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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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*Ex parte* LALIT GUPTA, PALLAVI VAJINEPALLI,  
RAJENDRA SINGH SISODIA, GANESAN RAMACHANDRAN,  
CELINE FIRTION, JOHN PETRUZZELLO, and AJAY ANAND

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Appeal 2018-006178  
Application 14/364,360  
Technology Center 3700

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Before BRETT C. MARTIN, LISA M. GUIJT, and SEAN P. O'HANLON,  
*Administrative Patent Judges.*

GUIJT, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1–7, 13, 14, 17–20, and 23–27 under 35 U.S.C. § 101.<sup>2</sup>

We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> Koninklijke Philips Electronics N.V. (“Appellant”), the applicant as provided for under 37 C.F.R. § 1.46, is also identified as the real party in interest. Appeal Br. 3.

<sup>2</sup> Appeal is taken from the Non-Final Office Action dated July 12, 2017.

## STATEMENT OF THE CASE

Claims 1, 18, and 24, reproduced below, are all of the independent claims, and also exemplary of the subject matter, on appeal.

1. A device configured for examining pulsatile blood flow, the device comprising:

an ultrasound probe configured to collect echo data from a volume of interest comprising at least one blood vessel;

a demodulator configured to extract a Doppler signal from the echo data;

a processor configured to receive the Doppler signal, wherein the processor is further configured, for each cycle of a plurality of cycles of the Doppler signal, to:

calculate a frequency response over a spectral band;

calculate a length of time of each cycle;

calculate a time to peak of each cycle;

determine a number of peaks and a number of valleys of each cycle;

exclude a cycle from the plurality of cycles if determined that the frequency response is insufficient, the length of time is abnormal, the time to the peak is abnormal, or the number of peaks or number of valleys is greater or less than one;

calculate a median peak systolic frequency shift, a median end diastolic frequency shift, and a median length of cardiac cycle for remaining cycles of the plurality of cycles; and

select a set of cycles from the remaining cycles and calculate a quality metric for the set of cycles, based at least in part, on the median peak systolic frequency shift, the median end diastolic frequency shift, and the median length of cardiac cycle for remaining cycles of the plurality of cycles.

18. A device configured for examining pulsatile blood flow, the device comprising:

an ultrasound probe configured to obtain a Doppler signal from echoes received from a volume of interest comprising at least one blood vessel;

a processor configured to receive the Doppler signal, wherein the processor is further configured, for each cycle of a plurality of cycles of the Doppler signal, to:

calculate at least one parameter;

exclude a cycle from the plurality of cycles if the at least one parameter of the cycle is determined to be abnormal;

calculate a median peak systolic frequency shift, a median end diastolic frequency shift, and a median length of cardiac cycle for remaining cycles of the plurality of cycles; and

select a set of cycles from the remaining cycles and calculate a quality metric for the set of cycles, wherein the quality metric is based, at least in part, on a sum of three bases, wherein each of the three bases is raised to a power of a corresponding exponent, wherein a first exponent is an absolute value of a deviation in the peak systolic frequency shift, a second exponent is an absolute value of a deviation in the end diastolic frequency shift, and a third exponent an absolute value of a deviation in the length of cardiac cycle, wherein the three bases are each above unity.

24. A method comprising:

receiving, at a processor a Doppler signal obtained responsive to echoes detected by an ultrasound probe from a volume of interest comprising at least one blood vessel, wherein the Doppler signal includes a plurality of cycles;

calculating at least one parameter for each cycle of the plurality of cycles;

excluding a cycle from the plurality of cycles if the at least one parameter of the cycle is found to be abnormal;

calculating a median peak systolic frequency shift, a median end diastolic frequency shift, and a median length of cardiac cycle for remaining cycles of the plurality of cycles; and

selecting a set of cycles from the remaining cycles and calculating a quality metric for the set of cycles, wherein the quality metric is based, at least in part, on a sum of three bases, wherein each of the three bases is raised to a power of a corresponding exponent, wherein a first exponent is an absolute value of a deviation in the peak systolic frequency shift, a second exponent is an absolute value of a deviation in the end diastolic frequency shift, and a third exponent an absolute value of a deviation in the length of cardiac cycle, wherein the three bases are each above unity.

#### ANALYSIS

An invention is patent-eligible if it claims a “new and useful process, machine, manufacture, or composition of matter.” 35 U.S.C. § 101. However, the Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: “[I]aws of nature, natural phenomena, and abstract ideas” are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Supreme Court’s two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is “directed to.” *See Alice*, 573 U.S. at 219 (“On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk.”); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) (“Claims 1 and 4 in petitioners’ application explain the basic concept of hedging, or protecting against risk.”).

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 69 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as “molding rubber products” (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); “tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores” (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that “[a] claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula.” *Diehr*, 450 U.S. at 176; *see also id.* at 191 (“We view respondents’ claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula.”). Having said that, the Supreme Court also indicated that a claim “seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment.” *Id.* (citing *Benson* and *Flook*); *see, e.g., id.* at 187 (“It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.”).

If the claim is “directed to” an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where “we must examine the elements of the claim to determine whether it contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Alice*, 573 U.S. at 221. “A claim that recites an abstract idea must include ‘additional features’ to ensure ‘that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].’” *Id.* (quoting *Mayo*, 566 U.S. at 77). “[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention.” *Id.*

The PTO recently published revised guidance on the application of § 101. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019) (“2019 Guidance”). Under that guidance, we first look to whether the claim recites: (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human interactions such as a fundamental economic practice, or mental processes); and (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)). Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim: (3) adds a specific limitation beyond the judicial exception that is not “well-understood, routine, conventional” in the field (*see* MPEP § 2106.05(d)); or (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception. *See* 2019 Guidance.

Regarding the present application, the Examiner determines that all claims recite a judicial exception: an abstract idea, and more particularly, a mathematical algorithm.<sup>3, 4</sup> Non-Final Act. 2–3. The Examiner does not establish that the additional elements in the claims (i.e., additional to those claim limitations that recite the mathematical algorithm) integrate the exception into a practical application of the algorithm, however, with respect to the independent claims, the Examiner determines that the recitation of an ultrasound probe, demodulator, and processor do not amount to significantly more than the abstract idea itself. *Id.* at 3. In particular, the Examiner determines that the ultrasound probe, demodulator, and processor are “generic hardware well known in the art” and that the ultrasound probe and demodulator “serve simply to gather data to be provided as input variables to the mathematical algorithm.” *Id.* (citing, e.g., Lu<sup>5</sup> ¶ 18, Fig. 1); *see also* Ans. 4, 6 (finding that “Appellant’s claims rely on generic ultrasound imaging hardware (a probe (claims 1, 18), a demodulator (claim 1), and a processor (claims 1, 18, 24)) that operates exactly as it had conventionally by capturing Doppler signals and executing software programs”). The Examiner further determines that the dependent claims “are directed solely to further refinements of the mathematical algorithm itself” (i.e., claims 2–4, 6, 13, 17, 19, 20, 23, 26, and 27) and/or “do not include additional elements

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<sup>3</sup> It is undisputed that the claims recite devices (i.e., machines) and/or methods within statutory categories of 35 U.S.C. § 101.

<sup>4</sup> *See* 2019 Guidance 52 (explaining that “the abstract idea exception includes the following groupings of subject matter, when recited as such in a claim limitation(s) (that is, when recited on their own or per se): (a) Mathematical concepts—mathematical relationships, mathematical formulas or equations, mathematical calculations”).

<sup>5</sup> US 2010/0234731 A1; published Sept. 16, 2010.

that are sufficient to amount to significantly more than the judicial exception because they claim only generic computer hardware display structures that are well known in the art” (i.e., claims 5, 7, 13, 14, 23, and 25 (citations omitted)). Non-Final Act. 3–4.

Appellant argues that independent claims 1, 18, and 24 are not directed to a judicial exception, but rather, “are directed to a solution necessarily rooted in computerized ultrasound technology to overcome problems arising in the specific realm of ultrasound signal processing,” involving “[the] examination of pulsatile blood flow, starting with the initial acquisition of ultrasound echoes from a particular region, and culminating with the selection of a specific set of cycles from a Doppler signal” (Appeal Br. 6; *see also id.* at 6–10).<sup>6</sup> Appellant submits that “the claimed features overcome the inability of existing ultrasound technologies to perform velocimetry screenings without high computational throughput duplex scanners or expensive cardiocograph (CTG) machines” (*id.* at 9–10 (citing Spec. 2:6–9)) and “accuracy . . . dependent on the cycles chosen by a sinologist or doctor, with good cycles being selected manually” (*id.* at 10 (citing Spec. 1:15–16)). Appellant further submits that such improvements are achieved “using an improved, but low-computational, stand-alone ultrasound probe.” *Id.* (citing Spec. 5:10–11).

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<sup>6</sup> The Examiner responds that the ultrasound probe, demodulator, and/or processor are “only statements of intended use,” and with particular reference to method claim 24, are not positively recited as limitations. Ans. 3–4. The Examiner also determines that the limitations relied on by Appellant to demonstrate recitation of “a practical solution” are not recited in the claims. *Id.* at 4.

Appellant also argues that the claims “capture specific improvements in computer technology, which is further indicative of the claims’ subject matter eligibility.” Appeal Br. 8; *see also id.* at 8–10.

Appellant further argues that the claims “specif[y] the manner in which . . . data is created and actively collected,” wherein “[t]he actual source of the echoes . . . is the [claimed] ultrasound probe” which is “specialized equipment . . . needed to obtain a particular type of signal, i.e., a Doppler signal.” Appeal Br. 12–13 (in contrast to data gathered in *Flook*, which according to Appellant, gathered data from “a real world source”).

Finally, Appellant argues that the “claims . . . amount to significantly more [than an abstract idea] by ‘[a]dding a specific limitation other than what is well understood, routine and conventional in the field, or adding unconventional steps that confine the claim to a particular useful application.’” Appeal Br. 13 (citation omitted). Appellant submits that

the recited processor does not merely provide generic ultrasound imaging modalities configured to perform well-known, generic functionalities. Instead, they recite a particular machine that is the product of implementing specific, non-generic functions, i.e., “exclud[ing] a cycle from the plurality of cycles . . . calculat[ing] a median peak systolic frequency shift a median end diastolic frequency shift, and a median length of cardiac cycle for remaining cycles . . .; and selecting a set of cycles from the remaining cycles and calculat[ing] a quality metric for the set of cycles . . .”

*Id.* at 15 (brackets in original).

*Independent claims 1 and 18, and claims depending therefrom*  
***Step 2A, Prong 1, of the 2019 Guidance: Whether the claim recites a judicial exception***

First, we analyze certain limitations of claims 1 and 18, individually and as set forth *supra*, to determine whether claims 1 and 18 recite a judicial exception.

We agree with the Examiner, nor does Appellant dispute, that the limitations of claims 1 and 18 which the processor is configured to perform (i.e., the calculations, determinations, and selections related to cycles and/or cycle parameters) recite a mathematical algorithm. *See* Appeal Br. 15 (arguing only that the claimed processor steps are “non-generic functions”). Our reviewing court has identified such mathematical concepts as representing abstract ideas. *See SAP America, Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1163 (Fed. Cir. 2018) (holding that claims to a “series of mathematical calculations based on selected information” are directed to abstract ideas). Thus, claims 1 and 18 recite a judicial exception: an abstract idea in the subject matter grouping, pursuant to the 2019 Guidance, of mathematical concepts.

***Step 2A, Prong 2, of the 2019 Guidance: Do additional elements integrate the exception into a practical application of the exception?***

Next, in accordance with the 2019 Guidance, we evaluate whether the claim as a whole integrates the mathematical concept into a practical application of the mathematical concept by identifying whether there are any additional elements recited in the claim beyond the judicial exception, and evaluating those additional elements individually and in combination to determine whether they integrate the exception into a practical application.

2019 Guidance, 84 Fed. Reg. at 54–55. According to the 2019 Guidance, “an additional element [that] implements a judicial exception with . . . a particular machine” is “[an] exemplary consideration[ ] indicative that an additional element . . . may have integrated the exception into a practical application.” *Id.* at 55.

We determine that claims 1 and 18 (as set forth *supra*) additionally recite “an ultrasound probe configured to collect echo data from a volume of interest comprising at least one blood vessel” (claim 1) or “to obtain a Doppler signal from echoes received from such a volume” (claim 18). These limitations are not merely statements of intended use as determined by the Examiner (*see* fn 6), nor do these limitations represent an abstraction. Rather, as argued by Appellant, claims 1 and 18 recite a mechanical device (i.e., an ultrasound probe configured to collect certain data or a signal). *See* Reply Br. 2–3 (arguing that the recitation of an ultrasound probe is not a statement of intended use); *see also e.g.*, Spec. 2:12–15, 26–28 (disclosing that, in comparison to manual selection of “a good cycle . . . represent[ing] the actual hemodynamic profile in a vessel,” the invention is “directed to . . . automatic pulse cycle selection, with particular application to the probe”).

Notwithstanding, and recognizing that, as in *Diehr*, claims do not become nonstatutory simply because the claims recite a mathematical concept, as explained *infra*, the limitations of claims 1 and 18, which are in addition to the mathematical algorithm, fail to integrate the mathematical algorithm into a practical application.

We determine that the recitation of an ultrasound probe configured either to collect data (which is demodulated to extract a signal) (claim 1) or

to obtain a signal (claim 18) is adding insignificant extra-solution activity<sup>7</sup> to the judicial exception, which is not indicative of integration into a practical application. In particular, we determine that these limitations are data gathering steps, wherein the gathered data is merely received by the claimed processor as an input for the mathematical algorithm. *See* MPEP 2106.05(g) (“[a]n example of pre-solution activity is a step of gathering data for use in a claimed process, e.g., a step of obtaining information about credit card transactions, which is recited as part of a claimed process of analyzing and manipulating the gathered information by a series of steps in order to detect whether the transactions were fraudulent.”).

We further determine that the claimed demodulator and processor are generic computing components configured to implement an abstract idea on a computer or merely to use a computer as a tool to perform an abstract idea. *See* MPEP 2106.05(f) (“As explained by the Supreme Court, in order to transform a judicial exception into a patent-eligible application, the additional element or combination of elements must do ‘more than simply stat[e] the [judicial exception] while adding the words ‘apply it’” (quoting *Alice Corp.*, 573 at 134 (2014)). For example, the Specification describes the demodulator and processor as generic computing components. *See, e.g.*, Spec. 7:33–34 (“[t]he extraction is made using a quadrature demodulator”), 9:28–31 (“probe 308 is, wirelessly or by wire, connectable or connected to a processor 310”), 13:31–32 (“[a] single processor or other unit may fulfill the functions of several items recited in the claims”).

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<sup>7</sup> “The term ‘extra-solution activity’ can be understood as activities incidental to the primary process or product that are merely a nominal or tangential addition to the claim.” MPEP 2106.05(g).

In sum, considering the recitations of an ultrasound probe, demodulator, and/or processor, which are in addition to the recited mathematical algorithm, we determine that the claim as a whole fails to integrate the mathematical algorithm into a practical application of the mathematical algorithm.

***Step 2B of the 2019 Guidance: If the claim is directed to a judicial exception, evaluate whether the claim provides an inventive concept***

The 2019 Guidance further explains that “[i]t is possible that a claim that does not ‘integrate’ a recited judicial exception is nonetheless patent eligible,” for example, because “the claim may recite additional elements that render the claim patent eligible even though a judicial exception is recited in a separate claim element.” 2019 Guidance, 84 Fed. Reg. at 56. In other words, “the additional elements recited in the claims provided ‘significantly more’ than the recited judicial exception (*e.g.*, because the additional elements were unconventional in combination).” *Id.*

As set forth *supra*, Appellant argues that the claims recite a particular machine that is the product of implementing non-generic functions, and more specifically, that the claims require specialized equipment to obtain a particular type of signal, *i.e.*, a Doppler signal. *See also* Appeal Br. 10 (wherein Appellant submits that the invention involves “an improved, but low-computational, stand-alone ultrasound probe” (citing Spec. 5:10–11 (disclosing that “probe 100 is implementable as an automatic, handheld, stand-alone, self-contained, ultrasound examination device”))). Appellant also argues that the claims capture specific improvements in computer technology.

The Specification discloses that the invention addresses the need for “an automated method of acquiring and evaluating Doppler signals for clinical diagnosis (without requiring the user to interpret an ultrasound scan image)” (Spec. 2:2–4), wherein the invention is a “novel, automated pulse cycle selection device” (*id.* at 4:23–24). Although the Specification incorporates by reference certain patent applications, which “disclose a hand-held, stand-alone, Doppler-based, ultrasound probe whose examining face is less finely divided into separate transducer elements,” wherein “the probe operates automatically without the need for interpreting a visual display of anatomy,” we have insufficient evidence from Appellant that a Doppler-based ultrasound probe, as claimed, is an inventive concept. Rather, the Specification supports, by a preponderance of the evidence, the conclusion that Doppler-based ultrasound probes are well-known:

Commercial duplex ultrasound systems are used extensively to localize blood vessels and obtain flow characteristics from the blood vessels. . . . A duplex ultrasound system combines the modality of real-time, two dimensional, *pulse-echo imaging* of anatomical structures with that of a *Doppler ultrasound system* from which the Doppler frequency shift or the velocity information is obtainable from a blood vessel.

. . .

The use of ultrasound in vascular applications to perform Doppler velocimetry requires availability of skilled personnel.

Spec. 1:5–26 (emphasis added). In other words, Appellant’s arguments that the ultrasound probe configured as claimed is a specialized device, which embodies an inventive concept, lacks support. *In re Wood*, 582 F.2d 638, 642 (CCPA 1978) (“Mere lawyer's arguments and conclusory statements in the specification, unsupported by objective evidence, are insufficient to

establish unexpected results.”) Thus, the recitation of an ultrasound probe configured as claimed fails to provide significantly more than the recited mathematical algorithm.

In addition, we are not persuaded that receipt by a processor of the Doppler signal provides significantly more than the recited mathematical algorithm or that receipt at a processor of data is an improvement to computer technology. We are also not persuaded by Appellant’s argument that because the claimed source of the data is distinguishable from the source of data in *Flook*, the claimed step of receiving, at a processor, the data provides significantly more than the recited mathematical concept. Our reviewing court informs us that “[i]nformation as such is an intangible,” and that “collecting information, including when limited to particular content (which does not change its character as information), [i]s within the realm of abstract ideas.” *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). To the extent Appellant relies on the limitations reciting the mathematical algorithm, i.e., as non-generic functions of the processor, such claim recitations are not in additional elements.

Accordingly, we sustain the Examiner’s rejection of independent claims 1 and 18. Appellant chose not to present separate arguments for the patentability of claims 2–7, 13, 14, 17, 19, 20, and 23 depending therefrom, and therefore, for essentially the same reasons as set forth *supra*, we also sustain the Examiner’s rejection of claims 2–7, 13, 14, 17, 19, 20, and 23. Appeal Br. 15–16.

*Independent claim 24 and claims depending therefrom*

Appellant argues independent claims 24–27 as a group. Appeal Br. 15–16. We select claim 24 as representative, and claims 25–27 stand or fall with claim 24. See 37 C.F.R. § 41.37(c)(1)(iv).

***Step 2A, Prong 1, of the 2019 Guidance: Whether the claim recites a judicial exception***

Similar to independent claims 1 and 18 discussed *supra*, independent claim 24 recites individual method steps that recite a judicial exception. In particular, we determine that the steps of calculating at least one parameter, excluding at least one parameter, calculating certain medians, and selecting a set of cycles, individually recite a mathematical concept (i.e., an abstract idea).

***Step 2A, Prong 2, of the 2019 Guidance: Do additional elements integrate the exception into a practical application of the exception?***

We determine that claim 24, as a whole, fails to integrate the mathematical concept into a practical application of the mathematical process. The additional element recited in claim 24 (as set forth *supra*) (i.e., in addition to the limitations reciting a mathematical concept) is the step of “receiving, at a processor, a Doppler signal obtained responsive to echoes detected by an ultrasound probe from a volume of interest comprising at least one blood vessel, wherein the Doppler signal includes a plurality of cycles.” In other words, the additional element is the step of a processor receiving certain data.

We determine that the step of receiving data (i.e., a certain Doppler signal) is extra-solution activity to the judicial exception of the mathematical concept, which fails to integrate the exception into a practical application of the mathematical concept. Further, to the extent claim 24 requires a processor to receive such data, we determine that such a recitation merely includes instructions to implement the abstract idea on a computer.<sup>8</sup>

***Step 2B of the 2019 Guidance: If the claim is directed to a judicial exception, evaluate whether the claim provides an inventive concept***

The only limitation in claim 24, which is *in addition to* the judicial exception (i.e., the mathematical concept is recited in a separate claim element) is the step of “receiving, at a processor, a Doppler signal obtained responsive to echoes detected by an ultrasound probe from a volume of interest comprising at least one blood vessel, wherein the Doppler signal includes a plurality of cycles,” as set forth *supra*. As discussed *supra*, we determine that receipt at a processor of data is not an improvement to computer technology. Assuming *arguendo* that the processor, as recited in claim 24, is also configured to perform steps of the claimed mathematical concept, we determine that use of a processor to perform computing functions is also not an improvement to computing technology. As determined by the Examiner, claim 24 does not otherwise inform us regarding an improvement to ultrasound probe technology, other than to specify an ultrasound probe as a source for the data (i.e., Doppler signal).

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<sup>8</sup> Notably, claim 24 only requires the processor to receive the data, however, claim 24 does not require the processor to be configured to perform the recited mathematical concept. Such a further limitation, however, would not change our determination that the processor is merely being used as a tool to perform the abstract idea.

Appeal 2018-006178  
Application 14/364,360

*See, e.g.,* Ans. 4–6. The mathematical concept itself, i.e., the abstract idea, cannot provide significantly more than the mathematical concept itself. In other words, *additional elements* must be unconventional in combination, as explained *supra*.

Accordingly, we sustain the Examiner’s rejection of independent claim 24 and claims 25–27 fall therewith.

#### DECISION

The Examiner’s rejection of claims 1–7, 13, 14, 17–20, and 23–27 under 35 U.S.C. § 101 is AFFIRMED.

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