IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

WITRICITY CORPORATION, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, and AUCKLAND UNISERVICES, LTD.,	:	
Plaintiffs,	:	**CIVIL ACTION**
v.	:	
MOMENTUM DYNAMICS CORPORATION,	:	**NO. 20-1671**
Defendant.	:	

MEMORANDUM OPINION

Goldberg, J. **September 27, 2021**

Plaintiffs WiTricity Corporation, Massachusetts Institute of Technology, and Auckland Uniservices, Ltd. (collectively, "Plaintiffs") allege that Defendant Momentum Dynamics Corporation has infringed several of Plaintiffs' patents involving technology for the wireless charging of electric vehicles. Defendant moves for partial dismissal of these claims under Federal Rule of Civil Procedure 12(b)(6) regarding two patents at issue, the '701 patent-in-suit and the '595 patent-in suit. For the following reasons, I will grant the Motion as to the '701 patent-in-suit, but deny the Motion as to the '595 patent-in-suit.

I. FACTS IN THE COMPLAINT

The following facts are set forth in Plaintiffs' Complaint.[1]

[1] In deciding a motion under Federal Rule of Civil Procedure 12(b)(6), I must accept all factual allegations in the operative complaint as true, construe the complaint in the light most favorable to the plaintiff, and determine whether, under any reasonable reading, the plaintiff may

Plaintiff WiTricity Corporation ("WiTricity") was founded in 2007 based on new technology for wireless electricity transfer. The technology, invented and patented by a team of physicists from Plaintiff, the Massachusetts Institute of Technology ("MIT"), is known as "highly resonant wireless power transfer," which enables transfer of power from one device to the other at high efficiency and over a distance range. This technology is the foundation for resonant-based systems for wireless charging of electric vehicles. (Compl. ¶ 18.)

From June 22, 2010 to September 19, 2018, the United States Patent and Trademark Office ("PTO") issued numerous patents regarding this technology that are at issue in this case:

- On June 22, 2010, the PTO issued the '734 Patent, titled "Wireless non-radiative energy transfer." MIT is the owner by assignment, and WiTricity is the exclusive licensee with rights to prosecute any third-party infringement.

- On November 6, 2012, the PTO issued the '935 Patent, titled "Wireless energy transfer using field shaping to reduce loss." WiTricity is the owner by assignment.

- On April 29, 2014, the PTO issued the '701 Patent, titled "Antennas and their coupling characteristics for wireless power transfer via magnetic coupling." WiTricity is the owner by assignment.

- On November 11, 2014, the PTO issued the '581 Patent, titled "Adaptive wireless energy transfer system." WiTricity is the owner by assignment.

- On November 10, 2015, the PTO issued the '595 Patent, titled "Wireless energy transfer in lossy environments." WiTricity is the owner by assignment.

- On April 5, 2016, the PTO issued the '635 Patent, titled "Wireless energy transfer with reduced fields." WiTricity is the owner by assignment.

- On September 19, 2017, the PTO issued the '955 Patent, titled "Multi power sourced electric vehicle." Plaintiff Auckland Uniservices, Ltd. ("Auckland") is the owner by assignment and WiTricity is the licensee in the field of road vehicles, with the exclusive right to enforce the '955 Patent in the field of road vehicles.

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be entitled to relief. Atiyeh v. Nat'l Fire Ins. Co. of Hartford, 742 F. Supp. 2d 591, 596 (E.D. Pa. 2010).

(collectively, the "patents-in-suit").[2] WiTricity continues to develop and patent the core technology necessary for the wireless charging of electric vehicles and has acquired intellectual property building upon its foundational technology. WiTricity now controls over 1000 issued patents worldwide. (Id. ¶ 11–17, 19.)

Defendant Momentum Dynamics Corporation ("Momentum") develops wireless charging systems for the automotive and transportation industries in the United States. Momentum's website states that the "Momentum Charger is a modular platform technology capable of spanning across multiple vehicle types automatically and without a plug," describing its technology as an "automatic inductive charging system" and "high power inductive charging technologies." Momentum's website further explains that its technology is "based on the scientific principle of resonant magnetic induction." According to the Complaint, Momentum has installed or proposed to install its wireless electric vehicle charging systems on various public bus networks in Massachusetts, Tennessee, Washington, and Maryland. (Id. ¶¶ 4, 20, 21.)

On December 9, 2020, Plaintiffs filed suit alleging direct and indirect infringement of the seven aforementioned patents-in-suit. On February 16, 2021, Defendant moved to dismiss Count III of the Complaint (relating to the '701 patent) and Count V of the Complaint (relating to the '595 patent).

I. STANDARD OF REVIEW

Under Federal Rule of Civil Procedure 12(b)(6), a defendant bears the burden of demonstrating that the plaintiff has not stated a claim upon which relief can be granted. Fed. R. Civ. P. 12(b)(6); see also Hedges v. United States, 404 F.3d 744, 750 (3d Cir. 2005). The United States Supreme Court has recognized that "a plaintiff's obligation to provide the 'grounds' of his

[2] As noted above, for purposes of this Opinion only, the '701 and '595 patents are at issue.

'entitle[ment] to relief' requires more than labels and conclusions." Bell Atl. Corp. v. Twombly, 550 U.S. 544, 555 (2007) (quotations omitted). "[T]hreadbare recitals of the elements of a cause of action, supported by mere conclusory statements, do not suffice" and "only a complaint that states a plausible claim for relief survives a motion to dismiss." Ashcroft v. Iqbal, 556 U.S. 662, 678 (2009). "A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." Id. A complaint does not show an entitlement to relief when the well-pleaded facts do not permit the court to infer more than the mere possibility of misconduct. Id.

The United States Court of Appeals for the Third Circuit has detailed a three-step process to determine whether a complaint meets the pleadings standard. Bistrian v. Levi, 696 F.3d 352 (3d Cir. 2014). First, the court outlines the elements a plaintiff must plead to state a claim for relief. Id. at 365. Next, the court must "peel away those allegations that are no more than conclusions and thus not entitled to the assumption of truth." Id. Finally, the court "look[s] for well-pled factual allegations, assume[s] their veracity, and then 'determine[s] whether they plausibly give rise to an entitlement to relief.'" Id. (quoting Iqbal, 556 U.S. at 679). The last step is "a context-specific task that requires the reviewing court to draw on its judicial experience and common sense." Id. (quoting Iqbal, 556 U.S. at 679).

Although the sufficiency of complaints involving claims of direct infringement were previously analyzed under Federal Rule of Civil Procedure 84 and the Appendix of Forms, those rules were abrogated effective December 1, 2015. Raindance Techs., Inc. v. 10x Genomics, Inc., No. 15-cv-150, 2016 WL 927143, at *2 (D. Del. Mar. 4, 2016). It is now well established that both direct and indirect infringement claims are subject to the Twombly/Iqbal standard. IP Commc'n Solutions, LLC v. Viber Media (USA) Inc., No. 16-cv-134, 2017 WL 1312942, at *2

(D. Del. Apr. 5, 2017); RAH Color Techs. LLC v. Ricoh USA Inc., 194 F. Supp. 3d 346, 350–51 (E.D. Pa. 2016).

II. DISCUSSION

Regarding the '701 patent, Defendant's Motion contends that it is not directed to eligible subject matter under 35 U.S.C. § 101 and, therefore, should be invalidated on the pleadings. Regarding the '595 patent, Defendant presses that the Complaint fails to plausibly allege facts supporting a claim for infringement.

A. Count III - The '701 Patent

Section 101 of the Patent Act provides that "[w]hoever invents or discovers any new and useful process, machine, 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 United States Supreme Court has held that this definition of patentable subject matter does not include laws of nature, natural phenomena, or abstract ideas. Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208, 216 (2014).

Patentability under 35 U.S.C. § 101 is a threshold legal issue. Bilski v. Kappos, 561 U.S. 593, 602 (2010). 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. Cleveland Clinic Found. v. True Health Diagnostics LLC, 859 F.3d 1352, 1360 (Fed. Cir. 2017), cert. denied, 138 S. Ct. 2621 (2018); see also Berkheimer v. HP Inc., 881 F.3d 1360, 1368 (Fed. Cir. 2018) (holding that whether a claim recites patent eligible subject matter is a question of law which may, but does not always, contain disputes over underlying facts), cert denied, 140 S. Ct. 911 (2020); Universal Secure Registry LLC v. Apple Inc., 469 F. Supp. 3d 231, 236 (D. Del. 2020) (dismissing a claim under Rule 12(b)(6) for lack of patentability).

In Alice Corp. Proprietary Limited v. CLS Bank International, the Supreme Court set forth a two-step analysis for determining if a patent claims eligible subject matter. First, the court must decide whether the patent's claims are drawn to a patent-ineligible concept—*i.e.*, to a law of nature, natural phenomenon, or abstract idea. Alice, 573 U.S. at 217. If the answer is no, then the patent is not invalid for teaching ineligible subject matter. Id. If yes, the court proceeds to step two, where it considers "the elements of each claim both individually and as an ordered combination" to discern whether 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. at 217–18 (internal quotations omitted). A claim recites an inventive concept "when the claim limitations involve more than performance of well-understood, routine, and conventional activities previously known to the industry." Berkheimer, 881 F.3d at 1367 (quotations omitted).

1. Step One of the *Alice* Inquiry

Defendant first presses that Claims 1–11 of the '701 Patent are directed to an abstract idea because they "recite an abstract optimization idea in highly generalized result-oriented language—the idea of optimizing the efficiency or power level of a wireless power transfer while maintaining at least a minimal level of both." (Def.'s Mot. to Dismiss 7.) Citing to claim 6 as an example, Defendants argue that this claim merely recites a "method for wirelessly receiving power" by either (a) "optimizing transfer efficiency" provided that the amount of power remains above some minimal threshold or (b) "optimizing the amount of power received" provided that the efficiency remains above some minimal threshold. (Id. at 7.) Plaintiffs respond that the claims of the '701 Patent are not purely abstract because the "optimizing circuit" required by the claims represents a technological improvement to wireless power transfer apparatuses.

At step one, "the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter." Internet Patents Corp. v. Active Network, Inc., 790 F.3d 1343, 1346 (Fed. Cir. 2015). "The 'abstract ideas' category embodies 'the longstanding rule that an idea of itself is not patentable.'" Alice, 573 U.S. at 218 (quoting Gottschalk v. Benson, 409 U.S. 63, 67 (1972)). Although "[t]he Supreme Court has not established a definitive rule to determine what constitutes an 'abstract idea' sufficient to satisfy the first step of the [Alice] inquiry," Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1334 (Fed. Cir. 2016), it has recognized 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 72, constitute abstract ideas not subject to patent.

"[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). Thus, while a fundamental principle cannot be patented, "an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection," so long as that application would not preempt substantially all uses of the fundamental principle. Bilski, 561 U.S. at 612 (quoting Diamond v. Diehr, 450 U.S. 175, 187 (1981)) (internal quotations omitted). Nonetheless, 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.'" Mayo Collaborative Servs. v. Prometheus Labs., Inc., 566 U.S. 66, 72 (2012).

To navigate whether a claim is directed to an abstract idea, a court may review the specification itself, keeping in mind that "reliance on the specification must always yield to the claim language in identifying that focus." SynKloud Techs, LLC v. HP, Inc., 490 F. Supp. 3d 806, 811 (D. Del. 2020) (citing ChargePoint, Inc. v. SemaConnect, Inc., 920 F.3d 759, 766–69 (Fed. Cir. 2019)). Therefore, as part of the "directed to" analysis, the court must 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." Id. Aside from the claim language and the specification, courts may also "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. As such, a review of cases with similar technology is instructive in answering the § 101 question.

The Federal Circuit, in ChargePoint, Inc. v. SemaConnect, Inc., 920 F.3d 759 (Fed. Cir. 2019), elaborated on when a claim is "directed to" an abstract idea. The patent in that case recited:

> An apparatus, comprising: . . . a control device to turn electric supply on and off to enable and disable charge transfer for electric vehicles; a transceiver to communicate requests for charge transfer with a remote server and receive communications from the remote server via a data control unit that is connected to the remote server through a wide area network; and a controller, coupled with the control device and the transceiver, to cause the control device to turn the electric supply on based on communication from the remote server.

Id. at 766. In examining a challenge to patentability, the Court undertook several distinct steps. First, it observed that the precise language of the claim involved an abstract idea—that of communicating requests to a remote server and receiving communications from that server. Id. Second, the Court turned to the specification to understand "the problem facing the inventor" and noted that the invention of the patent was "nothing more than the abstract idea of communication over a network for interacting with a device, applied to the context of electric vehicle charging stations." Id. at 767–68. Third, the Court considered the extent to which the claim would preempt

building blocks of science and technology and found that the claim language, being directed to the abstract idea of communication over a network for device interaction, would preempt the use of any networked charging station. Id. at 768–69. Finally, the Court remarked that the mere fact that claim 1 of the patent was associated with a tangible, physical machine—an electric vehicle charging station—was not dispositive of whether the patent was only an abstract idea. Id. at 769–770. Rather, it noted that, notwithstanding the recitation of a physical machine, the claim language and specification indicated that the focus of the claim was on the abstract idea of network communication for device interaction. Id. at 770. Ultimately, the Federal Circuit concluded that all of the claims were directed to the abstract idea of communicating over a network and, thus, were not patentable. Id.

American Axle & Manufacturing, Inc. v. Neapco Holdings, LLC, 967 F.3d 1285 (Fed. Cir. 2020), cert. filed (Dec. 28, 2020) is also helpful. In that case, the Federal Circuit considered patent eligibility for a method of manufacturing driveline propeller shafts containing a liner designed such that its frequencies attenuate two modes of vibration simultaneously. Facing a patentability challenge, the Federal Circuit engaged in an analysis similar to that in ChargePoint. Id. First, the Court looked to the "focus of the claimed advance" and found that the claimed processes required use of a natural law of relating frequency to mass and stiffness, *i.e.*, Hooke's law, and that the exemplary claim described a desired result. Id. at 1292–93. Second, while the plaintiff asserted that it had improved on a process for implementing the underlying natural laws, neither the specifics of any novel computer modeling, nor the specifics of any experimental modal analysis were included as limitations in the claim. Id. at 1294–95. Rather, the claims lacked any physical structure or steps for achieving the claimed result, and instead were simply the concept of achieving a result by whatever structures or steps happened to work. Id. at 1295. In other words,

the Court found that the the claim essentially amounted to the patenting of a result involving application of a natural law without limitation of the claim to particular methods of achieving that result. Id.

Finally, in IPA Techs., Inc. v. Amazon.com, Inc., 307 F. Supp. 3d 356 (D. Del. 2018), the district court confronted issues of patentability with respect to a patent directed to navigating an electronic data source by means of spoken language. Id. at 359. Claim 1 of the patent recited,

> A method for speech-based navigation of an electronic data source, the electronic data source being located at one or more network servers located remotely from a user, comprising the steps of: (a) receiving a spoken request for desired information from the user; (b) rendering an interpretation of the spoken request; (c) constructing at least part of a navigation query based upon the interpretation; (d) soliciting additional input from the user, including user interaction in a non-spoken modality different than the original request without requiring the user to request said non-spoken modality; (e) refining the navigation query, based upon the additional input; (f) using the refined navigation query to select a portion of the electronic data source; and (g) transmitting the selected portion of the electronic data source from the network server to a client device of the user.

Id. at 359. The district court found that the claims were abstract because they claimed mere results with no specific technical solutions for achieving them. Id. at 363. In other words, the claims recited only the idea for the interaction between a natural language input and an electronic database output. Id. The district court went on to note that although the patented systems recited the use of specific hardware, including an "electronic data source" and "network servers," these elements were "insufficient to tie the claims to a specific improvement in technology or a technological solution to an identified problem." Id. at 364. The district court remarked that both "data source" and "network servers" were generic terms that limited "the claim to a generally technological environment, but their presence [did] not require specific hardware or software sufficient to tie the claims to a technological solution to a particular problem." Id. at 365.

Guided by the reasoning in these cases, I turn to the specification and claims of the '701 patent, entitled "Antennas and Their Coupling Characteristics for Wireless Power Transfer Via Magnetic Coupling." Independent claim 1 recites:

> An apparatus configured to transmit wireless power from a transmitter, the apparatus comprising:
>
> An inductor having an inductance value;
>
> A capacitor electrically connected to the inductor and having a capacitance value; and
>
> An optimizing circuit configured to:
> optimize transfer efficiency of power transmitted wirelessly to the receiver, provided that an amount of power received wirelessly and provided to a load is greater than or equal to a received power threshold; or
>
> optimize the amount of the power received wirelessly, provided that the power transfer efficiency is greater than or equal to an efficiency threshold.

('701 patent, claim 1.)

Independent claim 10—which is the exemplary claim cited in the Complaint—recites:

> An apparatus configured to transmit wireless power to a receiver the apparatus comprising:
>
> An inductor having an inductance value;
>
> A capacitor electrically connected to the inductor and having a capacitance value; and
>
> An optimizing circuit configured to:
> optimize transfer efficiency of power transmitted wirelessly to the receiver, provided that an amount of power received wirelessly and provided to a load of the receiver is granter than or equal to a received power threshold; or

> optimize the amount of the power received wirelessly, provided that the power transfer efficiency is greater than or equal to an efficiency threshold.

('701 patent, claim 10.)

Dependent claim 6—upon which Defendant relies to establish the patent's ineligibility—provides:

> A method for wirelessly receiving power from a transmitter, the, the [sic] method comprising:
>
> > optimizing transfer efficiency of power received wirelessly from the transmitter, provided that an amount of the power received wirelessly and provided to a load is greater than or equal to a received power threshold; or
> >
> > optimizing the amount of the power received wirelessly from the transmitter, provided the power transfer efficiency is greater or equal to an efficiency threshold.

('701 patent, claim 6.)[3]

The above claim language demonstrates that the claims *involve* an abstract idea—the notion of "optimiz[ing] transfer efficiency of power received wirelessly from the transmitter." (Id. col. 13, lines 50–64.) Indeed, the wireless transfer of power for wireless charging devices operates off of these fundamental principles. The mere inclusion of a patent-ineligible concept in the claim, however, is insufficient to render that claim invalid under 35 U.S.C. § 101. Rather, I must "determine whether that patent-ineligible concept is what the claim is 'directed to'." Thales Visionix, Inc. v. United States, 850 F.3d 1343, 1349 (Fed. Cir. 2017) (quotation omitted).

To ascertain what the claim is "directed to," I will look to the specification since "[c]laims must be read in view of the specification, of which they are a part." ChargePoint, Inc., 920 F.3d

[3] The parties dispute whether claim 6 is representative of claims 1–11 of the patent. I need not address this issue as I find that none of the challenged claims of the '701 patent are directed to patentable matter.

at 767 (internal quotations and quotation marks omitted). The specification's "abstract" provides that the apparatus includes an inductor, capacitor and optimizing circuit configured to optimize transfer efficiency of power received wireless from the transmitter at certain power and efficiency thresholds. ('701 patent, abstract.) The specification's "summary" section states that the '701 patent involves "the way in which the 'antennas' or coils interact with one another to couple wirelessly the power therebetween." ('701 patent, col. 1, lines 49–51.) Thereafter, the specification notes that the patent involves balancing two main rules: (a) the optimization of the efficiency of the power transfer and (b) maximization of the received amount of power independent of efficiency. (Id., col. 13, lines 3–8.) The various claims then address different rules for balancing these two features. (Id., col. 13, lines 9–24.) Ultimately, the specification indicates that the invention is intended to "describe[] specific examples to accomplish a more general goal that may be accomplished in another way," and the invention is not limited to any of the specific examples set forth in the specification for achieving that general goal. (Id., col 13, lines 28–29.) In short, the claims of the '701 patent simply recite an abstract goal for optimizing wireless power transmissions—a goal sought in all wireless charging devices. And this description is recited without clearly articulating a method by which that goal will be obtained and without setting any threshold for transfer efficiency or amount of power that would achieve the optimization goal.

In an effort to establish that the claims of the '701 patent are directed to improvements in wireless power and, thus, patent-eligible, Plaintiffs advance several arguments.

First, relying on claim 10 as an example, Plaintiffs assert that the claimed configuration "improves wireless power transfer performance by improving the adaptability of the underlying apparatus by accounting for changes in operating conditions." (Pls.' Opp'n 7.) Plaintiffs go on to explain that:

> For example, if the wireless power transfer apparatus were designed to optimize transfer efficiency regardless of the amount of power transferred, then the apparatus might implement a highly efficient transfer while reducing the amount of power transferred to a level insufficient to the receiving device's power needs. Likewise, if the circuit optimized the amount of power transferred regardless of efficiency, then the apparatus might transfer large amounts of power but waste significant amounts in the process.

(Id. at 7–8.) Plaintiffs posit that Defendant ignores the inventive optimizing circuitry required by the claims and overgeneralizes what the claims actually require. Plaintiffs contend that the claims at issue include specific requirements relating to the optimizing circuit that constitute patent eligible improvements to the way wireless power transfer processes work. I disagree

The "optimization circuitry" which Plaintiffs argue provides a technological advantage is, as Defendant correctly notes, merely a restatement of the abstract idea of optimizing either the efficiency or power level of a wireless power transfer while maintaining at least a minimal level of both. The patent describes no method by which this goal is achieved. Indeed, although the specification recites various equations, it states that there are multiple values that "can be used to optimize wireless power transfer between a source and receiver." (Id., col 13, lines 1–2.) The specification then indicates that it simply sets forth examples "to accomplish a more general goal that may be accomplished in another way," and that the invention is not limited to any of the examples identified in the specification for achieving that general goal. (Id., col 13, lines 28–29.) The word "circuitry" in the claims does not undercut the fact that the organization of the circuitry is merely the concept of achieving the desired abstract goal by whatever steps happen to work.

Next, Plaintiffs point to the fact that many of its claims explicitly require physical components such as an "inductor," "capacitor," and "optimizing circuit." According to Plaintiff, the use of such components suggests that the claim is not directed to an abstract concept, but rather to a specific technological improvement in wireless power transfer.

The Federal Circuit has noted that "not every claim that recites concrete, tangible components escapes the reach of the abstract idea inquiry." In re TLI, 823 F.3d at 611. Thus, the mere fact that a device is a tangible system or "machine" is not dispositive. ChargePoint, 920 F.3d at 770; see also IPA Techs., Inc. v. Amazon.com, Inc., 307 F. Supp. 3d 356, 362 (D. Del. 2018) ("[T]he mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.") (quoting Alice). This is particularly true where the specification fails to provide any technical details for the tangible components, but instead describes the system and methods in purely functional terms without any meaningful limitations. In re TLI, 823 F.3d at 612.

Here, the specification treats the terms "inductor" and "capacitor" as generic terms and, in fact, notes that "[o]ther sizes, materials and connections can be used" and "[o]ther structures can be used to receive the magnetic field." ('701 patent, col. 13 lines 33–35.) None of the '701 patent claims describe those components with any detail, and the specification "provides no indication that any particular, non-ubiquitous hardware is required to carry out the claimed process." Yodlee, Inc. v. Plaid Techs., Inc., No. 14-cv-1445, 2016 WL 2982503, at *18 (D. Del. May 23, 2016). Indeed, the components are included for the sole purpose of achieving the patented goal of the wireless transfer of power that satisfactorily balances transfer efficiency and amount of power received, and two of the claims—claims 6 and 7—include no physical components at all. As such, the invention is not the physical structure of the inductor, capacitor, and optimizing circuit, but rather the concept of optimizing efficiency while maintaining a threshold level of power, or vice versa.

Plaintiffs also cite to what it claims are analogous cases to establish that the patent's specific requirements relating to the optimizing circuit constitute patent-eligible improvements to the way wireless power transfer processes work. I find both cases distinguishable.

In McRO, Inc. v. Bandai Namco Games Am. Inc., 837 F.3d 1299 (Fed. Cir. 2016), the Federal Circuit addressed the issue of patentability with respect to a method for animating lip synchronization and facial expressions of animated characters. Id. at 1303. The patent recited a method comprising:

> [a] obtaining a first set of rules that define output morph weight set stream as a function of phoneme sequence and time of said phoneme sequence; [b] obtaining a timed data file of phonemes having a plurality of sub-sequences; [c] generating an intermediate stream of output morph weight sets and a plurality of transition parameters between two adjacent morph weight sets by evaluating said plurality of sub-sequences against said first set of rules; [d] generating a final stream of output morph weight sets at a desired frame rate from said intermediate stream of output morph weight sets and said plurality of transition parameters; and [e] applying said final stream of output morph weight sets to a sequence of animated characters to produce lip synchronization and facial expression control of said animated characters.

Id. at 1307–08. The Federal Circuit noted that the claims were limited to rules with specific characteristics and set out meaningful requirements for each set of rules. Id. at 1313. The Court went on to note that "[b]y incorporating the specific features of the rules as claim limitations, claim 1 is limited to a specific process for automatically animating characters using particular information and techniques and does not preempt approaches that use rules of a different structure or different techniques. Id. at 1316.

In Ancora Techs. v. HTC Am., Inc., 908 F.3d 1343, 1348 (Fed. Cir. 2018), the Federal Circuit considered the patentability of a claim involving methods of limiting a computer's running of software not authorized for that computer to run. Id. at 1344. The Court found that the patent

was not directed to an abstract idea because the claimed method "specifically identifies how that functionality improvement is effectuated in an assertedly unexpected way: a structure containing a license record is stored in a particular, modifiable, non-volatile portion of the computer's BIOS, and the structure in that memory location is used for verification by interacting with the distinct computer memory that contains the program to be verified." Id. at 1348–49. The Court concluded that the patent was "directed to a *solution* to a computer-functionality problem: an improvement in computer functionality that has the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it." Id. at 1349 (internal quotation marks omitted) (emphasis added).

Here, by contrast, Plaintiffs identify no specific technological improvement in the field of wireless power transfer. None of the claims in the '701 patent provide any specificity as to how to improve the transfer of wireless power, other than by optimizing transfer efficiency at the expense of power received or optimizing power received at the expense of transfer efficiency. The claims cite no rules, no specific technology, no optimal values to be obtained in the pre-existing mathematical formulas, and no specific hardware to be used other than the generic electrical components. Indeed, both the McRO and Ancora cases serve to support my conclusion of patent ineligibility and demonstrate the distinction between a patent directed to an abstract idea and one directed to patent-eligible improvement.

Finally, Plaintiffs contend that, unlike in ChargePoint, the claims of the '701 patent do not preempt other methods of wireless power transfer, thereby alleviating the concern in Alice that claims directed to abstract ideas will monopolize basic tools of scientific and technological work. Alice, 573 U.S. at 216.

Plaintiffs' argument is belied by the language in the specification. That specification notes that, as a general rule, there are two features to consider and optimize in wireless transfer circuits: (1) the way in which efficiency is optimized, and (2) the way in which the received amount of power is maximized. ('701 patent, col. 13, lines 3–8.) The specification indicates that the patent does not limit any particular balance of these design rules but rather expands the claims to include any variation where "the circuit values are adaptively change[d] based on operational parameters." (Id. at lines 19–24.) Moreover, the specification states that although only a few embodiments are detailed, "other embodiments are possible and the inventors intend these to be encompassed within this specification." (Id. at lines 25–27.) It goes on to note that "[t]his disclosure is intended to be exemplary, and the claims are intended to cover *any modification or alternative which might be predictable to a person having ordinary skill in the art*." (Id. at lines 30–33 (emphasis added).) This means that any invention operating off wireless power transfer would be preempted from relying on the two key principles that must be optimized in wireless transfer circuits. Stated simply, the '701 patent seeks to do precisely what the Supreme Court has forbidden—preempt a substantial number of uses of a fundamental principle.

In light of the foregoing, I find that the claims of the '701 patent are directed to an abstract idea and, therefore, fail the first step of the Alice inquiry.

2. Step Two of the *Alice* Inquiry

If a patent is found to be directed to an abstract concept under step one of Alice, a court proceeds to step two, where it considers "the elements of each claim both individually and as an ordered combination" to discern whether 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." Alice, 573 U.S. at 217–18 (alteration in original).

An "inventive concept," under step two, exists when a claim "recite[s] a specific, discrete implementation of the abstract idea" where the "particular arrangement of elements is a technological improvement over [the] prior art." BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC, 827 F.3d 1341, 1350 (Fed. Cir. 2015). "This focus on specificity is linked with concerns about preemption." SynKloud Techs, LLP v. HP Inc., 490 F. Supp. 3d 806, 811 (D. Del. 2018) (citing Amdocs (Israel) Ltd. v. Openet Telecom, Inc., 841 F.3d 1288, 1306 (Fed. Cir. 2016)). In order to pass step two, a claim "must include additional features" that are "more than well-understood, routine, conventional activity." Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 715 (Fed. Cir. 2014) (internal quotations omitted), cert. denied, 576 U.S. 1057 (2015). "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).

In In re TLI Commc'ns LLC Patent Litig., 823 F.3d 608 (Fed. Cir. 2016), the Federal Circuit discussed the second prong of Alice in the context of a patent claiming a method for recording and administering digital images, comprising the steps of:

> [(a)] recording images using a digital pick up unit in a telephone unit; [(b)] storing the images recorded by the digital pickup unit in a digital form as digital images; [(c)] transmitting data including at least the digital images and classification information to a server, wherein said classification information is prescribable by a user of the telephone unit for allocation to the digital images; [(c)] receiving the data by the server; [(d)] extracting classification information which characterizes the digital images from the received data; and [(e)] storing the digital images in the server, said step of storing taking into consideration the classification information.

Id. at 610.

At step one, the Court found that the recited physical components merely provided "a generic environment in which to carry out the abstract idea of classifying and storing digital images in an organized matter." Id. at 611. At step two, the Court concluded that the claims "fail[ed] to recite any elements that individually or as an ordered combination transform the abstract idea of classifying and storing digital images in an organized manner into a patent-eligible application of that idea." Id. at 613. Although the Court acknowledged that the claim recited concrete, tangible components, it found that those components were insufficient to bring the "abstract idea into the realm of patentability" because the components involved nothing more than performance of "well-understood, routine conventional activit[ies] previously known to the industry." Id. at 613. Finally, the Court rejected the plaintiff's argument that fact-finding was required, noting that it "need[ed] to only look to the specification, which describes the telephone unit and server as either performing basic computer functions such as sending and receiving data, or performing functions 'known' in the art." Id. at 614.

Similarly, in Affinity Labs of Texas, LLC v. DirectTV, 838 F.3d 1253 (Fed. 2016), cert. denied, 137 S. Ct. 1596 (2017), the patent claimed the function of wirelessly communicating regional broadcast content to an out-of-region recipient, not a particular way of performing that function. Id. at 1258. Although the patent limited the wireless delivery only to cellphones, and thus did not apply to delivery of out-of-region content to any electronic device, the Court found that that restriction did not alter result because it simply confined the abstract idea to a particular technological environment. Id. at 1258. Finding that the patent was, in fact, directed to an abstract idea under the first step of Alice, the Court turned to step two and found no "inventive concept" that transformed "the abstract idea of out-of-region delivery of regional broadcasting into a patent-eligible application of that abstract idea." Id. at 1262. It noted that the claim simply recited "the

use of generic features of cellular telephones, such as a storage medium and a graphical user interface, as well as routine functions, such as transmitting and receiving signals to implement the underlying data." Id. It found that the dependent claims also did not satisfy step two simply by adding "well-known, routine and conventional functions." Id. at 1264. As the claims were drafted in a way that would effectively cover any wireless delivery of out-of-region broadcasting content to a cellular telephone via a network, the Court found no inventive concept. Id. at 1265.

Two-Way Media Ltd. v. Comcast Cable Communications, LLC, 874 F.3d 1329 (Fed. Cir. 2017), cert. denied, 139 S. Ct. 378 (2018) is also instructive. There, the Federal Circuit reviewed a district court's grant of judgment on the pleadings based on lack of patentability. The patent at issue related to a system for streaming audio/visual data over a communications system like the internet and recited a method for routing information and required the functional results of "converting," "routing," "controlling," "monitoring," and "accumulating records," but did not describe how to achieve those results. Id. at 1337. Although the plaintiff argued that its claims were tied to particular, scalable network architecture, the constructions recited only generic and conventional computer components to carry out the recited abstract idea. Id. at 1338. Turning to step two of Alice, the Court found that the patent's claims contained no technological innovation in the system's architecture. Id. at 1339. While the plaintiff argued that the claim solved various technical problems, including excessive loads on a source server, network congestion, unwelcome variations in delivery times, scalability of networks, and lack of precise recordkeeping, the Court noted that the claim used only generic functional language to achieve these purported solutions. Id. It observed that "[n]othing in the claims or their constructions, including the use of 'intermediate computers,' require[d] anything other than conventional computer and network

components operating according to their ordinary functions." Id. The Court likewise found no inventive concept in the ordered combination of the claim's limitations. Id.

Like each of the foregoing cases—wherein the Federal Circuit found no "inventive concept" in the patents' recitation of an abstract idea accomplished through well-understood techniques and conventional hardware components—I find that the independent claims of the '701 patent (claims 1, 6, 8, and 10) add nothing inventive to the abstract idea of maximizing the wireless transfer of power. As noted by Defendant, independent claim 6 involves only the abstract idea of optimizing either efficiency or power level in a power transfer process while maintaining a threshold level of power or efficiency. Although claims 1, 8, and 10 recite use of a component such as a "transmitter," "receiver," "circuit," "inductor," and "capacitor," such components are used in the most generic and conventional fashion and are the basic building blocks of *any* wireless power transfer system. The dependent claims (2–5, 7, 9, and 11) also add nothing inventive and are merely variations on the same abstract idea of optimizing either efficiency or power level in a power transfer process. None of the claims describe any specific ordered combination, specific implementation, or clear improvement in technology indicating how to achieve the ultimate goal.

Plaintiffs respond that independent claim 10 of the '701 patent describes a wireless power apparatus configured to operate in a specific way, relying on specific rules and thresholds, to improve its functionality. They go on to suggest that, at most, Defendant's argument highlights a factual dispute between the parties about whether the optimizing circuit in claim 10 of the patent reflects an inventive concept or, as Defendant contends, "conventional and generic components." Accordingly, Plaintiffs assert that the '701 patent cannot be deemed "unpatentable" on the pleadings.

Plaintiffs, however, fail to identify precisely what that factual dispute is or what outside evidence might show. Indeed, reference to the specification clarifies that the optimizing circuit is not an inventive concept. As noted above, claim 10 does not describe precisely how the optimizing circuit should be configured to meet the defined goals. Indeed, according to the specification, the parameters and values of the circuit may "adaptively change[]" in order to meet these goals. ('701 patent, col. 13, lines 19–22.)

Moreover, although claim 10 includes capacitors and inductors, these are conventional generic electrical components used in all power transfer circuitry. The claim does not describe any particular sizes, materials, or connections that must be used. In fact, the specification clarifies that in maximizing either efficiency or power transfer in the optimizing circuit, the invention "may use variable components, such as variable resistors, capacitors, inductors, and/or FPGAs [field programmable gate arrays] for variation in circuit values." ('701 patent, col. 13, lines 22–24.) In addition, "other sizes, materials and connections can be used," "[o]ther structures can be used to receive the magnetic field," and "an electric field can be used in place of the magnetic field as the primary coupling mechanism." (Id. col. 14, lines 33–36.) In other words, the specification itself disclaims any need for any particular type of equipment. Therefore, I find no factual dispute precluding a finding that the '701 patent fails to add any inventive concept to the abstract idea.[4]

[4] Plaintiff's cited cases are distinguishable. In those cases, the complaints contained plausible allegations of an inventive concept within the asserted patents. See Cellspin Soft, Inc. v. Fitbit, Inc., 927 F.3d 1306 (Fed. Cir. 2019) (holding that, on the pleadings, a specific ordered combination of conventional pieces was inventive), cert. denied, 140 S. Ct. 907 (2020); Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121 (Fed. Cir. 2018) (reversing district court's finding of non-patentability and denial of leave to amend at Rule 12(b)(6) stage because proposed amended complaint contained allegations which adequately alleged an inventive concept); Route Guidance Sys. LLC v. INRIX, Inc., No. 20-cv-221, 2021 WL 24705, at *7 (D. Del. Jan. 4, 2021) (finding that plausible factual allegations in the complaint that claim elements or their ordered combination were not well-understood, routine, or conventional—allegations that are uncontradicted by the patent itself—are sufficient to survive a motion to dismiss).

3. Conclusion as to '701 Patent

As I noted above, "[a] patent may be determined ineligible 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." Simo, LLC v. FlexSim Software Prods., 983 F.3d 1353, 1359 (Fed. Cir. 2020); see also Uniloc USA, Inc. v. LG Elecs USA, Inc., 957 F.3d 1303 (Fed. Cir. 2020) (holding that patent eligibility may be resolved on a Rule 12(b)(6) motion). The '701 patent is at best an abstract idea for improving wireless transfer of energy optimizing either efficiency or power transfer. As this generalized claim lacking any inventive concept fails both step one and step two of the Alice inquiry, I find, as a matter of law, that it fails to claim patentable subject matter.

Plaintiffs contend that, in the event I dismiss the claims relating to the '701 patent, they should be given leave to amend. Under Federal Rule of Civil Procedure 15, "[t]he court should freely give leave when justice so requires." Id.; see also Spartan Concrete Prods., LLC v. Argos USVI, Corp., 929 F.3d 107, 115 (3d Cir. 2019). "The policy favoring liberal amendments of pleadings, however, is not unbounded." Dole v. Arco Chem. Co., 921 F.2d 484, 487 (3d Cir. 1990). The decision whether to grant or to deny a motion for leave to amend rests within the sound discretion of the district court. Foman v. Davis, 371 U.S. 178, 182 (1962); Waterfront Renaissance Assoc. v. Phila., 701 F. Supp. 2d 633, 639 (E.D. Pa. 2010). A district court may deny leave to amend a complaint where "it is apparent from the record that (1) the moving party has demonstrated undue delay, bad faith or dilatory motives, (2) the amendment would be futile,

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By contrast here, the Complaint provides no allegation about the '701 patent other than alleging that all of the asserted patents recite "highly resonant wireless power transfer" that enables "transfer of power from one device to the other at high efficiency and over a distance range." (Compl. ¶ 18.) The Complaint then cites to each of the individual patents to support the infringement claims. Nothing in the Complaint alleges that the concepts taught in the '701 patent are unconventional. Unlike the cases cited by Plaintiff, the Complaint here lacks any basis on which I can find that the '701 patent teaches an inventive concept.

or (3) the amendment would prejudice the other party." Lake v. Arnold, 232 F.3d 360, 373 (3d Cir. 2000) (citing Foman, 371 U.S. at 182–83).

Here, a review of the patent itself reveals that the invention is directed to an abstract concept with no "inventive concept." Plaintiffs contend that "they would allege additional facts demonstrating how the claims of the '701 patent are directed to specific and unconventional technological improvements in wireless power transfer apparatuses." (Pls.' Opp'n 20.) However, Plaintiffs neither specify what facts they would allege to save the claims from ineligibility, nor do they explain how any new allegations would avoid the clear language in the specification and claims indicating that the patent is directed to ineligible matter. Accordingly, any amendment would be futile. See Simio, 983 F.3d at 1365 (affirming district court's denial of leave to amend to assert patentability where new proposed allegations were insufficient to preclude dismissal for ineligibility); ChargePoint, 920 F.3d at 776 (finding no abuse of discretion in denial of leave to amend to satisfy patentability standards where plaintiff did not identify any alleged facts that could be pleaded that would cure the deficiencies in its complaint). Therefore, I will dismiss Count III with prejudice.

B. Count V - The '595 Patent

The '595 patent is directed to "non-radiative or near-field wireless energy transfer scheme that is capable of transmitting useful amounts of power over mid-range distances and alignment offsets." ('595 patent, col. 2 lines 26–29.) The embodiments describe improved capabilities for "a method and system comprising a source resonator optionally coupled to an energy source and a second resonator located a distance from the source resonator, where the source resonator and the second resonator are coupled to provide near-field wireless energy transfer among the source

resonator and the second resonator and where the field of at least one of the source resonator and the second resonator is shaped to avoid a loss-inducing object." (Id., Abstract.)

Claim 1 of the '595 patent—which is the only claim cited in the Complaint—recites:

> A wireless power transfer system comprising:
>
> a source magnetic resonator comprising a capacitatively-loaded conducting loop coupled to a power source and configured to generate an oscillating magnetic field to transfer power wirelessly to a device magnetic resonator, the source magnetic resonator having an unperturbed source quality factor Qs; and
>
> a layer of non-lossy material that surrounds the source magnetic resonator to form a keep-out zone,
>
> wherein a perturbed quality factor $Q_{perturbed}$ of the source magnetic resonator due to lossy material outside the keep-out zone is at least 50% of the unperturbed source quality factor Qs.

('595 patent, col. 118, line 64–col. 119, line 10.)

Defendant contends that Plaintiffs fail to allege facts supporting a plausible inference that there is infringement of each element of at least one claim of the '595 patent. Specifically, Defendant contends that although the final limitation of claim 1 (the "$Q_{perturbed}$ limitation") expressly requires a value for $Q_{perturbed}$ of "at least 50%" in relation to the unperturbed source quality factor Q_s, the Complaint never calculates or identifies Q_s or $Q_{perturbed}$ of Defendant's accused product. Rather, according to Defendant, the Complaint states in conclusory fashion that Plaintiffs "believe installation in the pavement, the plastic cover plate and/or the flush mount will prevent lossy material from approaching the source resonator and enable the perturbed quality factor of the source magnetic resonator due to lossy material outside the keep-out zone to be at least 50% of the unperturbed source quality factor." (Compl., Ex. 12, pp. 2–3.) Defendant presses that this allegation "simply reshashes the claim language in conclusory fashion, without providing

a factual basis for asserting that an alleged plastic cover plate or flush mount produces a $Q_{perturbed}$ that is at least 50% of the unperturbed source quality factor.

Defendant demands too much at the pleading stage. The direct infringement of a patent occurs when a party, without authority, "makes, uses, offers to sell, or sells any patented invention, within the United States . . . ." 35 U.S.C. § 271(a). A patentee may prove direct infringement under § 271(a) either by (1) demonstrating specific instances of direct infringement; or (2) showing that an accused device necessarily infringes on the patent. ACCO Brands, Inc. v. ABA Locks Mfrs. Co., 501 F.3d 1307, 1313 (Fed. Cir. 2007). "Direct infringement requires a party to perform each and every step or element of a claimed method or product." BMC Res., Inc. v. Paymentech, L.P, 498 F.3d 1373, 1378 (Fed. Cir. 2007), overruled on other grounds by, 692 F.3d 1301 (Fed. Cir. 2012). "If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law." Bayer AG v. Elan Pharm. Research Corp., 212 F.3d 1241, 1247 (Fed. Cir. 2000). Notably, however, "very little is required in order to plead a claim of patent infringement." Election Sys. & Software, LLC v. Smartmatic USA Corp., No. 18-cv-1259, 2019 WL 1040541, at *1 (D. Del. Mar. 5, 2019). "[A] patent is infringed if a single claim is infringed." Grober v. Mako Prods., Inc., 686 F.3d 1335 (Fed. Cir. 2012).

The United States Court of Appeals for the Federal Circuit, in Disc Disease Solutions, Inc. v. VGH Solutions., Inc., 888 F.3d 1256 (Fed. Cir. 2018), established the parameters for pleading patent infringement under the Iqbal/Twombly standard. The complaint in Disc Disease specifically identified the defendant's products and generally alleged that the products met each element of at least one claim of the plaintiff's patent. Id. at 1258. The plaintiff also attached the asserted patent and photographs of the accused products to the complaint. Id. On review of the defendant's motion to dismiss that complaint, the Federal Circuit reiterated the Supreme Court's

statement that the "plausibility standard is met when 'the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.'" Id. at 1260 (quoting Iqbal, 556 U.S. at 678). The Court held that a general allegation that certain of defendants' products met "each and every element of at least one claim" of plaintiff's patents—without allegations specifically explaining how defendants' products infringed any asserted claim—was sufficient to plead an infringement claim generally. Id. It noted that "specific facts are not necessary; the statement need only 'give the defendant fair notice of what the . . . claim is and the ground upon which it rests.'" Id. (quotations omitted).

Applying these standards, I find that the allegations here give fair notice to Defendant of the basis of the infringement claims. The Complaint attaches claim charts setting forth facts to support each allegation of infringement. Although some of the allegations regarding the accused product are plead on information and belief, more detailed allegations are not required at this stage. Indeed, "it may not be possible for a plaintiff to describe its case-in-chief with particularity at the outset of litigation, without access to the accused method, the accused apparatus for reverse engineering, or confidential data such as source code." DermaFocus LLC v. Ulthera, Inc., 201 F. Supp. 3d 465, 469 n.3 (D. Del. 2016). The claim chart provides factual information about the performance of the accused products based on publicly-available information and on plausible inferences from the underlying performance attributes of Defendant's products.[5] Such allegations

[5] Defendant relies heavily on the case of Blue Spike LLC v. Comcast, Cable Commc'ns, LLC, No. 19-cv-159, 2019 WL 4242930 (D. Del. Sept. 6, 2019) to support its argument that the '595 patent fails to plausibly plead infringement. In that case, the court found that complaint pled facts supporting the existence of one limitation, a "processor," but not a separate limitation reciting the "requisite capabilities" of that processor. Id. at *2–3. Accordingly, the court dismissed the claim without prejudice to plaintiff's right to amend. Defendant presses the present case is similar because the Complaint adequately alleges one limitation (a "layer of non-lossy material") but not the separate limitation reciting its requisite capabilities (a certain $Q_{perturbed}$ value).

provides Defendant with the "fair notice" required by Disc Disease. Accordingly, I decline to dismiss Plaintiff's claims for infringement of the '595 patent.

III. CONCLUSION

In light of the foregoing, I grant Defendant's Motion to Dismiss all claims relating to the '701 patent and deny Defendant's Motion to Dismiss all claims relating the '595 patent. An appropriate Order follows.

I find Blue Spike inapplicable. In that case, the complaint alleged that the accused product had a processor but did not allege that the processing unit "imposes rules and procedures for content" as required by the patent. Id. at *2. By contrast here, the Complaint alleges that "a layer of non-lossy material that surrounds the source magnetic resonator to form a keep-out zone," which, combined with Defendant's performance metrics, makes it plausible that the resonator has the Q values required by the patent. (Compl., Ex. 12.) Such allegations are more than sufficient to put Defendant on notice of the alleged infringement.