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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/029,120	09/17/2013	Ye-Kui Wang	1212-604US01/124488U2	5073
15150	7590	09/23/2019	EXAMINER	
Shumaker & Sieffert, P. A. 1625 Radio Drive, Suite 100 Woodbury, MN 55125			ITSKOVICH, MIKHAIL	
			ART UNIT	PAPER NUMBER
			2483	
			NOTIFICATION DATE	DELIVERY MODE
			09/23/2019	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte YE-KUI WANG

Appeal 2018-000303
Application 14/029,120
Technology Center 2400

Before JOSEPH L. DIXON, THU A. DANG, AND JOHN P. PINKERTON,
Administrative Patent Judges.

DIXON, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–8, 10–16, 18–25, 27–33, and 35–38, which constitute all the claims pending in this application. Final Act. 1. Claims 9, 17, 26, and 34 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to “Applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as QUALCOMM Incorporated. App. Br. 1.

CLAIMED SUBJECT MATTER

The claims are directed to an indication of frame-packed stereoscopic 3D video data for video coding. Claims 1 and 10, reproduced below, are illustrative of the claimed subject matter:

1. A method for decoding video data, the method comprising:

receiving, with video decoder circuitry, video data;

receiving, with the video decoder circuitry, an indication that indicates whether any pictures in the received video data contain frame-packed stereoscopic 3D video data, wherein the frame-packed stereoscopic 3D video data is 3D video data that includes a half resolution version of a right view frame and a half resolution version of a left view frame, wherein the indication is received in at least one of a profile syntax, a tier syntax, or a level syntax, and wherein the profile syntax, the tier syntax, or the level syntax specify limits on the capabilities needed to decode the video data;

decoding, with the video decoder circuitry, the indication prior to decoding the received video data; and

decoding, with the video decoder circuitry, the received video data in accordance with the received indication and in accordance with a capability of the video decoder circuitry to decode the frame-packed stereoscopic 3D video data, including:

decoding, with the video decoder circuitry, the received video data in the case that the indication specifies that there are one or more pictures in the received video data that contain frame-packed stereoscopic 3D video data and the video decoder circuitry is capable of decoding frame-packed stereoscopic 3D video data.

10. A method for encoding video data, the method comprising:

encoding, with video encoder circuitry, video data;

generating, with the video encoder circuitry, an indication that indicates whether any pictures in the encoded video data contain frame-packed stereoscopic 3D video data, wherein the frame-packed stereoscopic 3D video data is 3D video data that includes a half resolution version of a right view frame and a half resolution version of a left view frame, wherein the indication is generated in at least one of a profile syntax, a tier syntax, or a level syntax, and wherein the profile syntax, the tier syntax, or the level syntax specify limits on the capabilities needed to decode the video data; and

signaling the indication in an encoded video bitstream.

REFERENCES

The prior art relied upon by the Examiner is:

Yun et al.	US 2003/0095177 A1	May 22, 2003
Kikuchi et al.	US 7,010,032 B1	Mar. 7, 2006

REJECTIONS

Claims 18–36 stand rejected under 35 U.S.C. § 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.²

² We note that some of the indicated claims have been canceled. Also, the Examiner withdrew the § 112, second paragraph, rejection of claims 18–34, but maintains the rejection of claims 35 and 36. (Ans. 9).

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Claims 1–8, 10–16, 18–25, 27–33, and 35–38 stand rejected under 35 U.S.C. § 101 as being directed toward non-statutory subject matter.

Claims 1–8, 10–16, 18–25, 27–33, 35, and 36 stand rejected under pre-AIA 35 U.S.C. § 102(b) or in the alternative under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Yun.

Claims 37 and 38 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Yun in view of Kikuchi.

OPINION

35 U.S.C. § 112, second paragraph

With respect to independent claims 35 and 36, the Examiner maintains that independent claims 35 and 36 are drafted using functional limitations and require interpretation of these functional limitations in view of the corresponding structure, acts, or materials as disclosed in the specification for a proper interpretation and to particularly point out and distinctly claim to the claimed invention. The Examiner maintains that, the written description fails to disclose the corresponding structure, acts, or material for the claimed function and therefore do not particularly point out and distinctly claim the invention. (Final Act. 8–10; *see also* Ans. 14 – 15).

Appellant concedes that the Examiner is correct with the interpretation under 35 U.S.C. § 112, sixth paragraph.³ (App. Br. 15). Appellant identified paragraph 45 of the Specification as providing written description support for the corresponding “means” limitations in

³ We note that Appellant addresses the rejections based on post-AIA statutes, but the application was filed on September 17, 2013 and tclaims the benefit of two provisional applications filed in September 2012. Therefore, the application in this appeal is evaluated under pre-AIA statutes.

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independent claims 35 and 36. Appellant contends that paragraph 45 of Appellant's Specification describes example circuits which may be used for video decoder 30 and therefore, "at least one corresponding structure for Appellant's claimed means is a special purpose computer." (App. Br. 16). Appellant further argues that "Appellant's specification clearly recites well understood structures that may be configured to perform the features [of] claim 35 (e.g., video decoder 30)."⁴ (App. Br. 16).

Accordingly, we look to Appellant's Specification to determine whether there is sufficient structure to support the recited functions. We agree with the Examiner that a generic processor and disclosed does not provide sufficient structure to perform each of the recited functions.

Appellant does not dispute the Examiner's finding of functional limitations, and Appellant also contends that the rejection of claims 35 and 36 under 35 U.S.C. § 112, sixth paragraph has been withdrawn. (Reply Br. 4).

The Examiner provides a further detailed response regarding paragraph 45 of the Specification. (Ans. 14–15).

We have reviewed paragraph 45 of the Specification identified by Appellant and disagree with the Appellant that the originally filed

⁴ We further note that with regards to the patent eligibility rejection, Appellant contends "claim 1 recites more than well-understood, routine and conventional elements and, instead, recites a specific technique that confines the claim to a particular application without seeking to pre-empt all techniques for analyzing and formatting data." (App. Br. 28; *see also* Ans. 15). The Examiner maintains "Appellant argues that the claimed means have a structure well understood in the art, then the claims are not eligible under section [] 101 (abstract idea applied to what is well established in the art) and under sections 102/103 (subject matter admitted as known in the art)." (Ans. 15).

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Specification discloses the specific algorithm(s) for accomplishing the various functional “means” recited in the language of independent claims 35 and 36.

In the Reply Brief, Appellant contends that its argument that “video decoder” and “video decoder circuitry” are within a broad class of structures that are well-understood in the art of video coding is not an admission that the structures and processes recited in Appellant’s claims are known. Appellant also contends that Appellant’s Specification and claims are replete with a description of an algorithm that detail how video decoding circuitry may be configured to decode video data, including how video decoding circuitry may decode video data in accordance with the techniques of this disclosure. Appellant also argues that the claims are directed to both processes as well as a special purpose computer configured to implement the disclosed algorithm. (Reply Br. 6–7).

But Appellant does not specifically identify where the video decoding/encoding is specifically disclosed in the Specification so as to make the processes special purpose computers. (*See* Reply Br. 6).

Appellant specifically identifies, in the Summary of the Claimed Subject Matter, that “video decoder 30 as shown in FIG. 4 and described, for example in paragraph [0045], [0098]-[0104], and [0109]-[0113] of Appellant’s specification as filed.”⁵ (App. Br. 6).

⁵ Additionally, we note that Appellant’s corresponding disclosure for the encoder in independent claim’s 36 corresponds to “the means for encoding video data is video encoder 20 as shown in FIG. 3 and described, for example in paragraph [0045], [0084]–[0097], and [0105]–[0108] of Appellant’s Specification as filed. In addition, the disclosed structure corresponding to the means for generating an indication is video encoder 20. The disclosed structure corresponding to the means for signaling the

We find these identified paragraphs contain a detailed block diagram of numerous additional elements with none of their underlying corresponding disclosures so as to determine whether all of the corresponding blocks are necessary or whether any specific combination thereof would be included in the claimed invention. Consequently, Appellant's correlation does not identify the corresponding structure, acts, or materials to particularly point out and distinctly claim the invention.

We find Appellant provides a general argument and does not identify how the claimed invention particularly points out and distinctly claims the invention of claims 35 and 36. It is well settled that mere attorney arguments and conclusory statements, which are unsupported by factual evidence, are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *see also In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974) (attorney argument is not evidence).

Alternatively, if we find that the claimed encoding and decoding were conventional as Appellant contends, but the Specification does not further detail any algorithm for these well-known functions, the use of the functional claim language under 35 U.S.C. §112, sixth paragraph would still be deficient because the skilled artisan would not know the scope of which of any of the well-known corresponding algorithms to interpret the claim. Additionally, if Appellant contends that the scope of the claim would cover any and all known algorithms, then we find that the use of functional claiming would be inappropriate due to the lack of inclusion in the

indication is video encoder 20.” Therefore, all of the “means” limitations correspond to the video encoder 20, which may have any combination of black boxes shown in Figure 3 without further detail thereto.

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written description of the corresponding disclosure as required by § 112, sixth paragraph.

However, the Federal Circuit has held that corresponding structure may be sufficiently disclosed in the form of an algorithm. *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1348 (“A general purpose computer, or microprocessor, programmed to carry out an algorithm creates ‘a new machine, because a general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.’” (quoting *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994))). The Specification’s disclosure that the system may be implemented using computer programs suggests the claimed “means” may simply be software executing on generic computer components, which, without specific programming, are not capable of performing each of the recited functions. *See* Spec. ¶ 0116 “instructions may be executed by one or more processors, such as one or more digital signal processors (DSPs), general purpose microprocessors;” 28 “Source device 12 and destination device 14 may comprise any of a wide range of devices, including desktop computers;” *see also* Spec. ¶¶ 13–15, 45, 114 discussing “processors.”

The “means” in claim 35 “recites ‘function without reciting sufficient structure for performing that function,’” because Appellant’s system is unable to perform the recited function without specific programming. *Williamson*, 792 F.3d at 1349 (quoting *Watts*, 232 F.3d at 880). None of the identified disclosures describe details (e.g., an algorithm or other corresponding structure) on how to perform each of the recited functions. *Williamson*, 792 F.3d at 1352 (“Even if the specification discloses corresponding structure, the disclosure must be of ‘adequate’ corresponding

structure to achieve the claimed function.”). Although a general purpose computer may provide sufficient structure to perform functions that do not require special programming, the same general purpose computer is insufficient structure for performing specific functions that require special programming. *In re Katz*, 639 F.3d 1303, 1316 (Fed. Cir. 2011). Therefore, based on this record, we conclude the term “means” fails “to fulfill the ‘public notice function’ of 35 U.S.C. § 112 ¶ 2 by ‘particularly pointing out and distinctly claiming’ the invention” and “exhibit the ‘overbreadth inherent in open-ended functional claims.” *Katz*, 639 F.3d at 1315 (citing *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1319 (Fed. Cir. 2008); quoting *Halliburton Energy Servs. v. M-I LLC*, 514 F.3d 1244, 1256 n.7 (Fed. Cir. 2008)).

Therefore, we agree with the Examiner that the Specification does not disclose the corresponding algorithm for the claimed “means” limitations to particularly point out and distinctly claim the invention. For the above reasons, we agree with the Examiner that independent claim 35 is indefinite under 35 U.S.C. § 112, second paragraph, and we sustain the indefiniteness rejection of claim 35 and claim 36 not separately argued.

35 U.S.C. § 101

With respect to independent claims 1, 10, 18, 27, 35, 36, 37, and 38, Appellant sets forth separate groupings and headings, but Appellant does not set forth separate arguments for patent eligibility of the claims. Rather, Appellant relies upon the arguments advanced with respect to independent claim 1 for each of the separate claim groupings. (App. Br. 30–34; “For the same reasons discussed above for Group 5, Appellant contends claims 10-16 recite statutory subject matter under 35 U.S.C. § 101.”) Therefore, we select

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independent claim 1 as the representative claim for the group and will address Appellant's arguments thereto.⁶ *See* 37 CFR 41.37 (c)(1)(iv) (2016).

Appellant disputes the Examiner's conclusion that the pending claims are directed to patent-ineligible subject matter. (App. Br. 17–30). Appellant does not specifically address the patent eligibility rejection in the Reply Brief, but contends that the Examiner “omits, simplifies, and overly abstracts.”⁷ (Reply Br. 5).

⁶ We determine that independent claim 10 is broader than independent claim 1 because it has only 3 steps of “encoding,” “generating,” and “signaling,” but we address independent claim 1 which has been argued by Appellant. Additionally, we note that claim 10 does not contain the “extra-solution activity steps of “receiving” as in independent claim 1 and merely includes the extra-solution activity of “signaling the indication in an encoded bit stream” which does not necessarily even include the encoded video data from the first step.

⁷ In the Reply Brief, Appellant changes the labels for the “Ground of Rejection” where the Second Ground in the Reply Brief corresponds to the First Ground in the Appeal Brief (indefiniteness) and the Third Ground of rejection in the Reply Brief corresponds to the a discussion of “wherein” limitations in the anticipation rejection. Appellant does not specifically address the alternative rejection based upon obviousness in the Reply Brief. In Appellant's comments on the general response section of the Examiner's Answer, Appellant contends “By providing such an indication in the at least one of the profile syntax, tier syntax or level syntax, and not in a supplemental enhancement information (SEI) message, the techniques of Appellant's claims address the problem of allowing a decoder not configured to decode SEI messages, to determine if the decoder has the capability of decoding such video data before any actual decoding, thus avoiding output of distorted video. (Reply Br. 6).

The Supreme Court’s two-step framework guides our analysis of patent eligibility under 35 U.S.C. § 101. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). In addition, the Office recently published revised guidance for evaluating subject matter eligibility under 35 U.S.C. § 101, specifically with respect to applying the *Alice* framework. USPTO, 2019 *Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“Office Guidance”). If a claim falls within one of the statutory categories of patent eligibility (i.e., a process, machine, manufacture, or composition of matter) then the first inquiry is whether the claim is directed to one of the judicially recognized exceptions (i.e., a law of nature, a natural phenomenon, or an abstract idea). *Alice*, 573 U.S. at 217. As part of this inquiry, we must “look at 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, 1257–58 (Fed. Cir. 2016) (internal citations omitted). Per Office Guidance, this first inquiry has two prongs of analysis: (i) does the claim recite a judicial exception (e.g., an abstract idea), and (ii) if so, is the judicial exception integrated into a practical application. 84 Fed. Reg. at 54. Under the Office Guidance, if the judicial exception is integrated into a practical application, *see infra*, the claim passes muster under § 101. 84 Fed. Reg. at 54–55. If the claim is directed to a judicial exception (i.e., recites a judicial exception and does not integrate the exception into a practical application), the next step is to determine whether any element, or combination of elements, amounts to significantly more than the judicial exception. *Alice*, 573 U.S. at 217; 84 Fed. Reg. at 56.

Step 2A, Prong One

For the reasons discussed below, we conclude Appellant’s claim 1 recites an abstract idea. Appellant’s claims generally recite a method for decoding video data, the method comprising i) decoding the indication and the received video data. This is consistent with how Appellant describes the claimed embodiment of the invention. (*See, e.g.*, Spec. ¶¶ 23–43, 70–72, 110). (*See* App. Br. 3–4 Summary of the Claimed Subject Matter).

Consistent with our Office Guidance and case law, we conclude that a method for decoding video data, the method comprising decoding the indication and the received video data is a mathematical concept, recited as such in a claim limitation.⁸

⁸ Our reviewing court recognizes that “[a]n abstract idea can generally be described at different levels of abstraction.” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). That need not and, in this case does not, “impact the patentability analysis.” *Id.* at 1241. Further, “An abstract idea can generally be described at different levels of abstraction The Board’s slight revision of its abstract idea analysis does not impact the patentability analysis.” *Id.* Moreover, merely combining several abstract ideas does not render the combination any less abstract. *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322, 1327 (Fed. Cir. 2017) (“Adding one abstract idea (math) to another abstract idea . . . does not render the claim non-abstract.”); *see also FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1093–94 (Fed. Cir. 2016) (determining the pending claims were directed to a combination of abstract ideas).

Thus, the patentability analysis in this Appeal does not turn on exactly how various limitations are characterized as being abstract, i.e., as either an abstract “mathematical concept,” “mental process,” or “certain methods of organizing human activity.” For example, the decoding limitation can alternatively be characterized as mathematical concepts claimed at a high level, and can be characterized as reciting mental processes. The end result remains the same in this Appeal. The claim recites an abstract idea.

See also, SAP America, Inc. v. InvestPic, LLC, 898 F.3d 1161, 1163 (Fed. Cir. 2018) (holding that claims to a “series of mathematical calculations

The Examiner maintains that “Appellant fails to cite a legal basis under which decoding a desired signal is sufficient to overcome judicial exceptions cited in the rejection. *Digitech* particularly states that decoding according to a specified profile is ineligible.”⁹ (Ans. 20).

In *Digitech*, “[t]he method in the [patent at issue] claims an abstract idea because it describes a process of organizing information through mathematical correlations and is not tied to a specific structure or machine.” *Digitech*, 758 F.3d at 1350. Our reviewing court further held in *Digitech*:

The above claim recites a process of taking two data sets and combining them into a single data set, the device profile. The two data sets are generated by taking existing information—i.e., measured chromatic stimuli, spatial stimuli, and device response characteristic functions—and organizing this information into a new form. The above claim thus recites an ineligible abstract process of gathering and combining data that does not require input from a physical device the two data sets and the resulting device profile are ineligible subject matter. Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible. “If a claim is directed essentially to a method of calculating, using a

based on selected information” are directed to abstract ideas); *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1350 (Fed. Cir. 2014) (holding that claims to a “process of organizing information through mathematical correlations” are directed to an abstract idea); *Bancorp Servs., LLC v. Sun Life Assurance Co. of Can. (U.S.)*, 687 F.3d 1266, 1280 (Fed. Cir. 2012) (identifying the concept of “managing a stable value protected life insurance policy by performing calculations and manipulating the results” as an abstract idea).

⁹ *Digitech Image Technologies, LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014).

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mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.”

Digitech, 758 F.3d at 1351 (quoting *Parker v. Flook*, 437 U.S. 584, 595 (1978) (internal quotations omitted)).

Moreover, the Federal Circuit holds that claims broadly covering data collection, communication, and processing are directed to abstract ideas. *See, e.g., Univ. of Fla. Research Found.*, 916 F.3d at 1366–68; *SAP Am.*, 898 F.3d at 1164–67; *Secured Mail Sols. LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 907–08, 910–11 (Fed. Cir. 2017); *Credit Acceptance*, 859 F.3d at 1047, 1054–56 & n.6; *RecogniCorp*, 855 F.3d at 1324, 1326–27; *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1339–41 (Fed. Cir. 2017). As the Federal Circuit has explained, “[a] process that start[s] with data, add[s] an algorithm, and end[s] with a new form of data [is] directed to an abstract idea.” *RecogniCorp*, 855 F.3d at 1327.

Claim 1 is reproduced below and includes the following claim limitations that recites a method for decoding video data, the method comprising i) receiving video data, ii) receiving an indication, and iii) decoding the indication and the received video data, emphasized in *italics*:

1. A method for decoding video data, the method comprising:

receiving, with video decoder circuitry, video data;

receiving, with the video decoder circuitry, an indication that indicates whether any pictures in the received video data contain frame-packed stereoscopic 3D video data, wherein the frame-packed stereoscopic 3D video data is 3D video data that includes a half resolution version of a right view frame and a half resolution version

of a left view frame, wherein the indication is received in at least one of a profile syntax, a tier syntax, or a level syntax, and wherein the profile syntax, the tier syntax, or the level syntax specify limits on the capabilities needed to decode the video data;

decoding, with the video decoder circuitry, *the indication* prior to decoding the received video data; and

decoding, with the video decoder circuitry, *the received video data* in accordance with the received indication and in accordance with a capability of the video decoder circuitry to decode the frame-packed stereoscopic 3D video data, including:

decoding, with the video decoder circuitry, *the received video data* in the case that the indication specifies that there are one or more pictures in the received video data that contain frame-packed stereoscopic 3D video data and the video decoder circuitry is capable of decoding frame-packed stereoscopic 3D video data.

More particularly, the method of decoding video data comprises decoding the indication and the received video data is a mathematical concept and consistent with our Office Guidance and case law, we conclude that decoding the indication and the received video data is a mathematical concept and, thus, an abstract idea. *See* 84 Fed. Reg. at 52.

Step 2A, Prong Two

Because the claim recites an abstract idea, we next determine whether the claim integrates the abstract idea into a practical application. 84 Fed. Reg. at 54. To determine whether the judicial exception is integrated into a

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practical application, we identify whether there are “*any additional elements recited in the claim beyond the judicial exception(s)*” and evaluate those elements to determine whether they integrate the judicial exception into a recognized practical application. 84 Fed. Reg. at 54–55 (emphasis added); *see also* Manual of Patent Examining Procedure (“MPEP”) § 2106.05(a)–(c), (e)–(h) (9th ed., Rev. 08.2017, Jan. 2018).

Here, we find the additional limitations of i) receiving, with video decoder circuitry, video data and ii) receiving, with the video decoder circuitry, an indication do not integrate the judicial exception into a practical application. More particularly, the claims do not recite (i) an improvement to the functionality of a computer or other technology or technical field (*see* MPEP § 2106.05(a)); (ii) use a “particular machine” to apply or use the judicial exception (*see* MPEP § 2106.05(b)); (iii) a particular transformation of an article to a different thing or state (*see* MPEP § 2106.05(c)); or (iv) any other meaningful limitation (*see* MPEP § 2106.05(e)). *See also* 84 Fed. Reg. at 55.

Rather, the steps of i) receiving, with video decoder circuitry, video data and ii) receiving, with the video decoder circuitry, an indication are the type of extra-solution activities (i.e., in addition to the judicial exception) the courts have determined insufficient to transform judicially excepted subject matter into a patent-eligible application. *See* MPEP § 2106.05(g); *see also* *Bilski v. Kappos*, 561 U.S. 593, 612 (2010) (holding the use of well-known techniques to establish inputs to the abstract idea as extra-solution activity that fails to make the underlying concept patent eligible); *Elec. Power*, 830 F.3d at 1355 (explaining that “selecting information, by content or source, for collection analysis, and display does nothing significant to differentiate a process from ordinary mental processes”); *Elec. Power*, 830 F.3d at 1354

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(recognizing “that merely presenting the results of abstract processes of collecting and analyzing information, without more (such as identifying a particular tool for presentation), is abstract as an ancillary part of such collection and analysis”); *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Can.*, 771 F.Supp.2d 1054, 1065 (E.D. Mo. 2011) *aff’d*, 687 F.3d 1266 (Fed. Cir. 2012) (explaining that “storing, retrieving, and providing data . . . are inconsequential data gathering and insignificant post solution activity”).

Here, Appellant’s claims do not recite specific limitations (or a combination of limitations) that are not well-understood, routine, and conventional. Receiving or sending information (e.g., i) receiving, with video decoder circuitry, video data and ii) receiving, with the video decoder circuitry, an indication) merely requires the well understood function of a computer/computer network. *See buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”). In addition, we note Appellant describes the the components of the claimed invention at a high level of generality and the components perform generic functions that are well-understood, routine, and conventional. *See e.g.*, Spec. ¶¶ 23–43, 70–72, and 110.

Also, the additional limitations merely recite “video decoder circuitry,” without any further detail thereto. Although Figures 3 and 4 show black box diagrams of the encoder and decoder circuitry, Figures 5 and 6 show the high level methods which correspond to the claimed methods of encoding and decoding without further detail thereto. We further determine that independent claim 1 generally decodes “video data” and an “indication” and uses that information in the decoding process, but the video decoder circuitry is generically recited.

We further note that the Specification discloses that the decoding may be software based.

Video encoder 20 and video decoder 30 each may be implemented as any of a variety of suitable encoder circuitry, such as one or more microprocessors, digital signal processors (DSPs), application specific integrated circuits (ASICs), field programmable gate arrays (FPGAs), discrete logic, software, hardware, firmware or any combinations thereof. When the techniques are implemented partially in software, a device may store instructions for the software in a suitable, non-transitory computer-readable medium and execute the instructions in hardware using one or more processors to perform the techniques of this disclosure. Each of video encoder 20 and video decoder 30 may be included in one or more encoders or decoders, either of which may be integrated as part of a combined encoder/decoder (CODEC) in a respective device.

(See Spec. ¶ 45). Additionally, the claims do not address a problem necessarily rooted in computer technology or a problem in the software arts. (See App. Br. 29; see also MPEP § 2106.05(a)).

In *DDR Holdings*, the Federal Circuit determined “the claimed solution amount[ed] to an inventive concept for resolving [a] particular Internet-centric problem,” i.e., a challenge unique to the Internet. *DDR Holdings*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014); see *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) (noting that “[i]n *DDR Holdings*, we held that claims ‘directed to systems and methods of generating a composite web page that combines certain visual elements of a “host” website with content of a third-party merchant’ contained the requisite inventive concept”). The Federal Circuit explained that the patent-eligible claims specified “how interactions with the Internet are manipulated to yield a desired result . . . that overrides the routine and conventional

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sequence of events ordinarily triggered by the click of a hyperlink.” *DDR Holdings*, 773 F.3d at 1258. The court reasoned that those claims recited a technological solution “necessarily rooted in computer technology” that addressed a “problem specifically arising in the realm of computer networks.” *DDR Holdings*, 773 F.3d at 1257.

Here, unlike the claims at issue in *DDR Holdings* Appellant’s claims do not address a specific problem arising in the realm of computer networks (i.e., encoding or decoding “video data” and an “indication” does not arise in the realm of computer networks where the encoding and decoding of video data is not detailed in the claims), nor do they improve an existing technological process, but rather merely use computers and computer devices that operate in their normal, expected manner. *See DDR Holdings*, 773 F.3d at 1258–59; *see also Enfish*, 822 F.3d at 1335–36 (distinguishing between claims *wherein the focus of the claims* is on an improvement in computer capabilities and those that invoke a computer as a tool).

For at least the foregoing reasons, the claims do not integrate the judicial exception into a practical application.

Step 2B

Because we determine the claims are directed to an abstract idea or combination of abstract ideas, we analyze the claims under step two of *Alice* to determine if there are additional limitations that individually, or as an ordered combination, ensure the claims amount to “significantly more” than the abstract idea. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 72–73, 77–79 (2012)). As stated in the Office Guidance, many of the considerations to determine whether the claims amount to “significantly more” under step two of the

Alice framework are already considered as part of determining whether the judicial exception has been integrated into a practical application. 84 Fed. Reg. at 56. Thus, at this point of our analysis, we determine if the claims add a specific limitation, or combination of limitations, that is not well-understood, routine, conventional activity in the field, or simply appends well-understood, routine, conventional activities at a high level of generality. 84 Fed. Reg. at 56.

Here, Appellant’s claims do not recite specific limitations (or a combination of limitations) that are not well-understood, routine, and conventional.¹⁰ As discussed above, sending or receiving information (e.g., i) receiving, with video decoder circuitry, video data and ii) receiving, with the video decoder circuitry, an indication) merely requires the well-understood function of a computer/computer network. *See buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014) (“That a computer receives and sends the information over a network—with no further specification—is not even arguably inventive.”). Moreover, Appellant’s recitation of the claim limitations and conclusory statement that the features “amount to substantially or significantly more than simply the alleged abstract idea” (*see* App. Br. 28–29) is not supported by persuasive evidence or reasoning. It is well settled that mere attorney arguments and conclusory statements, which are unsupported by factual evidence, are entitled to little probative value. *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997); *see*

¹⁰ As discussed above with respect to the indefiniteness rejection, we note that the Specification discloses the encoding and the decoding at a very high level with no disclosure of any underlying algorithms. As a result, we find the Specification’s high level of disclosure to evidence the well-understood, routine, and conventional nature of the encoding and decoding by those skilled in the art. *See e.g.*, Spec. ¶¶ 23–43, 70–72, and 110.

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also In re Pearson, 494 F.2d 1399, 1405 (CCPA 1974) (attorney argument is not evidence).

Additionally, to the extent Appellant contends the claims do not seek to tie-up (i.e., preempt) an abstract idea (*see* App. Br. 27–28), we are unpersuaded of Examiner error. “[W]hile preemption may signal patent ineligible subject matter, the absence of complete preemption does not demonstrate patent eligibility.” *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1098 (Fed. Cir. 2016) (quoting *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1379 (Fed. Cir. 2015)); *see also OIP Techs., Inc. v. Amazon.com, Inc.*, 788 F.3d 1359, 1362–63 (Fed. Cir. 2015) (“[T]hat the claims do not preempt all price optimization or may be limited to price optimization in the e-commerce setting do not make them any less abstract.”). Further, “[w]here a patent’s claims are deemed only to disclose patent ineligible subject matter under the *Mayo* framework, as they are in this case, preemption concerns are fully addressed and made moot.” *Ariosa*, 788 F.3d at 1379.

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner’s rejection of claims 1–32 under 35 U.S.C. § 101. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2016).

35 U.S.C. § 102(b)

With respect to the anticipation rejection, Appellant addresses independent claim 1 and relies upon those arguments with respect to each of the other independent claims. (App. Br. 34–41). We select independent claim 10 as the representative claim for the group because we determine this claim is broader than claim 1, and we address Appellant’s arguments thereto. 37 C.F.R. § 41.37(c)(1)(iv).

The allocation of burdens requires that the USPTO produce the factual basis for its rejection of an application under 35 U.S.C. §§ 102 and 103. *In re Piasecki*, 745 F.2d 1468, 1472 (Fed. Cir. 1984) (citing *In re Warner*, 379 F.2d 1011, 1016 (CCPA 1967)). The one who bears the initial burden of presenting a prima facie case of unpatentability is the Examiner. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A prima facie case is established when the party with the burden of proof points to evidence that is sufficient, if uncontroverted, to entitle it to prevail as a matter of law. *See Saab Cars USA, Inc. v. U. S.*, 434 F.3d 1359, 1369 (Fed. Cir. 2006). In particular, regarding the Patent Examiner's burden of production:

[A]ll that is required of the office to meet its prima facie burden of production is to set forth the statutory basis of the rejection and the reference or references relied upon in a sufficiently articulate and informative manner as to meet the notice requirement of [35 U.S.C.] § 132. As the statute itself instructs, the examiner must “notify the applicant,” “stating the reasons for such rejection,” “together with such information and references as may be useful in judging the propriety of continuing prosecution of his application.” 35 U.S.C. § 132.

In re Jung, 637 F.3d 1356, 1363 (Fed. Cir. 2011).

Here, the Examiner failed to make a prima facie case of anticipation and obviousness in the Final Rejection. This is because the Examiner did not make any specific findings regarding each of the limitations in the above-noted claims.

With respect to independent claim 10, the Examiner has not shown that the Yun reference discloses each of the three steps of the “method for encoding video data.” Although the claimed invention uses known encoding methodology, the claimed invention further recites “generating an indication” and “signaling the indication.”

Claim 10 requires:

an indication that indicates whether any pictures in the encoded video data contain frame-packed stereoscopic 3D video data, wherein the frame-packed stereoscopic 3D video data is 3D video data that includes a half resolution version of a right view frame and a half resolution version of a left view frame, wherein the indication is generated in at least one of a profile syntax, a tier syntax, or a level syntax, and wherein the profile syntax, the tier syntax, or the level syntax specify limits on the capabilities needed to decode the video data.

Thus, claim 10 requires a step of generating an indication that indicates whether any pictures in the encoded video data contain frame-packed stereoscopic 3D video data. The Examiner has not identified any disclosure in the Yun reference regarding “frame packed stereoscopic 3D video data.” As a result, any generated “indication” disclosed by the Yun reference necessarily would not correspond to frame packed stereoscopic 3D video data, as required. Additionally, the Examiner has not identified any disclosure in the Yun reference regarding the claim limitation “the indication is generated in at least one of a profile syntax, a tier syntax, or a level syntax.”

The Examiner maintains that content of a signal cannot patentably distinguish the claims from the prior art because it does not require particular steps to be performed. (Ans. 23). The Examiner further maintains that because the claim language resides inside a “wherein” clause Appellant has indicated a non-limiting nature of the language under M.P.E.P. 2111.04. (Ans. 23). As a result, the Examiner maintains:

Cumulatively, Yun codes substantially similar signal content: “The syntax and semantics of the information added to the stereoscopic/multiview 3D video data are defined in FIG. 12.” Yun, Paragraph 85 and Figs. 13-15. And “an elementary stream

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(ES), which is characterized by variables determining ... necessary decoder resources,” in Yun, Paragraph 8, and half-resolution fields in Paragraph 18,

So the claims are anticipated or obvious over Yun.

Although we agree with the Examiner that the Yun reference discloses encoding video data, we determine that the Examiner has not specifically addressed the express limitations as recited in the language of independent claim 10 regarding the “frame packed stereoscopic 3D video data” and “generating... the indication.”

The Examiner maintains that the difference in the “indication” of the content of the signal/data and the location of the indication in the encoded bitstream/signal is merely nonfunctional descriptive material, which does not change the function of the encoding, generating or signaling steps recited in the language of independent claim 10. We disagree with the Examiner and determine the Examiner has not made a proper finding of anticipation based upon the Yun reference alone. (Ans. 23).

Additionally, with respect to independent claim 10, we find the Examiner has not specifically addressed the claimed “indication” and its relationship to the “frame packed stereoscopic data” in the anticipation rejection.

Although, the Yun reference discloses the use of a flag as an indication of 3D content in the video signal and the use thereof in encoding information into the header signal, the Yun reference does not specifically disclose the claimed “indication” and its relationship to the “frame packed stereoscopic data”. (See generally Yun FIG. 12–15, ¶¶ 86, 116–119).

With respect to independent claim 1 regarding the decoding, Appellant contends that:

Yun fails to provide any teaching or suggestion of receiving any indication “whether any pictures in the received video data contain frame-packed stereoscopic 3D video data,” as is recited in claim 1. While Yun teaches determining between stereoscopic and mult[i]view video data, Yun does not teach or suggest any determination related to “frame-packed stereoscopic 3D video data.”

(App. Br. 37) (emphasis omitted).

We agree with Appellant that the Examiner has not identified any specific disclosure in the Yun reference of a recognition or treatment of “frame-packed stereoscopic 3D video data.”

We note that the Board is a reviewing body and not a place of initial examination. Moreover, it is our view that the rigorous requirements of 35 U.S.C. § 102 essentially require a one-for-one mapping of each argued limitation to the corresponding portion of the reference, which the Examiner must identify with particularity.

Appellant further contends, with regards to the decoding, that the Yun reference fails to teach or suggest that such an indication “in at least one of a profile syntax, a tier syntax, or a level syntax.” (App. Br. 37). Appellant further contends that the Yun reference does not relate to any indication of whether any pictures in the received video data contain “frame-packed stereoscopic 3D video data.” (App. Br. 37). Appellant further argues that Figure 12 of the Yun reference only discloses one syntax element (NumViewpoint) that represents the number of viewpoints of a video image and another syntax element (2D 3DDispFlag) that determines the display mode for a 3D video image. (App. Br. 37).

We agree with Appellant that the Yun reference does not specifically disclose the location of the indication and determine that Appellant has

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identified various limitations in the language of independent claim 1 and in independent claim 10 which the Examiner has not shown to be disclosed by the Yun reference.

Specifically, the Examiner has not shown that the Yun reference discloses frame packed data, and the Examiner has not shown that the Yun reference discloses any of the recited three alternative syntaxes. The Examiner merely maintains that “Claim 10 is rejected for reasons stated for Claim 1 because the encoder of Claim 10 is directed to the same coding format as the decoder of Claim 1, and because prior art teaches: “encoding video data;” (“a three-dimensional object encoder” Yun, Paragraph 15.)” (Final Act. 21) (emphasis omitted).

Additionally, the Examiner has not identified that these limitations of the claimed invention are known in the MPEG-4 standard at the time of the Yun disclosure in 2002/2003 time frame.¹¹

Therefore, the Examiner has not provided a sufficient finding of anticipation based upon the Yun reference alone for independent claims 1 and 10 regarding the decoding and encoding.

Because the Examiner’s anticipation rejection of independent claims 1 and 10 is deficient for the reasons set forth above, we similarly find the Examiner’s rejection of independent claims 18, 27, 35, and 36 to be

¹¹ In any further prosecution on the merits, we suggest that the Examiner consider prior art regarding the High Efficiency Video Coding (HEVC) standard or provide further line of reasoning for the extension of the MPEG 4 standard. (See http://iphome.hhi.de/wiegand/assets/pdfs/2012_12_IEEE-HEVC-Overview.pdf IEEE TRANSACTIONS ON CIRCUITS AND SYSTEMS FOR VIDEO TECHNOLOGY, VOL. 22, NO. 12, DECEMBER 2012.

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similarly deficient, and we find it deficient with respect to each of dependent claims 2–8, 11–16, 19–25, and 28–33 because of their dependency from their respective independent claims.

35 U.S.C. § 103(a)

With regards to the obviousness determination, the Examiner provides a slightly more detailed discussion, but the Examiner does not provide any specific factual findings regarding the profile syntax, the tier syntax, or the level syntax or the frame-packed stereoscopic 3D video data is 3D video data that includes a half resolution version of a right view frame and a half resolution version of a left view frame. (*See* Final Act. 16–19).

Although Appellant provides a nominal response which relies upon the arguments advanced with respect to the anticipation rejection, we find the Examiner’s obviousness rejection to rely upon speculation and unfounded assumptions regarding the frame packed stereoscopic video data and the profile syntax, the tier syntax, or the level syntax.

In the grounds of rejection in the Final Action, the Examiner generally interweaves the obviousness statements throughout the rejection. (Final Act. 16–19). We disagree with the Examiner that the person of ordinary skill in the art would have been motivated to place the indication at any available location in the header because the Examiner does not expressly address this limitation in the statement of the rejection. In the Examiner’s Answer, the Examiner maintains “a syntax structure is data and not a structure capable of limiting an apparatus.” (Ans. 7).

Appellant’s arguments regarding obviousness rely upon the arguments advanced with respect to the anticipation rejection. Specifically, Appellant argues that the Yun reference fails to disclose or suggest all the features of

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independent claim 1 because Yun does not teach or suggest the use any of “a profile syntax, a tier syntax, or a level syntax,” as is recited in claim 1.

(App. Br. 42). Appellant further contends that the Yun reference fails to provide any teaching for the desirability to use one of such syntaxes for any syntax elements, much less “an indication that indicates whether any pictures in the received video data contain frame packed stereoscopic 3D video data.” (App. Br. 42).

Here, the Examiner’s obviousness rejection is not well supported by the express disclosure of the Yun reference. Accordingly, we agree with Appellant the Examiner’s determination that the claimed invention would have been obvious to a person of ordinary skill in the art is in error because it is not supported by a preponderance of the evidence. *See In re Caveney*, 761 F.2d 671, 674 (Fed. Cir. 1985) (Examiner’s burden of proving non-patentability is by a preponderance of the evidence); *see also In re Warner*, 379 F.2d 1011, 1017 (CCPA 1967) (“The Patent Office has the initial duty of supplying the factual basis for its rejection. It may not, because it may doubt that the invention is patentable, resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis.”). We will not resort to such speculation or assumptions to cure the deficiencies in the factual basis in order to support the Examiner’s obviousness rejection. Consequently, we cannot sustain the rejection of independent claim 10 and its dependent claims based on obviousness. Independent claims 1, 18, 27, 35, and 36 contain similar limitations, and we cannot sustain the obviousness rejection of these claims and their dependent claims for the same reasons.

With respect to the obviousness rejection of independent claims 37 and 38 over the combination of Yun in view of Kikuchi, Appellant contends

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that the applied references, alone or in any combination, fail to disclose or suggest the features defined by Appellant's claims, and there is no apparent reason that would cause one of ordinary skill in the art to modify the applied references to arrive at the claimed features. Appellant further relies upon the arguments advanced with respect to the anticipation rejection. (App. Br. 43–44).

Because the Examiner has not identified how the Kikuchi reference remedies the noted deficiencies above with the Yun reference, the Examiner has not shown how the combination renders obviousness independent claims 37 and 38.

DECISION

The Examiner's indefiniteness rejection of claims 35 and 36 is affirmed. The Examiner's patent eligibility rejection of claims 1–8, 10–16, 18–25, 27–33, and 35–38 is affirmed. The Examiner's anticipation rejection of claims 1–8, 10–16, 18–25, 27–33, 35, and 36 is reversed. The Examiner's obviousness rejections of claims 1–8, 10–16, 18–25, 27–33, and 35–38 is reversed.

DECISION SUMMARY

Claims Rejected	Basis	Affirmed	Reversed
35 and 36	§ 112, second para.	35 and 36	None
1-8, 10-16, 18-25, 27-33, and 35-38	§ 101	1-8, 10-16, 18-25, 27-33, and 35-38	None
1-8, 10-16, 18-25, 27-33, 35, and 36	§ 102	None	1-8, 10-16, 18-25, 27-33, 35, and 36
1-8, 10-16, 18-25, 27-33, and 35-38	§ 103	None	1-8, 10-16, 18-25, 27-33, and 35-38
Overall Outcome		1-8, 10-16, 18-25, 27-33, and 35-38	

FINALITY AND RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED