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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte SOENG-HUN KIM

Appeal 2017-009668
Application 14/871,168[1]
Technology Center 2400

Before NATHAN A. ENGELS, JAMES W. DEJMEK, and MICHAEL M. BARRY, *Administrative Patent Judges*.

DEJMEK, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1–6 and 10–12. Appellant has canceled claims 7–9. *See* App. Br. 13. We have jurisdiction over the remaining pending claims under 35 U.S.C. § 6(b).

We affirm.

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[1] Appellant identifies Samsung Electronics Co., Ltd. as the real party in interest. App. Br. 2.

STATEMENT OF THE CASE

Introduction

Appellant's disclosed and claim invention relates to "activating carriers by a terminal or a User Equipment (UE) for which a plurality of Down-Link (DL) carriers and Up-Link (UL) carriers are configured," such as in a Carrier Aggregation (CA) configuration. Spec. ¶¶ 2, 4.

Claim 1 is representative of the subject matter on appeal and is reproduced below:

> 1. A method for measurement by a terminal in a wireless communication system supporting carrier aggregation, the method comprising:
>
> receiving, from a base station, a measurement interval for a secondary cell in a deactivated state;
>
> acquiring a measurement period based on the measurement interval; and
>
> measuring a signal of the secondary cell in the deactivated state, based on the measurement period,
>
> wherein the measurement period is acquired by multiplying the measurement interval by a predefined value greater than 1.

The Examiner's Rejection

Claims 1–6 and 10–12 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter. Final Act. 4.

ANALYSIS[2]

Appellant disputes the Examiner's conclusion that the pending claims are directed to patent-ineligible subject matter under 35 U.S.C. § 101. App. Br. 4–10; Reply Br. 2–6. In particular, Appellant argues the claimed solution provides an improvement in the functional operation of the recited terminal and base station using the claimed measurement technique. App. Br. 4–10.

The Supreme Court's two-step framework guides our analysis. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2355 (2014). 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*, 134 S. Ct. at 2355. If so, the second step is to determine whether any element, or combination of elements, amounts to significantly more than the judicial exception. *Alice*, 134 S. Ct. at 2355.

Although the independent claims each broadly fall within the statutory categories of patentability, the Examiner concludes the claims are directed to a judicially recognized exception—i.e., an abstract idea. Final Act. 4. In particular, the Examiner concludes the claims are directed to a mathematical formula and relationship. Final Act. 4; Ans. 2. The Examiner explains the

[2] Throughout this Decision, we have considered the Appeal Brief, filed March 8, 2017 ("App. Br."); the Reply Brief, filed July 3, 2017 ("Reply Br."); the Examiner's Answer, mailed May 3, 2017 ("Ans."); and the Final Office Action, mailed October 21, 2016 ("Final Act."), from which this Appeal is taken.

claims are similar to those held to be patent ineligible in *Parker v. Flook*, 437 U.S. 584 (1978). Ans. 2–6.

Instead of using a definition of an abstract idea, "the 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." *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (citing *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016)); *accord* United States Patent and Trademark Office, *July 2015 Update: Subject Matter Eligibility* 3 (July 30, 2015), https://www.uspto.gov/sites/default/files/documents/ieg-july-2015-update.pdf (instructing Examiners that "a claimed concept is not identified as an abstract idea unless it is similar to at least one concept that the courts have identified as an abstract idea."). 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 (Fed. Cir. 2016).

Our reviewing court has concluded that abstract ideas include the concepts of collecting data, recognizing certain data within the collected data set, and storing the data in memory. *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014); *see also Smart Sys. Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (concluding "claims directed to the collection, storage, and recognition of data are directed to an abstract idea"). Additionally, the collection of information and analysis of information are also abstract ideas. *Elec. Power*, 830 F.3d at 1353. The Supreme Court has

concluded "if a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is [patent-ineligible subject matter]." *Parker v. Flook*, 437 U.S. 584, 595 (1978) (quoting *In re Richman*, 563 F.2d 1026, 1030 (CCPA 1977). Additionally, our reviewing court has concluded, absent additional limitations, "a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014).

Here, Appellant's claims are generally directed to measuring a signal based on a determined measurement period. As claimed, a terminal in a wireless communication system receives, from a base station, a measurement interval. The measurement period is determined by multiplying the received measurement interval by a predefined value greater than 1. Contrary to Appellant's assertions the claims to not recite, nor are they directed to, an improvement in the operation of the terminal and base station. Unlike in *Diamond v. Diehr*, where claim requirements for using results of a formula as part of an industrial process did not simply limit use of the formula to a particular technological environment but instead were a basis for determining the claim was directed to the industrial process in compliance with § 101, *see* 450 U.S. 175, 177–78, 191–93 (1981), here, the use of the formula in the claims is simply limited to a particular technological environment.

The receiving of a measurement interval and measuring a signal are similar to the collection of data the courts have previously concluded to be abstract. *See Content Extraction*, 776 F.3d at 1347; *Elec. Power*, 830 F.3d at

1353; *Affinity Labs*, 838 F.3d at 1258–59 (holding that claims were directed to an abstract idea where they claimed "the function of wirelessly communicating regional broadcast content to an out-of-region recipient, not a particular way of performing that function"). Further, we agree with the Examiner (Ans. 2–4) that the determination of the measurement period is simply the mathematical product of the received measurement interval and a predefined number. *Flook*, 437 U.S. at 595. Accordingly, we agree with the Examiner that the claims, as a whole, are directed to a combination of abstract concepts.

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*, 134 S. Ct. at 2355 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71–72, 77–79 (2012)). The implementation of the abstract idea involved must be "more than [the] performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" *Content Extraction*, 776 F.3d at 1347–48 (quoting *Alice*, 134 S. Ct. at 2359) (alteration in original). "Whether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent is a factual determination." *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018).

The Examiner concludes the claim limitations, individually or as an ordered combination, do not recite significantly more than the abstract idea to transform the abstract idea into a patent-eligible application. Final Act. 4; Ans. 4–7. In particular, the Examiner finds the step of measuring a signal of

the secondary cell, as recited in the claims, "is merely a recitation of conventional wireless communication activity." Ans. 5. Appellant asserts there is no support for the Examiner's finding that "such features were 'conventional wireless communication activity.'" Reply Br. 5 (emphasis omitted).

As set forth in the Specification, a "measurement means an action in which the [user equipment] receives a signal from a target carrier instructed to be measured and measures strength of the signal at intervals of a specific period." Spec. ¶ 121. Contrary to Appellant's assertion, measuring a signal of a serving cell or neighbor cell is a conventional wireless communication activity. *See* Spec. ¶ 123 (describing a purpose of measuring a carrier "is to detect wireless channel conditions of a serving cell or its neighbor cells" to make appropriate decisions for UE mobility support, etc.). By using a specific measurement period, the measured signal strength is filtered. Spec. ¶ 123.

Further, to the extent Appellant is asserting a lack of rejection under Sections 102 and/or 103 suggests the instant claims do not recite well understood, routine, or conventional activities or , otherwise, recite an inventive concept (*see* Reply Br. 3), we are not persuaded. Subject-matter eligibility under 35 U.S.C. § 101 is a requirement separate from other patentability inquiries. *See Mayo*, 566 U.S. at 90 (recognizing that the § 101 inquiry and other patentability inquiries "might sometimes overlap," but that "shift[ing] the patent-eligibility inquiry entirely to these [other] sections risks creating significantly greater legal uncertainty, while assuming that those sections can do work that they are not equipped to do"); *see also Diamond v. Diehr*, 450 U.S. at 188–89 ("[t]he '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"); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017) ("[e]ligibility and novelty are separate inquiries").

For the reasons discussed *supra*, we are unpersuaded of Examiner error. Accordingly, we sustain the Examiner's rejection of independent claim 1 under 35 U.S.C. § 101. We also sustain the Examiner's rejection of independent claims 4 and 10, which recite commensurate limitations and were not argued separately. *See* App. Br. 10; *see also* 37 C.F.R. § 41.37(c)(1)(iv). Additionally, we sustain the Examiner's rejection under 35 U.S.C. § 101 of claims 2, 3, 5, 6, 11, and 12, which depend directly or indirectly therefrom and were not argued separately.

DECISION

We affirm the Examiner's decision rejecting claims 1–6 and 10–12 under 35 U.S.C. § 101.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv). *See* 37 C.F.R. § 41.50(f).

AFFIRMED