are “financial in nature,” *Unwired Planet, LLC v. Google Inc.*, 841 F.3d 1376, 1380 n.5 (Fed. Cir. 2016). To the extent Patent Owner implies that claims must recite an actual sale of a good or service to meet the “financial product or service” requirement (*see e.g.*, PO Resp. 24 (“do not claim a financial transaction”))

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<sup>5</sup> Petitioner presents the language “financial activity element,” citing *Secure Access, LLC v. PNC Bank National Association*, 848 F.3d 1370, 1381 (Fed. Cir. 2017). Pet. Reply 5–6. That decision, however, was recently vacated as moot by the Supreme Court. *Secure Access, LLC v. PNC Bank National Association*, 2018 WL 2186184 \*1 (May 14, 2018) (Mem.) (“The petition for a writ of certiorari [is] granted. The judgment is vacated as moot, and the case is remanded to the United States Court of Appeals for the Federal Circuit with instructions to remand the case to the Patent Trial and Appeal Board to vacate the Board’s order.”). Patent Owner uses the language “express financial component,” as set forth in *Blue Calypso*, 815 F.3d at 1340. We discern little substantive difference between that phrase and “financial activity element.” Accordingly, we substitute all further references to “financial activity element” with “express financial component.”

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the Federal Circuit’s decision in *Versata* is to the contrary. In *Versata*, the Federal Circuit held that a patent claiming methods “for determining a price” of a product—but not reciting any sale of a product—to be a covered business method patent. 793 F.3d at 1312–13, 1323–26.

Nonetheless, we are persuaded that claims 5, 25, 39, and 43 of the ’494 patent are similar to the claims in *Blue Calypso*, which the Federal Circuit found to fall within the AIA’s definition of a covered business method patent. *See* 815 F.3d at 1335–41; Inst. Dec. 10. The claims at issue in that case recited systems and methods for distributing advertising using a “subsidy,” which the Board construed to mean “financial assistance given by one to another.” *Id.* at 1336, 1339–40. The Federal Circuit determined that the claims had “an express financial component in the form of a subsidy, or financial inducement, that encourages consumers to participate in the distribution of advertisements” and, thus, affirmed the Board’s conclusion that the patent met the “financial product or service” requirement. *Id.* at 1340–41. Here, for example, claim 43 requires producing an optimal advertising placement options (i.e., an advertising order) for delivering targeted advertising data, based upon at least advertising rates and cost effectiveness. Ex. 1003, 51:8–21; *see id.* at 31:48–54. In other words, claim 43 recites a system for distributing advertising according to a placement order that takes into account advertising rates and cost. Ex. 1003, 51:8–21.

We also are not persuaded that claims 5, 25, 39, and 43 of the ’494 patent are not similar to the claims in *Zuili*, which the Board found to fall within the AIA’s definition of a covered business method patent. As Patent Owner states, “[i]n *Zuili*, the Board instated CBM review because it determined that paying a provider for every click in a pay-per-click system

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as describe by the claims was a financial in nature. . . .” *Zuili*, CBM2016-00021, Paper 11. Likewise, here, claim 43 requires producing an optimal advertising order for delivering advertisements, based upon at least advertising rates and cost effectiveness. Ex. 1003, 51:8–21; *see id.* at 31:48–54. Both claims relate to financial transactions for advertising.

We determine that Petitioner has met its burden of demonstrating that at least one claim of the ’494 patent is or was, directed to an apparatus for performing data processing used in the practice, administration, or management of a financial product or service. Consequently, the ’494 patent satisfies the “financial product or service” component of the definition for a covered business method patent under § 18(d)(1) of the AIA.

## 2. *Technological Invention*

As set forth above, the definition for “covered business method patent” does not include patents for “technological inventions.” AIA § 18(d)(1); *see also* 37 C.F.R. § 42.301(a) (stating the same). To determine whether a patent falls within this exception, our rules prescribe a two-prong approach whereby we consider “whether the claimed subject matter as a whole [(1)] recites a technological feature that is novel and unobvious over the prior art; and [(2)] solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b). Further, the following claim drafting techniques would not typically render a patent a “technological invention”:

- (a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

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(b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide (“Trial Practice Guide”), 77 Fed. Reg. 48,756, 48,764 (Aug. 14, 2012).

Pursuant to the two-prong framework, Petitioner argues that the claims of the ’494 patent do not meet either prong. Pet. 6–9 (citing Ex. 1001). Turning to the first prong, we consider whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art. With respect to the first prong, Petitioner argues that the ’494 patent claims recite no more than “known computer-related structures and techniques.” Pet. 8. As support, Petitioner contends that the specification admits that the recited technical features were known in the art. *Id.* at 7–8. Moreover, Petitioner, with supporting testimony from Dr. Negus, argues that the claim limitations were disclosed previously by prior art references. *Id.* at 8; *see id.* at 34, 40–76; Ex. 1008 ¶¶ 391–942, 950–987.

Patent Owner disagrees. PO Resp. 30–32. Patent Owner argues that “[s]pecifically, the use of reserved storage space for advertising data in the ’494 Patent was novel and unobvious over the prior art.” *Id.* at 30. For support, Patent Owner first “incorporates by reference” its responses filed in IPR2017-00717 and IPR2017-00724 and the Boards’ reason for denying

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some anticipation and obvious grounds in those proceedings. *Id.* at 30.<sup>6</sup> Patent Owner next cites to certain statements made in a Notice of Allowability in the prosecution history of the related '090 patent. PO Resp. 30–31 (citing Ex. 1002, 433–434, ¶¶ 14–15). For example, the Patent Owner's points to the examiner's statement that "the closest prior art . . . does not teach or suggest at least one data storage section being reserved for advertising data." *Id.* at 31 (citing Ex. 1002, 433 ¶ 14–15). Those statements concern the combination of specific prior art patents, such as U.S. Patent No. 5,758,257 to Herz and U.S. Patent No. 5,721,827 to Logan cited during prosecution. *See* Ex. 2007, 4 ¶¶ 14–15. Patent Owner finally asserts that Petitioner conceded, "the PTO refused to issue the patent until the definite, concrete structure of a reserved storage section for advertising data was included." PO Resp. 31 (citing Ex. 2004, 4–5).

Patent Owner's assertions, concerning anticipation and obviousness over the prior art asserted in the IPR2017-00717 and IPR2017-00724 and in the Notice of Allowability, are misplaced. Whether Petitioner met its burden of showing, that a claim is anticipated or obvious over the cited prior art, is not commensurate with a determination that the claimed subject matter, as a whole, recites a technological feature that is novel and unobvious over the prior art. *See* 37 C.F.R. § 42.301(b); Pet. Reply 8. While the former analysis focuses on the novelty or obviousness of the claim as a whole, the latter analysis focuses on the novelty or obviousness of *specific, discrete* technological features recited in the claim as a whole.

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<sup>6</sup> Such incorporation by reference is inappropriate. Rule 42.6(a)(3) states "[a]rguments must not be incorporated by reference from one document into another document." 37 C.F.R. § 42.6(a)(3).

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In any event, Patent Owner’s citation to the Notice of Allowability, in the prosecution history of the related ’090 patent, does not support its argument that “the use of reserved storage space for advertising data in the ’494 Patent was novel and unobvious over the prior art” (PO Resp. 30). The Notice of Allowability actually states the opposite:

Marsh et al. (US 6876974 B1) teaches [at least one data storage section being reserved for advertising data storage] literally as a designated portion of the storage device 206 having a predetermined memory capacity (e.g., 10 MB) which is specifically reserved for storage of advertisements at the time the client system software is installed. This is done to assure there is sufficient space for advertising to support the special email application taught by March et al.

Ex. 1002, 4 ¶ 14 (emphasis omitted); *see also* Pet. Reply 8 (citing Ex. 1002, 433 (also ¶ 14 of the Notice of Allowability)).

Further, the ’494 patent, itself, tells us that all other possible technological features of the claims are known. As Petitioner states:

Every claim limitation recited in the ’494 Patent was “known” in the art, as admitted by the ’494 Patent. *See e.g.*, Ex. 1001 at Abstract; 4:57–60; 5:3–6; 6:41–[50]; 13:23–28; 13:51–57; 13:63–67; 14:2–5; 14:26–50; 15:1–15; 15:40–43; 18:39–44; 24:66–25:5; and 37:29–32.

Pet. 7. For example, the ’494 patent repeatedly discloses storage device 14 to be “any medium known in the art for storing electronic data.” Ex. 1003, 13:22–28, 24:66–25:7; *see id.* at [57], 5:3–6, 15:1–5, 21:42–22:2. Similarly, the ’494 patent refers to the use of “standard A/V inputs (e.g., RCA video in and video out, Super VHS, or any other A/V input/output ports known in the art).” *Id.* at 13:63–14:5, *see id.* at 14:26–30. The written description refers to the components of the disclosed system generally by reference to their function, without technical details that would imply or be expected of new

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technical features. *See, e.g., id.* at 14:26–59 (software, microprocessor, processing means), 31:44–32:17 (storage sections), 32:43–48 (software), 39:4–9 (processor). For example, the specification repeatedly discloses storage device 14 to be “any medium known in the art for storing electronic data.” Ex. 1003, 13:22–28, 24:66–25:7; *see id.* at [57], 5:3–6, 15:1–5, 21:42–22:2. Similarly, the specification refers to the use of “standard A/V inputs (e.g., RCA video in and video out, Super VHS, or any other A/V input/output ports known in the art).” *Id.* at 13:63–14:5, *see id.* at 14:26–30. Dr. Negus’s testimony also provides persuasive support that each recited component and functionality was known in the art. Ex. 1008 ¶¶ 391–942, 950–987.

Patent Owner’s citation to Defendant’s Motion to Exclude in Part the Testimony of Plaintiff’s Damages Expert, Paul C. Benoit from the related District Court proceeding also does not support its argument. PO Resp. 31–32 (citing Ex. 2004, 4–5); *see also* PO Resp. 68–71. Contrary to Patent Owner’s argument, the cited statements do not show that the Petitioner concede that the claimed technical features were novel and unobvious. *See* Ex. 2004, 4–5. Rather, we are persuaded by Petitioner’s argument that the statements are not a concession because “[t]hese statements come from a damages expert reply report responding to theories presented by Patent Owner’s own technical and damages experts in the underlying district court case. As a part of his analysis, the expert was required to assume validity . . . .” Pet. Reply. 19–20 (emphasis omitted).

Considering each claim limitation, as well as each explicit citation to the specification expressly set forth in the Petition, we are persuaded that Petitioner has met its burden of showing, via analysis and evidence



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explicitly set forth on pages 6–7 of the Petition, that independent claim 1, as a whole, does not recite a technological feature that is novel or unobvious.

Turning to the second prong for determining whether a patent is for a “technological invention,” we recognize that Patent Owner presents assertions directed to whether the claimed invention solves a technical problem using a technical solution. PO Resp. 32–34; *see also id.* at 55–63 (in the context of a ground of unpatentability under 35 U.S.C. § 101, assertions that patents are directed to a technological solution to a technological problem). We, however, need only assess whether one of the prongs set forth in 37 C.F.R. § 42.301(b) is deficient to determine whether the claims of the ’494 patent are not for a “technological invention.” *See Apple Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016) (“We need not address this argument regarding whether the first prong of 37 C.F.R. § 42.301(b) was met, as we affirm the Board’s determination on the second prong of the regulation—that the claimed subject matter as a whole does not solve a technical problem using a technical solution”). As set forth above, we are persuaded by Petitioner’s explanation as to why the claimed subject matter, as a whole, does not recite a technological feature that is novel and non-obvious over the prior art, and, therefore, we are satisfied that Petitioner has met its burden of showing that the ’494 patent is not for a “technological invention.”

### 3. Conclusion

For the reasons set forth above, we are persuaded that Petitioner has met its burden of demonstrating that the ’494 patent is a CBM patent eligible for review.

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*D. Asserted Ground under 35 U.S.C. § 101*

Petitioner argues, and Patent Owner disputes, that claims 1–4, 6–7, 16–19, 23, 24, 26–28, 32–36, and 41 are directed to patent-ineligible subject matter under 35 U.S.C. § 101. Pet. 29–76; PO Resp. 46–71.

*1. Principles of Law*

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. The Supreme Court, however, has long interpreted § 101 to include implicit exceptions: “[l]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g., Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

In determining whether a claim falls within the abstract ideas exception, we are guided in our analysis by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1296–97 (2012)). In accordance with that framework, we first determine whether the claim is “directed to” a patent-ineligible abstract idea. *See Alice*, 134 S. Ct. at 2356. We evaluate “the focus of the claimed advance over the prior art to determine if the claim’s character as a whole is directed to excluded subject matter.” *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (internal quotation marks omitted). “[W]hen considering claims purportedly directed to ‘an improvement of computer functionality,’ we ‘ask whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Smartflash LLC v. Apple, Inc.*, 680 Fed. Appx. 977, 982 (Fed. Cir.

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Mar. 1, 2017) (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

The following method is then used to determine whether what the claim is “directed to” is an abstract idea:

[T]he decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided. *See, e.g., Elec. Power Grp.*, 830 F.3d at 1353–54. That is the classic common law methodology for creating law when a single governing definitional context is not available. *See generally* Karl N. Llewellyn, *The Common Law Tradition: Deciding Appeals* (1960). This more flexible approach is also the approach employed by the Supreme Court. *See Alice*, 134 S. Ct. at 2355–57. We shall follow that approach here.

*Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (footnote omitted).

If the claim is “directed to” a patent-ineligible abstract idea, we then consider the elements of the claim—both individually and as an ordered combination—to assess whether the additional elements transform the nature of the claim into a patent-eligible application of the abstract idea. *Alice*, 134 S. Ct. at 2355. This is a search for an “inventive concept”—an element or combination of elements sufficient to ensure that the claim amounts to “significantly more” than the abstract idea itself. *Id.*

## 2. Step One – Abstract Idea

Petitioner, with supporting testimony from Dr. Negus, argues that each of the challenged claims is directed to the abstract idea of “delivering targeted advertising to a user.” Pet. 33–38; *see* Ex. 1004 ¶¶ 943–944, 963. According to Petitioner, these claims are “directed to nothing more than a computer implemented application of” targeted advertising in a “generic

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technological environment” using “well-known components” and “routine” activities. Pet. 33–34, 39; Ex. 1004 ¶¶ 944–945. Petitioner asserts the specification “reveals that the claims are not directed to any improvement in hardware or software” by indicating that the “hardware used to implement the claimed system were merely generic components of known computer systems.” Pet. 34, 39; *see* Ex. 1008 ¶ 949. Petitioner contends that targeted advertising is a “well-known and long-established concept” that was performed by humans without computers, and is similar to concepts that courts have found to be patent-ineligible abstract ideas. Pet. 33–39 (citing Ex. 1009, 1:26–45 and numerous cases); *see* Ex. 1008 ¶¶ 943–944.

We agree. The preambles of independent claims 1, 19, and 33 expressly state as much. In particular, the preamble of claims 1 and 33 provide: “A system for providing targeted advertising to a multimedia content end user” (claim 1) or “a plurality of multimedia content end users” (claim 33). Ex. 1003, 46:13–14, 49:59–60. Likewise, claim 19’s preamble refers to “[a] device for providing targeted advertising to an end user.” *Id.* at 48:20–21. Taking claim 1 as a representative example, the remainder of the claim recites certain tangible components, namely a “storage device” and specifically, an “addressable and reserved storage space”; a “processor”; and “software implemented by” the processor. *Id.* at 46:13–28. The claim further requires the following functionalities: the processor “reserv[ing]” the storage space; the processor “select[ing] particular advertising data suitable for targeting to at least one end user based upon predefined criteria data”; the storage space “storing digital advertising data” and specifically, the “particular advertising data”; and the “particular advertising data” being

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“accessible to” the user. *Id.* Thus, we are persuaded that claim 1, taken as a whole, is focused on the concept of providing targeted advertising to a user.

Further, the claims merely invoke computers as a tool to implement the concept of targeted advertising, and are not directed to any improvement in computer functionality. *See* Pet. 34; Ex. 1008 ¶¶ 944–945. The claims recite generic components and functionality. For example, in claim 1, the required components, outlined above—a storage device and specifically, a storage space, a processor, and software—are conventional. The recited functionalities—reserving the storage space for advertising data, selecting advertising data targeted to a user, storing that data, and making that data accessible to the user—are likewise basic and routine. As Petitioner points out, the specification expressly acknowledges that some of the tangible components of the recited system were known. *See* Pet. 7–8, 33–34, 40–75; Ex. 1008 ¶ 949. For instance, the specification refers to storage device 14 as “any medium known in the art for storing electronic data” and similarly, “any storage device for audio/video information known in the art.” Ex. 1003, 13:22–28, 15:1–5, 24:66–25:7; *see id.* at [57], 5:3–6, 21:42–22:2. The testimony of Petitioner’s declarant, Dr. Negus, also persuade us that each recited component and functionality was generic, conventional, and known. Ex. 1008 ¶¶ 945, 949–954; *see id.* ¶¶ 955–987.

The concept of delivering targeted advertising to a user is similar to concepts determined to be patent-ineligible in other cases. *See* Pet. 37–40. For example, in *Affinity Labs*, the Federal Circuit determined that the concept of providing out-of-region access to regional broadcast is an abstract idea. *Affinity Labs*, 838 F.3d at 1258. Similarly, in *Smartflash*, the Federal Circuit determined that claims reciting a method and a terminal for

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controlling access to and retrieving multimedia content were directed to the abstract idea of “conditioning and controlling access to data based on payment.” *Smartflash*, 680 Fed. Appx. at 982. Like claim 1, the claims at issue in *Smartflash* recited the use of components of a computer, such as a processor having code to receive multimedia content and code to control access to the multimedia content according to use rules and a memory storage. *Id.* at 4–6. The Federal Circuit determined that the claims “invoke computers merely as tools to execute fundamental economic practices.” *Id.* at 10; *see also Ultramerical, Inc. v. Hulu, LLC*, 772 F.3d 709, 716 (Fed. Cir. 2014) (finding computer-implemented system claim merely recited the abstract idea of offering media content in exchange for viewing an advertisement, along with routine additional steps such as restrictions on public access). Of particular relevance, in *Intellectual Ventures I LLC v. Capital One Bank (USA)*, the Federal Circuit determined that system claims related to “customizing web page content” based on “navigation data” (e.g., time of day) and “information known about the user” (e.g., viewer’s location or address) were directed to the abstract idea of “information tailoring”—a “fundamental . . . practice long prevalent” and “practiced in our society.” 792 F.3d at 1369–70. The court reasoned that there is, and can be, no dispute “that newspaper inserts had often been tailored based on information known about the customer,” e.g., location, or “that television commercials for decades tailored advertisements based on the time of day,” e.g., “a television channel might . . . present a commercial for children’s toys during early morning cartoon programs but beer during an evening sporting event.” *Id.*

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Patent Owner argues that “[t]he ’494 Patent, like the ’090 Patent before it, is directed to solving the technical problem of how to ensure that the end user’s storage device has enough storage for targeted advertising by claiming a system to deliver, control, and store the advertising data on local receivers in reserved data storage sections” and not to an abstract idea.

PO Resp. 49; *see also* PO Sur. 2. Patent Owner relies upon the testimony of Dr. Kesan to support its argument. PO Resp. 32–35 (citing Ex. 2003, 1024–1043). Dr. Kesan testifies, “the ’090 Patent discloses a system that breaks up the total memory of a device into separate data storage sections,” which “provide to the end-user and each data supplier a virtual memory allocation out of the larger memory area.” Ex. 2004 ¶ 1026. Patent Owner’s argument, and Dr. Kesan’s testimony, is unpersuasive because it is not commensurate with the scope of the independent claims. The claims do not require the advertising data storage section to have any specific structure, such as separate portions that are allocated to a user or a data supplier. Nor do the claims require that data, other than advertising data, be stored on the same device. *See* Paper 49, 9–12 (construction of storage device). The claims do not require that the storage space store any data, other than advertising data.

Further, Patent Owner does not direct our attention to any technical details in the specification that would be suggested or expected of new technical features. Based on our review of the specification, we see no such disclosures and, instead, view the specification as describing the disclosed components predominantly by function. *See, e.g., id.* at 14:26–59 (software, microprocessor, processing means), 31:44–32:17 (storage sections), 32:43–48 (software), 39:4–9 (processor). The specification of the ’494 patent does

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not disclose the Patent Owner's alleged technical problem of a user filling up a storage space so that advertising data cannot be stored. *See* PO Resp. 47 (citing to the prosecution history of the related '494 patent but not to Ex. 1003).

Patent Owner relies upon statements, made by Petitioner's damages experts in the related district court case, to assert that "[i]n the district court, DISH conceded that the claims' 'character as a whole' is *not* directed to targeted advertising but rather a discrete technological solution to a technological problem." PO Resp. 68–71 (reproducing statements of Paul C. Benoit and Christopher Bakewell from Exs. 2004, 2005). As Petitioner points out, however, "[t]hese statements come from a damages expert reply report responding to theories presented by Patent Owner's own technical and damages experts in the underlying district court case. As a part of his analysis, the expert was required to assume . . . validity . . ." Pet. Reply. 19–20 (emphasis omitted).

Patent Owner argues that the claim here is like the claims in cases, such as *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Cir. 2017), *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016), *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017), and *Core Wireless Licensing S.A.R.L. v. LG Electronics, Inc.*, 880 F.3d 1356 (Fed. Cir. 2018). *See* PO Resp. 55–63; PO Sur. 1–3. Patent Owner contends that, like in those cases, the claims requires a specific memory structure that solves a technological problem in the art and improves the functioning of computers. *See* PO Resp. 56–57 ("Claim 1 of the '494 Patent requires a specific memory structure—reserve storage space . . ."); PO Sur. 1–3 ("modifying the typical computer memory configuration to reserve storage



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space just for advertising data”). Patent Owner’s argument is unpersuasive, because it is not commensurate with the scope of the claims. The claims do not require the storage space to store data other than advertising data. *See* Paper 49, 9–12 (construction of storage device).

For the reasons discussed above, Petitioner’s evidence and analysis sufficiently show that the claims of the ’494 patent is directed to the patent-ineligible abstract idea of delivering targeted advertising to a user.

### *3. Step Two – Inventive Concept*

Turning to step two, Petitioner argues the challenged claims fail to recite any “inventive concept” sufficient to amount to “significantly more” than the abstract idea of delivering targeted advertising. Pet. 40–56. The Petition and Dr. Negus’s declaration proffer a detailed element-by-element analysis asserting that the claims recite only well-known structures and “generic computing components,” as well as “insignificant” and “routine” activity—as evidenced by the specification and the prior art. *Id.* at 40–75; Ex. 1008 ¶¶ 950–987. Patent Owner argues that independent claims 1, 19, and 33 contain an “inventive concept” and recite an “unconventional technological solution of reserved storage space.” PO Resp. 63–68 (citing Ex. 2003 ¶¶ 1044–1045).

Having considered the parties’ arguments and evidence, we are persuaded by Petitioner’s showing that the challenged claims do no more than recite conventional components performing routine functions to implement the abstract idea of delivering targeted advertising to a user and, thus, do not amount to “significantly more” than the abstract idea itself. *See* Pet. 40–75; Ex. 1008 ¶¶ 950–987. Although Patent Owner attempts to classify the recited systems and devices as “unconventional” (*see* PO Resp.

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65) we are unable to discern readily, on this record, any such unconventionality in the claimed components and capabilities.

We are persuaded that the recited storage device and space; processor; and software are generic components present in computers and many other electronic devices. We further are persuaded that the reservation of storage space, as well as selection, storage, and accessibility of advertising data, as required by the claim, are basic functions of these components. *See, e.g., Alice*, 134 S. Ct. at 2360 (determining that “purely functional and generic” hardware was insufficient to render claims patent eligible, given that “[n]early every computer will include a ‘communications controller’ and ‘data storage unit’ capable of performing the basic [recited] calculation, storage, and transmission functions”). As discussed in our analysis of step one, the ’494 patent specification and Dr. Negus’s testimony provide compelling evidence in this regard. *See* Pet. 40–47; Ex. 1008 ¶¶ 950–954; *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (explaining that recent Federal Circuit cases suggest “considerable overlap between step one and step two” of the *Mayo/Alice* framework).

Patent Owner’s argues that the dependent claims 3, 26, and 32 “contain[] additional structure in addition to the reserved storage space.” PO Resp. 65. First, Patent Owner argues that claim 3 “also includes a ‘central control unit in communication with [the] end user receiver, wherein [the] central control unit processes profile data associated with the . . . end user to generate . . . predefined criteria data, and [to] manage[] delivery of the particular advertising data . . . for automatically storing . . . in [an] addressable and reserved storage space.’” *Id.* (quoting Ex. 1003 at 46:33–40). Patent Owner’s argument is unpersuasive because, as Dr. Negus’s

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testifies, the use of a central control unit to control user's receivers was well known, and required nothing more than providing generic computing components. Ex. 1008 ¶ 965 (citing Ex. 1003, Abstract).

Next, Patent Owner argues that claims 26 and 32, as well as independent claim 33 and its dependents, "require at least more than one storage section or partition," and that this shows how "the solution claimed, is technical in nature and not the implementation of an abstract idea using conventional or routine techniques." PO Resp. 66. Patent Owner's argument is unpersuasive, because the plain language of claims 26, 32, and 33 does not require "at least more than one storage section or partition" storing user programming as well as advertising data. Ex. 1003, 49:4–11, 49:55–58, 49:59–50:13. Further, as Dr. Negus testifies, using a partition of a hard disk, as opposed to a separate storage device, was well known and nothing more than providing generic computing components. Ex. 1008 ¶ 979 (citing Ex. 1003, Abstract, 5:3–6, 13:23–28, 15:1–3, 15:8–14, 24:66–25:5).

Whether taken individually, or as a whole, the claim limitations are nothing more than insignificant post-solution activity that does not provide any "inventive concept." *See, e.g., Mayo*, 132 S. Ct. at 1294 ("[T]he prohibition against patenting abstract ideas cannot be circumvented by ... adding insignificant post solution activity.")

Thus, on this record, we are persuaded that the elements of each challenged claim, considered individually and as an ordered combination, lack an inventive concept to transform the claim into a patent-eligible application of the abstract idea of delivering targeted advertising to a user.

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#### 4. Conclusion

For the reasons given, Petitioner has shown that claim 1–4, 6–7, 16–19, 23, 24, 26–28, 32–36, and 41 are unpatentable under 35 U.S.C. § 101.

##### *E. Asserted Ground under 35 U.S.C. § 112, Second Paragraph*

Petitioner contends that claims 17, 18, 23, 24, and 28 are unpatentable as indefinite under 35 U.S.C. § 112, second paragraph. Pet. 76–82. In the Preliminary Response, Patent Owner disputes these assertions (Prelim. Resp. 46–50) and, in our July 28, 2017 Institution Decision, we denied institution on this ground because

the arguments and evidence in the Petition lack the particularity and detail required by 35 U.S.C. § 322(a)(3) and 37 C.F.R. § 42.22(a)(2), and fail to demonstrate that it is more likely than not that claims 5, 17, 18, 23–25, 28, and 39 of the '494 patent are unpatentable as indefinite under 35 U.S.C. § 112, second paragraph.

Inst. Dec. 32–40. In response to *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018), we issued an Order instituting trial on the ground of claims 17, 18, 23, 24, 28, and 29 being unpatentable under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph. See Paper 46. Patent Owner filed a paper “incorporat[ing] by reference the arguments in its Preliminary Response (Paper 7) and the Board’s reasons in the Institution Decision (Paper 10) for denying institution of those grounds.” Paper 48. Petitioner declined to file a reply. See Paper 47, 2 (“Petitioner . . . indicated that it would not file replies.”).

For the reasons stated on pages 32–40 of our Institution Decision, which we adopt here, Petitioner fails to show by a preponderance of the evidence that claims 17, 18, 23, 24, and 28 are unpatentable under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph.

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### III. CONCLUSION

Petitioner has met its burden of demonstrating that the '494 patent is covered business method patent eligible for review. Petitioner has also met its burden of demonstration by a preponderance of the evidence that claims 1–4, 6–7, 16–19, 23, 24, 26–28, 32–36, and 41 are unpatentable under 35 U.S.C. § 101. Petitioner fails to meet its burden of demonstrating by a preponderance of the evidence that claims 17, 18, 23, 24, and 28 are unpatentable under 35 U.S.C. § 112, 2<sup>nd</sup> paragraph.

This is a Final Written Decision of the Board under 35 U.S.C. § 328(a). Parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

### IV. ORDER

It is:

ORDERED that claims 1–4, 6–7, 16–19, 23, 24, 26–28, 32–36, and 41 of the '494 patent are *unpatentable*.

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Paper 45  
Entered: July 25, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DISH NETWORK CORPORATION and  
DISH NETWORK L.L.C.,  
Petitioner,

v.

CUSTOMEDIA TECHNOLOGIES, L.L.C.,  
Patent Owner.

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Before MEREDITH C. PETRAVICK, MICHAEL W. KIM, and  
KALYAN K. DESHPANDE, *Administrative Patent Judges*.

KIM, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. § 318(a) and 37 C.F.R. § 42.73*

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## I. INTRODUCTION

### A. *Background*

DISH Network Corporation and DISH Network L.L.C. (collectively, “Petitioner”) filed a Petition requesting *inter partes* review of claims 1–7, 16–19, 23–25, 27, and 28 of U.S. Patent No. 9,053,494 B2 (Ex. 1003, “the ’494 patent”). Paper 1 (“Pet.”). Customedia Technologies, L.L.C. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

On July 28, 2017, we instituted an *inter partes* review of claims 1–7, 19, 23–25, 27, and 28 on certain grounds of unpatentability set forth in the Petition. (Paper 9, “Dec.”). After institution of trial, Patent Owner filed a Patent Owner Response (Paper 22, “PO Resp.”) and a Disclaimer for claims 5, 25, 39, and 43 of the ’494 patent (Ex. 2006). Petitioner filed a Reply (Paper 36, “Pet. Reply”). Petitioner relies on Declarations of Dr. Kevin Negus (Exs. 1008, 1029). Patent Owner relies on Declarations of Dr. Jay Kesan (Exs. 2001, 2003).

An oral hearing was held on March 5, 2018. Paper 41 (“Tr.”). After oral hearing, the Supreme Court issued its decision on April 24, 2018, in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018). In response, the Board issued an Order amending the Decision to Institute Trial and instituting trial on the claims and grounds originally denied in the Decision on Institution. Paper 42. The parties waived additional briefing with respect to the newly instituted claims and grounds. Paper 43.<sup>1</sup>

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<sup>1</sup> On May 16, 2018, the Board authorized Patent Owner to file a paper incorporating by reference arguments from Preliminary Responses concerning the grounds newly instituted in four related proceedings. Paper 43. Patent Owner filed the paper in three of the proceedings, but did not file



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The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 1–4, 6, 7, 19, 23, 24, and 27 of the '494 patent are unpatentable. We determine also that Petitioner has not met its burden of showing, by a preponderance of the evidence, that claims 16–18 and 28 of the '494 patent are unpatentable.

*B. Related Proceedings*

Patent Owner has asserted the '494 patent against Petitioner in an ongoing action before the U.S. District Court for the Eastern District of Texas (“District Court”), Case No. 2:16-cv-00129 (“District Court Case”). Pet. 1; Paper 4, 2. In addition, before the Office, the '494 patent is the subject of IPR2017-00724 and CBM2017-00032, which were also filed by Petitioner. Paper 4, 2; Pet. 1–2. We issue final written decisions in those proceeding simultaneously with this decision.

*C. The '494 Patent*

The '494 patent discloses a digital data management system, one object of which is to “[r]ent/lease storage space in [a] user[']s Data Box to personalize and target advertising to the individual preferences of the user.” Ex. 1003, 3:30–4:12. The disclosed system has a local host Data Management System and Audio/Video Processor Recorder-player (“VPR/DMS”) unit, which allows for program reception, recording,

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it in the instant proceeding. The omission appears to be an oversight, and in any case, Petitioner indicated that it would not file any responsive papers. *Id.* at 2. Accordingly, we consider the substantive arguments from the Preliminary Response. *See, e.g.*, IPR2017-00724, Paper 45.

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processing, download, and playback, as well as a remote Account-Transaction Server (“ATS”), which stores and provides programming information for use with the VPR/DMS unit. Ex. 1003, 4:13–19, 21:42–44.

The '494 patent discusses advertising operations of the system in which broadcaster content provider 41 transmits advertising data to VPR/DMS 30, and the advertising data is recorded on built-in, non-movable storage device 14. Ex. 1003, 30:50–31:15. Figure 16 is reproduced below.

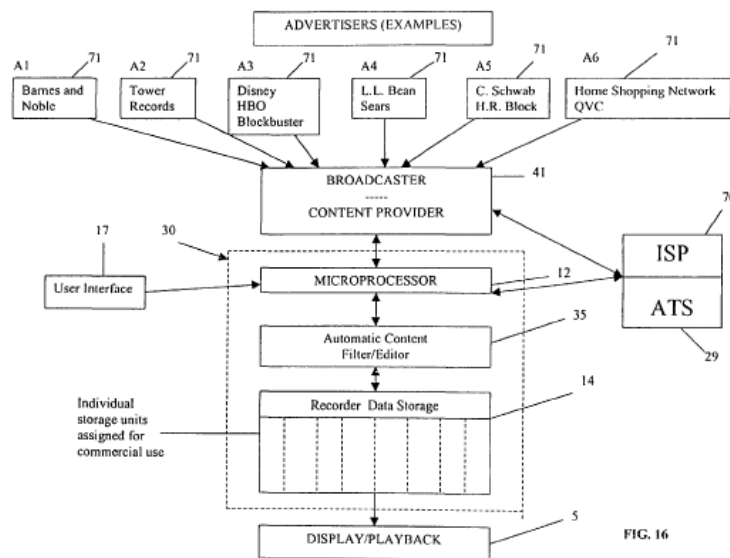


Figure 16 “illustrates the communication pathways between advertisers 71, a broadcaster content provider 41, and . . . VPR/DMS 30.” Ex. 1003, 30:60–63.

The '494 patent explains that programmable “[a]dvertising ‘sections’ or ‘spaces’ or ‘data boxes’” within VPR/DMS 30 “may be reserved, rented, leased or purchased from [an] end user, content providers, broadcasters, cable/satellite distributor, or other data communications companies administering the data products and services.” Ex. 1003, 31:44–64. For example, a cable distributor may provide a customer with a set-top box containing VPR/DMS 30 with built-in non-movable storage device 14,

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which has “certain areas that are reserved and controlled by the cable company” and that can be sold or leased to advertisers. Ex. 1003, 31:64–32:6.

Advertisements that are customer specific, based on customer selection or activity history monitoring, can be delivered to the advertising sections of VPR/DMS 30 and selectively recorded onto the “designated advertising ‘sections.’” Ex. 1003, 31:49–60, 32:7–15. According to the ’494 patent, this provides benefits for both the advertiser and customer, including “maximizing content, establishing customer qualifications, and ultimately producing more cost efficient advertising.” Ex. 1003, 32:17–21.

*D. Illustrative Claim*

Of challenged claims 1–4, 6, 7, 19, 23, 24, 27, and 28, claims 1 and 19 are the only independent claims. Independent claim 1 is illustrative of the challenged claims and is reproduced below:

1. A system for providing targeted advertising to a multimedia content end user, comprising:
  - at least one storage device, wherein at least one of said at least one storage device comprises at least one addressable and reserved storage space for storing digital advertising data;
  - at least one processor; and
  - software implemented by said at least one processor wherein said software comprises a program to reserve said at least one addressable storage space and wherein said software further comprises a program to select particular advertising data suitable for targeting to at least one end user based upon predefined criteria data, wherein particular advertising data is stored in said at least one addressable and reserved storage space and is accessible to the at least one end user.

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*E. Prior Art References Applied by Petitioner and Instituted Grounds of Unpatentability*

A trial was instituted on claims 1–4, 6, 7, 19, 23, 24, 27, and 28<sup>2</sup> based on the following grounds and items of prior art:

Reference(s)	Basis	Challenged Claim(s)
Hite <sup>3</sup>	§ 102	1–4, 6, 7, 16–19, 23, 24, 27, and 28
Hite	§ 103(a)	4, 16, 18
Hite and Hill <sup>4</sup>	§ 103(a)	1–4, 6, 7, 16–19, 23, 24, 27, and 28

Dec. 35–36; Pet. 18–66; Paper 42, 2.

II. ANALYSIS

A. *Claim Construction*

Petitioner and Patent Owner dispute the construction of certain claim terms. Pet. 13–18; PO Resp. 4–8. We apply the constructions of those terms set forth in Paper 44 (“Order”).

B. *The Parties’ Post-Institution Arguments*

In our Decision on Institution, we concluded that the arguments and evidence advanced by Petitioner demonstrated a reasonable likelihood that claims 1–4, 6, 7, 23, 24, 27, and 28 were anticipated by Hite and were obvious over Hite and Hill. Dec. 36. We subsequently modified our

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<sup>2</sup> Although a trial was also instituted on challenged dependent claims 5 and 23 (Dec. 36), those claims were subsequently disclaimed (Ex. 2006). 37 C.F.R. § 42.107(e) (although this rule only directly concerns pre-institution disclaimer, under the same logic, we see no reason to maintain a trial on a disclaimed claim).

<sup>3</sup> U.S. Patent No. 5,774,170, filed Dec. 13, 1994 and issued June 30, 1998 (Ex. 1009, “Hite”).

<sup>4</sup> U.S. Patent No. 4,607,346, issued Aug. 19, 1986 (Ex. 1010, “Hill”).

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Decision to institute a trial on all of the challenged claims and all of the grounds presented in the Petition. Paper 42, 2.

We must now determine whether Petitioner has established by a preponderance of the evidence that the specified claims are unpatentable over the cited prior art. 35 U.S.C. § 316(e). We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 10, 6; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”).<sup>5</sup> Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

There are arguments and evidence advanced by Petitioner to support its positions, though, that Patent Owner chose not to address in either its Preliminary Response (Paper 7) or Response (Paper 22), or that was not addressed in the Decision on Institution (Paper 9). We have evaluated those un rebutted arguments and the evidence in support, and we find the Petitioner persuasively established, with sufficient evidence, the manner in which the asserted prior art teaches corresponding elements of the claims. Pet. 18–66 (citing Exs. 1008–1010) (unchallenged portions only). Based on the preponderance of the evidence before us, we conclude that the prior art identified by Petitioner describes all limitations of the reviewed claims that were not contested by the Patent Owner in either its Preliminary Response

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<sup>5</sup> For the reasons noted in our Order (Paper 43, 2–3), however, for this proceeding, we will also consider the arguments set forth in Patent Owner’s Preliminary Response.

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(Paper 7) or Response (Paper 22). *In re NuVasive*, 841 F.3d 966, 974 (2016). We address only the contested limitations below.

C. *Claims 1–4, 6, 7, 16–19, 23, 24, 27, and 28 as Anticipated by Hite*  
Petitioner asserts that claims 1–4, 6, 7, 16–19, 23, 24, 27, and 28 are anticipated by Hite. Pet. 18–59 (citing Exs. 1008–1010). Patent Owner responds. Prelim. Resp. 20–28 (citing Exs. 1008, 1009, 2001); PO Resp. 11–51 (citing Exs. 1002–1004, 1009, 1020, 1021, 2003, 2005). Petitioner replies. Pet. Reply 4–13 (citing Exs. 1008–1010, 1028, 1029, 2003, 2005).

1. *Principles of Law*

Anticipation under 35 U.S.C. § 102 requires that “each claim element,” and “the claimed arrangement or combination of those elements,” “be disclosed, either expressly or inherently, in a single prior art reference.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332–33 (Fed. Cir. 2010) (citation omitted). Inherent disclosure is only established where the reference “must necessarily include” the “unstated limitation.” *Id.* (citation and emphasis omitted).

2. *Hite (Ex. 1009)*

Hite discloses a system that delivers and displays television and radio commercials targeted to individual viewers. Ex. 1009, [57], 1:7–10, 5:28–37. The disclosed system is intended to provide “viewers with advertisements which are matched to [their] interests and needs” and “advertisers with less waste and greater cost effectiveness.” Ex. 1009, 3:20–35.

In Hite’s system, “[e]ach commercial is analyzed as to its nature and focus” and a Commercial Identifier (“CID”) code “is appended.” Ex. 1009,

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3:40–45. Commercials that can be preempted are imbedded with a CID code indicating “under what circumstances a more suitable commercial may be substituted.” Ex. 1009, 3:45–64. Additional codes, such as a context code and viewer reaction codes, can be “appended to the CID code to provide additional capabilities.” Ex. 1009, 4:19–5:16. Likewise, a set of CID codes is assigned to a viewer, based on the viewer’s needs and wants. Ex. 1009, 1:7–10, 3:65–4:2, 8:18–22. The display site can store and process CID codes for multiple viewers so that when the viewer is identified, commercials appropriate to that viewer are presented. Ex. 1009, 8:39–44.

Hite discloses that its system includes Ad Administration Facility (“AAF”) 100, which analyzes customers, commercials, and programs to construct CID codes. Ex. 1009, 8:64–9:1. The commercials and CID codes are conveyed to Ad Transmission Facility (“ATF”) 200, which combines them with audio/video programming and conveys the combined programming to Media Origination Facility (“MOF”) 300. Ex. 1009, 9:16–20, Fig. 1. Next, the package of programming, commercials, and CID codes is conveyed to display site 400. Ex. 1009, 9:32–37, 13:58–66, Fig. 1. Display site 400 includes commercial processor 438 and optional video storage device 456, from which “[c]ommercial [p]rocessor 438 can cause commercial signals to be stored or played back.” Ex. 1009, 14:12–13, 14:28–32, 14:42–46, Fig. 5.

According to Hite, “[t]he storage devices used” in its system “can be any form which is economical at the time of construction.” Ex. 1009, 10:44–46, 12:6–8. Examples “include magnetic, optical, and semiconductor implemented in tapes, disks, and chips.” Ex. 1009, 10:46–49, 12:8–11.

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In one embodiment of Hite’s system, “an individually addressable digital recording device (RD) with a unique address is installed at the display site in the television receiver, VCR, display device set-top[ ]box or modular decoder associated with the video provider.” Ex. 1009, 6:60–66. “CID codes chosen for a particular display site (consumer) are transmitted to and stored in” the RD at the display site. Ex. 1009, 6:66–7:1; *see also* Ex. 1009, 4:1–2, 5:40–48, 6:60–66, 7:34–37 (concerning the same). Subsequently, commercials, each attached with “codes indicating the conditions and rules” required for its display, are “transmitted to the display site prior to the time of their intended use.” Ex. 1009, 7:1–11, 7:36–38. The CID codes and display rules are stored in an Ad Queue in the commercial processor. Ex. 1009, 7:12–14.

Commercial processor 438 at the display site, which “is programmed to find and analyze the CID codes in each commercial,” compares the codes attached to the commercials with the previously stored CID codes for the consumer. Ex. 1009, 4:3–15, 7:7–10, 7:24, 7:38–42. The commercials with CID codes that match the stored CID codes are “selected” and “stored in the storage at the display site.” Ex. 1009, 7:11–12, 7:38–42. Then, during a break in a broadcast program, commercial processor 438 looks for CID codes in incoming commercials. Ex. 1009, 7:24–26. If there is a CID code, the processor applies the display rules for the stored commercials and substitutes the default, incoming commercials with stored commercials. Ex. 1009, 7:24–51.

### 3. *Independent Claims 1 and 19*

Petitioner contends that Hite discloses all of the limitations of each of independent claims 1 and 19. Pet. 18–25, 49–52; Pet. Reply 4–13.



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Specifically, Petitioner argues that Hite's Optional Video Storage (OVS) Device 456 corresponds to the recited "at least one storage device" having "at least one addressable and reserved storage space for storing . . . advertising data." Pet. 19–20 (citing Ex. 1008 ¶¶ 411, 415, 417). As Hite's OVS Device 456 stores only commercials and their associated CID codes, Petitioner contends OVS Device 456 meets the aforementioned claim limitation, in that it is set apart just for storing advertising data. Pet. 20. Petitioner further contends that Hite discloses independent claim 1's limitation of "a program to reserve said at least one addressable storage space," and independent claim 19's limitation of "at least one processor configured to reserve said at least one addressable storage space," because commercial processor 438 at the display site executes a program "to selectively store targeted commercials" in OVS Device 456. Pet. 24–25 (citing Ex. 1008 ¶¶ 448). Petitioner argues Hite's advertising data is "target[ed] to at least one end user based upon predefined criteria data," because the CID codes used to target commercials to a user are based on customer demographics. Pet. 24–25 (citing Ex. 1008 ¶¶ 448).

*a. "at least one storage device" (Claims 1 and 19)*

Patent Owner contends Hite's OVS Device 456, which may include tapes, disks and/or chips, do not correspond properly to the recited "at least one storage device," because those tapes, disks and/or chips of Hite are not at the user's display device. PO Resp. 12. Patent Owner's contentions are misplaced because independent claims 1 and 19 are silent regarding the

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location of the storage device.<sup>6</sup> Therefore, Patent Owner’s argument is not commensurate with the scope of independent claims 1 and 19.

Patent Owner further argues that Hite’s OVS Device 456 does not correspond properly to the claimed storage device, because it is not capable of recording programming content selected by a user for later playback.

PO Resp. 14. We are not persuaded by this argument because, as discussed above, we are persuaded that a proper construction of “storage device” does not require recording programming content for later playback.

We are persuaded that Petitioner has shown sufficiently that Hite’s OVS Device 456 corresponds properly to the “at least one storage device,” as recited in each of independent claims 1 and 19.

*b. “addressable and reserved storage space for storing digital advertising data” (Claim 1) or “addressable and reserved storage space for storing the particular advertising data” (Claim 19)*

Patent Owner argues that Hite does not require OVS Device 456 to store *only* advertisement data, and, thus, Hite does not disclose an addressable and reserved storage space that is “set apart just for storing [digital/the particular] advertising data,” as construed. PO Resp. 15. Patent Owner’s expert, Dr. Kesan, asserts that one of ordinary skill in the art would have understood that nothing in Hite prevents OVS Device 456 from storing video other than commercials, and, further, that OVS Device 456 is the only logical place to store video programming along with the commercials.

PO Resp. 20–22 (citing Ex. 2003 ¶¶ 31, 33, 72–73). Patent Owner argues

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<sup>6</sup> By contrast, dependent claim 2 does recite explicitly that the storage device is “located within the end user receiver.” Accordingly, under the doctrine of claim differentiation, independent claim 1 should not be construed to require that which is recited only in dependent claim 2.

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that Petitioner's expert, Dr. Negus, agrees that OVS Device 456 is capable of storing information other than commercials, and testifies further that other data, such as CID codes, display rules, and frequency indicator codes, which Patent Owner contends cannot be considered advertising data, could also be stored on OVS Device 456. PO Resp. 23–25 (citing Ex. 2003 ¶ 71; Ex. 2005, 23:15–23, 24:1–21, 25:7–24, 27:12–14, 29:7–25). Patent Owner's contentions are, at least partly, premised on the notion that none of CID codes, display rules, and frequency indicator codes are “multimedia.” PO Resp. 23–25 (citing Ex. 2003 ¶ 71).

Petitioner replies that Hite never expressly states that video programming, separate from commercials, is stored anywhere other than the physical means 307 of Optional Playback Device 464. Pet. Reply 8 (citing Ex. 1029 ¶ 6). Petitioner further contends that Patent Owner's expert, Dr. Kesan, agrees that control data associated with the commercials is part of the advertising data. Pet. Reply 10–11 (citing Ex. 1028, 107:9–17).

We agree with Petitioner. Patent Owner's argument that OVS Device 456 is the only logical place to store programming is not supported by the evidence, as Hite explicitly discloses physical means 307 and Optional Playback Device 464, which are clearly not OVS Device 456, as storing video programming. Ex. 1009, 9:32–37, 13:62–63. Indeed, we have reviewed the cited portions of Dr. Kesan's testimony (Ex. 2003 ¶¶ 31, 33, 72–73), and that testimony is mostly directed to other assertions, with the exception of paragraph 73. The assertion in paragraph 73, however, that OVS Device 456 is the only logical place to store video programming, is unsupported by any citations to Hite. By contrast, Petitioner asserts, and we agree, that Hite does not disclose OVS Device 456 as storing anything other

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than commercials. Pet. Reply 9–10 (citing Ex. 1009, 14:28–32, 14:40–46; Ex. 1028, 131:3–10, 138:11–18; Ex. 2005, 29:23–25).

With respect to Patent Owner’s argument concerning CID codes, display rules, and frequency indicator codes, we agree with Petitioner in several respects. First, we are persuaded that Dr. Negus’ testimony, that OVS Device 456 is capable of storing information other than commercials, does not indicate that OVS Device 456 cannot properly correspond to “addressable and reserved storage space for storing digital advertising data,” as recited in independent claim 1. We construe the aforementioned claim limitation as “data storage section set apart just for storing digital advertising data,” which does not exclude devices capable of storing information other than commercials. Order 6–9. We are persuaded that Hite’s disclosure that the only information actually stored on OVS Device 456 are commercials, even if OVS Device 456 is capable of storing other information, is sufficient to constitute “addressable and reserved storage space for storing digital advertising data.” The same analysis applies to the corresponding limitation of independent claim 19.

Second, we agree with Petitioner that Hite’s CID codes, display rules, and frequency indicator codes are advertising data. As an initial matter, we determine that the recited “advertising data” is not required to be “multimedia,” as asserted by the Patent Owner. Patent Owner purportedly bases its construction on claim language. PO Resp. 24 (“Claim 1 requires specifically identified advertising data to be ‘digital multimedia’ that is ‘received.’”). The only portion of independent claim 1, however, that even mentions “multimedia” is “a multimedia content end user,” and, not only is that limitation set forth in the preamble, generally rendering questionable the

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weight to be accorded, if any, but we are unable to discern any relationship between “multimedia” and “advertising data.”<sup>7</sup> Indeed, in its claim construction section, Patent Owner treats the “multimedia” language, from independent claims 1 and 19, separate from “advertising data.” PO Resp. 4 (“These additional elements make clear that the system of Claim 1 and the device of Claim 19 are designed to have the capability of storing multimedia programming data *in addition to* advertising data”) (emphasis added).

To that end, Hite discloses that “[e]ach commercial is analyzed as to its nature and focus and a Commercial Identifier (CID) code is appended,” “[i]f there was a CID at a break, the processor would apply the display rules for the stored, addressable ads,” and “[a]ppropriate storage is provided at the display site to store one or more of the commercials selected by matching the commercial’s CID with that CID determined as appropriate for the display site.” Ex. 1009, 3:43–45, 7:26–28, 7:37–42. Given those disclosures, we find that CID codes and display rules are related to the commercials, which we find sufficient to meet “advertising data.” Patent Owner, and Dr. Kesan, attempt to distinguish control data, which Dr. Kesan concedes is advertising data, from CID codes, display rules, and frequency indicator codes, which Patent Owner appears to assert are not. Tr. 108:10–15. Beginning with “display rules,” we are unclear how “display rules” can

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<sup>7</sup> Although not referred to by Patent Owner, independent claim 19 does recite “receiving digital multimedia data, wherein the digital multimedia data comprises particular advertising data.” While this language does establish a relationship between “multimedia” and “advertising data,” this does not assist Patent Owner, as the limitation refers to “digital multimedia *data*,” which, by the addition of the term “data,” encompasses information associated with “multimedia,” and not just “multimedia” alone.

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be considered anything other than “control data.” With respect to CID codes, the assertion appears to be premised on the fact that CID codes disembodied from specific commercials are not control data. Tr. 109:10–18. The assertion is misplaced, as the claim term “advertising data” does not require that any “data” have any specific relationship with a particular commercial; a general relationship is sufficient. To that end, we find that a CID code being, among other things, a “Commercial Identifier,” is information sufficiently related to “advertising” to correspond properly to the recited “advertising data.” A similar analysis is applicable to “frequency indicator codes,” which we also find are, at a minimum, information related to advertising and, thus, “advertising data.”

For the reasons given, Petitioner has demonstrated adequately that Hite discloses “addressable and reserved storage space for storing digital advertising data,” as recited in independent claim 1, and “addressable and reserved storage space for storing the particular advertising data,” as recited in independent claim 19.

- c. *“a program to reserve said at least one addressable storage space” (Claim 1) and “at least one processor configured to reserve said at least one addressable storage space” (Claim 19)*

Related to the above arguments, Patent Owner further argues that Hite’s disclosure of general processing software that can *store* data in a storage device differs from software that would first *reserve* a section of storage and then store the data. PO Resp. 26 (citing Ex. 2003 ¶¶ 72–73). According to Patent Owner, since Hite does not disclose the negative limitation that OVS Device 456 must be reserved just for advertising data, Hite has no need to disclose the reservation of the storage space. PO Resp. 27 (citing Ex. 2003 ¶ 33). Alternatively, Patent Owner argues that

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if OVS Device 456 stores only advertising data, as asserted by Petitioner, there would be no need to reserve a storage section just for advertising data, because the entire device is only capable of storing commercials.

PO Resp. 27–28.

As explained above, we agree with Petitioner that Hite’s OVS Device 456 is set apart just for advertising data, and, therefore, that OVS Device 456 is reserved. Further, with respect to the software, Hite discloses that commercial processor 438 at the display site is “programmed” to analyze CID codes to select commercials with codes that match the codes stored for a viewer, and the selected matching commercials are “stored” at the display site. Ex. 1009, 3:65–4:8, 6:66–7:12, 7:24–26, 7:38–42. Commercial processor 438 “cause[s] commercial signals to be stored” in OVS Device 456 by conveying signals that “control” storage of the commercials in that device. Ex. 1009, 14:28–32, 14:41–46, Fig. 5.

For the reasons given, Petitioner has demonstrated adequately that Hite discloses, “software implemented by said at least one processor wherein said software comprises a program to reserve said at least one addressable storage space,” as recited in claim 1, and “at least one processor configured to reserve said at least one addressable storage space,” as recited in claim 19.

*d. “select particular advertising data . . . based upon predefined criteria data (Claim 1) and “particular advertising data for targeting to at least one end user based upon predefined criteria data” (Claim 19)*

Patent Owner asserts that Petitioner’s identification of “certain CID codes directed to customer demographics or cost effectiveness” of Hite do not meet the above claim limitations, “because they relate . . . only to the content or cost of a commercial not to user preferences,” and that even under Petitioner’s overly broad construction, Hite’s CID codes are unrelated to

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demographics or cost effectiveness. PO Resp. 28–29 (citing Ex. 1009, 1:32–33, 3:25–27, 8:29–31; Ex. 2003 ¶ 76). Petitioner responds that Patent Owner’s assertions are premised on an incorrect, overly narrow claim construction, but that, in any case, Hite meets even that construction. Pet. Reply 12–13 (citing Ex. 1009, 1:28–44).

We construe “predefined criteria data” as being met by customer profile data and demographics, which does not require that any such “data” be either “preferences,” or come from “users” themselves. Order 12–14. To that end, we are persuaded that CID codes are sufficiently related to customer profiles and demographics to correspond properly to the recited “predefined criteria data.” Ex. 1009, 1:28–32 (“First, advertisers believe that placing their commercials in specific programs will ensure that they reach the right kind of viewers (usually based on crude demographic assumptions, e.g., women 18–49 are likely to be the best prospects for their product.)”). Specifically, we find that Hite discloses expressly that CID codes are assigned to viewers based on demographic information. *See, e.g.*, Ex. 1009, 3:65–4:2 (“A suitable process is used to target prospective viewers of a set of advertisements using database search and list selection procedures. The result of this process is a set of appropriate CID codes for the prospective viewers. These CID codes are transmitted to the viewing device and stored.”).

Patent Owner asserts further “Hite teaches away from using demographics as a metric for advertising data: ‘Advertisers however are aware that demographic targeting is highly wasteful.’” PO Resp. 29 (quoting Ex. 1009 at 1:32-33). Patent Owner’s assertion is misplaced, as teaching away is a doctrine applicable to obviousness, and not anticipation.



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*Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998). In any case, Patent Owner’s assertion is also incorrect, in that the context of the above-referenced sentence in Hite is concerning appending commercials to specific programs “based on crude demographic assumptions” of the viewers of such programs. Ex. 1009, 1:26–35. Indeed, the first sentence of the very next paragraph reads as follows: “Target marketing is the answer. Deliver your commercial to only those who are the best prospects.” Ex. 1009, 1:36–37. The balance of Hite is then directed to implementing such “target marketing,” and we have analyzed above already how CID codes are based on customer profiles and demographics.

Thus, Petitioner has demonstrated adequately that Hite discloses the “predefined criteria data,” as recited in each of independent claims 1 and 19.

*e. Conclusion*

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that each of independent claims 1 and 19 are anticipated by Hite.

*4. Dependent Claim 2*

Dependent claim 2 recites, “at least one storage device that comprises said at least one addressable and reserved storage space is located within said end user receiver.” Patent Owner asserts that Petitioner’s identification of Hite’s tapes, disks and/or chips as corresponding to the recited “storage device” is inadequate, because those tapes, disks and/or chips are not disclosed in Hite as being located at the display site, which is the only plausible disclosure of Hite that can correspond properly to the recited “end user receiver.” PO Resp. 29–30 (citing Ex. 1009, 10:41–49, 12:3–11;

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Ex. 2003 ¶ 80). Petitioner responds that Patent Owner’s assertions are misplaced, because OVS Device 456 of Hite is identified by Petitioner as corresponding to the recited “storage device,” and that OVS Device 456 “is located in the end-user device at the display site.” Pet. Reply 13 (citing Ex. 1009, Figs. 1, 5); *see also* Pet. 25–27 (“Video Storage Device that only stores CID codes and/or commercials with CID codes) is ‘located within said end user receiver,’” where Petitioner identifies display site 400 as the “end user receiver.”). We agree with Petitioner for the reasons stated. Indeed, while Patent Owner cites paragraph 80 of Dr. Kesan’s Declaration in support of their position, in the very next paragraph, Dr. Kesan admits that “[t]he RD and the Optional Video Storage Device are located at the display site.” Ex. 2003 ¶ 81.

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that dependent claim 2 is anticipated by Hite.

#### 5. *Dependent Claim 3*

Dependent claim 3 “wherein said central control unit processes profile data associated with the at least one end user to generate the predefined criteria data.” Patent Owner asserts that Petitioner’s identification of Hite’s viewer reaction codes as corresponding to the recited “profile data” is inadequate, because those “are aimed at feedback from the user, not established through analysis of customer activity history or from customer information inquiries acquired directly through system interaction or from outside customer profile data sources.” PO Resp. 31–32 (citing Ex. 1003, 31:56–60; Ex. 2003 ¶88)). Petitioner responds as follows:

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Nothing in the claims suggests that the profile data must come “through analysis of customer activity history or from customer information inquiries acquired directly through system interaction or from outside customer profile data sources.” In fact, the portions of the specification cited by Patent Owner only say that the profile data “can” and “may” be determined in these manners. Ex. 1003 at 31:56–60. Moreover, Patent Owner entirely ignores the disclosure of Hite, which states: “Customer Database 128 contains lists of consumers who would be viewing or listening to programming and would be served by commercials which match their needs and wants” and that this “list is supplied by agencies which have gathered data on the consumers and have created algorithms for determining which commercials are most appropriate for those consumers” such that the “combination of the algorithms and the data yield the Consumer CID codes.” Petition at 28; Ex. 1009 at 10:33–35, 10:54–62; Ex. 1008, ¶ 470.

Pet. Reply 14–15; *see also* Pet. 27–30 (also citing Ex. 1009, 10:33–35, 10:54–62; Ex. 1008 ¶ 470). We agree with Petitioner for the reasons stated.

Patent Owner further relies on arguments “predefined criteria data” similar to those set forth previously for the same limitation of independent claim 1. PO Resp. 32–33. Petitioner’s assertions to the contrary are persuasive for the same reasons as set forth above. Pet. Reply 12–13, 15.

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that dependent claim 3 is anticipated by Hite.

#### 6. *Dependent Claim 4*

Dependent claim 4 recites “wherein the suitability criteria data comprises a key word.” We construe “suitability criteria data” the same as “predefined criteria data.” Order 12–14. Petitioner cites the following

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portion of Hite as meeting the aforementioned claim limitation: “a viewer who requests more information about children’s aspirin may also be offered a subsequent commercial on children’s chewable vitamins.” Pet. 30–31 (citing Ex. 1009, 3:46–56, 4:52–61, Ex. 1008 ¶¶ 481, 482, 484). Patent Owner asserts that this portion of Hite does not use key words.

PO Resp. 33. Instead, Patent Owner asserts, relying on the testimony of Dr. Kesan, that one of ordinary skill in the art would have recognized that it would have been more likely that numerical product classification, and not key words, would have been used for this purpose. PO Resp. 33–34 (citing Ex. 2003 ¶ 92).<sup>8</sup> Petitioner relies on its positions set forth in the Petition. Pet. Reply 15.

We agree with Patent Owner. Petitioner does not explain sufficiently, and the cited portions of Hite do not disclose, how the method by which the progression is made from “children’s aspirin” to “children’s chewable vitamins.” Dr. Negus’s testimony is similarly unavailing, as the only cited paragraph that plausibly supports their position, paragraph 484, is conclusory and unsupported. Absent such explanation or cited disclosure, we are unpersuaded that Petitioner has shown adequately that the recited “key word” is a part of the progression, as required to meet the claim.

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<sup>8</sup> At least a portion of Dr. Negus’s testimony aligns with this testimony of Dr. Kesan. Ex. 1008 ¶ 669 (“An exemplary targeting characteristic to optimize advertising format scenarios within Hite is the ‘*context code*’ that ‘could be appended to the commercial’s CID code’ to be ‘compared with program identification codes appended to the program signals’ such that a ‘*commercial is displayed if it is in a specific channel or network or show*’ as in the example of ‘*skiing equipment commercials would be shown during a skiing down hill racing competition*’ (emphasis added, see, for example, Ex. 1009 at 4:34–40).”).

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Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claim 4 is anticipated by Hite.

7. *Dependent Claim 6*

Dependent claim 6 recites, in part, “processing circuitry configured to dynamically merge the particular advertising data with digital media content . . . during playback.” Patent Owner asserts that dependent claim 7 recites a similar requirement, but includes the additional words “in real time,” indicating that, under the doctrine of claim differentiation, dependent claim 6 requires that the particular advertising data and digital media content are stored merged, i.e., prior to “in real time.” PO Resp. 34–36 (citing Ex. 2003 ¶ 93). Patent Owner’s assertions are misplaced, because while dependent claim 6 does not recite “in real time,” it does recite “during playback,” indicating, even in the absence of the words “in real time,” that the particular advertising data and digital media content are not stored merged.

Patent Owner asserts further that Petitioner has not met its burden of showing Hite discloses dynamic merging “during playback,” as Petitioner does not address when any dynamic merging occurs. PO Resp. 36 (citing Ex. 2003 ¶ 94). Petitioner relies on the following:

Hite explains that “[d]igital signals which the customer is authorized to receive are descrambled and conveyed by electrical and/or optical connection 428 to a Digital to Analog Converter 430 which converts these signals into a form suitable for further processing and display” and “playback” of “certain commercials” stored in “Video Storage Device 456” under the “control of signals conveyed by electrical and/or optical

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connection 462 from the Commercial Processor 438,” thereby merging at “connection 428” under processor control the digital media streams with the targeted commercials at appropriate commercial breaks. Ex. 1009 at 14:33–46, Fig. 5; Ex. 1008, ¶ 505.

The algorithm for inserting targeted advertisements is described as a “dynamic process.” Ex. 1009 at 8:27–35; Ex. 1008, ¶ 505.

Pet. 34; *see also* Pet. 34–35 (also citing Ex. 1008 ¶ 510).

We agree with Petitioner. As an initial matter, we note that the cited portions of column 8 of Hite do not have any bearing on these claim limitations, as the dynamic process described is concerning changes made to the algorithm, and not merging. Nevertheless, we are persuaded that the cited portions of column 14 and Figure 5 of Hite describe commercial processor 438 dynamically inserting commercials, at connection 428, into the digital media stream “during playback.” In particular, we note there is no storage downstream of connection 428.

Patent Owner additionally asserts, “Hite does not describe separate processing circuitry from the microprocessor to perform this element and Petitioner points to none.” PO Resp. 35–36. Patent Owner’s assertion is misplaced, however, as dependent claim 6 recites, “wherein said at least one processor comprises processing circuitry,” indicating that separate processing circuitry is not required.

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that dependent claim 6 is anticipated by Hite.

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8. *Dependent Claim 7*

Dependent claim 7 recites, in part, limitations similar to those recited in dependent claim 6, with the addition of an “in real time” requirement with respect to the recited “dynamically merged” and “during playback” limitations. Patent Owner advances arguments similar to those set forth for dependent claim 6, with the additional argument that Petitioner does not further account for “in real time.” PO Resp. 37–38 (citing Ex. 1003, 31:49–52; Ex. 2003 ¶¶ 95–96). Petitioner relies on its positions set forth in the Petition. Pet. Reply 15. As an initial matter, we note that Patent Owner’s arguments unrelated to “in real time” are unavailing for the same reasons as set forth above in our analysis of dependent claim 6.

With respect to “real time,” the ’494 patent does make several references to that term. Ex. 1001, 3:49–61, 4:11–12, 5:12–39. In each case, we find that “real time” refers to playback of content as received, without storage for later playback. Petitioner identifies the following portion of Hite:

Digital signals selected from a digital data stream by Digital Demultiplexer 422 under control of the Commercial Processor 438 are conveyed by electrical and/or optical connection 424 to the Digital Descrambler 426. Digital signals which the customer is authorized to receive are descrambled and conveyed by electrical and/or optical connection 428 to a Digital to Analog Converter 430 which converts these signals into a form suitable for further processing and display. Also, the signals from the Digital Descrambler are optionally conveyed by electrical and/or optical connection 458 to an Optional Video Storage Device 456 which can either store or playback certain commercials under the control of signals conveyed by electrical and/or optical connection 462 from the Commercial Processor 438.

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Ex. 1009, 14:33–46 (cited at Pet. 34 with respect to dependent claim 6, which itself was cited at Pet. 35, which concerns dependent claim 7). This disclosure refers to Figure 5 of Hite and, when considered in the aggregate, discloses a digital data stream path from receiver 410 to video display 450 that does not include storage.

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that dependent claim 7 is anticipated by Hite.

9. *Dependent Claims 16–18*

Claim 16 depends directly from claim 1 and recites the following:

wherein the particular advertising data stored in said addressable and reserved storage space is located in a first end user receiver, *wherein a second end user receiver is identified by a central control unit as being associated with the first end user receiver*, wherein the central control unit communicates with the second end user receiver, and *wherein the central control unit manages the delivery of the particular advertising data to the second end user receiver*.

Emphases added. Claims 17 and 18 each depend directly from claim 16.

First, in addressing the limitation “wherein a second end user receiver is identified by a central control unit as being associated with the first end user receiver,” Petitioner identifies the “central control unit” as Hite’s AAF 100 in combination with ATF 200 and MOF 300. Pet. 38. Petitioner then relies on Hite’s “viewer identification number” (Ex. 1009, 4:62–5:6) in conjunction with a disclosure of an “apparatus at the viewing site” that presents commercials appropriate to an identified viewer. Pet. 37 (citing Ex. 1009, 8:39–43). Based on these disclosures, Petitioner, with identical



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supporting testimony from Dr. Negus, argues that Hite’s “viewer identification can be used to ‘associate’ . . . ‘end user receivers.’” Pet. 39; Ex. 1008 ¶ 526. Petitioner and Dr. Negus also refer to the AAF “at a signal origination site receiv[ing] the same viewer identification number from both of a first and a second such control devices.” Pet. 39; Ex. 1008 ¶ 529.

Here, Petitioner does not clearly argue—much less show—that the AAF 100, ATF 200, and MOF 300 (“central control unit”) actually have the capability to identify a first and second end user receiver as being associated with one another using the “viewer identification number.” Rather, Petitioner and Dr. Negus speculate that this identification number “can be” so used in the hypothetical situation where the same identification number is received from two control devices. Pet. 39–40; Ex. 1008 ¶¶ 526, 529. We are unpersuaded that such speculation is sufficient, however, to demonstrate that Hite expressly discloses, or must necessarily include, a “central control unit” able to identify a second end user receiver, as claimed.

Nor do the cited portions of Hite adequately support that Hite discloses the recited “second end user device.” Hite explains that a registration code, which “could be added to the CID code and stored at the point of display,” is “communicated back upstream to the signal origination site” when the relevant “commercial is successfully displayed,” so that the “origination point” can “accumulate[]” a “count . . . indicating the total number of commercials successfully displayed at all locations.” Ex. 1009, 4:62–5:3. Hite further explains that “a viewer identification number” can be “included in the acknowledgement messages centrally collected.” Ex. 1009, 5:3–6. While this passage does disclose that viewer identification numbers can be sent upstream from the display site and collected, it does not indicate

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that the upstream AAF 100, ATF 200, or MOF 300 uses the numbers to identify that two display sites or control devices are associated, i.e., that there is a correlation between end user devices and “viewer identification number,” which is needed to show that multiple viewer identification numbers are an proxy for multiple end user devices.

In addition, Hite explains further that “[t]he apparatus at the viewing site can store and process CIDs for multiple individuals at the viewing site. When the viewer identifies himself or herself either directly or indirectly, the commercials appropriate to that individual are presented.” This passage relates to what the downstream viewing or display site does to ensure that it displays commercials appropriate for its particular viewer, once identified, including storing and processing CID codes for multiple users. Ex. 1009, 8:39–43; *see also* Ex. 1009, 3:65–4:15, 7:24–51 (disclosing the same). The disclosure actually weighs against Petitioner, as if codes for multiple users are stored at a given display site, it further weakens the correlation between “viewer identification number” and “end user device” needed to prove Petitioner’s position.

Second, turning to the limitation of “wherein the central control unit manages the delivery of the particular advertising data to the second end user receiver,” Petitioner argues, with identical supporting testimony from Dr. Negus, that because “multiple devices at the display site are ‘associated’ via ‘viewer identification,’” “delivery of the same ‘commercials appropriate to that individual’ is managed via the ‘central’” AAF 100. Pet. 38 (citing Ex. 1008 ¶ 526). Further, Petitioner contends, and Dr. Negus opines, that Hite’s AAF 100, along with ATF 200 and MOF 300, “delivers video/audio combined commercials that are targeted for consumption by a specific

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display site or consumer according to CID codes including viewer identification number to the second control device.” Pet. 40; Ex. 1008 ¶ 529; *see also* Pet. 39; Ex. 1008 ¶ 527 (asserting the same).

As an initial matter, Petitioner’s arguments for claim 16 are often vague and generic regarding “the particular advertising data.” Yet the claim language is clear that “the particular advertising data” in claim 16 refers to the “particular advertising data” of claim 1, which is “select[ed]” as “suitable for targeting to at least one end user” by a software program implemented by the “at least one processor” and “is stored in [the] at least one addressable and reserved storage space.” Ex. 1003, 46:19–28, 47:64–48:4. In its analysis of claim 1, Petitioner argues that the recited “processor” is Hite’s “commercial processor within a device at the consumer display site” and this processor executes a program “to select” and store “commercials that are targeted for consumption by a specific display site or consumer according to CID codes.” Pet. 24–25; *see also* Pet. 21–22 (asserting the same). As explained above, we agree with Petitioner that Hite discloses the “particular advertising data” of claim 1, given Hite’s explanation that commercial processor 438 in the display site, or “home” or “point of usage,” analyzes CID codes in commercials and selects commercials with codes that match the stored codes for a particular viewer for storage and ultimately, display to the viewer. Ex. 1009, 4:3–15, 6:66–7:12, 7:24–50, 14:28–32, 14:43–46, Fig. 5. To meet the requirements of claim 16, it is this “particular advertising data”—commercial(s) selected by the processor at a display site as having CID codes that match the codes for a particular viewer—that must be delivered to a “second end user receiver,”

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with the “central control unit” managing this delivery. Ex. 1003, 47:64–48:4.

Neither the Petition nor Dr. Negus’s provides a citation to any disclosure in Hite that supports that this specific advertising data is delivered to a second display site or control device—much less that the upstream AAF 100, ATF 200, and MOF 300 (“central control unit”) manage such a delivery. More generally, Petitioner does not direct our attention to any disclosure in Hite to demonstrate that its system coordinates delivery of the same commercial(s) to two associated display sites or control devices. *See, e.g.*, Pet. 37–38 (citing Ex. 1009, 8:39–43 (explaining that the “apparatus at the viewing site” processes CID codes and presents “commercials appropriate to” the viewer but not referring to any other viewing site receiving the same set of commercials), 17:33–54 (claiming two display sites that “selectively display[ ]” “different” advertisements intended for different consumers based on commands from the control devices)).

Petitioner’s and Dr. Negus’s conclusory representations that Hite does so—which lack adequate supporting citations to Hite or other evidence—are insufficient to meet Petitioner’s burden of a preponderance of the evidence. Pet. 38–40 (citing Ex. 1008 ¶¶ 508, 526–527); Ex. 1008 ¶¶ 526–529; 37 C.F.R. § 42.65(a); *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 294 (Fed. Cir. 1985) (“Lack of factual support for expert opinion going to factual determinations . . . may render the testimony of little probative value . . .”).

Accordingly, Petitioner has not met its burden of showing, by a preponderance of the evidence, that Hite discloses, expressly or inherently, claim 16’s limitations of “wherein a second end user receiver is identified by

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a central control unit as being associated with the first end user receiver” and “the central control unit manages the delivery of the particular advertising data to the second end user receiver.” Petitioner’s analysis of claims 17 and 18, which depend from claim 16, does not cure these deficiencies. Pet. 40–49. Accordingly, Petitioner’s showing is likewise inadequate for those claims as well.

10. *Dependent Claim 23*

Dependent claim 23 recites “wherein a central control unit located remote from said device is configured to perform a function selected from the group consisting of managing delivery of the data to the receiver, directing storage in the reserved storage space, dynamically merging with content, controlling sending an advertisement to a portable device, and combinations thereof, and wherein the central control unit processes profile data associated with the at least one end user to generate the suitability criteria data.” Patent Owner asserts that the use of the terms “consisting of,” in conjunction with “and,” requires that each member of the group must be accounted for. PO Resp. 42–43. We disagree, as the relevant portion of the limitation reads “*selected from* the group consisting of” (emphasis added), indicating that while the recited group is, undoubtedly, closed, only one selection from that closed group is needed to meet the claim. Contrary to Patent Owner’s assertions, this language differs from that in *Superguide Corp v. DirecTV*, 358 F.3d 870 (Fed. Cir. 2004), where the phrase “at least one of” was determined to modify each member of a list joined by the conjunction “and.” We are unclear how “selected from the group consisting of” can be read as modifying each member of a group, even if joined by the conjunction “and.”

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Patent Owner asserts further that Petitioner improperly cites AAF 100 of Hite as corresponding to the recited “central control unit located remote from said device is configured to perform . . . directing storage in the reserved storage space,” when, in fact, commercial processor 438 of Hite actually performs the recited function. PO Resp. 43–44 (citing Ex. 1009, 6:9–12, 14:11–32; Ex. 2003 ¶ 111). Petitioner asserts that “(the Advertisement Administration Facility described above) is configured to perform the function of ‘directing storage in the reserved storage space’ (via the CID codes sent to a control device described above).” Pet. 53–54 (citing Ex. 1008 ¶ 616).

We agree with Petitioner, in that Patent Owner’s assertions are misplaced. Specifically, we agree with Patent Owner that commercial processor 438 of Hite performs the recited function. We are also persuaded, however, that AAF 100 of Hite performs that function as well, in that it manages sending CID codes to display site 400. Pet. 41–42 (this portion of the Petition concerns dependent claim 17, which was cited in the portion of the Petition (pages 53–55) concerning dependent claim 23) (citing Ex. 1008 ¶ 540; Ex. 1009, 9:28–37). As noted by Patent Owner, those CID codes are then used by commercial processor 438 in the manner indicated, for example, “directing storage in the reserved storage space,” as recited. Ex. 1009, 6:9–12, 14:11–32.

#### *11. Dependent Claim 24*

Dependent claim 24 recites “wherein the central control unit comprises a software program to select, based upon the program selectable criteria data associated with the at least one end user, the particular advertising data from the program selectable advertising data.” Patent

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Owner asserts that while Petitioner identifies commercial processor 106 of AAF 100 as corresponding to the aforementioned claim limitation, it is, in fact, a different commercial processor 438 that actually performs the function. PO Resp. 46–48 (citing Ex. 1009, 4:3–8, 9:63–10:1; Ex. 2003 ¶ 117). Our analysis is analogous to that set forth above for dependent claim 23, in that we are persuaded that each of commercial processors 106, 438 of Hite perform the recited function. Pet. 55–57 (citing Ex. 1008 ¶¶ 627–631, 633; Ex. 1009 4:3–8, 8:24–33, 9:58–66). While we acknowledge that the way each of commercial processors 106, 438 of Hite may not perform the recited function in exactly the same manner, the identity of such details are not required by the claim.

#### 12. *Dependent Claim 27*

Dependent claim 27 recites, in part, “wherein the particular advertising data is dynamically merged with digital media content received in real time by said receiver for the presentation of the particular advertising data during playback of the digital media content received in real time.” Patent Owner asserts that “Hite has no such disclosure distinguishing between real time or subsequent delivery to the end user,” and “Hite does not specify whether the replacement of advertisements which Petitioner identifies as dynamic merging occurs when the digital media is received, when it is stored, or specifically ‘during play back of the digital media.’” PO Resp. 48–49 (citing Ex. 1003, 31:49–52; Ex. 2003 ¶¶ 121–122).

Petitioner replies as follows:

*Hite*, however, discloses that if there was a CID at a break, the processor would apply the display rules for the stored, addressable ads and would substitute the addressed ad for the default ad, and eliminate it from the ad queue. Petition

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at 23; Ex. 1009 at 7:24–30; Ex. 1008, ¶ 444. Moreover, as discussed by Dr. Negus, *Hite* never states that programming content is stored anywhere at the display site. Ex. 1029, ¶¶ 5–6. Accordingly, the only embodiment expressly contemplated by *Hite* involves storing the commercials for subsequent dynamic merging in “real time.”

Pet. Reply 16. We are persuaded by Petitioner under the same reasoning as set forth in our analysis of dependent claims 6 and 7, which involve similar claim limitations.

### 13. *Dependent Claim 28*

Dependent claim 28 recites “wherein the particular advertising data is configured for presentation to an end user by a method selected from the group consisting of a dynamic insertion of the particular advertising data in or around a user selected media program, a transfer of the particular advertising data to a second end user device, a menu screen, a header, a footer, an picture in picture, a split screen, an overlay, a keyword search item, a user selectable interactive advertisement, and combinations thereof.” Patent Owner asserts that the use of the terms “consisting of,” in conjunction with “and,” requires that each member of the group must be accounted for. PO Resp. 49–50. We disagree, as the relevant portion of the limitation reads “*selected from* the group consisting of” (emphasis added), indicating that while the group is, undoubtedly, closed, only one selection from that closed group is needed to meet the claim.

Patent Owner asserts further that Petitioner does not account properly for the following members of the closed group: a menu screen; a header; a footer; a picture in picture; a split screen; an overlay; a key word search item; a second end user device; and transfer of the particular advertisement data to a second end user device. PO Resp. 49–50 (Ex. 2003 ¶¶ 123–124).



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Petitioner relies on its positions set forth in the Petition. Pet. Reply 15. In the Petition, Petitioner asserts the following:

Hite discloses that the “particular advertising data” is “configured for presentation to an end user” in several of the claimed methods as described below.

For example, by “a transfer of the particular advertising data to a second end user device.” *See* § VI(A)(2), at Claim 16 and 17; Ex. 1008, ¶ 669.

As a further example, by either “a keyword search item” or “a user selectable interactive advertisement,” because Hite discloses the use of “higher priority commercials” that are used to “target prospective viewers of a set of advertisements using database search and list selection procedures.” Ex. 1009 at 3:56–58, 3:65–4:1; Ex. 1008, ¶ 671. Also, Hite discloses a “series of viewer reaction codes can be included to cause additional relevant commercials to be presented in reaction to a viewer’s response to questions or other viewer interaction” wherein the “relevant commercials could be for more detailed information about the same product or service,” or “[a]lternatively, they could be for products or services which are likely to be of interest to the viewer based on the viewer’s responses,” such as when “a viewer who requests more information about children’s aspirin may also be offered a subsequent commercial on children’s chewable vitamins.” Ex. 1009 at 4:52–61; Ex. 1008, ¶ 671.

Pet. 58–59.<sup>9</sup>

We agree with Patent Owner. Beginning with “transfer of the particular advertising data to a second end user device,” Petitioner relies on its analysis of dependent claims 16 and 17. While the exact language between the relevant limitations of dependent claims 16 and 28 somewhat

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<sup>9</sup> Dr. Negus’s testimony at paragraph 671 of his Declaration largely mirrors the language in the Petition.

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differs, the substantive analysis is the same. In short, Petitioner has not shown sufficiently that different “viewer identification numbers” of Hite correlates adequately with the required multiple “end user devices,” and, separately, Petitioner has also not shown sufficiently that Hite discloses delivering specific advertising data to a second display site or control device, which is needed to meet the “particular advertising data” limitation.

For “keyword search item,” our analysis is similar to that set forth above for dependent claim 4. Specifically, Petitioner does not explain sufficiently, and the cited portions of Hite do not disclose, the method by which prospective viewers are targeted, for example, the progression from a viewer’s interest in “children’s aspirin” to “a subsequent commercial on children’s chewable vitamins.”

For “a user selectable interactive advertisement,” Petitioner appears to rely on Hite’s disclosure of collecting viewer feedback for targeting prospective viewers via one or more of “viewer reaction codes,” “viewer’s response to questions,” “viewer interaction,” and view “requests.” Pet. 59. As an initial matter, we note that “a user selectable interactive advertisement” is not required to collect viewer feedback for targeting prospective viewers, and collecting viewer feedback for targeting prospective viewers can be done without “a user selectable interactive advertisement.” Accordingly, disclosure of one does not result in disclosure of the other.

Regardless, similar to our above analysis of “keyword search item,” Petitioner does not explain sufficiently, and the cited portions of Hite do not disclose, the method by which such viewer feedback is collected, i.e., via the recited “user selectable interactive advertisement” or otherwise. Absent

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such explanation or cited disclosure, we are unpersuaded that Petitioner has shown adequately that such viewer feedback is collected via the recited “user selectable interactive advertisement,” as required to meet the claim.

Finally, although other members are listed in the closed group, Petitioner did not address those other members in the relevant portions of the Petition. *See generally* Pet. 58–59 (only addressing the above analyzed members).

#### 14. Summary

In sum, for the reasons given, Petitioner has met its burden of showing, by a preponderance of evidence, that Hite anticipates claims 1–3, 6, 7, 19, 23, 24, and 27 of the ’494 patent. Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claims 4, 16–18, and 28 are anticipated by Hite.

#### D. Claims 4, 16, and 18 as Obvious over Hite

Petitioner contends that Hite renders obvious claims 4, 16, and 18. Pet. 59–61. Patent Owner responds. Prelim. Resp. 28; PO Resp. 51–53 (citing Exs. 1002, 1008, 1010, 2003). Petitioner replies. Pet. Reply 16–17.

##### 1. Principles of Law

Under 35 U.S.C. § 103(a), a patent claim is unpatentable as obvious if the claimed “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 establish obviousness in an *inter partes* review, it is petitioner’s “burden to demonstrate both that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re: Magnum Oil Tools Int’l, Ltd.*,

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829 F.3d 1364, 1381 (Fed. Cir. 2016) (citation and quotation omitted). A petitioner cannot satisfy this burden by “employ[ing] mere conclusory statements” and “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *Id.* at 1380. Stated differently, there must be “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching, and the need for specificity pervades.” *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (quotations and citations omitted). A determination of obviousness cannot be reached where the record lacks “explanation as to *how* or *why* the references would be combined to produce the claimed invention.” *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016); *see Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017) (holding obviousness determination improper where the record lacked a “clear, evidence-supported account of” “how the combination” would work).

## 2. *Dependent Claim 4*

Claim 4 depends from independent claim 1, and additionally requires “wherein the suitability criteria comprises a key word.” Petitioner argues that to the extent Hite does not disclose this additional limitation, it would have been obvious based on the knowledge in the art and Hite’s disclosure of a viewer reaction code that can be appended to CID codes to “cause additional relevant commercials to be presented in reaction to a viewer’s response to questions or other viewer interaction,” e.g., a request for “more

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information about children’s aspirin” may result in “a subsequent commercial on children’s chewable vitamins.” Ex. 1009, 4:52–61; Pet. 30–31, 60. According to Petitioner, use of a keyboard for entry of a key word has long been known as a common way to search for materials of interest to a user. Pet. 60; Ex. 1008 ¶ 486. Petitioner contends that using a key word for Hite’s viewer responses would have been an “obvious design choice that would permit a predictable result of identifying information related to the key[ ]word.” Pet. 60; Ex. 1008 ¶ 486.

Patent Owner asserts that this portion of Hite does not use key words. PO Resp. 52. Instead, Patent Owner asserts, relying on the testimony of Dr. Kesan that one of ordinary skill in the art would have recognized that it would have been more likely that numerical product classification, and not key words, would have been used for this purpose. PO Resp. 52–53 (citing Ex. 2003 ¶ 92).

Essentially, Patent Owner assertions are the same as those advanced for the anticipation ground for the same claim. We agree with Patent Owner’s assertions for the same reasons as set forth above. Having said that, the assertions are misplaced, because this is an obviousness ground, and Patent Owner does not address the modification to Hite proposed by the Examiner. To that end, we are persuaded by Petitioner that it would have been obvious to code Hite’s viewer responses using keywords, as we agree that such a technique was common and well known at the time of the invention, and that it would have been an obvious design choice. Ex. 1008 ¶ 486. Indeed, Patent Owner acknowledges this possibility, as they do not assert that using key words would not have been known, just that it may not have been preferable under certain circumstances. PO Resp. 53 (citing

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Ex. 2003 ¶ 92). Insofar as Patent Owner may be asserting that such a preference teaches away from a modification, we have considered it, but determine that it is outweighed by the evidence of the ubiquity of key word searches at the time of the invention. Indeed, we are unclear as to how, other than using numbers or key words, such searches could have been performed. *KSR*, 550 U.S. at 421 (“When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”).

### 3. *Dependent Claims 16 and 18*

Claim 16 depends from independent claim 1, and additionally requires “wherein a second end user receiver is identified by a central control unit as being associated with the first end user receiver, wherein the central control unit communicates with the second end user receiver, and wherein the central control unit manages the delivery of the particular advertising data to the second end user receiver.” Petitioner asserts that to the extent we are unpersuaded that Hite discloses the aforementioned limitation, that such a limitation would have been obvious as follows:

As discussed above, Hite discloses first and second display sites and that display sites are associated with a viewer identification number. Ex. 1009 at 4:62–5:6; 17:33–54; Ex. 1008, ¶ 533. A person of ordinary skill in the art would recognize that two display sites are associated with the same viewer identification number. *Id.* A person of ordinary skill in the art would therefore configure a control unit to deliver particular advertising data for the viewer to the second end user receiver when, for example, the viewer identified by the viewer

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identification number is viewing content at the second end user receiver. *Id.* This would provide the obvious benefit that targeted advertising could “follow” a viewer when she moves between different display sites. *Id.*

Pet. 60–61.

We are unpersuaded. Petitioner’s conclusory argument and evidence, including supporting testimony of Dr. Negus, fail to explain and support how an ordinarily skilled artisan would have modified Hite’s AAF 100, ATF 200, and MOF 300 (“central control unit”) to identify display sites or control devices associated with the same viewer identification number and to deliver the same “particular advertising data” targeted to the viewer to the second display site or control device. Petitioner never articulates, with any detail or specificity, what particular changes it is proposing to make to Hite’s system. Nor does Petitioner address whether a person of ordinary skill in the art would have had a reasonable expectation of success in making such changes to achieve the system recited in claim 16.

In sum, Petitioner’s generic arguments and vague supporting testimony from Dr. Negus lack the specificity and evidentiary support required to support a determination that Hite renders obvious claim 16. Petitioner’s argument and evidence for claim 18, which depends from claim 16, does not cure these deficiencies. Pet. 61; Ex. 1008 ¶ 561.

#### 4. Summary

In sum, for the reasons given, Petitioner has met its burden of showing, by a preponderance of evidence, that Hite renders dependent claim 4 of the ’494 patent. Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claims 16–18 are anticipated by Hite.

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*E. Claims 1–4, 6, 7, 16–19, 23, 24, 27, and 28 as  
Obvious over Hite and Hill*

Petitioner asserts that claims 1–4, 6, 7, 16–19, 23, 24, 27, and 28 of the '494 patent would have been obvious over Hite and Hill. Pet. 61–66. Patent Owner responds. PO Resp. 53–60. Petitioner replies. Pet. Reply 17–19.

*1. Hill (Ex. 1010)*

Hill discloses a storage device “partition[ed] . . . into a plurality of devices that have different access and storage characteristics.” Ex. 1010, [57], 2:47–51, 4:28–33. Hill provides for “automatic placement” of digital data on the partitioned device that best meets the storage characteristics of the data. Ex. 1010, [57], 1:8–11, 2:52–57, 8:15–20. In Hill, the storage characteristics of data are represented by its “access density” and are related to its “volume and frequency of access.” Ex. 1010, [57], 2:55–57, 4:36–57.

In one exemplary embodiment, Hill discloses, “disk storage device 20 including two disks 22 and 24,” with the surface of each disk “partition[ed]” into high access partition 40 and low access partitions 42, 44. Ex. 1010, 4:20–33, Figs. 3–4. Hill explains that the partitions are “defined to the system processor as two unique devices.” Ex. 1010, 7:9–12.

According to Hill, its storage technique “results in more cost effective data storage” and prevents bottlenecking, which occurs when a storage device receives access requests from a processor at a faster rate than the device can sustain and which often results in degradation of the rate at which data records are stored or retrieved. Ex. 1010, 1:13–17, 8:8–25.



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2. *Independent Claims 1 and 19*

Petitioner contends that to the extent Hite does not disclose the “addressable and reserved storage space for storing digital advertising data,” as recited in independent claim 1, or “addressable and reserved storage space for storing the particular advertising data,” as recited in independent claim 19, the combination of Hite and Hill teaches these limitations. Pet. 61–66. Petitioner argues that Hill’s disclosure of a storage device with a high access partition and a low access partition, where the high access partition is “separately defined” as a “unique device[ ]” from the low access partition, and that the high access partition teaches an “addressable and reserved storage space” for storing digital data. Pet. 64; Ex. 1008 ¶¶ 427, 598. Petitioner further asserts that Hite discloses storage of digital advertising data in a hard disk drive. Pet. 64; Ex. 1008 ¶¶ 427, 598. According to Petitioner’s Declarant, Dr. Negus, Hite’s locally stored commercial data or advertising data would have been “accessed frequently, such as [by] reading stored advertisement data during each preemptable time slot.” Ex. 1008 ¶ 278; Ex. 1008 ¶ 266 (citing Ex. 1009, 7:24–28, 46–51) (disclosing substituting a stored commercial for a broadcasted commercial at a commercial break).

Petitioner, with supporting testimony from Dr. Negus, argues that a person of ordinary skill in the art would have combined Hite’s system with Hill’s teaching, of a high access partition, in order to increase storage efficiency and address Hite’s goal of providing “advertisers with less waste and greater cost effectiveness.” Pet. 65; Ex. 1008 ¶¶ 428, 599 (quoting Ex. 1009, 3:21–35; citing Ex. 1010, 4:54–57). According to Petitioner and Dr. Negus, one of ordinary skill would have had reason to combine Hite and

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Hill—using Hill’s “high access partition allocated for high access data storage” to “store the high access advertisement data of Hite”—to “yield[ ] the completely predictable and desirable result” of “decrease[d] read and write times of advertisement data stored in Hite’s” storage devices, including optional video storage device 456. Pet. 65–66; Ex. 1008 ¶¶ 428, 599; *see also* Tr. 107:10–15 (asserting the same).

Patent Owner contends a person of ordinary skill in the art would not have been motivated to combine Hite with Hill. PO Resp. 56; Ex. 2003 ¶ 48. Patent Owner argues Dr. Negus’ assertion, that advertising data is “high access data,” is unsupported (PO Resp. 55), and, rather, advertising data has such low priority that there may not be storage room available on the user’s local receiver for advertising (PO Resp. 55–56 (citing Ex. 1002 ¶ 171)). Patent Owner contends that, although Hite teaches substituting preemptable commercials, Hite is silent regarding “preemptable time slots” and does not suggest a time bottleneck in substituting commercials. Prelim. Resp. 33–34.

Further, Patent Owner’s Declarant, Dr. Kesan, states there is no benefit to combining Hite with Hill, because all broadcast data needs to be accessed at the same speed. PO Resp. 57; Ex. 2003 ¶¶ 51–52; *see also* Tr. 119:5–10 (asserting the same). Patent Owner asserts creating high and low access sections in the storage device of Hite would result in two scenarios, neither of which provide a benefit to Hite. PO Resp. 57–58. First, assuming Hite’s storage device contains both advertising data and programming data, Patent Owner contends using the high access section for advertising data yields the “absurd result” of placing programming data in the slower, low access section. PO Resp. 57. According to Patent Owner, “the idea that the

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programming would be lower access and the ads would be higher access just kind of doesn't stand a common sense test." Tr. 119:2–4. Second, assuming Hite's storage device contains only advertising data, Patent Owner asserts using the high access section for advertising data results in having less space to store commercials because the low access partition would be empty. PO Resp. 58; *see also* Tr. 119:21–120:5 (asserting the same).

Petitioner responds that Patent Owner has not effectively rebutted the evidence provided by Dr. Negus, which “makes it clear that a POSITA would have looked to Hill's high access partition to further address an issue identified by Hite to increase storage efficiency and accomplish the object of providing ‘advertisers with less waste and greater cost effectiveness in delivering their messages only to those consumers.’” Pet. Reply 18; Ex. 1008 ¶ 428 (citing Ex. 1009, 3:21–35; Ex. 1010, 4:54–57).

We agree with Patent Owner that Petitioner's proffered rationale for combining Hite with Hill is not adequately supported by the record. Specifically, we agree with Patent Owner that Petitioner's assertion that advertising data is “high access” data is a conclusory statement that fails to “articulate specific reasoning, based on evidence of record” to support an obviousness determination. *In re: Magnum Oil Tools Int'l, Ltd.*, 829 F.3d at 1380. Although Hite discusses preempting broadcast commercials with stored commercials at broadcast breaks (*see* Ex. 1009, 7:24–30), Petitioner does not cite any portion of Hite, or provide any evidence at all, that explains how frequently the advertising data would have been accessed.

Accordingly, because Petitioner has not shown adequately that a combination of Hite and Hill teaches or suggests “addressable and reserved storage space for storing digital advertising data,” as recited in independent

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claim 1, or “addressable and reserved storage space for storing the particular advertising data,” as recited in independent claim 19, we are unpersuaded that Petitioner has met its burden of showing, by a preponderance of the evidence, that independent claims 1 and 19 are obvious over Hite and Hill.

3. *Dependent Claims 2–4, 6, 7, 16–18, 23, 24, 27, and 28*

None of Petitioner’s assertions concerning dependent claims 2–4, 6, 7, 16–18, 23, 24, 27, and 28 are set forth as relevant to the aforementioned limitations of independent claims 1 and 19. *See* Pet. 64–65. Thus, for the same reasons discussed above with respect to independent claims 1 and 19, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claims 2–4, 6, 7, 16–18, 23, 24, 27, and 28 are obvious in view of Hite and Hill.

4. *Summary*

We are unpersuaded that Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 1–4, 6, 7, 16–19, 23, 24, 27, and 28 of the ’494 patent would have been obvious over Hite and Hill.

III. CONCLUSION

Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 1–4, 6, 7, 19, 23, 24, and 27 of the ’494 patent are unpatentable. Petitioner has not met its burden of demonstrating, by a preponderance of the evidence, that claims 16–18 and 28 of the ’494 patent are unpatentable.

IV. ORDER

Accordingly, it is:

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ORDERED that claims 1–4, 6, 7, 19, 23, 24, and 27 of the '494 patent are held unpatentable;

FURTHER ORDERED that claims 16–18 and 28 of the '494 patent are not held patentable on the grounds set forth in this proceeding; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DISH NETWORK CORPORATION and  
DISH NETWORK L.L.C.,  
Petitioner,

v.

CUSTOMEDIA TECHNOLOGIES, L.L.C.,  
Patent Owner.

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Before MEREDITH C. PETRAVICK, MICHAEL W. KIM, and  
KALYAN K. DESHPANDE, *Administrative Patent Judges*.

KIM, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. § 318(a) and 37 C.F.R. § 42.73*

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## I. INTRODUCTION

### A. *Background*

DISH Network Corporation and DISH Network L.L.C. (collectively, “Petitioner”) filed a Petition requesting *inter partes* review of claims 19, 26, 32–36, 39, 41, and 43 of U.S. Patent No. 9,053,494 B2 (Ex. 1003, “the ’494 patent”). Paper 1 (“Pet.”). Customedia Technologies, L.L.C. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

On July 28, 2017, we instituted an *inter partes* review of claims 26 and 32 on certain grounds of unpatentability set forth in the Petition. Paper 10 (“Dec.”). After institution of trial, Patent Owner filed a Patent Owner Response. Paper 23 (“PO Resp.”).<sup>1</sup> Petitioner filed a Reply (Paper 37, “Pet. Reply”). Petitioner relies on Declarations of Dr. Kevin Negus (Exs. 1008, 1029). Patent Owner relies on Declarations of Dr. Jay Kesan (Exs. 2001, 2003).

An oral hearing was held on March 5, 2018. Paper 42 (“Tr.”). After oral hearing, the Supreme Court issued its decision on April 24, 2018, in *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348 (2018). In response, the Board issued an Order amending the Decision to Institute Trial instituting trial on the claims and grounds originally denied in the Decision on Institution. Paper 43. Aside from Patent Owner “incorporat[ing] by reference the arguments in its Preliminary Response (Paper 7) and the Board’s reasons in the Institution Decision (Paper 10) for denying institution of those grounds”

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<sup>1</sup> In a parallel related proceeding concerning the same patent, Patent Owner indicated that a disclaimer was filed for claims 39 and 43. IPR2017-00717, Ex. 2006. We have made the disclaimer a part of this record; it is designated as Exhibit 3003.



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(Paper 45), the parties waived additional briefing with respect to the newly instituted claims and grounds. Paper 44.

The Board has jurisdiction under 35 U.S.C. § 6. In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 19 and 26 of the '494 patent are unpatentable. We determine also that Petitioner has not met its burden of showing, by a preponderance of the evidence, that claims 32–36 and 41 of the '494 patent are unpatentable.

#### *B. Related Proceedings*

Patent Owner has asserted the '494 patent against Petitioner in an ongoing action before the U.S. District Court for the Eastern District of Texas (“District Court”), Case No. 2:16-cv-00129 (“District Court Case”). Pet. 1; Paper 4, 2. In addition, before the Office, the '494 patent is the subject of IPR2017-00717 and CBM2017-00032, which were also filed by Petitioner. Paper 4, 2; Pet. 1–2. We issue final written decisions in those proceeding simultaneously with this decision.

#### *C. The '494 Patent*

The '494 patent discloses a digital data management system, one object of which is to “[r]ent/lease storage space in [a] user[']s Data Box to personalize and target advertising to the individual preferences of the user.” Ex. 1003, 3:30–4:12. The disclosed system has a local host Data Management System and Audio/Video Processor Recorder-player (“VPR/DMS”) unit, which allows for program reception, recording, processing, download, and playback, as well as a remote Account-

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Transaction Server (“ATS”), which stores and provides programming information for use with the VPR/DMS unit. Ex. 1003, 4:13–19, 21:42–44.

The ’494 patent discusses advertising operations of the system in which broadcaster content provider 41 transmits advertising data to VPR/DMS 30, and the advertising data is recorded on built-in, non-movable storage device 14. Ex. 1003, 30:50–31:15. Figure 16 is reproduced below.

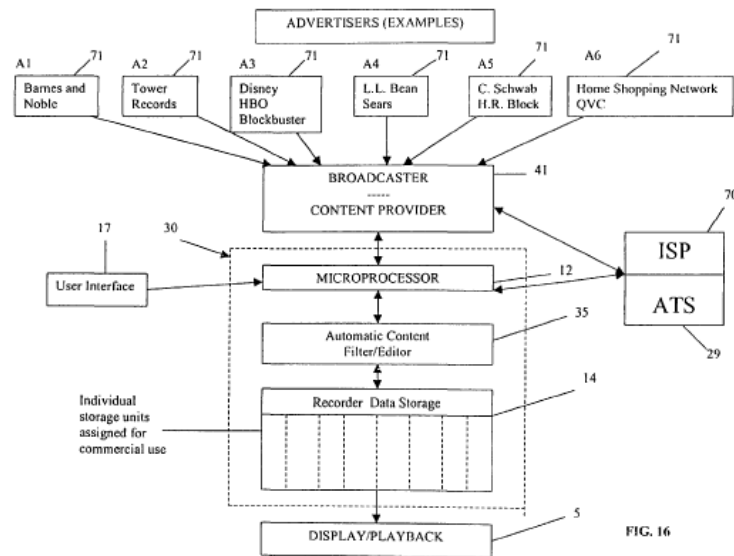


Figure 16 “illustrates the communication pathways between advertisers 71, a broadcaster content provider 41, and . . . VPR/DMS 30.” Ex. 1003, 30:60–63.

The ’494 patent explains that programmable “[a]dvertising ‘sections’ or ‘spaces’ or ‘data boxes’” within VPR/DMS 30 “may be reserved, rented, leased or purchased from [an] end user, content providers, broadcasters, cable/satellite distributor, or other data communications companies administering the data products and services.” Ex. 1003, 31:44–64. For example, a cable distributor may provide a customer with a set-top box containing VPR/DMS 30 with built-in non-movable storage device 14, which has “certain areas that are reserved and controlled by the cable

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company” and that can be sold or leased to advertisers. Ex. 1003, 31:64–32:6.

Advertisements that are customer specific, based on customer selection or activity history monitoring, can be delivered to the advertising sections of VPR/DMS 30 and selectively recorded onto the “designated advertising ‘sections.’” Ex. 1003, 31:49–60, 32:7–15. According to the ’494 patent, this provides benefits for both the advertiser and customer, including “maximizing content, establishing customer qualifications, and ultimately producing more cost efficient advertising.” Ex. 1003, 32:17–21.

*D. Illustrative Claim*

Of challenged claims 19, 26, 32–36, and 41, claims 19 and 33 are the only independent claims. Independent claim 19, reproduced below, is illustrative:

19. A device for providing targeted advertising to an end user, comprising:
- at least one input port for receiving digital multimedia data, wherein the digital multimedia data comprises particular advertising data for targeting to at least one end user based upon predefined criteria data associated with the at least one end user;
  - at least one storage device;
  - at least one addressable and reserved storage space for storing the particular advertising data;
  - at least one processor configured to reserve said at least one addressable storage space and to present the particular advertising data to the at least one end user.

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*E. Prior Art References Applied by Petitioner and Instituted Grounds of Unpatentability*

A trial was instituted for claims 19, 26, 32–36, and 41<sup>2</sup> of the '494 patent based on the following grounds and items of prior art:

Reference(s)	Basis	Challenged Claim(s)
Hite <sup>3</sup>	§ 102	19, 26, 32–36, and 41
Hite and Hill <sup>4</sup>	§ 103(a)	19, 26, 32–36, and 41
Hite and Baji <sup>5</sup>	§ 103(a)	26 and 32
Hite, Hill, and Baji	§ 103(a)	26 and 32
Hite and Barton <sup>6</sup>	§ 103(a)	41
Hite, Hill, and Barton	§ 103(a)	41

Dec. 39; Pet. 16–68; Paper 43, 2.

II. ANALYSIS

A. *Claim Construction*

Petitioner and Patent Owner dispute the construction of certain claim terms. Pet. 13–18; PO Resp. 5–8. We apply the constructions of those terms set forth in Paper 46 (“Order”).

<sup>2</sup> As dependent claims 39 and 43 were disclaimed (Ex. 3003) by the time of our Order (Paper 44), no trial was instituted on those claims. 37 C.F.R. § 42.107(e) (“No *inter partes* review will be instituted based on disclaimed claims.”).

<sup>3</sup> U.S. Patent No. 5,774,170, filed Dec. 13, 1994 and issued June 30, 1998 (Ex. 1009, “Hite”).

<sup>4</sup> U.S. Patent No. 4,607,346, issued Aug. 19, 1986 (Ex. 1010, “Hill”).

<sup>5</sup> U.S. Patent No. 5,027,400, issued June 25, 1991 (Ex. 1025, “Baji”).

<sup>6</sup> U.S. Patent No. 6,233,389 B1, filed July 30, 1998 and issued May 15, 2001 (Ex. 1026, “Barton”).

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*B. The Parties' Post-Institution Arguments*

In our Decision on Institution, we concluded that the arguments and evidence advanced by Petitioner demonstrated a reasonable likelihood that claim 32 was obvious over Hite and Hill, claim 26 was obvious over Hite and Baji, and claims 26 and 32 were obvious over Hite, Hill, and Baji.

Dec. 39. We subsequently modified our Decision to institute a trial on all of the challenged claims and all of the grounds presented in the Petition. Paper 43, 2.

We must now determine whether Petitioner has established by a preponderance of the evidence that claims 19, 26, 32–36, and 41 are unpatentable over the cited prior art. 35 U.S.C. § 316(e). We previously instructed Patent Owner that “any arguments for patentability not raised in the [Patent Owner Response] will be deemed waived.” Paper 11, 6; *see also* 37 C.F.R. § 42.23(a) (“Any material fact not specifically denied may be considered admitted.”). Additionally, the Board’s Trial Practice Guide states that the Patent Owner Response “should identify all the involved claims that are believed to be patentable and state the basis for that belief.” Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012). With regard to the newly instituted grounds, however, we authorized (in Paper 44) Patent Owner to file a paper to incorporate by reference arguments in its Preliminary Response, and Patent Owner filed such a paper (Paper 45). Accordingly, we will also consider the arguments set forth in Patent Owner’s Preliminary Response.

There are arguments and evidence advanced by Petitioner to support its positions, though, that Patent Owner chose not to address in either its Preliminary Response (Paper 7) or Response (Paper 23), or that was not

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addressed in the Decision on Institution (Paper 10). We have evaluated those un rebutted arguments and the evidence in support, and we find the Petitioner persuasively established, with sufficient evidence, the manner in which the asserted prior art teaches corresponding elements of the claims. *See* Pet. 16–68 (citing Exs. 1008–1010, 1025, 1026) (unchallenged portions only). Based on the preponderance of the evidence before us, we conclude that the prior art identified by Petitioner describes all limitations of the reviewed claims that were not contested by the Patent Owner in either its Preliminary Response (Paper 7) or Response (Paper 23). *In re NuVasive*, 841 F.3d 966, 974 (2016). We address only the contested limitations below.

*C. Claims 19, 26, 32–36, and 41 as Anticipated by Hite*

Petitioner asserts that claims 19, 26, 32–36, and 41 are anticipated by Hite. Pet. 16–56 (citing Ex. 1008, 1009). Patent Owner responds. Prelim. Resp. 21–29 (citing Ex. 1008, 1009, 2001); PO Resp. 17–43 (citing Ex. 1002, 1003, 1008–1010, 2003, 2004). Petitioner replies. Pet Reply. 4–16. (citing Ex. 1002, 1003, 1008–1010, 1028, 1029, 2003, 2004).

*1. Principles of Law*

Anticipation under 35 U.S.C. § 102 requires that “each claim element,” and “the claimed arrangement or combination of those elements,” “be disclosed, either expressly or inherently, in a single prior art reference.” *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332–33 (Fed. Cir. 2010) (citation omitted). Inherent disclosure is only established where the reference “must necessarily include the unstated limitation.” *Id.* (citation and emphasis omitted).

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2. *Hite (Ex. 1009)*

Hite discloses a system that delivers and displays television and radio commercials targeted to individual viewers. Ex. 1009, [57], 1:7–10, 5:28–37. The disclosed system is intended to provide “viewers with advertisements which are matched to [their] interests and needs” and “advertisers with less waste and greater cost effectiveness.” Ex. 1009, 3:20–35.

In Hite’s system, “[e]ach commercial is analyzed as to its nature and focus” and a Commercial Identifier (“CID”) code “is appended.” Ex. 1009, 3:40–45. Commercials that can be preempted are imbedded with a CID code indicating “under what circumstances a more suitable commercial may be substituted.” Ex. 1009, 3:45–64. Additional codes, such as a context code and viewer reaction codes, can be “appended to the CID code to provide additional capabilities.” Ex. 1009, 4:19–5:16. Likewise, a set of CID codes is assigned to a viewer, based on the viewer’s needs and wants. Ex. 1009, 1:7–10, 3:65–4:2, 8:18–22. The display site can store and process CID codes for multiple viewers so that when the viewer is identified, commercials appropriate to that viewer are presented. Ex. 1009, 8:39–44.

Hite discloses that its system includes Ad Administration Facility (“AAF”) 100, which analyzes customers, commercials, and programs to construct CID codes. Ex. 1009, 8:64–9:1. The commercials and CID codes are conveyed to Ad Transmission Facility (“ATF”) 200, which combines them with audio/video programming and conveys the combined programming to Media Origination Facility (“MOF”) 300. Ex. 1009, 9:16–20, Fig. 1. Next, the package of programming, commercials, and CID codes is conveyed to display site 400. Ex. 1009, 9:32–37, 13:58–66, Fig. 1.

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Display site 400 includes commercial processor 438 and optional video storage device 456, from which “[c]ommercial [p]rocessor 438 can cause commercial signals to be stored or played back.” Ex. 1009, 14:12–13, 14:28–32, 14:42–46, Fig. 5.

According to Hite, “[t]he storage devices used” in its system “can be of any form which is economical at the time of construction.” Ex. 1009, 10:44–46, 12:6–8. Examples “include magnetic, optical, and semiconductor implemented in tapes, disks, and chips.” Ex. 1009, 10:46–49, 12:8–11.

In one embodiment of Hite’s system, “an individually addressable digital recording device (RD) with a unique address is installed at the display site in the television receiver, VCR, display device set-top[ ]box or modular decoder associated with the video provider.” Ex. 1009, 6:60–66. “CID codes chosen for a particular display site (consumer) are transmitted to and stored in” the RD at the display site. Ex. 1009, 6:66–7:1; *see also* Ex. 1009, 4:1–2, 5:40–48, 6:60–66, 7:34–37 (concerning the same). Subsequently, commercials, each attached with “codes indicating the conditions and rules” required for its display, are “transmitted to the display site prior to the time of their intended use.” Ex. 1009, 7:1–11, 7:36–38. The CID codes and display rules are stored in an Ad Queue in the commercial processor. Ex. 1009, 7:12–14.

Commercial processor 438 at the display site, which “is programmed to find and analyze the CID codes in each commercial,” compares the codes attached to the commercials with the previously stored CID codes for the consumer. Ex. 1009, 4:3–15, 7:7–10, 7:24, 7:38–42. The commercials with CID codes that match the stored CID codes are “selected” and “stored in the storage at the display site.” Ex. 1009, 7:11–12, 7:38–42. Then, during a



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break in a broadcast program, commercial processor 438 looks for CID codes in incoming commercials. Ex. 1009, 7:24–26. If there is a CID code, the processor applies the display rules for the stored commercials and substitutes the default, incoming commercials with stored commercials. Ex. 1009, 7:24–51.

### 3. *Independent Claim 19*

Petitioner contends that Hite discloses all of the limitations of independent claim 19. Pet. 16–23; Pet. Reply 4–16. Specifically, Petitioner argues that Hite’s Optional Video Storage (OVS) Device 456 corresponds to the recited “at least one storage device” having “at least one addressable and reserved storage space for storing . . . advertising data.” Pet. 20–23 (citing Ex. 1008 ¶¶ 589, 411, 415, 417). As Hite’s OVS Device 456 stores only commercials and their associated CID codes, Petitioner contends OVS Device 456 meets the aforementioned claim limitation, in that it is set apart just for storing advertising data. Pet. 22–23. Petitioner further contends that Hite discloses “at least one processor configured to reserve said at least one addressable storage space,” because commercial processor 438 at the display site executes a program “to selectively store targeted commercials” in OVS Device 456. Pet. 23 (citing Ex. 1008 ¶¶ 603, 608). Petitioner argues Hite’s advertising data is “target[ed] to at least one end user based upon predefined criteria data,” because the CID codes used to target commercials to a user are based on customer demographics. Pet. 16–23 (citing Ex. 1008 ¶¶ 603, 608).

#### a. *“addressable and reserved storage space for storing the particular advertising data”*

Patent Owner asserts the claimed “reserved storage space” must be exclusively for, or “just for,” the particular advertising data. PO Resp. 17.

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Patent Owner contends Hite must “explicitly call out the possibility of exclusion; mere silence does not render the claim invalid.” PO Resp. 22 (citing *Biovall Labs., Inc. v. Anchen Pharms. Inc.*, 2006 WL 8071250 (C.D. Cal. Aug. 1, 2006)). Patent Owner argues the “absence of an affirmative statement in Hite precluding storage of programming in the Optional Video Storage Device suggests that the system in Hite could include receiving and storing programming in addition to commercials,” and, thus, Hite does not disclose an addressable and reserved storage space that is “set apart just for storing the particular advertising data,” as construed. PO Resp. 17–19.

Patent Owner’s expert, Dr. Kesan, asserts that it is “logical that the programming content would be stored with the matched commercials in the same storage area.” PO Resp. 18 (citing Ex. 2003, App’x C ¶ 161). Patent Owner argues that Petitioner’s expert, Dr. Negus, agrees that OVS Device 456 is capable of storing information other than commercials, and testifies further that other data, such as CID codes, display rules, and frequency indicator codes, which Patent Owner contends cannot be considered advertising data, could also be stored on OVS Device 456. PO Resp. 19–20 (citing Ex. 2003, App’x C ¶¶ 157, 160; Ex. 2004, 24:1–21, 25:7–24, 27:12–14, 29:7–12, 14–17, 19–25). Patent Owner’s contentions are, at least partly, premised on the notion that none of CID codes, display rules, and frequency indicator codes are “multimedia.” PO Resp. 19–20 (citing Ex. 2003, App’x C ¶ 160).

Petitioner replies that Hite never expressly states that video programming, separate from commercials, is stored anywhere other than the physical means 307 of Optional Playback Device 464. Pet. Reply 5–6 (citing Ex. 1029 ¶ 6). Petitioner further contends that Patent Owner’s

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expert, Dr. Kesan, agrees that control data associated with the commercials is part of the advertising data. Pet. Reply 7 (citing Ex. 1028, 107:9–17).

We agree with Petitioner. Patent Owner’s argument that OVS Device 456 is the only logical place to store programming is not supported by the evidence, as Hite explicitly discloses physical means 307 and Optional Playback Device 464, which are clearly not OVS Device 456, as storing video programming. Ex. 1009, 9:32–37, 13:62–63. Indeed, we have reviewed the cited portions of Dr. Kesan’s testimony (Ex. 2003, App’x C ¶¶ 157, 160, 161), and that testimony is mostly directed to other assertions, with the exception of paragraph 161. The assertion in paragraph 161 that it is “logical that the programming content would be stored with the matched commercials in the same storage area,” however, is unsupported by any citations to Hite. By contrast, Petitioner asserts, and we agree, that Hite does not disclose OVS Device 456 as storing anything other than commercials. Pet. Reply 6–7 (citing Ex. 1009, 14:28–32, 14:40–46; Ex. 2004, 29:23–25).

With respect to Patent Owner’s argument concerning CID codes, display rules, and frequency indicator codes, we agree with Petitioner in several respects. First, we are persuaded that Dr. Negus’ testimony, that OVS Device 456 is capable of storing information other than commercials, does not indicate that OVS Device 456 cannot properly correspond to “addressable and reserved storage space for storing the particular advertising data,” as recited in independent claim 19. We construe the aforementioned claim limitation as “data storage section set apart just for storing the particular advertising data,” which does not exclude devices capable of storing information other than commercials. Order 6–9. We are persuaded that Hite’s disclosure that the only information actually stored on OVS

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Device 456 are commercials, even if OVS Device 456 is capable of storing other information, is sufficient to constitute “addressable and reserved storage space for storing the particular advertising data.”

Second, we agree with Petitioner that Hite’s CID codes, display rules, and frequency indicator codes are advertising data. As an initial matter, we determine that the recited “advertising data” is not required to be “multimedia,” as asserted by the Patent Owner. Patent Owner purportedly bases its construction on claim language. PO Resp. 19 (“the ’494 Patent system requires those storage systems to store ‘digital multimedia data.’”). Independent claim 19 does recite, “receiving digital multimedia data, wherein the digital multimedia data comprises particular advertising data.” While this language does establish a relationship between “multimedia” and “advertising data,” the limitation refers to “digital multimedia data,” which, by the addition of the term “data,” encompasses information associated with “multimedia,” and not just “multimedia” alone. Indeed, in its claim construction section, Patent Owner treats the “multimedia” language, from independent claim 19, separate from “advertising data.” PO Resp. 6 (“These additional elements make clear that . . . the device of Claim 19 [is] designed to have the capability of storing multimedia programming data *in addition to* advertising data”) (emphasis added).

To that end, Hite discloses that “[e]ach commercial is analyzed as to its nature and focus and a Commercial Identifier (CID) code is appended,” “[i]f there was a CID at a break, the processor would apply the display rules for the stored, addressable ads,” and “[a]ppropriate storage is provided at the display site to store one or more of the commercials selected by matching the commercial’s CID with that CID determined as appropriate for the

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display site.” Ex. 1009, 3:43–45, 7:26–28, 7:37–42. Given those disclosures, we find that CID codes and display rules are clearly related to the commercials, which we find sufficient to meet “advertising data.” Patent Owner, and Dr. Kesan, attempt to distinguish control data, which Dr. Kesan concedes is advertising data, from CID codes, display rules, and frequency indicator codes, which Patent Owner appears to assert are not. Tr. 108:10–15. Beginning with “display rules,” we are unclear how “display rules” can be considered anything other than “control data.” With respect to CID codes, the assertion appears to be premised on the fact that CID codes disembodied from specific commercials are not control data. Tr. 109:10–18. The assertion is misplaced, as the claim term “advertising data” does not require that any “data” have any specific relationship with a particular commercial; a general relationship is sufficient. Thus, we are persuaded that a CID code being, among other things, a “Commercial Identifier” is information sufficiently related to “advertising” to correspond properly to the recited “advertising data.” A similar analysis is applicable to “frequency indicator codes,” which we also find are, at a minimum, information related to advertising and, thus, “advertising data.”

For the reasons given, Petitioner has demonstrated adequately that Hite discloses “addressable and reserved storage space for storing the particular advertising data,” as recited in independent claim 19.

*b. “at least one processor configured to reserve said at least one addressable storage space”*

Related to the above arguments, Patent Owner argues that, because Hite does not disclose a reserved data section set aside just for advertising data, Hite’s Commercial Processor cannot be configured to “reserve said at least one addressable storage space.” PO Resp. 28–29. Patent Owner

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contends that “[r]eserving the advertising space requires the processor to exercise a level of control necessary to exclusively designate the storage space for advertising data apart from other non-advertising data,” which Hite’s processor does not do. PO Resp. 29 (citing Ex. 2003, App’x C ¶¶ 464–65).

As explained above, we agree with Petitioner that Hite’s OVS Device 456 is set apart just for advertising data, and, therefore, the OVS is reserved. Further, with respect to the processor, we agree with Petitioner that Hite’s processor controls what is stored on the OVS. Pet. Reply 11 (citing Ex. 1009, 6:10–18, 8:18–27; Ex. 1008 ¶¶ 571, 725, 439, 440). Hite discloses that commercial processor 438 at the display site is “programmed” to analyze CID codes to select commercials with codes that match the codes stored for a viewer, and the selected matching commercials are “stored” at the display site. Ex. 1009, 3:65–4:8, 6:66–7:12, 7:24–26, 7:38–42. Commercial processor 438 “cause[s] commercial signals to be stored” in OVS Device 456 by conveying signals that “control” storage of the commercials in that device. Ex. 1009, 14:28–32, 14:41–46, Fig. 5.

For the reasons given, Petitioner has demonstrated adequately that Hite discloses “at least one processor configured to reserve said at least one addressable storage space,” as recited in independent claim 19.

*c. “at least one storage device”*

Patent Owner argues that the “at least one storage device” is a separate element from the “addressable and reserved storage space” just for advertising data, and that the “storage device” includes a storage section, separate from the reserved storage space, for storing non-advertising content. PO Resp. 30–32. Patent Owner makes several arguments that the claimed

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“storage device” requires the capability for a user to select programming to record and store for later playback. PO Resp. 30–36. In light of these alleged requirements of the claimed “storage device,” Patent Owner asserts that Hite’s OVS device does not teach this limitation. *Id.*

Petitioner responds, and we agree, that nothing in claim 19 precludes the “at least one storage device” from comprising the “addressable and reserved storage space.” Pet. Reply 13 (citing Ex. 1003, 48:20–32). Further, we are not persuaded by Patent Owner’s arguments that the “storage device” requires storage and playback of content, because, as discussed in our Order, we are persuaded that a proper construction of “storage device” does not require recording programming content for later playback. Order 9–12.

Accordingly, we are persuaded that Petitioner has shown sufficiently that Hite’s OVS Device 456 corresponds properly to the recited “at least one storage device.”

*d. “predefined criteria data”*

Patent Owner asserts Hite’s CID codes do not disclose the claimed “predefined criteria data,” because the CID codes are “not based on an individual user’s ‘programming preferences, buyer preferences, customer profiles, demographics or activity history from on-line monitoring.’” PO Resp. 36 (citing Ex. 2003 ¶ 32). Patent Owner further contends that, even under Petitioner’s overly broad construction, Hite’s CID codes are unrelated to demographics or cost effectiveness. PO Resp. 36–37 (citing Ex. 1009, 1:32–33, 3:25–27, 8:29–31; Ex. 2003 ¶ 32). Petitioner responds that Patent Owner’s assertions are premised on an incorrect, overly narrow

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claim construction, but that, in any case, Hite meets even that construction. Pet. Reply 14–16 (citing Ex. 1009, 1:28–32).

We construe “predefined criteria data” as being met by customer profile data and demographics, which does not require that any such “data” be either “preferences,” or come from “users” themselves. Order 12–14. To that end, we are persuaded that CID codes are sufficiently related to customer profiles and demographics to correspond properly to the recited “predefined criteria data.” Ex. 1009, 1:28–32 (“First, advertisers believe that placing their commercials in specific programs will ensure that they reach the right kind of viewers (usually based on crude demographic assumptions, e.g., women 18–49 are likely to be the best prospects for their product.)”). Specifically, we find that Hite discloses expressly that CID codes are assigned to viewers based on demographic information. *See, e.g.*, Ex. 1009, 3:65–4:2 (“A suitable process is used to target prospective viewers of a set of advertisements using database search and list selection procedures. The result of this process is a set of appropriate CID codes for the prospective viewers. These CID codes are transmitted to the viewing device and stored.”).

Patent Owner asserts further “Hite teaches away from using demographics as a metric for advertising data: ‘Advertisers however are aware that demographic targeting is highly wasteful.’” PO Resp. 37 (quoting Ex. 1009 at 1:32-33). Patent Owner’s assertion is misplaced, as teaching away is a doctrine applicable to obviousness, and not anticipation. *Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998). In any case, Patent Owner’s assertion is also incorrect, in that the context of the above-referenced sentence in Hite is concerning



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appending commercials to specific programs “based on crude demographic assumptions” of the viewers of such programs. Ex. 1009, 1:26–35. Indeed, the first sentence of the very next paragraph reads as follows: “Target marketing is the answer. Deliver your commercial to only those who are the best prospects.” Ex. 1009, 1:36–37. The balance of Hite is then directed to implementing such “[t]arget marketing,” and we have analyzed above already how CID codes are based on customer profiles and demographics.

Thus, Petitioner has demonstrated adequately that Hite discloses the “predefined criteria data.”

*e. Conclusion*

Upon review of Petitioner’s evidence and analysis, and taking into account Patent Owner’s arguments and evidence, we determine that Petitioner has met its burden of showing, by a preponderance of the evidence, that independent claim 19 is anticipated by Hite.

*4. Dependent Claim 26*

Claim 26 depends from independent claim 19 and recites, in relevant part, “processing circuitry configured to dynamically merge the particular advertising data with digital media content that is pre-stored in said at least one storage device.” Ex. 1003, 49:6–9. The plain claim language unambiguously and expressly requires that it is the “digital media content” that must be “pre-stored.” Yet in addressing the limitation, the Petition represents, and Dr. Negus testifies, that Hite discloses “‘*particular advertising data*’ that is ‘pre-stored in said at least one storage device’ (prior to the ‘dynamic merging’ with ‘digital media content’),” because commercials targeted for a display site or consumer according to CID codes are stored in the RD or video storage device. Pet. 26 (emphasis added);

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Ex. 1008 ¶ 646 (emphasis added). These assertions that Hite’s system pre-stores what Petitioner identifies as the “*particular advertising data*,” targeted commercials selected using CID codes, fail to address or show adequately that Hite discloses “*digital media content that is pre-stored* in said at least one storage device,” as claim 26 explicitly requires.

Thus, we are unpersuaded that Hite discloses “digital media content that is pre-stored in said at least one storage device,” as recited in dependent claim 26. Accordingly, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claim 26 is anticipated by Hite.

#### 5. *Dependent Claim 32*

Dependent claim 32 recites “[t]he device of claim 19 . . . wherein said at least one addressable and reserved storage space is a partitioned area of a hard disk drive.” Ex. 1003, 49:55–58. Petitioner refers to Hite’s disclosures that its storage devices “can be . . . disks.” Pet. 27–28 (quoting Ex. 1009, 12:6–11; citing Ex. 1009, 10:44–49). Dr. Negus testifies that “‘disks’ at the alleged time of the invention of the ’94 patent were commonly known as ‘hard disk drives.’” Ex. 1008 ¶ 680 (emphases omitted). Petitioner and Dr. Negus represent that a person of ordinary skill in the art would, therefore, “have understood Hite to disclose the use of an entire ‘disk’ (or ‘hard disk’) as the ‘Video Storage Device’” or the RD. Pet. 28 (citing Ex. 1008 ¶ 680). Petitioner, with supporting testimony from Dr. Negus, further contends that “[w]hen the entire ‘hard disk’ storage space is undivided, it is within the broadest reasonable interpretation of the claimed ‘partitioned area of a hard disk drive.’” Pet. 28; Ex. 1008 ¶¶ 680, 683.

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We disagree. Based on Hite’s explanation that “[t]he storage devices used to implement” its system “can be . . . disks” as well as the evidence before us that “disks” or “hard disks” were known as “hard disks drives” at the relevant time, we agree with Petitioner that an ordinarily skilled artisan would have understood Hite to use an entire disk, hard disk, or hard disk drive for OVS Device 456 and for the RD. Ex. 1009, 10:44–49, 12:6–11; Ex. 1008 ¶ 680; *see* Ex. 3002 (MICROSOFT COMPUTER DICTIONARY (5th ed. 2002)), 246 (explaining, within definition of “hard disk,” that a “hard disk” is “[a]lso called: hard disk drive” and defining “hard disk drive” as “See hard disk” (emphases omitted)). We part ways with Petitioner, however, in its proffered conclusion that such an “entire,” “undivided” hard disk or hard disk drive falls within the ordinary meaning of “partitioned area of a hard disk drive.” Pet. 28; Ex. 1008 ¶¶ 680, 683; *see* Ex. 3001, 1087 (defining “partition” as “divide into parts”). The claim language expressly requires a “partitioned area of”—not a whole, entire, or undivided—hard disk drive. Thus, we disagree that an entire hard disk or hard disk drive constitutes the “partitioned area of a hard disk drive” required by claim 32.

Accordingly, we are unpersuaded that Hite discloses “wherein said at least one addressable and reserved storage space is a partitioned area of a hard disk drive,” as recited in dependent claim 32. Thus, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claim 32 is anticipated by Hite.

#### 6. *Independent Claim 33*

Independent claim 33 of the ’494 patent recites “a central control unit operably connected to an advertising data server.” Ex. 1003, 46:61–63. In addressing Hite’s alleged disclosure of this limitation, Petitioner identifies

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Hite's AAF 100 as the recited "advertising data server." *See, e.g.*, Pet. 31–32 ("AAF is an 'advertising data server'"); Ex. 1008 ¶¶ 707, 713. With respect to the recited "central control unit," Petitioner identifies two sets of components in Hite as meeting this element. First, Petitioner argues that Hite's "AAF [100] in combination with ATF [200] and MOF [300]" constitutes the "central control unit." Pet. 31; *see, e.g.*, Pet. 30 (annotated Figure 1); Pet. 42; Ex. 1008 ¶¶ 707, 713. Petitioner contends that in Hite, AAF 100 ("advertising data server") is operably connected to AAF 100 in combination with ATF 200 and MOF 300 ("central control unit") "by being comprised within the disclosed 'central control unit.'" Pet. 31–32; Ex. 1008 ¶¶ 707, 713. Second, the Petition can be read to identify Hite's AAF 100 alone as the "central control unit." *See, e.g.*, Pet. 42 ("central control unit (AAF)"); Pet. 32 (referring to "AAF deliver[ing] commercials" in discussing limitation requiring "a central control unit . . . in communication with . . . storage spaces").

Petitioner's identifications of the "central control unit" and the "advertising data server" in Hite are precluded by our interpretation of "a central control unit operably connected to an advertising data server," as discussed in our Order. In light of our conclusion that the recited "advertising data server" cannot be the same component or a sub-component of the "central control unit" within the meaning of the claim language, Hite's AAF 100 cannot be both the "central control unit" and "advertising data server" recited in claim 33. Nor can Hite's AAF 100, in combination with ATF 200 and MOF 300, be the "central control unit" and AAF 100, a sub-component or part thereof, be the "advertising data server."

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Therefore, we are unpersuaded that Hite discloses, “a central control unit operably connected to an advertising data server,” as recited in independent claim 33. Accordingly, Petitioner has not met its burden of showing, by a preponderance of the evidence, that independent claim 33 is anticipated by Hite.

7. *Dependent Claims 34–36 and 41*

Claims 34–36 and 41 each depend from independent claim 33. Ex. 1003, 50:14–62. Thus, the deficiencies discussed above with respect to Petitioner’s showing regarding claim 33 also apply to these claims. Petitioner’s specific arguments directed to the additional limitations of claims 34–36 and 41 do not cure the deficiencies. *See* Pet. 43–56. Accordingly, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claims 34–36 and 41 are anticipated by Hite.

8. *Summary*

In sum, for the reasons given, Petitioner has met its burden of showing, by a preponderance of evidence, that Hite anticipates claim 19 of the ’494 patent. Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claims 26, 32–36, and 41 are anticipated by Hite.

D. *Claims 19, 26, 32–36, and 41 as Obvious over Hite and Hill*

1. *Principles of Law*

Under 35 U.S.C. § 103(a), a patent claim is unpatentable as obvious if the claimed “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

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establish obviousness in an *inter partes* review, it is petitioner’s “burden to demonstrate both that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *In re: Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (citation and quotation omitted). A petitioner cannot satisfy this burden by “employ[ing] mere conclusory statements” and “must instead articulate specific reasoning, based on evidence of record” to support an obviousness determination. *Id.* at 1380. Stated differently, there must be “articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The “factual inquiry” into the reasons for “combin[ing] references must be thorough and searching, and the need for specificity pervades.” *In re Nuvasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016) (quotations and citations omitted). A determination of obviousness cannot be reached where the record lacks “explanation as to *how* or *why* the references would be combined to produce the claimed invention.” *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1066 (Fed. Cir. 2016); *see Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017) (holding obviousness determination improper where the record lacked a “clear, evidence-supported account of” “how the combination” would work).

## 2. *Hill (Ex. 1010)*

Hill discloses a storage device “partition[ed] . . . into a plurality of devices that have different access and storage characteristics.” Ex. 1010,

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[57], 2:47–51, 4:28–33. Hill provides for “automatic placement” of digital data on the partitioned device that best meets the storage characteristics of the data. Ex. 1010, [57], 1:8–11, 2:52–57, 8:15–20. In Hill, the storage characteristics of data are represented by its “access density” and are related to its “volume and frequency of access.” Ex. 1010, [57], 2:55–57, 4:36–57.

In one exemplary embodiment, Hill discloses, “disk storage device 20 including two disks 22 and 24,” with the surface of each disk “partition[ed]” into high access partition 40 and low access partitions 42, 44. Ex. 1010, 4:20–33, Figs. 3–4. Hill explains that the partitions are “defined to the system processor as two unique devices.” Ex. 1010, 7:9–12.

According to Hill, its storage technique “results in more cost effective data storage” and prevents bottlenecking, which occurs when a storage device receives access requests from a processor at a faster rate than the device can sustain and which often results in degradation of the rate at which data records are stored or retrieved. Ex. 1010, 1:13–17, 8:8–25.

### 3. *Independent Claim 19*

Petitioner contends that to the extent Hite does not disclose the “addressable and reserved storage space for storing the particular advertising data” of claim 19, the combination of Hite and Hill teaches this limitation. Pet. 56–58. Petitioner argues that Hill’s disclosure of a storage device with a high access partition that is “separately defined” as a “unique device[ ]” from a low access partition and that is “reserved for data with the same access density” as the data stored on the high access partition teaches an “addressable and reserved storage space” for storing digital data. Pet. 58; Ex. 1008 ¶ 598. Petitioner further asserts that Hite discloses storage of digital advertising data in a hard disk drive. Pet. 58; Ex. 1008 ¶ 598.

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Petitioner, with supporting testimony from Dr. Negus, argues that a person of ordinary skill in the art would have combined Hite’s system with Hill’s teaching of a high access partition in order to increase storage efficiency and address Hite’s goal of providing “advertisers with less waste and greater cost effectiveness.” Pet. 60; Ex. 1008 ¶ 599 (quoting Ex. 1009, 3:21–35; citing Ex. 1010, 4:54–57). According to Petitioner and Dr. Negus, one of ordinary skill would have had reason to combine Hite and Hill—using Hill’s “high access partition allocated for high access data storage” to “store the high access advertisement data of Hite”—to “yield[] the completely predictable and desirable result” of “decrease[d] read and write times of advertisement data stored in Hite’s” storage devices, including optional video storage device 456. Pet. 60, 65; Ex. 1008 ¶ 599; *see also* Tr. 107:10–15 (asserting the same).

Patent Owner argues Dr. Negus’ assertion that advertising data is “high access data” is unsupported (PO Resp. 25), and, rather, advertising data has such low priority that there may not be storage room available on the user’s local receiver for advertising (PO Resp. 25–26 (citing Ex. 1002 ¶ 12)). According to Patent Owner, “the idea that the programming would be lower access and the ads would be higher access just kind of doesn’t stand a common sense test.” Tr. 119:2–4. Patent Owner contends that, although Hite teaches substituting preemptable commercials, Hite is silent regarding “preemptable time slots” and does not suggest a time bottleneck in substituting commercials. Prelim. Resp. 33–34.

Patent Owner further argues a person of ordinary skill in the art would not have been motivated to combine Hite with Hill, because there would be no benefit to combine the references and because the references are non-



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analogous art. PO Resp. 39–43. Patent Owner’s expert, Dr. Kesan, states there is no benefit to combining Hite with Hill, because all broadcast data needs to be accessed at the same speed. PO Resp. 40–41; Ex. 2003, App’x C ¶¶ 268–269; *see also* Tr. 119:5–10 (asserting the same). Patent Owner asserts that, assuming Hite’s storage device contains only advertising data, using the high access section for advertising data results in wasted storage space because the low access partition would be empty. PO Resp. 41–42; *see also* Tr. 119:21–120:5 (asserting the same).

Petitioner responds that Patent Owner has not effectively rebutted the evidence provided by Dr. Negus, which “makes it clear that a POSITA would have looked to Hill’s high access partition to further address an issue identified by Hite to increase storage efficiency and accomplish the object of providing ‘advertisers with less waste and greater cost effectiveness in delivering their messages only to those consumers.’” Pet. Reply 17–18; Ex. 1008 ¶ 599 (citing Ex. 1009, 3:21–35; Ex. 1010, 4:54–57).

We agree with Patent Owner that Petitioner’s proffered rationale for combining Hite with Hill is not adequately supported by the record. Specifically, we agree with Patent Owner that Petitioner’s assertion that advertising data is “high access” data is a conclusory statement that fails to “articulate specific reasoning, based on evidence of record” to support an obviousness determination. *In re: Magnum Oil Tools Int’l, Ltd.*, 829 F.3d at 1380. Although Hite discusses preempting broadcast commercials with stored commercials at broadcast breaks (*see* Ex. 1009, 7:24–30), Petitioner does not cite any portion of Hite, or provide any evidence at all, that explains how frequently the advertising data would have been accessed.

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Accordingly, because Petitioner has not shown adequately that it would have been obvious to one of ordinary skill in the art to combine Hite and Hill to arrive at “addressable and reserved storage space for storing the particular advertising data,” as recited in independent claim 19, we are unpersuaded that Petitioner has met its burden of showing, by a preponderance of the evidence, that independent claim 19 is obvious over Hite and Hill.

4. *Dependent Claim 26*

None of Petitioner’s assertions concerning dependent claim 26 are set forth as relevant to the aforementioned limitations of independent claim 19. *See* Pet. 58. Thus, for the same reasons discussed above with respect to independent claim 19, Petitioner has not met its burden of demonstrating that dependent claim 26 is obvious in view of Hite and Hill.

5. *Dependent Claim 32*

None of Petitioner’s assertions concerning dependent claim 32 are set forth as relevant to the aforementioned limitations of independent claim 19. *See* Pet. 58. Petitioner further contends that, “[t]o the extent that the Board finds that Hite does not disclose the ‘partitioned area of a hard disk drive’ of claim 32, Hill discloses this element,” and relies on the discussion of Hill’s high and low access partitions to teach this limitation. Pet. 58–59. As discussed above with respect to claim 19, Petitioner has not adequately shown it would have been obvious to one of ordinary skill in the art to combine Hite and Hill. For the same reasons, we are unpersuaded that Petitioner has met its burden of showing, by a preponderance of the evidence, that claim 32 is obvious over Hite and Hill.

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6. *Independent Claim 33 and Dependent Claims 34–36 and 41*

Petitioner challenges claims 33–36 and 41 as obvious over Hite and Hill. Pet. 56–60. In each of these asserted obviousness grounds, Petitioner relies on its showing in the asserted anticipation ground that Hite allegedly discloses independent claim 33’s limitation “a central control unit operably connected to an advertising data server.” Pet. 29, 56–59. Petitioner does not rely on Hill to address this limitation.

As explained above in our analysis of the asserted anticipation ground, Petitioner has not demonstrated that Hite discloses, “a central control unit operably connected to an advertising data server,” as recited in claim 33. For the same reasons, Petitioner has not shown sufficiently that Hite teaches, suggests, or otherwise would have conveyed this limitation to a person of ordinary skill in the art. Petitioner’s arguments regarding the asserted grounds of obviousness over Hite and Hill do not cure this deficiency. Pet. 56–60.

Accordingly, we are unpersuaded that Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 33–36 and 41 are obvious over Hite and Hill.

7. *Summary*

In sum, for the reasons given, Petitioner has not met its burden of showing, by a preponderance of the evidence, that claims 19, 26, 32–36, and 41 are obvious over Hite and Hill.

E. *Claims 26 and 32 as Obvious over Hite and Baji*

1. *Baji (Ex. 1025)*

Baji discloses a broadcast system that can insert a commercial into a program. Ex. 1025, 3:30–49, 3:64–4:12. In one embodiment, the system

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includes subscriber system 115 with “commercial buffer 160 for temporarily stor[ing] . . . a commercial” and “program buffer 161 for providing a wait time associated with a video signal from the video data base for . . . commercial insertion.” Ex. 1025, 8:7–34, Fig. 1–2. Mixer 162 reads video data from commercial buffer 160 and program buffer 161 according to an index, which includes a commercial insertion sequence. Ex. 1025, 8:34–40, Fig. 1–2. When the index indicates a commercial insertion point, mixer 162 stops the read operation on program buffer 161 and reads a commercial from commercial buffer 160. Ex. 1025, 9:3–10. Mixer 162 “mixe[s]” the program (e.g., motion picture) and commercials, and passes “a composite or mixed signal” to television monitor 114 for display. Ex. 1025, 8:34–45, 9:3–16.

In another embodiment, Baji explains that control information transmitted from a subscriber initiates video recorder 133, “thereby recording the programs and commercials.” Ex. 1025, 13:26–55, Figs. 17A–B.

## 2. *Claim 26*

Petitioner contends that, to the extent Hite does not disclose claim 26’s limitation reciting “processing circuitry configured to dynamically merge the particular advertising data with digital media content that is pre-stored in said at least one storage device for presenting the particular advertising to the at least one end user during playback of the digital media content,” Baji teaches this limitation. Pet. 60–63. Petitioner asserts Baji teaches mixer 162 (“processing circuitry”) dynamically merges commercials, stored in commercial buffer 160, with a broadcast program (“digital media content”), pre-stored in program buffer 161, to display the

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commercials to the viewer during the program. *Id.*; Ex. 1025, 8:7–45, 9:3–16; Ex. 1008 ¶¶ 654–55.

Patent Owner contends “pre-stored” content includes video on demand and similar functionality, where content is stored on long-term memory storage for later playback. PO Resp. 44–45 (citing Ex. 1003, 42:57–43:9, 44:22–25, 45:47–53). According to Patent Owner, Baji’s buffers do not “pre-store” content, but rather, the buffers temporarily hold data to allow for processing to immediately display the content. PO Resp. 45 (citing Ex. 1025, 8:31 and Ex. 2003, App’x C ¶ 104). In response, Petitioner asserts that claim 26 does not require that “the ‘pre-storage’ be for a particular time period or end in response to a user action.” Pet. Reply 19–20. We agree with Petitioner. The plain meaning of “pre-storage” in claim 26 merely requires storing data for some period of time before playback. Ex. 1003, 49:6–11. Baji teaches “the program content is pre-stored in the program buffer for a specified delay or ‘wait’ time,” and we agree with Petitioner that this is a sufficient teaching of “pre-stored” content. Pet. Reply. 19 (citing Ex. 1008, ¶ 654).

Patent Owner further contends that Baji’s buffers store only analog data, not the digital data required by claim 26. PO Resp. 46–48 (citing Ex. 1025, 10:49–63). Petitioner replies, and we agree, that Hite teaches the “digital multimedia data” limitation, and Baji was relied upon to teach the concept of a buffer that pre-stores content data for dynamic merging with advertising data during playback. Pet. Reply 20. We agree with Petitioner that a person of ordinary skill in the art at the time of the ’494 patent would have recognized the ability to use Baji’s data buffering concept to pre-store

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digital content. *See KSR* 550 U.S. at 421 (A person of ordinary skill is a person of ordinary creativity, not an automaton.).

Turning to the alleged rationale to combine, Petitioner asserts that one of ordinary skill in the art would have had reason to combine Hite and Baji, both of which are directed to inserting advertisements into a program for display to a user. Pet. 64 (citing Ex. 1008 ¶ 656.) Petitioner, with supporting testimony from Dr. Negus, represents that Baji’s pre-storage of program content in the program buffer provides the benefit of “allow[ing] the mixer time to process and combine the program content with commercial content” in order to “merg[e]” the program and commercials “into a seamless video stream” for display. Pet. 62 (citing Ex. 1008 ¶ 654). Thus, according to Petitioner, an ordinarily skilled artisan would have incorporated Baji’s teaching of merging pre-stored advertising and program content, into Hite’s system, “to avoid delays associated with downloading the content” and that such delay avoidance would have been the “predictable and desirable result” of the combination. Pet. 64 (citing Ex. 1008 ¶ 656).

Patent Owner argues a skilled artisan would not have been motivated to combine the buffer of Baji with the Hite system because Hite uses a switch to insert commercials in broadcast breaks, which is different than the mixer system used in Baji. PO Resp. 49–50 (citing Ex. 1009, 6:27–39, 7:42–51; Ex. 1008 ¶ 654). Further, Patent Owner contends “delays associated with downloading the content” is not a concern in Hite and, regardless, would not be solved by the buffers of Baji. PO Resp. 50 (citing Ex. 1008 ¶ 656).

Petitioner replies that, despite a lack of discussion in Hite regarding “delays associated with downloading the content,” the rationale to combine

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the references “need not be found expressly in the prior art itself but may be explained by the fact finder using common sense.” Pet. Reply 20–21 (citing *KSR*, 550 U.S. 398 at 402). Petitioner asserts that Patent Owner has not effectively rebutted the evidence provided by Dr. Negus that it would have been obvious to combine the features of Hite and Hill. Pet. Reply 21 (citing Ex. 1008 ¶¶ 656, 694).

Even considering Patent Owner’s arguments, we agree with Petitioner, which has provided “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness,” specifically that using a data buffer is a known method of avoiding delays when downloading and displaying data. Pet. 64–65 (citing Ex. 1008 ¶¶ 656, 694); *see KSR*, 550 U.S. at 417–18 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). In particular, we are unclear as to why Hite’s use of a switch system precludes the use of the mixer system of Baji. Further, we are unpersuaded that the fact that Hite does not disclose delays in downloading content indicates that such delays do not exist. Thus, we agree with Petitioner that a skilled artisan would have combined the buffer of Baji with the Hite system for the reasons stated.

After considering Petitioner’s and Patent Owner’s positions, as well as their supporting evidence, we determine that, by a preponderance of the evidence, Petitioner has shown that the limitations of claim 26 are taught by the combination of Hite and Baji.

*a. Secondary Considerations*

Patent Owner asserts objective secondary considerations of nonobviousness indicate claim 26 is not obvious over Hite and Baji.

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PO Resp. 54–59 (citing Ex. 2003, App’x C ¶¶ 701–18). Petitioner disagrees.  
Pet. Reply 22–23 (citing Ex. 1029, App’x A).

*i. Principles of Law*

Factual inquiries for an obviousness determination include secondary considerations based on objective evidence of non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Notwithstanding what the teachings of the prior art would have suggested to one of ordinary skill in the art at the time of the invention, the totality of the evidence submitted, including objective evidence of non-obviousness, may lead to a conclusion that the challenged claims would not have been obvious to one of ordinary skill in the art. *In re Piasecki*, 745 F.2d 1468, 1471–72 (Fed. Cir. 1984).

We note that it is not sufficient that a product or its use merely be within the scope of a claim in order for objective evidence of nonobviousness tied to that product to be given substantial weight. There must also be a causal relationship, termed a “nexus,” between the evidence and the claimed invention. *Merck & Co. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1376 (Fed. Cir. 2005). A nexus is required in order to establish that the evidence relied upon traces its basis to the merits of the claimed invention or the feature that distinguishes over the prior art, not to something in the prior art. *Institut Pasteur & Universite Pierre Et Marie Curie v. Focarino*, 738 F.3d 1337, 1347 (Fed. Cir. 2013). Objective evidence that results from something that is not both claimed and a feature that distinguishes over the prior art, lacks a nexus to the merits of the invention. *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011).

All types of objective evidence of nonobviousness must be shown to have nexus. *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995) (nexus



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generally); *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996) (commercial success); *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1364 (Fed. Cir. 2012) (copying); *Rambus Inc. v. Rea*, 731 F.3d 1248, 1256 (Fed. Cir. 2013) (long-felt need); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008) (praise). The stronger the showing of nexus, the greater the weight accorded the objective evidence of non-obviousness. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 306 (Fed. Cir. 1985).

“Where the allegedly obvious patent claim is a combination of prior art elements, . . . the patent owner can show that it is the claimed combination as a whole that serves as a nexus for the objective evidence.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1330 (Fed. Cir. 2016) (citing *Rambus*, 731 F.3d at 1258). “[T]here is a presumption of nexus for objective considerations when the patentee shows that the asserted objective evidence is tied to a specific product and that product ‘is the invention disclosed and claimed in the patent.’” *WBIP*, 829 F.3d at 1329. Secondary consideration evidence is accorded less weight for claims that are considerably broader than the particular features in the asserted evidence. *See ClassCo, Inc. v. Apple*, 838 F.3d 1214, 1221–22 (Fed. Cir. 2016).

*i. Nexus*

Patent Owner does not address directly the nexus between the asserted objective evidence and claim 26. *See generally* PO Resp. 54–59 (citing Ex. 2003, App’x C ¶¶ 701–18). Patent Owner’s evidence generally refers to “an advanced, addressable TV advertising system as described and claimed by the ’494 Patent” (PO Resp. 55), and discusses the difficulty in the industry in sustaining scalable, addressably-targeted TV advertising (*Id.* at

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58). Patent Owner, however, does not provide any further details with respect to specific limitations for any claims, whether independent claim 19 or dependent claim 26. Petitioner argues there is no nexus between Patent Owner's evidence of secondary considerations and any claim, whether independent claim 19 or dependent claim 26. Pet. Reply 23 (citing Ex. 1029 ¶ 9).

We agree with Petitioner. “[T]here is no nexus unless the evidence presented is reasonably commensurate with the scope of the claims.” *ClassCo, Inc.*, 838 F.3d at 1220 (citations and quotations omitted). Patent Owner's objective evidence consists of Patent Owner's technical expert, Dr. Kesan, opining on the report of a marketing and advertising expert, Mr. Timothy Hanlon.<sup>7</sup> See Ex. 2003, App'x C ¶¶ 701–18. Patent Owner does not point out, nor can we find, any discussion by either Dr. Kesan, or Mr. Hanlon, for that matter, as to how the objective evidence of long-felt need, failure of others, or industry skepticism is tied to specific features of claim 26. Patent Owner only offers is a general statement concerning “an advanced, addressable TV advertising system as described and claimed by the '494 Patent.” PO Resp. 55. And unlike for an undisputed mapping a claim to a product, for which our reviewing court has accepted such terse, general statements, *Polaris Indus., Inc. v. Arctic Cat, Inc.*, 882 F.3d 1056, 1073 (Fed. Cir. 2018), we are unpersuaded that Patent Owner is similarly entitled to a presumption of nexus where the secondary considerations at issue involve long felt need, failure of others, or industry skepticism, where

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<sup>7</sup> We note that Patent Owner neither entered the referenced report as evidence in this proceeding, nor provided a declaration from Mr. Hanlon.

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comparisons to the claim limitations are much more difficult to perform. Accordingly, based on the evidence before us, we are not persuaded that Patent Owner has met its burden of showing that it is entitled to a presumption of nexus between the objective evidence of non-obviousness and the challenged claim. For completeness, however, we address substantively Patent Owner's objective evidence of non-obviousness.

*ii. Long-Felt Need*

Establishing long-felt need requires objective evidence that an art-recognized problem existed in the art for a long period of time without solution. In particular, the evidence must show that the need was a persistent one that was recognized by those of ordinary skill in the art. *In re Gershon*, 372 F.2d 535, 539 (CCPA 1967). The long-felt need must not have been satisfied by another before the invention. *Newell Co. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988). Finally, the invention must satisfy the long-felt need. *In re Cavanagh*, 436 F.2d 491, 496 (CCPA 1971). When determining the amount of weight to afford the objective evidence, we must take “into account the degree of the connection between the features presented in evidence and the elements recited in the claims.” *ClassCo, Inc.*, 838 F.3d at 1221.

Patent Owner and Dr. Kesan assert that, according to Mr. Hanlon, the need for an advanced, addressable TV advertising system, as claimed in the '494 patent, existed as early as the mid-1970s. Ex. 2003, App'x C ¶ 704. Mr. Hanlon discusses the history of interactive TV services, where “each featur[ed] some kind of ‘advanced’ targeted advertising component or mechanism.” Ex. 2003, App'x C ¶ 707. Petitioner argues Patent Owner has

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not demonstrated a long-felt need specifically for the alleged inventions described in the claims of the '494 patent. Ex. 1029 ¶¶ 6–13.

As an initial matter, we note that Patent Owner's analysis regarding long-felt need is difficult to evaluate and amorphous. For example, Patent Owner uses words such as "advanced." "Advanced" is a term of comparison. Patent Owner has not articulated clearly, however, what the claimed invention is supposed to be compared to. Even if we take at face value the above need for an "advanced, addressable TV advertising system," we are unclear as to how the advertising device of claim 26 satisfies that alleged long-felt need. Indeed, the only difference we can ascertain between the purported historical "targeted advertising" and the alleged need is the "addressable" feature, however, Patent Owner has not identified any specific limitation, especially for claim 26, that corresponds to that feature.<sup>8</sup> We are unable to identify any limitation specific to claim 26 that could be considered relevant to any "addressable" feature, and note further that Baji is cited only for the "dynamically merge the particular advertising data with [digital] media content that is pre-stored" limitation (Pet. 60–63), which we find unrelated to "addressable." Further, we note that Patent Owner's objective evidence consists of a technical expert opinion on a marketing expert's report, which is not, itself, evidence in the current record. We find

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<sup>8</sup> Moreover, insofar as any such feature is recited in independent claim 19, we have determined above that independent claim 19 is anticipated by Hite, indicating that any such feature recited in independent claim 19 alone, and any problem it solves, was already in the prior art. *Newell Co.*, 864 F.2d at 768.

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that relying on such a chain of evidence is questionable, at best, and, thus, entitled to little weight.

Considering the factors discussed above, particularly the lack of connection between the features presented in Patent Owner’s evidence and the elements explicitly recited in claim 26, we determine that Patent Owner’s evidence of long-felt need is entitled to little weight.

*iii. Failure of Others*

We next evaluate the strength of Patent Owner’s evidence concerning failure of others “to develop and scale long-term addressably-targeted TV advertising solutions.” PO Resp. 58–59 (citing Ex. 2003, App’x C ¶¶ 715–18). Objective evidence of failure of others requires establishing “the widespread efforts of skilled workers having knowledge of the prior art had failed to find a solution to the problem.” *In re Allen*, 324 F.2d 993, 997 (CCPA 1963).

Patent Owner cites to excerpts of Mr. Hanlon’s testimony, which alleges “a ‘long string of broken promises made by’ Warner QUBE interactive cable TV, Time Warner Cable’s Full Service Network, Wink, ACTV, Liberty Media-owned OpenTV, and others, ‘dashed [the] hopes of . . . marketers [and] bred continued caution and wariness among principals in the ad industry.’” Ex. 2003, App’x C ¶ 716. Patent Owner asserts these “‘failed attempts of others in the advanced television industry . . . continually inhibited the broader adoption of addressably-targeted TV advertising by the marketers and agencies that have desired it most.’” Ex. 2003, App’x C ¶ 717. In response, Petitioner argues the systems cited by Patent Owner should not be considered failures, and asserts evidence of market success for those systems. Ex. 1029 ¶¶ 21–30.

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We agree with Petitioner. Patent Owner has failed to identify any specific limitation, especially for claim 26 specifically, that corresponds to developing and scaling long-term addressably-targeted TV advertising. Patent Owner characterizes the alleged failure of others as inhibiting “the *broader* adoption of addressably-targeted TV advertising,” which appears to actually indicate that there was at least some level of adoption for those addressably-targeted TV advertising systems, and weighs against a finding of the failure of others. In particular, Patent Owner does not cite any specific evidence to support Mr. Hanlon’s position concerning the commercial failure of the cited TV systems, for example, the lack of subscribers or operating losses. *See generally* Ex. 2003, App’x C ¶¶ 715–18. Furthermore, Petitioner rebuts Patent Owner’s assertions by providing evidence of thousands of subscribers for various systems cited by Patent Owner. Pet. Reply 22–23 (Ex. 1029 ¶¶ 21–30).

Accordingly, in view of Patent Owner’s lack of persuasive evidence as to the failure of the cited TV systems, and the lack of connection between the features presented in Patent Owner’s evidence and the elements explicitly recited in claim 26, we determine that Patent Owner’s evidence of failure of others is entitled to little weight.

*iv. Industry Skepticism*

Finally, we evaluate Patent Owner’s objective evidence of industry skepticism regarding “the long-term viability and sustainability of addressable TV advertising.” PO Resp. 57–58 (citing Ex. 2003, App’x C ¶¶ 711–14). “If industry participants or skilled artisans are skeptical about whether or how a problem could be solved or the workability of the claimed solution, it favors non-obviousness.” *WBIP*, 829 F.3d at 1335.

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Patent Owner offers Mr. Hanlon’s testimony that relatively few advertisers used the QUBE and ACTV targeted advertising systems, and, as of 1999, advertisers still had their doubts about addressable TV advertising systems. Ex. 2003, App’x C ¶ 713. Petitioner responds that, even if there was a “deficiency in enthusiasm” for the cited TV systems, Patent Owner has not demonstrated industry skepticism specifically for the alleged inventions described in the claims of the ’494 patent. Ex. 1029 ¶¶ 14–20. Similar to our discussion above regarding long-felt need and failure of others, Patent Owner has not established a sufficient connection between the features presented in the evidence of industry skepticism and the elements explicitly recited in claim 26, and, thus, we determine that this objective evidence of skepticism is entitled to little weight.

v. *Overall Weighing of Relevant Factors Concerning Obviousness, Including Secondary Considerations*

We now weigh Patent Owner’s evidence of secondary consideration in conjunction with the other factors relevant to obviousness for dependent claim 26. In summary, we find, for the reasons set forth above, that the targeted advertising system of Hite discloses all of the limitations of dependent claim 26, with the exception of “processing circuitry configured to dynamically merge the particular advertising data with digital media content that is pre-stored in said at least one storage device.” For that, we find that it would have been well within the abilities and knowledge of one of ordinary skill in the art, at the time of the claimed invention, to modify the system of Hite to include the pre-storage buffer of Baji in order to avoiding delays when downloading and displaying data. We find further that Petitioner has identified overwhelming evidence, both in Baji and from Dr. Negus, that the modification itself, as well as the rationale for the

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modification, were well-known to one of ordinary skill in the art, at the time of the invention. Against the above findings concerning Hite and Baji, we weigh Patent Owner's evidence of secondary considerations, each of which we have analyzed above and determined Patent Owner's evidence of (1) long-felt need; (2) failure of others, and (3) industry skepticism, individually and in the aggregate, is weak and entitled to little weight.

Overall, upon weighing the factors, we determine that the weak evidence of secondary considerations is insufficient to outweigh our strong finding that Hite, as modified by the on-point disclosures of Baji and the rationale provided by Petitioner, accounts for every limitation of dependent claim 26. Accordingly, we determine that claim 26 would have been obvious in view of Hite and Baji, as discussed above.

*b. Conclusion*

For the foregoing reasons, Petitioner has met its burden of showing, by a preponderance of the evidence, that dependent claim 26 is unpatentable over Hite and Baji.

*3. Claim 32*

We determined above that Petitioner fails to show sufficiently that Hite discloses claim 32's requirement of "a partitioned area of a hard disk drive." For the same reasons, Petitioner does not demonstrate adequately that Hite teaches or suggests this limitation. The Petition's<sup>9</sup> analysis of this asserted ground of obviousness over Hite and Baji does not proffer Baji as disclosing, teaching, or suggesting any limitation of claim 32 other than the

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<sup>9</sup> To the extent Dr. Negus's declaration states opinions not presented in the Petition, they are not entitled to consideration. *See* Ex. 1008 ¶ 687; 37 C.F.R. § 42.6(a)(3).



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“digital video recorder.” Pet. 60, 63–64. Thus, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claim 32 is unpatentable over Hite and Baji.

#### 4. *Summary*

In sum, for the reasons given, Petitioner has met its burden of showing, by a preponderance of evidence, that Hite and Baji render obvious claim 26 of the '494 patent. Petitioner has not met its burden of showing, by a preponderance of the evidence, that Hite and Baji render obvious claim 32 of the '494 patent.

#### F. *Claims 26 and 32 as Obvious over Hite, Hill, and Baji*

Patent Owner asserts that, to the extent that Hite and Hill do not sufficiently teach the limitations of claims 26 and 32, Baji teaches the additional limitations. Pet. 65–66. However, the deficiencies discussed above with respect to Petitioner’s showing of obviousness for claim 19, over Hite and Hill, also apply to claims 26 and 32 that depend therefrom. Petitioner’s additional contentions directed to Baji and claims 26 and 32 do not cure the deficiencies for claim 19, and, therefore, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claims 26 and 32 are obvious over Hite, Hill, and Baji.

#### G. *Claim 41 as Obvious over Hite and Barton, or Hite, Hill, and Barton*

Claim 41 depends from independent claim 33. Ex. 1003, 50:55–62. Thus, the deficiencies discussed above with respect to Petitioner’s showing regarding claim 33, as anticipated by Hite alone and obvious in view of Hite and Hill, also apply to this claims. Petitioner’s specific arguments directed to Barton and the additional limitations of claim 41 do not cure these deficiencies. *See* Pet. 66–68.

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Accordingly, Petitioner has not met its burden of showing, by a preponderance of the evidence, that dependent claim 41 is obvious over Hite, Hill, and Barton.

### III. CONCLUSION

Petitioner has met its burden of showing, by a preponderance of the evidence, that claims 19 and 26 of the '494 patent are unpatentable. Petitioner has not met its burden of demonstrating, by a preponderance of the evidence, that claims 32–36 and 41 of the '494 patent are unpatentable.

### IV. ORDER

Accordingly, it is:

ORDERED that claims 19 and 26 of the '494 patent are held unpatentable;

FURTHER ORDERED that claims 32–36 and 41 of the '494 patent are not held patentable on the grounds set forth in this proceeding; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the Decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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