

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

RONDEVOO TECHNOLOGIES, LLC,

Plaintiff;

v.

AERNOS, INC.,

Defendant.

Civil Action No. 19-680-RGA

MEMORANDUM OPINION

George Pazuniak, O'KELLY ERNST & JOYCE, LLC, Wilmington, DE; Todd Y. Brandt, BRANDT LAW FIRM, Longview, TX, Attorneys for Plaintiff.

Jeremy D. Anderson, FISH & RICHARDSON P.C., Wilmington, DE; Neil McNabney and Ricardo Bonilla, FISH & RICHARDSON P.C., Dallas, TX; Ann E. Motl, FISH & RICHARDSON P.C., Minneapolis, MN, Attorneys for Defendant.

March 24, 2020

/s/ Richard G. Andrews

**ANDREWS, UNITED STATES DISTRICT JUDGE:**

Before me is Defendant Aernos' Motion to Dismiss for Failure to State a Claim. (D.I. 7). I have reviewed the Parties' briefing (D.I. 8, 15, 17) and heard oral argument on November 22, 2019. Because I find the asserted claims of the patents at issue do not satisfy the test for eligibility under § 101 of the Patent Act, I will grant Defendant's motion to dismiss.

## **I. BACKGROUND**

Plaintiff filed this patent infringement lawsuit asserting claims of two patents against Defendant on April 11, 2019. (D.I. 1). U.S. Patent No. 9,453,814 ("the '814 patent") and U.S. patent No. 9,927,391 ("the '391 patent"), both entitled "Nano Sensor," are directed to a "nano gas sensor device" that detects and changes in reaction to the presence of a gas, chemical, or biological object. (*Id.*, Ex. A-B). The '814 patent is a continuation of eight applications, each of which has been granted a patent. (*Id.*, Ex. A).

Plaintiff alleges Aernos' AerIoT, a nano gas sensor device, infringes two particular claims of the patents. (*Id.* at 1). Asserted Claim 1 of the '814 patent claims:

A device, comprising:

an upper metallic layer,

a lower layer,

a nano sensor array positioned between the upper and lower layers to detect a presence of gas, a chemical, or a biological object, wherein each sensor's electrical characteristic changes when encountering the gas, chemical or biological object, and

a matrix film on the nano sensor array wherein a physical parameter of the matrix film changes to measure gas or liquid concentration.

(*Id.*, Ex. A). Asserted Claim 19 of the '391 patent claims:

A device, comprising:

an upper metallic layer,

a lower layer, and

a nano sensor positioned between the upper metallic layer and the lower layer, wherein the upper metallic layer, the lower layer, and the nano sensor are vertically aligned,

wherein the nano sensor comprises a physical parameter that changes to measure liquid, gas, chemical, or biological object concentration.

(*Id.*, Ex. B).

This lawsuit is one of a series of fourteen patent infringement cases brought by Plaintiff in this district, twelve of the others having already been resolved, and the thirteenth pending settlement. A Pacer search suggests Plaintiff has filed about another twenty-three other lawsuits in various district courts throughout the country, the great bulk of which have also been quickly resolved. While I have not studied the dockets of these other cases, from the speed with which they have been resolved, it seems fairly likely there has been virtually no real litigation in any of these cases.

## **II. LEGAL STANDARD**

### **a. Failure to State a Claim**

Aernos moves to dismiss the pending action pursuant to Rule 12(b)(6), which permits a party to seek dismissal of a complaint for failure to state a claim upon which relief can be granted. Fed. R. Civ. P. 12(b)(6). According to Aernos, Rondevoo's complaint fails to state a claim because the asserted claims of the patents-in-suit are ineligible for patent protection under 35 U.S.C. § 101. Patent eligibility under 35 U.S.C. § 101 is a threshold test. *Bilski v. Kappos*, 561 U.S. 593, 602 (2010). Therefore, "patent eligibility can be determined at the Rule 12(b)(6) stage ... when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter

of law.” *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018).

When considering a Rule 12(b)(6) motion to dismiss, the court must accept as true all factual allegations in the complaint and view them in the light most favorable to the plaintiff. *Umland v. Planco Fin. Servs.*, 542 F.3d 59, 64 (3d Cir. 2008). Dismissal under Rule 12(b)(6) is only appropriate if the complaint does not contain “sufficient factual matter, accepted as true, to ‘state a claim to relief that is plausible on its face.’” *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009) (quoting *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007)); *see also Fowler v. UPMC Shadyside*, 578 F.3d 203, 210 (3d Cir. 2009). However, “a court need not accept as true allegations that contradict matters properly subject to judicial notice or by exhibit, such as the claims and patent specification.” *Secured Mail Solutions LLC v. Universal Wilde, Inc.*, 873 F.3d 905, 913 (Fed. Cir. 2017) (cleaned up).

#### **b. Patent-Eligible Subject Matter**

Section 101 of the Patent Act defines patent-eligible subject matter. It provides: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The Supreme Court recognizes three categories of subject matter that are not eligible for patents—laws of nature, natural phenomena, and abstract ideas. *Alice Corp. v. CLS Bank Int’l*, 573 U.S. 208, 216. The purpose of these exceptions is to protect the “basic tools of scientific and technological work.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012). “[A] process is not unpatentable simply because it contains a law of nature or a mathematical algorithm,” as “an application of a law of nature or mathematical formula to a known structure or process may well

be deserving of patent protection.” *Id.* at 71 (internal quotation marks and emphasis omitted). In order “to transform an unpatentable law of nature into a patent-eligible application of such a law, one must do more than simply state the law of nature while adding the words ‘apply it.’” *Id.* at 72 (emphasis omitted).

In *Alice*, the Supreme Court reaffirmed the framework laid out in *Mayo* “for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” 573 U.S. at 217. First, the court must determine whether the claims are drawn to a patent-ineligible concept. *Id.* If the answer is yes, the court must look to “the elements of the claim both individually and as an ‘ordered combination’” to see if there is an “‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original). “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.* at 221. Further, “the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” *Id.* at 222 (quoting *Bilski*, 561 U.S. at 610-11). Thus, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.*

Patentability under 35 U.S.C. § 101 is a threshold legal issue. *Bilski*, 561 U.S. at 602. Accordingly, the § 101 inquiry is properly raised at the pleadings stage if it is apparent from the face of the patent that the asserted claims are not directed to eligible subject matter. *See Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1360 (Fed. Cir. 2017), *cert. denied*, 138 S.Ct. 2621 (2018). In these situations, claim construction is not required to

conduct a Section 101 analysis. *Genetic Techs. Ltd. v. Merial LLC*, 818 F.3d 1369, 1374 (Fed. Cir. 2016) (“[C]laim construction is not an inviolable prerequisite to a validity determination under § 101.” (brackets in original, internal citations and quotations omitted)). The Federal Circuit has held that the district court is not required individually to address claims not asserted or identified by the non-moving party, so long as the court identifies a representative claim and “all the claims are substantially similar and linked to the same abstract idea.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014) (internal quotation marks omitted).

### **III. DISCUSSION**

#### **a. Abstract idea**

Because the two claims at issue here are “substantially similar and linked to the same abstract idea,” I will discuss them together. *See id.*

“First, we determine whether the claims at issue are directed to [an abstract idea.]” *Alice*, 573 U.S. at 217. “The ‘abstract ideas’ category embodies ‘the longstanding rule that an idea of itself is not patentable.’” *Id.* (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). “The Supreme Court has not established a definitive rule to determine what constitutes an ‘abstract idea’ sufficient to satisfy the first step of the *Mayo/Alice* inquiry.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1334 (Fed. Cir. 2016). The Supreme Court has recognized, however, that “fundamental economic practice[s],” *Bilski*, 561 U.S. at 611, “method[s] of organizing human activity,” *Alice*, 573 U.S. at 220, and mathematical algorithms, *Benson*, 409 U.S. at 64, are abstract ideas. In navigating the parameters of such categories, courts have generally sought to “compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.” *Enfish*, 822 F.3d at 1334. “[S]ome improvements in computer-related

technology when appropriately claimed are undoubtedly not abstract.” *Id.* at 1335. “[I]n determining whether the claims are directed to an abstract idea, we must be careful to avoid oversimplifying the claims because ‘[a]t some level, all inventions... embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’” *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016) (alterations in original) (quoting *Alice*, 573 U.S. at 217).

The specification is helpful in determining what a claim is “directed to.” *See TLI Commc’ns*, 823 F.3d at 611-12; *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1376 (Fed. Cir. 2015). But while the specification may help illuminate the true focus of a claim, when analyzing patent eligibility, reliance on the specification must always yield to the claim language in identifying that focus. *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766-69 (Fed. Cir. 2019). This is because “the concern that drives” the judicial exceptions to patentability is “one of preemption,” and the claim language defines the breadth of each claim. *Alice*, 573 U.S. at 216; *see Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 336 U.S. 271, 277 (1949) (“[I]t is the claim which measures the grant to the patentee.”). Thus, as part of the “directed to” analysis, I also consider whether a claim is truly focused on an abstract idea (or other ineligible matter), whose use the patent law does not authorize anyone to preempt. *See Mayo*, 566 U.S. at 72; *see also Alice*, 573 U.S. at 223 (noting “the preemption concern that undergirds our §101 jurisprudence”); *Ariosa Diagnostics*, 788 F.3d at 1379 (“The Supreme Court has made clear that the principle of preemption is the basis for the judicial exceptions to patentability.”). “[A] specification full of technical details about a physical invention may nonetheless conclude with claims that claim nothing more than the broad law or abstract idea underlying the claims, thus preempting all use of that law or idea.” *ChargePoint*, 920 F.3d at 769.

Defendant argues that the asserted claims of the '814 and '391 patents are directed to the abstract idea of “a sensor alerting [to] the presence of a gas, chemical, or biological object.” (D.I. 8 at 1). According to Defendant, “The alleged invention amounts to nothing more than a generic sensor in the nanotechnology field.” (*Id.*). Defendant contends that the claims do not add any inventive concept, and recite only “conventional components performing conventional functions.” (*Id.*). Defendant further argues that the claims are written so broadly as to “cover all sensors for detecting a gas, chemical, or biological object so long as the sensors are implemented on the nanoscale.” (*Id.* at 9).

Plaintiff argues, “The claims incorporate physical elements into tangible devices, and thus combine to form more than a mere patent ineligible concept or idea.” (D.I. 15 at 10). Plaintiff emphasizes the “tangible embodiments” disclosed by the patents as, “devices having specific components configured to perform functions in unique ways,” thereby differentiating the claims from those pertaining to a patent-ineligible abstract idea. (*Id.* at 11).

Claims may be abstract even when they are directed to physical devices. The breadth of the claims at issue implicate the Court’s concern with preemption of all applications in all fields due to patenting abstract concepts. *See ChargePoint*, 920 F.3d at 766 (collecting cases on preemption). In *ChargePoint*, the four patents at issue related to network-controlled electric vehicle charging stations. *Id.* Asserted claims in two of the patents were for apparatus claims. *Id.* at 766, 770-71. The Federal Circuit found all eight claims at issue to be “directed to the abstract idea of communicating over a network for device interaction” where the claims were described in the network for device interaction as having a server, data control unit, charger transfer device, electrical receptacle, electric power line connecting the receptacle to a power grid, and other physical limitations. *Id.* at 773. Despite the addition of these physical limitations, the Federal

Circuit found the claims preempted “the entire industry’s ability to use networked charging stations.” *Id.* at 770. Plaintiff argues that *ChargePoint* is distinguishable because the patent in that case was directed to an abstract idea of a problem facing the inventor without providing significant meaningful limitations, but Plaintiff does not identify any meaningful limitations of the Asserted Claims.

I agree with Defendant that although the claims at issue here recite a physical sensor, their focus is on the ability of the sensor to change characteristics when encountering a gas, chemical, or biological object. While the claims arguably require concrete, tangible components—such as, “a layered three-dimensional structure,” “a matrix film,” or “nano sensor array,” *see* D.I. 15 at 2, I find that “the specification makes clear that the recited physical components merely provide a generic environment in which to carry out the abstract idea.” *TLI Commc’ns*, 823 F.3d at 611. Detecting and sensing gas, chemical, and biological phenomena are abstract ideas, and adding “[c]onventional semiconductor structures” and other generally available technologies does not make the underlying abstract idea any more concrete. *See* D.I. 1, Ex. A at 3:28-31, 3:46-48, 4:22-23; *Ariosa Diagnostics*, 788 F.3d at 1376; *Mayo*, 566 U.S. at 77.

In *Enfish*, the Federal Circuit clarified that a relevant inquiry at *Alice* step one is “to ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea....” 822 F.3d at 1335. The Federal Circuit explained that courts should seek to distinguish between claims that are “directed to an improvement in the functioning of a computer” versus “simply adding conventional computer components to well-known business practices.” *Id.* at 1338. The Federal Circuit found that the claims at issue in *Enfish* were not directed to an abstract idea because the claims outlined a “specific asserted improvement in computer capabilities...., [rather than] a process that qualifies as an ‘abstract

idea’ for which computers are invoked merely as a tool.” *Id.* at 1336. Unlike in *Enfish*, the claims here do not describe an improvement in any sort of technology. To the extent that the technical improvement is applying a sensor on the nanoscale so that its characteristics change in the presence of a gas, chemical, or biological object, I do not consider this a technical improvement under *Alice* because it is directed to the abstract idea of sensing more generally.

The claims at issue are directed to a sensor. (D.I. 1). Although Plaintiff points out that the claims include other limitations, such as layers and arrays, the specification makes it clear that the claimed advance of this invention is a sensor, in the nanoscale context. (*Id.*, Ex. A at 1:40-2:55). Here, it is appropriate to characterize the claims as being directed to an abstract idea. *See Solutran, Inc. v. Elavon, Inc.*, 931 F.3d 1161, 1168 (Fed. Cir. 2019) (“where ... the abstract idea tracks the claim language and accurately captures what the patent asserts to be the ‘focus of the claimed advance over the prior art,’ characterizing the claim as being directed to an abstract idea is appropriate.” (internal citation omitted)).

Thus, I find the asserted claims of the ’814 and ’319 patents are directed at an unpatentable abstract idea.

#### **b. Inventive concept**

As I find that the claims are directed to unpatentable subject matter, I will next consider whether the claims contain an “inventive concept sufficient to transform the claimed abstract idea into a patent eligible application.” *Alice*, 573 U.S. at 221 (internal quotations omitted). To pass this test, the claim “must include additional features” that “must be more than well-understood, routine, conventional activity.” *Ultramercial, Inc. v. Hulu, LLC*, 772 F.2d 709, 715 (Fed. Cir. 2014) (internal quotations omitted). “If a claim’s only ‘inventive concept’ is the application of an abstract idea using conventional and well-understood techniques, the claim has

not been transformed into a patent-eligible application of an abstract idea.” *BSG Tech LLC v. Buyseasons, Inc.*, 899 F.3d 1281, 1290-91 (Fed. Cir. 2018).

The claims at issue here do not contain meaningful limitations restricting them to non-routine, specific applications of the abstract idea. The claims include an “upper layer,” a “lower layer,” and a sensor positioned between the layers. (D.I. 1, Ex. A-B). While Plaintiff’s counsel emphasized the sensor’s “physical tangible elements” as carrying the “weight” of the claims at oral argument, there is not a single technical improvement that is claimed in the asserted patents, and the claimed components are described based on their functions rather than on specific improvements in hardware or any technical explanation as to how to implement them in an inventive way. *See TLI Commc’ns*, 823 F.3d at 615 (explaining that claims failed step two of *Alice* where the specification limited its discussion of “additional functionality” of conventional components “to abstract functional descriptions devoid of technical explanation as to how to implement the invention”).

The specification supports the finding that the claimed sensor components are conventional. For example, in describing the fabrication of nano electronic components and systems, the specification states that nano elements such as semiconductors are “formed as is conventional.” (D.I. 1, Ex. A at 3:29-31). Various embodiments describe “generally available ... techniques utilized in semiconductor processing,” along with a host of other processes that appear to be described as “generally available” or “conventional.” *See id.* at 3:32-33, 3:46-48, 4:21-23, 3:55-56, 4:13-14, 5:11-12. In one embodiment where the nano elements are in a chain, the elements may be “capacitors, inductors, or combination of one or more of these three types of molecular elements or nano elements” that would be “obvious to those skilled in the art.” (*Id.* at 8:62-64). This embodiment contains a switch, wherein “each electrically controllable switch is a

conventional [field-effect transistor].” (*Id.* at 9:34-35). Other embodiments include monolayer arrays of nano elements that are formed by “conventional techniques employing self-assembled monolayers.” (*Id.* at 10:16-17). In the nano antenna embodiment, the device includes a processor core “that is fabricated using conventional semiconductor processes.” (*Id.* at 12:30-32, 12:41-44). In the nano image sensor embodiment, the specification states that the “electronic circuit can also perform various image processing operations well-known in the art.” (*Id.* at 31:9-10). The specification is replete with statements that the components are made using conventional techniques.

The specification also states that the readout of the device is done through conventional methods. For example, “the exposed energy pattern can be read out electronically as in conventional memory devices.” (*Id.* at 19:46-47). The specification further elaborates that the disclosed “nano-display devices can include driver circuits ... electrodes, digital signal processing units, memory, display mode control, [and] power drivers which are typically found in conventional electronic displays.” (*Id.* at 36:8-12). The magnification of the nano-display image “can be accomplished using ... assemblies that are well known and widely utilized in standard optical projection systems.” (*Id.* at 36:22-24).

There is no description of an additional “inventive concept” engaged in using conventional components to detect and measure gas, chemical, or biological objects. *See Alice*, 573 U.S. at 221. The claims do not describe in a non-abstract way how to achieve what is being claimed, i.e., how the “sensor’s electrical characteristic changes when encountering the gas, chemical or biological object,” when all of the electrical components are generic and broad. *See D.I. 1, Ex. A* at 52:55-57. The claim limitations do not distinguish what is claimed from conventional methods of creating sensors with electrical characteristics.

Thus, I do not find that the claims contain an inventive concept sufficient to pass step two of *Alice*. The claims recite a patent-ineligible abstract idea.

**c. Leave to amend**

Plaintiff seeks leave to file an amended complaint should the Court find the asserted claims to be patent-ineligible. (D.I. 15 at 16). The specification makes clear that the claims at issue are directed to an abstract idea. The claimed components are conventional and contain no meaningful limitations restricting them to non-routine applications of the abstract idea, thereby failing to claim an inventive concept. Based on the foregoing, Plaintiff cannot amend its complaint to state a claim upon which relief can be granted. *See Shane v. Fauver*, 213 F.3d 113, 115 (3d Cir. 2000).

**IV. CONCLUSION**

For the reasons discussed above, I will grant Defendant's motion to dismiss. An accompanying order will be entered.

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ORDER

For the reasons stated in the accompanying memorandum opinion, **IT IS HEREBY ORDERED** that Defendants' Motion to Dismiss (D.I. 7) is **GRANTED**. Asserted Claim 1 of the '814 Patent and Asserted Claim 19 of the '391 Patent are **DISMISSED**.

The parties should submit a joint status report within two weeks.

Entered this 24<sup>th</sup> day of March, 2020.

/s/ Richard G. Andrews  
United States District Judge