

Christopher A. Burke

BURKE, United States Magistrate Judge

Presently before the Court in this patent infringement case is Defendant Meta Company's ("Defendant" or "Meta") motion to dismiss for failure to state a claim (the "Motion"), filed pursuant to Federal Rule of Civil Procedure 12(b)(6). (D.I. 11) Defendant argues that Plaintiff Genedics, LLC's ("Plaintiff" or "Genedics") asserted United States Patent Nos. 8,319,773 (the "'773 patent"), 8,477,098 (the "'098 patent"), 8,730,165 (the "'165 patent"), 8,902,225 (the "'225 patent"), 9,110,563 (the "'563 patent"), and 9,335,890 (the "'890 patent") (collectively, the "asserted patents" or the "patents-in-suit") are directed to non-patent-eligible subject matter pursuant to 35 U.S.C. § 101 ("Section 101"), or, failing that, that the direct, indirect, and willful infringement allegations in the Complaint, (D.I. 1), fail to meet the *Twombly/Iqbal* pleading standard. (D.I. 11; D.I. 12 at 1-3) For the reasons that follow, the Court will DENY Defendant's Motion, in the manner set out below.

I. BACKGROUND

A. Factual Background

The patents-in-suit can be broken down into two families. (D.I. 12 at 4-6) The first family of patents consists of the '098, '165, '563, and '890 patents, each of which claims priority to United States Patent Application No. 11/932,792 (which is now the '098 patent); these patents all share a common specification. (*Id.* at 5) The second family, consisting of the '773 and '225 patents, claims priority to Patent Application No. 11/932,450 (now abandoned); both of these patents share a common specification. (*Id.* at 6) In general, the asserted patents claim systems and methods for a three-dimensional (or "3-D")¹ user interface in which sensors are able to sense user interaction with an image, a processor correlates the user's interaction with the image, and the processor then updates the image or alters the image's location based on that interaction.

¹ The parties and the patent specifications use "three dimensional," "three-dimensional," "3-D," and "3D" interchangeably.

(*See id.* at 6-7; D.I. 18 at 1; D.I. 33 (hereinafter “Tr.”) at 43; *see also* '773 patent, Abstract; '098 patent, Abstract).

The Complaint identifies two Meta products that are alleged to infringe the asserted patents: the Meta 1 Development Kit and the Meta 2 Development Kit (the “accused products” or “development kits”). (*See, e.g.*, D.I. 1 at ¶¶ 10, 25, 26; *see also* D.I. 12 at 3) According to Defendant’s website, “Meta’s products enable people to manipulate digital objects or holograms with their hands, as well as create and share digital content with others in the same room or miles away.” (D.I. 1 at ¶ 11 (citation omitted)) Plaintiff alleges that “each of the Meta development kits includes a Meta headset that displays holograms[,] and each includes Meta software built on top of the Unity 3D software engine.” (*Id.* at ¶ 33) And each development kit “offer[s] direct hand interaction with holograms.” (*Id.* at ¶ 34) The headsets included with the kits include “a sensor array to sense hand interactions and positional tracking[, which makes it] possible to see, grab[,] and move holograms just like physical objects.” (*Id.* at ¶¶ 35-36) The sensor array also “includes depth sensing technology for determining the distance to a feature of the environment or an object within the environment in which the Meta headset is deployed.” (*Id.* at ¶ 37)

The Complaint also contains allegations that, on May 31, 2017, Plaintiff sent a letter (“the May 31 letter”) to Defendant’s general counsel identifying the asserted patents and providing notice that Defendant infringed them. (*Id.* at ¶ 12) Plaintiff included claim charts for each of the patents along with this letter, “which identified Meta’s infringement of numerous claims, on an element-by-element basis.” (*Id.* at ¶ 13) Defendant allegedly received the May 31 letter on June 2, 2017 and replied to Plaintiff on June 15, 2017. (*Id.* at ¶¶ 14-15)

B. Procedural Background

On August 1, 2017, Plaintiff filed its Complaint. (D.I. 1) The parties thereafter jointly consented to the Court’s jurisdiction to conduct all proceedings in the case, including trial, the entry of final judgment, and all post-trial proceedings. (D.I. 10)

On September 28, 2017, Defendant filed the instant Motion (as well as a motion to transfer the case to the Northern District of California). (D.I. 11; D.I. 13)² The parties completed briefing on the instant Motion on October 19, 2017. (D.I. 22) Thereafter, at the parties' joint request, the Court stayed case deadlines pending the resolution of the then-pending motions. (D.I. 24)

Meta requested oral argument on both then-pending motions, (D.I. 25), and the Court granted argument on the instant Motion via an Order dated January 12, 2018. Prior to oral argument, Plaintiff filed a notice of subsequent authority, calling to the Court's attention two recent decisions from the United States Court of Appeals for the Federal Circuit: *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed Cir. 2018) and *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018). Oral argument was held on March 6, 2018.

II. STANDARD OF REVIEW

A. Standard of Review Regarding a Rule 12(b)(6) Motion

As noted above, the entirety of Defendant's Motion is premised on Rule 12(b)(6). Pursuant to Rule 12(b)(6), a party may move to dismiss the plaintiff's complaint based on the failure to state a claim upon which relief can be granted. Fed. R. Civ. P. 12(b)(6). The sufficiency of pleadings for non-fraud cases is governed by Federal Rule of Civil Procedure 8, which requires "a short and plain statement of the claim showing that the pleader is entitled to relief[.]" Fed. R. Civ. P. 8(a)(2). In order to survive a motion to dismiss pursuant to Rule 12(b)(6), "a complaint must 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) (internal quotation marks and citation omitted).

In assessing such a motion, first the court separates the factual and legal elements of a claim, accepting "all of the complaint's well-pleaded facts as true, but [disregarding] any legal

² The Court later denied the motion to transfer. (D.I. 27)

conclusions.” *Fowler v. UPMC Shadyside*, 578 F.3d 203, 210-11 (3d Cir. 2009). Second, the court determines “whether the facts alleged in the complaint are sufficient to show that the plaintiff has a ‘plausible claim for relief.’” *Id.* at 211 (quoting *Ashcroft*, 556 U.S. at 679). A plausible claim does more than merely allege entitlement to relief; it must also demonstrate the basis for that “entitlement with its facts.” *Id.* Thus, a claimant’s “obligation to provide the ‘grounds’ of his ‘entitle[ment] to relief’ requires more than labels and conclusions, and a formulaic recitation of the elements of a cause of action will not do.” *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 555 (2007).

B. Rule 12(b)(6) Motions that Challenge Patent Eligibility Pursuant to Section 101

Here, in addition to arguing that Plaintiff did not sufficiently plead facts establishing that the elements of direct, indirect and willful infringement are met, Defendant is also using the instant Motion to assert an affirmative defense—that the asserted patents are subject matter ineligible under Section 101. Below, the Court will first set out legal standards relating to whether a patent claims eligible subject matter. Thereafter, it will discuss other considerations relevant to Rule 12(b)(6) motions that challenge subject matter eligibility.

1. Legal Standards Relating to Patentable Subject Matter

Patent-eligible subject matter is defined in the Patent Act as follows:

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. While the scope of Section 101 is broad, there is an “important implicit exception [to it]: [l]aws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (internal quotation marks and citation omitted).

In *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014), the Supreme Court of

the United States provided the two-step framework for assessing whether a patent contains eligible subject matter under Section 101.

a. Step One

Pursuant to step one, courts “must . . . determine whether the claims at issue are directed to a patent-ineligible concept[.]” such as an abstract idea. *Alice*, 134 S. Ct. at 2355. Here the claims are considered in their entirety to ascertain not simply whether they *involve* a patent-ineligible concept, but whether “their character as a whole is directed to [an abstract idea.]” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). “The abstract ideas category embodies the longstanding rule that [a]n idea of itself is not patentable.” *Alice*, 134 S. Ct. at 2355 (internal quotation marks and citations omitted).

What is an abstract idea? It can be, but need not amount to, a “preexisting, fundamental truth” about the natural world “that has always existed,” or a “method of organizing human activity” (such as a “longstanding commercial practice”). *Id.* at 2356 (internal quotation marks and citations omitted); *see also DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1256-57 (Fed. Cir. 2014). A claim to an abstract idea has been described by the Federal Circuit as one directed to a “disembodied’ concept . . . a basic building block of human ingenuity, untethered from any real-world application[.]” *CLS Bank Int’l v. Alice Corp. Pty. Ltd.*, 717 F.3d 1269, 1286 (Fed. Cir. 2013) (citation omitted). Beyond that, the concept of an “abstract idea” has not been crisply defined, *see Alice*, 134 S. Ct. at 2357 (declining to “labor to delimit the precise contours of the ‘abstract ideas’ category”), and the Supreme Court and the Federal Circuit have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases, *see Enfish*, 822 F.3d at 1334.

As to claims like those at issue here, which involve systems or methods relating to computer technology, a relevant step one question is whether the claims “focus on a specific means or method that improves the relevant technology’ or [instead] are ‘directed to a result or

effect that itself is the abstract idea[.]” *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1241 (Fed. Cir. 2016) (quoting *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016)). Put differently, courts try to ascertain whether the “claims do no more than describe a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem.” *Affinity Labs of Tex., LLC v. Amazon.com Inc.*, 838 F.3d 1266, 1269 (Fed. Cir. 2016). At step one, courts should not “oversimplif[y]” an invention’s key inventive concepts or “downplay[]” its benefits. *Enfish, LLC*, 822 F.3d at 1337-38; *see also McRO, Inc.*, 837 F.3d at 1313 (“[C]ourts ‘must be careful to avoid oversimplifying the claims’ by looking at them generally and failing to account for the specific requirements of the claims.”) (citation omitted).

How does one know what a patent claim is “directed to”? The Federal Circuit has indicated that the patent’s specification can be helpful in answering that question. If a claim contains a particular element or elements that are described by the patent’s specification as what the “present invention comprises” or as being “the innovation over the prior art” or the “the essential, most important aspect” of the patented invention, then it stands to reason that the claim is “directed to” that element or concept. *See Enfish*, 822 F.3d at 1337; *Internet Patents Corp.*, 790 F.3d at 1348; *see also Kaavo, Inc. v. Amazon.com Inc.*, Civil Action No. 15-638-LPS-CJB, Civil Action No. 15-640-LPS-CJB, 2016 WL 6562038, at *6 (D. Del. Nov. 3, 2016). And if that element or concept is not itself an abstract idea, then the claim is not ineligible. That said, the Federal Circuit has recognized that in some cases “involving computer-related claims, there may be close calls about how to characterize what the claims are directed to”; in such cases, “an analysis of whether there are arguably concrete improvements in the recited computer technology [may] take place under step two.” *Enfish*, 822 F.3d at 1339.

b. Step Two

If a claim *is* directed to an abstract idea, then step two of the *Alice* framework requires a court to assess “[w]hat else is there in the claims”; a court does so by considering “the elements

of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (internal quotation marks and citation omitted). The Supreme Court describes step two as a search for 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.* (internal quotation marks and citation omitted); *see also Berkheimer*, 881 F.3d at 1367. The purpose of the “inventive concept” requirement is to “ensure that the claim is more than a drafting effort designed to monopolize the abstract idea.” *Alice*, 134 S. Ct. at 2357 (internal quotation marks, citation, and brackets omitted).

Neither “limiting the use of an abstract idea to a particular technological environment[,]” nor simply stating an abstract idea and adding the words “apply it with a computer[,]” will transform an abstract idea into a patent-eligible invention. *Id.* at 2358 (internal quotation marks and citations omitted). And the additional elements within the claim, apart from the abstract idea itself, must involve more than “‘well-understood, routine, conventional activit[ies]’ previously known to the industry.” *Id.* at 2359 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 73 (2012)); *see also Prometheus*, 566 U.S. at 82 (“[S]imply appending conventional steps, specified at a high level of generality, to . . . abstract ideas cannot make those . . . ideas patentable.”).³

2. How to Assess Section 101 Challenges Pursuant to Rule 12(b)(6)

Because Defendant’s Section 101 challenge is made at the pleading stage (in the form of

³ In this subsection, the Court has made a good faith effort to set out the basic legal concepts relevant to a Section 101 inquiry, post-*Alice*, as it understands them. In doing so, the Court is not suggesting that it is easy to apply these concepts in practice. It is not. Indeed, answering questions such as whether a particular patent claim is “directed to” an “abstract idea,” or (if so) nevertheless contains an “inventive concept” is an exceedingly difficult task. *See generally Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1348-56 (Fed. Cir. 2018) (Plager, J., concurring-in-part and dissenting-in-part).

the assertion of an affirmative defense), dismissal is permitted “only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law.”

Aatrix Software, Inc., 882 F.3d at 1125. While patentability under Section 101 is ultimately a question of law, *Berkheimer*, 881 F.3d at 1365; *see also In re Bilski*, 545 F.3d 943, 951 (Fed. Cir. 2008), *aff’d*, *Bilski v. Kappos*, 561 U.S. 593 (2010), this question of law is also one that “may contain underlying issues of fact[.]” *Berkheimer*, 881 F.3d at 1365 (citing *Mortg. Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1325 (Fed. Cir. 2016)); *see also Aatrix Software, Inc.*, 882 F.3d at 1128 (“While the ultimate determination of eligibility under [Section] 101 is a question of law, like many legal questions, there can be subsidiary fact questions which must be resolved en route to the ultimate legal determination.”).

The Federal Circuit has explained that “plausible factual allegations may preclude dismissing a case under [Section] 101 where, for example, nothing on th[e] record . . . refutes those allegations as a matter of law or justifies dismissal under Rule 12(b)(6).” *Aatrix Software, Inc.*, 882 F.3d at 1125 (second alteration in original) (internal quotation marks and citation omitted). Factual allegations that might preclude dismissal at the Rule 12 stage include those relating to “[w]hether something is well-understood, routine, and conventional to a skilled artisan at the time of the patent[.]” *Berkheimer*, 881 F.3d at 1369; *see also Aatrix Software, Inc.*, 882 F.3d at 1128.⁴

3. Assessing “Representative” Claims

As noted above, Defendant relies upon certain representative claims in arguing that all

⁴ “Any fact . . . that is pertinent to the invalidity conclusion must [ultimately] be proven by clear and convincing evidence.” *Berkheimer*, 881 F.3d at 1368. As to the instant Motion, however, which was filed at the pleading stage (a stage at which any facts of record that are clearly in dispute are to be construed in the light most favorable to the plaintiff), the “clear and convincing” standard of proof should not come into play at all. *See M2M Solutions LLC v. Amazon.com, Inc.*, Civil Action No. 17-202-LPS-CJB, 2017 WL 6294874, at *2 (D. Del. Dec. 11, 2017) (citing cases).

asserted claims of the patents are subject matter ineligible. “Courts may treat a claim as representative in certain situations, such as if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim or if the parties agree to treat a claim as representative.” *Berkheimer*, 881 F.3d at 1365 (citations omitted).

Additionally, courts in this District have elucidated “several considerations relevant to deciding a Rule 12 motion that challenges the patent eligibility of multiple patent claims based on analysis of a single representative claim.” *Cronos Techs., LLC v. Expedia, Inc.*, C.A. No. 13-1538-LPS, 2015 WL 5234040, at *2 (D. Del. Sept. 8, 2015). Those considerations were set out as follows:

First, are all non-representative claims adequately represented by the representative claim (i.e., do *all* of the challenged claims relate to the *same* abstract idea and do any of the non-representative claims add one or more inventive concepts that would result in patent eligibility)?[] Second, are there issues of claim construction that must be decided before resolving the motion?[]⁵ Finally, is there *any* set of facts that could be proven relating to preemption,[] questions of patentability,[] or whether the claims “solve a technological problem,”[] that would result in a determination that one [] or more of the claims are patent-eligible?

⁵ There is no hard-and-fast rule that a court must construe terms in the claims at issue before it performs a Section 101 analysis. *Bancorp Servs., L.L.C. v. Sun Life Assur. Co. of Canada (U.S.)*, 687 F.3d 1266, 1273-74 (Fed. Cir. 2012) (“[W]e perceive no flaw in the notion that claim construction is not an inviolable prerequisite to a validity determination under [Section] 101.”). In some cases, claim construction is unnecessary because it is undisputed that the Section 101 eligibility decision does not turn on disputes regarding claim construction. *See, e.g., Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App’x. 988, 991-93 & n.1 (Fed. Cir. 2014) (holding that a patent claim was subject matter ineligible under Section 101, where the district court did not engage in claim construction, but where the plaintiff “d[id] not explain which terms require construction or how the analysis would change”). “If there are claim construction disputes at the Rule 12(b)(6) stage, [the Federal Circuit] ha[s] held that either the [district] court must proceed by adopting the non-moving party’s constructions . . . or the court must resolve the disputes to whatever extent is needed to conduct the [Section] 101 analysis, which may well be less than a full, formal claim construction.” *Aatrix Software, Inc.*, 882 F.3d at 1125 (citations omitted).

Id. (certain emphasis in original) (citations and footnotes omitted); *see also Yodlee, Inc. v. Plaid Techs. Inc.*, Civil Action No. 14-1445-LPS, 2016 WL 2982503, at *3 (D. Del. May 23, 2016), *adopted by* 2017 WL 385039 (D. Del. Jan. 27, 2017).

III. DISCUSSION

A. Section 101

Plaintiff alleges infringement of certain claims from each of the six patents-in-suit. (D.I. 1 at ¶¶ 24, 86, 146, 205, 267, 326)⁶ All of the asserted claims are put at issue by Defendant's Motion. Defendant groups the asserted patents into the two families referred to above, and treats one claim from each family as representative of all asserted claims from that family. The first family of patents is represented by claim 1 of the '098 patent, (D.I. 12 at 5), which recites:

1. A system for a 3 dimensional (3-D) user interface, the system comprising:

one or more 3-D projectors configured to display a holographic image at a first location in a certain 3-D coordinate system;

multiple sensors configured to sense, *based on quadrilateral angle navigation to determine a touch point position within the certain 3-D coordinate system*, user interaction with the holographic image within the certain 3-D coordinate system and to provide user interaction information; and

a processor configured to: (i) receive the user interaction information from the multiple sensors; (ii) based on the received user interaction information, correlate the sensed user interaction with the holographic image using the certain 3-D coordinate system; and (iii) provide one or more indications responsive to a correlation of the user sensed interaction with the holographic image,

⁶ The asserted claims are: claims 1-13 of the '098 patent, claims 1-14 of the '165 patent, claims 1-12 of the '563 patent, claim 1-13 and 18-20 of the '890 patent, claims 1-16 and 25 of the '773 patent, and claims 1-19 of the '225 patent. (D.I. 12 at 4-5)

wherein the one or more indications comprise displaying the holographic image at a second location in the 3-D coordinate system.

('098 patent, col. 13:22-43 (emphasis added)) For the second patent family, Defendant asserts that claim 1 of the '773 patent is representative. (D.I. 12 at 6) That claim recites:

1. A method of manipulating an original image through a user interface, the method comprising:

using one or more sensors coupled to a computer processor, sensing a user interaction with the original image in a three dimensional coordinate system, said sensing being *based on quadrilateral angle navigation that determines a touch point position within the three dimensional coordinate system*, wherein the original image is displayed from a certain point in space preconfigured to match specific points in the quadrilateral angle navigation and the certain point in space is matched to space location of the user interaction to determine the touch point, said sensing resulting in each sensor providing coordinate information to the computer processor enabling the computer processor to correlate with the original image in the three dimensional coordinate system;

in the computer processor, correlating the sensed user interaction with the three dimensional coordinate system; and

from the computer processor through a projector, projecting an updated image based on the correlated user interaction, the updated image being equivalent to the original image manipulated by a distortion.

('773 patent, col. 8:19-41 (emphasis added))

In undertaking a Section 101 analysis here, the Court will treat these two claims as representative of all of the asserted claims. It does so because Plaintiff never argues that the two claims are *not* representative—instead, Plaintiff directs its arguments about patent eligibility to all of the asserted claims as a group. (*See, e.g.*, D.I. 18 at 1 (noting that “the claims of the Genedics Patents at issue” are not directed to an abstract idea); *id.* at 5 (arguing that although Defendant asserts that “all independent claims in the Genedics Patents are directed to [certain abstract ideas, those arguments are] a gross oversimplification of the subject matter of the

asserted claims of the Genedics Patents[.]” (internal quotation marks and citation omitted)) Put another way, Plaintiff “does not present any meaningful argument for the distinctive significance of any claim limitations not found in the [allegedly] representative claim[s.]” *Berkheimer*, 881 F.3d at 1365. In light of this, hereafter the Court will focus on claim 1 of the '098 patent and claim 1 of the '773 patent.

1. *Alice’s Step One*

At step one, Defendant argues that all asserted claims “are directed to the abstract idea of human manipulation of three-dimensional objects.” (D.I. 12 at 9; *see also* Tr. at 11)⁷ Plaintiff does not dispute that “human manipulation of three-dimensional objects” is an abstract idea, (D.I. 18 at 5; Tr. at 50-51; *see also* D.I. 22 at 2), and the Court agrees that it is. The concept of “human manipulation of three-dimensional objects” is one “devoid of a concrete or tangible application[.]” *Ultramercial, Inc. v. Hulu LLC*, 772 F.3d 709, 715 (Fed. Cir. 2014), and is “untethered from any real-world application[.]” *CLS Bank Int’l*, 717 F.3d at 1286.

But Plaintiff asserts that the claims are not, in fact, “directed to” this abstract idea. Instead, it argues that the claims are directed to a technological improvement to a problem in the

⁷ At times, at least with regard to the second patent family, Defendant altered its description of the abstract idea at issue. In its briefing, Defendant stated that the second patent family’s claims were “directed towards the abstract idea of distorting the shape of an image projected into 3D space based on a user’s perceived interaction with that image within the 3D space.” (D.I. 12 at 9) However, when asked about this at oral argument, Defendant’s counsel explained that it was not “contending [that] there were two different articulations of the abstract idea, but [instead noting that] the human interaction is slightly different [in the second family] and that’s a function of the difference of the claims[.]” (Tr. at 12) To that end, Defendant states in its briefing that a “notable difference” between the patent families is that the first family “require[s] user movement of the holographic image, while the claims in [the second family] require a computer processor to update the image in response to the sensed interaction to be ‘equivalent to the original image manipulated by a distortion.’” (D.I. 12 at 6-7; *see also* Tr. at 9, 12 (counsel for Defendant explaining that the first patent family describes “moving the object from a first location to a second location” whereas the second family describes “deforming” the image, such as by twisting it)) As Defendant is not arguing otherwise, the Court will consider the asserted abstract idea as to both representative claims to be “human manipulation of three-dimensional objects.”

computer arts: the implementation of an unconventional configuration of sensors that utilizes “quadrilateral angle navigation” to enable the sensors to either “determine a touch point position within a [certain] 3-D coordinate system” or “sense user interaction with [a] digital object (*i.e.*, hologram).” (D.I. 1 at ¶¶ 42, 105, 164, 285, 344; *see also* D.I. 18 at 3-4, 6-8; Tr. at 49-50) Is Plaintiff right? It is hard to say.

On the one hand, after reading the representative claims, it can seem sort of facile to conclude that they are simply directed to “human manipulation of three-dimensional objects,” and nothing more. There is certainly more than that in the claims. And both representative claims do seem to make a point to refer to what looks, on its face, to be a *particular* way of using sensors to determine a user’s touch point and/or sense interaction with 3-D objects—*i.e.*, sensors utilizing quadrilateral angle navigation (or “QAN”).

But on the other hand, it is not as if the patentees clearly and unmistakably touted the use of QAN as the thing that has given rise to the claimed inventions, or the thing that amounts to a key innovation over the prior art. This is evident from reviewing the patents’ specifications.⁸

The “Background of the Invention” section of the specifications starts out by describing how in the prior art there existed graphical user interfaces that allowed users “to interact with a computer and computer-controlled devices.” (’098 patent, col. 1:6-8)⁹ It explains how there also existed the ability to create holographic images “using available holographic technology” that allowed images to “be displayed multi-dimensionally, rather [than] simply on a planar projection.” (*Id.*, col. 1:14-15, 26-28) The “Summary of the Invention” section explains that by

⁸ The patents-in-suit were attached as exhibits to the Complaint, (D.I. 1, exs. A-F), and so the Court can consider their content in assessing this Rule 12(b)(6) Motion.

⁹ In some portions of the ’098 patent’s specification and the ’773 patent’s specification, the two specifications use identical language. In those instances, for efficiency’s sake, the Court will cite only to the ’098 patent’s specification. However, where there are differences between the language in the two specifications that matter, the Court will cite to the respective portion of both specifications.

combining those concepts, “[s]ome user interfaces [] adopted a multi-dimensional interface approach.” (*Id.*, col. 1:54-55) One such interface (the “heliodisplay”) “projects images into a volume of free space, i.e. into an aerosol mixture such as fog or a gas[.]” (*Id.*, col. 1:55-58 (internal quotation marks omitted)) The problem with that approach, according to the specification, is that while the image projected appears to be three-dimensional, the image is actually “displayed into two-dimensional space (i.e. planar). . . . [meaning it] ha[s] no physical depth reference.” (*Id.*, col. 1:59-63) Stated another way, while “the heliodisplay may give the appearance of 3-D, the images displayed and the interface are 2-D. . . . [and do] not tak[e] advantage of a full three dimensional coordinate system.” (*Id.*, cols. 1:67-2:5)

From there, the Summary of the Invention section explains that:

Accordingly, there is a need for an integrated user interface that utilizes true 3-D technology to create a computing and multimedia environment where a user can easily navigate by touch, mouse[,] or pointer system to effectively navigate the interface to raise the level of the user experience to a true 3-D environment, with the goal of attaining elements of the attenuated clarity, realism and benefits of that environment that match our day to day conventional interactions with the 3-D world.

(*Id.*, col. 2:6-14; '773 patent, col. 2:14-22) The '098 patent then states that the “present invention relates to the creation of a holographic user interface display system that combines physical media or digitally stored files with a digital holographic player hardware system [to create] a multimedia holographic user interface and viewing experience[;]” it goes on to describe certain embodiments of the invention in very general terms. ('098 patent, col. 2:14-19) As for the '773 patent, the Summary of the Invention concludes by similarly listing various embodiments of the “present invention[.]” including those that can be used for manipulating an original image. ('773 patent, cols. 2:25-3:13) In this section, both patents emphasize that any one of a number of different types of sensors may be used as part of the claimed systems and methods; neither patent

uses the term “quadrilateral angle navigation” in this section. ('098 patent, cols. 2:27-4:57; '773 patent, cols. 2:25-3:13)

Thus, if one looks to these descriptions of what the “present invention” is, one might think that the “character as a whole” of the patents’ claims should be described in pretty general terms—i.e., that they are directed to systems or methods relating to the use of a “holographic user interface system” that allows a user to navigate in a way that “raise[s] the level of the user experience to a true 3-D environment[.]” *That* kind of description does start to sound a lot like Defendant’s broadly-worded abstract idea (i.e., “human manipulation of three-dimensional objects”).

In light of the above, the Court concludes that this is one of those cases where it is hard “characterize what the claims are directed to[.]” *Enfish*, 822 F.3d at 1339.¹⁰ As such, the Court

¹⁰ Plaintiff argues that Defendant’s Section 101 Motion can be denied at step one, and compares this case to another case decided at that step (and at the pleading stage): *Thales Visionix Inc. v. United States*, 850 F.3d 1343 (Fed. Cir. 2017). (D.I. 16 at 6-8) In *Thales*, the asserted patent “disclose[d] an inertial tracking system for tracking the motion of an object relative to a moving reference frame.” *Thales*, 850 F.3d at 1344. The claims at issue “specif[ie]d a particular configuration of inertial sensors and a particular method of using the raw data from the sensors in order to more accurately calculate the position and orientation of an object on a moving platform.” *Id.* at 1349. The patent’s specification explained that prior approaches for tracking inertial motion of an object on a moving platform “measure[d] inertial changes with respect to the earth.” *Id.* at 1345. Those approaches, however, “produced inconsistent position information when the moving platform accelerated or turned.” *Id.* The asserted claims thus sought to fix the problem in those prior approaches by having the platform “inertial sensors directly measure the gravitational field in the platform frame[, with the object] inertial sensors then calculat[ing] position information relative to the frame of the moving platform.” *Id.* Thus, “[b]y changing the reference frame, one can track the position and orientation of the object within the moving platform without input from a vehicle attitude reference system or calculating orientation or position of the moving platform itself.” *Id.*

The Federal Circuit found that, rather than being directed to the abstract idea “of using ‘mathematical equations for determining the relative position of a moving object to a moving reference frame,’” the claims were “directed to systems and methods that use inertial sensors in a non-conventional manner to reduce errors in measuring the relative positions and orientation of a moving object on a moving reference frame.” *Id.* at 1348-49. In other words, the Court found that the claims specified “a particular configuration of inertial sensors and a particular method of using the raw data from the sensors in order to more accurately calculate the position and

will move to step two in order to analyze “whether there are arguably concrete improvements in the recited computer technology[.]” *Id.*

2. *Alice’s Step Two*

Assuming that the claims are directed to the asserted abstract idea, can the remainder of the claims be said to include an “inventive concept”? Plaintiff asserts that they can, because those claims purportedly provide:

a solution to a technical problem, which is the improvement of existing multi-dimensional user interface technology to address the need for an integrated user interface that utilizes true 3-D technology to create a computing and multimedia environment where a user can easily navigate the user interface by touch to raise the level of the user experience to a true 3-D environment . . . that match a user’s day to day conventional interactions with the 3-D world.

(D.I. 1 at ¶¶ 29, 91, 151, 210, 272, 331; *see also* D.I. 18 at 3-4, 9; Tr. at 50-51 (Plaintiff’s counsel asserting that the claimed invention “allow[s] users to more easily interact with images in a 3D environment. . . . in a more precise and effective manner providing for increased realism.”)) According to Plaintiff, the way in which the claims achieve this technological solution is by:

employ[ing] sensor(s) configured based on quadrilateral [angle] navigation in combination with at least a processor/correlation unit

orientation of an object on a moving platform.” *Id.* at 1349. Because the claims were clearly not directed to an abstract idea, they survived at *Alice* step one. *Id.*

The Court does not find *Thales* to be particularly helpful to its step one analysis (or to its later step two analysis, either). Although that case and this one both involve claims relating to sensors (and both involve claims that did not contain a lot in the way of detail about how those sensors actually worked), in *Thales* the specification made it very clear what the claims were directed to: systems and methods for implementing an *assertedly unconventional* arrangement of inertial sensors. Here, in contrast, the specifications are much more ambiguous about: (1) what the claims are directed to; and (2) whether the use of QAN was an unconventional use of sensor technology meant to solve a lingering problem in the computer arts. (Tr. at 47-49 (counsel for Plaintiff admitting that the *Thales* patent had “a lot more detail” regarding the sensor positions at issue and their unconventionality)) For these reasons, the Court does not find *Thales* to be particularly instructive as to the outcome here, one way or the other.

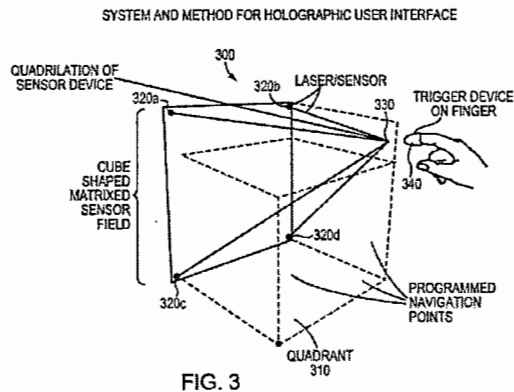
that responds in a particular manner to the sensor output to implement changes to the displayed image. This integration between the output of the sensor(s) (*configured in an unconventional manner based on quadrilateral angle navigation*), the correlation performed by the processor/correlation unit based on the sensor(s)' output, and the changes to the image displayed based on the correlation reflects the technical improvements achieved by Genedics' patented technology over existing technology.

(D.I. 18 at 9 (emphasis added); *see also id.* at 4) According to Plaintiff, the unconventional configuration of sensors using QAN is what allows the sensors to better “determine a touch point position within a [certain] 3-D coordinate system” or “sense user interaction with [a] digital object (*i.e.*, hologram).” (D.I. 1 at ¶¶ 42, 105, 164, 285, 344)

One of the difficulties in assessing whether the claimed sensors' use of QAN could amount to an inventive concept is in figuring out what QAN actually *is*. In its briefing, Plaintiff did not make that easy, as it failed to provide a clear proposed definition or construction for the term.¹¹ And the patents do not provide a lot of help on this front. (Tr. at 87 (Defendant's counsel noting that quadrilateral angle navigation is “a black box. . . . a mystery. . . . not defined. . . . [and] not explained”)).

To be sure, the patents' specifications do provide at least some assistance. For example, both patents at issue include a figure (Figure 3) that “is a perspective view of [a] sensor field used in connection with [an example embodiment] of the present invention”:

¹¹ The only point in its answering brief where Plaintiff nodded at a construction came in a footnote, where it stated that QAN “can be employed to determine geometrically from at least one angle the relative position(s) in space by utilizing at least four other reference points whose positions are known and arranged in at least the different vertices of a quadrilateral.” (D.I. 18 at 5-6 n.5) But as Defendant's counsel noted, that is not much of a proposed construction, because by saying that QAN “can be employed” in a certain way, Plaintiff seems to be suggested that it “can be employed” in other ways. (Tr. at 30-31) That does not really provide a limiting definition of the term.



('098 patent, FIG. 3; *id.*, col. 5:6-7) Figure 3 is further described in the patents as showing a “sensor field . . . [that] includes four laser sensors **320a-d**. The manipulatable interface may be a relatable and interactive holographic media via the use of a sprocketed sensor system . . . that creates a quadrilateral angle navigation system to determine the exact point **330** of a fingertip touch point **340** within a quadrant **310** (also referred to as a ‘3-D coordinate system’).” (*Id.*, col. 6:16-25) The specifications go on to say that:

This touch point, if effectively deployed by the user, is mapped to the image deployed by the holographic hardware and software system, as each image that is displayed in the system is displayed from an exacting point at an exacting place in space that has been preconfigured to match specific points on the quadrilateral sensor system. The points in space attached to programmed images are then matched to touch points made by the user. The touch point may trigger the same functions as a mouse and cursor.

(*Id.*, col. 6:25-33)

Thus, Figure 3 appears to be a demonstration of how QAN is used to *quadrilate* the position of a user’s finger. This is because the user’s interaction with the “CUBE SHAPED MATRIXED SENSOR FIELD” is referred to as the “QUADRILATION OF SENSOR DEVICE[,]” such that the position of the user’s finger appears to be determined by way of reference to four different sensors (i.e., quadrilation). (*Id.*, FIG. 3)

Yet a confusing aspect of determining what QAN is (and is not) stems from the fact that the patents otherwise seem to suggest that QAN could be used to identify a position within a 3-D coordinate system, *inter alia*, through either “quadrilation” or “triangulation.” Certain of the dependent claims, for example, specify that the sensors using QAN can be used to either “quadrilate” or “triangulate” a position within the three-dimensional coordinate system. ('773 patent, col. 8:47-50) The '098 patent also notes that the invention can use location sensors that are laser sensors to sense a user’s interaction with an image, and that the laser sensors “can be configured to geometrically identify a position within the 3-D coordinate system, e.g., by *triangulation or quadrilation.*” ('098 patent, col. 7:61-63 (emphasis added)) And the '773 patent describes how a laser sensor may be “configured to geometrically identify a position within the three dimensional coordinate system[. . . [and] at least one sensor may be further configured to *triangulate and/or quadrilate* a position within the three dimensional coordinate system.” ('773 patent, col. 3:4-8 (emphasis added))

At oral argument, Plaintiff finally proposed a clear construction for QAN. It there defined the term to mean a “user interface within which moving of the user occurs, determined geometrically from at least one angle the relative positions of points in space by ascertaining the distances and sometimes angles between those positions, and at least four other reference points whose positions are known and arranged in at least four different vertices in a quadrilateral.” (Tr. at 53-54) Plaintiff’s counsel confirmed that this construction is one that makes clear that QAN “relates to [the use of] quadrilation.” (Tr. at 68) As noted above, such a construction would seem to conflict with those portions of the patent that involve QAN’s use regarding triangulation. That said, there is support in the patent for the idea that QAN utilizes quadrilation, and it could be, as Plaintiff’s counsel suggested, (Tr. at 57), that Plaintiff limited the term during prosecution to the use of quadrilation. In light of this, and solely for purposes of resolving this Motion, the Court will adopt Plaintiff’s proposed construction.

However, even if the Court utilizes the above-referenced construction for QAN, it must still assess whether: (1) the claimed uses of QAN are how the patent means to address the technological problems that it describes as having existed vis-à-vis the prior art; and (2) whether sensors using QAN amounted to more than the use of well-understood, routine, or conventional sensor technology (i.e., so as to transform the claims into patent eligible inventions). Defendant argues in the negative as to both questions, asserting that the claims “do[] not provide any disclosure of an ‘unconventional configuration’ of sensors[.]” (D.I. 22 at 2-3; *see also* D.I. 12 at 10; Tr. at 13-14, 17-18; 35-36) Again, this issue is a challenging one.

The patents are certainly not a model of clarity as to the above questions. As even Plaintiff’s counsel acknowledged at oral argument, “[t]here’s nothing [in the patents that] explicitly . . . calls out quadrilateral angle navigation as being the touchstone of the departure from the state of the art.” (Tr. at 62; *see also id.* at 67) Nor do the patents ever flatly state that the use of QAN amounts to the use of “unconventional” technology. (*Id.* at 60)

Yet in the Court’s view, there is just enough there in record, when considered in the light most favorable to Plaintiff, to indicate that these claims contain an inventive concept (thus resulting in the denial of this portion of the Motion). The Court comes to this conclusion for three primary reasons.

First, the patents (even if they are surely less than clear on the point) provide at least *some reason* to believe that it is the use of sensors employing QAN that overcomes the described obstacles to a more realistic 3-D user experience (i.e., that this amounts to the solution to a described technological problem). As previously noted, the specifications discusses: (1) the need for a user interface that uses 3-D technology and attains “elements of the attenuated clarity, realism and benefits . . . that match our day to day conventional interactions with the 3-D world”; and (2) that the claimed systems and methods are meant to use a combination of holographic projection technology and sensors that promote that improved user experience. (’098 patent, cols. 2:6-14, 4:47-57) And it is notable that, in describing the inventions that are meant to

provide this improved user experience, the patentees not only describe QAN and its use of quadrilateration to determine user location, but they ultimately went on to incorporate sensors that utilize QAN into every claim. Read together, this could indicate that, at least according to the patentees, using sensors employing QAN is a way (and perhaps *the* way) the patents improve over the prior art. Moreover, from what is depicted in Figure 3, the Court can see how “quadrilateration,” as depicted there, might be used to solve the problem of 3-D user interfaces lacking a realistic depth reference (e.g., by tracking the position of a user’s finger in three dimensions on an x-y-z axis). (*See, e.g.*, D.I. 1 at ¶ 29; *see also* '098 patent, cols. 1:67-2:14, 6:16-33 & FIG. 3)

Second (and relatedly), there is enough in the patent to support an inference that the use of sensors employing QAN amounts to something other than the well-understood, routine, or conventional use of sensor technology. Again, admittedly, the patents never explicitly say that it does. But, on the other hand, they never explicitly say that it *does not*. And although there was not great detail about this in the record, it appears that “QAN was added to all the patent claims [during prosecution] to obtain allowance” over the prior art. (Tr. at 24; *see also id.* at 57-60; D.I. 18, ex. A at 5 (prosecution history regarding the application that led to the '098 patent, in which the Examiner appears to indicate that “the prior art of record fails to teach or suggest” the use of sensors configured to sense based on QAN, and that this addition was what distinguished the patent claims from the prior art))¹² During oral argument, even Defendant’s counsel acknowledged that the parties “have a dispute over whether the arrangement of the sensors is conventional or not[.]” (Tr. at 13) And fact disputes like that (so long as there is sufficient evidence of record supporting the non-movant’s position) are supposed to get resolved in the non-movant’s favor at the pleading stage.

¹² In resolving a Rule 12(b)(6) motion, the Court may take judicial notice of a cited patent’s prosecution history, as it is a public record. *Sound View Innovations, LLC v. Facebook, Inc.*, 204 F. Supp. 3d 655, 658-59 (D. Del. 2016).

Third, the Supreme Court has stated that the “concern that drives th[e] exclusionary principle [regarding the non-eligibility of abstract ideas i]s one of pre-emption[.]” *Alice*, 134 S. Ct. at 2354, in that if a claim is so abstract so as to “pre-empt use of [the claimed] approach in all fields, and would effectively grant a monopoly over an abstract idea[.]” it would not be patent eligible, *Bilski*, 561 U.S. at 612. But here, the patents suggest that claims to systems and methods using sensors that employ QAN (and quadrilateration) to determine a touch point—and that, in turn, are used to manipulate holographic images in a 3-D environment—would not tie up an inordinate amount of the relevant field (systems and methods used for “human manipulation of three-dimensional objects”). The patents explain that there are various other “sensing configurations or devices” that can be used to “sense a location in a 3-D coordinate system[.]” such as “laser sensors configured to provide data to triangulate a point within the 3-D coordinate system, [or the use of] photo voltaic sensors, photo electric light sensors, or image sensors [in some combination to do the same].” (’098 patent, col. 6:34-39) There is at least a fact dispute, then, relevant to this important question of preemption. (Tr. at 65-66 (Plaintiff’s counsel asserting that “those skilled in the art would understand what quadrilateral angle navigation is and its reliance on quadrilateration and understand that the use of four points and their orientation to determine a particular point as a departure from other things that were known, and I think what they would understand is [that its] a departure from [] triangulation.”); *see also id.* at 24 (Defendant’s counsel acknowledging that the use of QAN in the claims is “not necessarily going to preempt every way of interaction because there are alternatives that were specifically disclosed and surrendered during prosecution”))¹³

¹³ Another of Defendant’s arguments against patent eligibility is that the claims merely “present[] a list of known, off-the-shelf components, which are used to perform their standard functionalities: for example, 3-D projectors project a 3-D image; sensors ‘sense;’ and processors are presented as doing the typical ‘processing of information.’” (D.I. 12 at 11 (specifically calling out claim 1 of the ’098 patent)) But even assuming that all of the hardware components called for by the claims are merely off-the-shelf components used to perform their standard functions, those off-the-shelf components, when configured a certain way, might still be used to solve a technological problem (i.e., to solve the problem with existing user interfaces that

3. Conclusion

The Court acknowledges that the resolution of this Section 101 Motion at the pleading stage is a close call, and reasonable minds could disagree as to the outcome.¹⁴ But for the foregoing reasons, the Court finds that Defendant's Section 101 Motion should be denied without prejudice to Defendant's ability to renew its eligibility challenge at the summary judgment stage.

B. Plausibility of the Direct, Indirect, and Willful Infringement Allegations Under the *Twombly/Iqbal* Pleading Standard

Defendant alternatively argues that the Complaint fails to include plausible allegations of direct, indirect, and willful infringement. (D.I. 12 at 2) The Court will address each cause of action in turn.

1. Direct Infringement

In order to adequately allege direct infringement, generally a plaintiff must plead facts that plausibly indicate that the alleged infringer's accused products practice each of the limitations of the asserted claims. *N. Star Innovations, Inc. v. Micron Tech., Inc.*, Civil Action No. 17-506-LPS-CJB, 2017 WL 5501489, at *1 (D. Del. Nov. 16, 2017); *see also Raindance Techs., Inc. v. 10x Genomics, Inc.*, Civil Action No. 15-152-RGA, 2016 WL 927143, at *2-3 (D.

did not provide sufficient depth reference). *See Trading Techs. Int'l, Inc. v. CQG, Inc.*, 675 F. App'x 1001, 1004-05 (Fed. Cir. 2017) ("Precedent has recognized that specific technological modifications to solve a problem or improve the functioning of a known system generally produce patent-eligible subject matter."); *see also McRO, Inc.*, 837 F.3d at 1314. And that technological solution, according to Plaintiff, are systems and methods for a 3-D user interface that employ an unconventional configuration of sensors (based on the described use of QAN).

¹⁴ This is one of those cases where adjudicating a Section 101 challenge at the pleading stage was made even more difficult because there is "a minimal record" on which to base a decision. *Cf. Interval Licensing LLC*, 896 F.3d at 1354 (Plager, J., concurring-in-part and dissenting-in-part). The patents themselves are the best pieces of record evidence we have at this stage, and they certainly were not drafted with *Alice* and its progeny in mind. In such circumstances, the Court is asked by a movant to make the consequential ruling that patent claims should be eliminated, and yet the Court has little to rely on in order to assess this important issue of patent eligibility.

Del. Mar. 4, 2016).¹⁵ Defendant argues that Plaintiff has not done so here. More specifically, Defendant asserts that the Complaint does not indicate how two limitations common to all asserted claims are met: (1) that the accused products employ sensors configured based on QAN; and (2) that a user interacts with a projected image within a certain “three dimensional coordinate system[.]” (D.I. 12 at 15-18; D.I. 22 at 6-9)

Regarding the QAN limitation, Defendant argues that the Complaint fails to “explain how quadrilateral angle navigation is used in Meta’s accused products and how these limitations are met.” (D.I. 12 at 15) By way of example,¹⁶ Defendant points to paragraph 42 of the Complaint, which tracks the language of claim 1 of the '773 patent (as shown in this excerpt from Defendant’s opening brief):

¹⁵ Recent Federal Circuit precedent suggests that in some circumstances, particularly where the technology at issue is not complex, a reviewing court may be able to determine that it is plausible that an accused product meets the limitations of an asserted claim simply by viewing photos of the product and comparing those photos to the words of the claim. In *Disc Disease Sols. Inc. v. VGH Sols., Inc.*, 888 F.3d 1256 (Fed. Cir. 2018), the Federal Circuit reversed the district court’s dismissal of the plaintiff’s complaint, where the district court had found that the complaint “did not satisfy the *Iqbal/Twombly* plausibility pleading standard[.]” *Disc Disease*, 888 F.3d at 1259. Specifically, the Federal Circuit ruled that the plaintiff had provided the defendant “fair notice of infringement of the asserted patents” where: (1) the case involved “a simple technology”; (2) the asserted patents were attached to the complaint; (3) the complaint specifically identified the accused products, and attached photos of the products as exhibits; and (4) the complaint alleged that the accused products “meet each and every element of at least one claim of [the plaintiff’s patents.]” *Id.* at 1260 (internal quotation marks and citation omitted). Indeed, the patent claims at issue in *Disc Disease* were directed to an apparatus and method that were not unduly complex: “an air injectable band with a rigid panel worn around the waist[, that when] inflated [] expands vertically to provide traction to the spine of the user to relieve back pain” and “a method of manufacturing a wrinkled band by adhering an overlapped sheet creating an inner space and adhering a stretched elastic band above and below the inner space.” *Id.* at 1257-58. There can be little doubt, however, that the patents at issue here concern subject matter that is much more technologically sophisticated than in *Disc Disease*. And so the Court will look to the factual allegations in the body of the Complaint to help discern whether plausible claims of infringement have been set out.

¹⁶ The parties agree that the allegations found in the subsequently-referenced paragraphs, which relate to the '773 patent, can be treated as representative of the Complaint’s allegations as to the remaining patents. (D.I. 12 at 16-18; D.I. 18 at 14-15 & nn.11-12)

Claim 1 of the '773 Patent	Complaint Paragraph 42
"said sensing being based on quadrilateral angle navigation that determines a touch point position within the three dimensional coordinate system..."	"Upon information and belief, the sensor array is configured to sense based on quadrilateral angle navigation to determine a touch point position within a three dimensional coordinate system." (D.I. 1 at ¶42).

(*Id.*)

Plaintiff responds that Defendant is being “disingenuous because [it] only focuses on one paragraph of the many paragraphs that address ‘quadrilateral angle navigation.’” (D.I. 18 at 10-11) Plaintiff then makes reference to those other paragraphs in the Complaint. These include: (1) paragraph 44, which states that “features and/or objects within the environment are used to identify four points at the vertices of a quadrilateral that are, in turn, used to identify the location of a digital object (*i.e.*, hologram) within the environment”; (2) paragraph 46, which states that “the digital object (*i.e.*, hologram) is displayed from a certain point in space (via the projection system of the Meta headset) preconfigured to match the aforementioned four points at the vertices of a quadrilateral”; and (3) paragraphs 47, 48 and 49, which allege that the sensors of the accused products also capture information regarding additional objects, “such as a user’s hand or fingers, within the environment, including the location of those objects” and then the hologram is “matched [using Meta software calls that are identified by name in the Complaint] with the space location of a finger or gesture made by a user of the Meta headset to determine a touchpoint within a three dimensional coordinate system.” (D.I. 1 at ¶¶ 44, 46-49 (*cited in* D.I. 18 at 12-14))

In the Court’s view, the paragraphs cited above do just enough to provide an adequate allegation of how the accused products are said to use QAN in the claimed manner. More specifically, this is not a case where the plaintiff merely parrots back the claim language and

makes no attempt to tie the claim limitations to the accused products. *See, e.g., N. Star Innovations, Inc.*, 2017 WL 5501489, at *2 (finding that “merely copying the language of a claim element, and then baldly stating (without more) that an accused product has such an element” is insufficient under the *Twombly/Iqbal* pleading standard and that “[t]here needs to be *some facts* alleged that articulate *why it is plausible* that the other party’s product infringes that patent claim”). Here, as explained above, Plaintiff alleges that the accused products practice, *inter alia*, the QAN limitation in the asserted claims by describing features and functions of the accused products, such as how the accused products have a sensor array that uses “features and/or objects within the environment . . . to identify four points at the vertices of a quadrilateral that are, in turn, used to identify the location of a digital object . . . within the environment” and “additional objects, such as a user’s hand or fingers[.]” (D.I. 1, at ¶¶ 44, 47) Further, portions of the Meta software are said to match the hologram with the user’s finger, and the Complaint explains how it is alleged that the accused products determine the “touch point.” (*Id.* at ¶ 49) Based on Plaintiff’s description of what the QAN limitation is, these allegations make it plausible that the accused products practice that limitation.

The Court next turns to Defendant’s argument that the Complaint fails to include adequate allegations regarding the “three dimensional coordinate system” limitation. All of the asserted claims require the sensing of a user’s interaction with an image in a “three dimensional coordinate system,” that an image is displayed in a “3-D coordinate system[.]” or the like. (D.I. 12 at 16; *see also* '773 patent, col. 8:21-23; '165 patent, col. 13:34-35) Defendant argues that the Complaint contains no allegations that explain “what the three dimensional coordinate system is, or how [the accused products] meet this limitation.” (D.I. 12 at 16)

As to what a “three dimensional coordinate system” is, the patents seem to explain that well enough. All of the patents’ specifications include language indicating that the QAN system is used “to determine the exact point **330** of a fingertip touch point **340** within a quadrant **310** (also referred to as a ‘3-D coordinate system’).” (*See, e.g.,* '773 patent, col. 4:44-47) Figure 3

suggests that the term “quadrant” is referring to an area of three-dimensional space. (*Id.*, FIG. 3) This in turn indicates that a three-dimensional coordinate system is simply an area of three-dimensional space.

From here, the Court concludes that the Complaint plausibly demonstrates how the accused products utilize a three-dimensional coordinate system. The bulk of Defendant’s argument to the contrary was that the accused products do not “project[]” or display a hologram or 3-D object *into* a three-dimensional coordinate system (e.g., so that a user can interact with the image there). (D.I. 12 at 17; D.I. 22 at 8-9; Tr. at 90-96) Instead, the accused products project two separate 2-D images onto plates in the headset of the accused products, which makes the user’s brain *think* that it is seeing a 3-D image that is out in front of the user’s eyes. (D.I. 12 at 17; D.I. 22 at 8-9 (describing the accused products as being similar to a Viewmaster toy from the late 20th century); Tr. at 93-96) Defendant argues that the products’ role in “mak[ing] it seem [to a user’s brain] that “a three-dimensional image exists” is “a function of the human brain’s optical processing, and not projection of a three-dimensional image in a defined 3D coordinate space.” (D.I. 12 at 17)

For its part, Plaintiff does not dispute that this is how the accused products work. Instead, it argues that because the product generates what *appears to be* a 3-D image that looks to the user to be out in a “location in space” in front of them, this amounts to the 3-D image “exist[ing] in a three-dimensional coordinate system beyond the visor of the Meta headset.” (D.I. 18 at 17) In other words, “there is a location in space (outside of the eye) [where] the user *perceives* the virtual image to exist[.]” (*Id.* (emphasis added); *see also* Tr. at 77 (“[T]he virtual image [created by the accused products] is treated as having a location in space.”))

This seems to the Court like a claim construction dispute about what a “three-dimensional coordinate system” can be, with each side having at least a plausible position. It might be that, for purposes of the patents, images are in (or projected into, or displayed in) a three-dimensional coordinate system if they are perceived to be (or appear to a user to be) in

such a system and if a location for the image exists in such a system (e.g., beyond the visor of a Meta headset). And in order for a user of the accused products to “see, grab[,] and move holograms just like physical objects[,]” including changing their depth, (D.I. 1 at ¶¶ 36 (citing Defendant’s website)), then it seems plausible, as noted above, that the accused products would have to assign some sort of three-dimensional coordinate location to the object/hologram in order for the user to be able to interact with that image using his or her hand.

It may later turn out that this is not the right construction for the term at issue, or that the accused products do not meet this limitation for other reasons. However, at the Rule 12(b)(6) stage, only plausibility is required, and Plaintiff has demonstrated that here. *See Microchip Tech., Inc. v. Delphi Auto. Sys., LLC*, Civil Action No. 17-1194-LPS-CJB, 2018 WL 605893, at *3 (D. Del. Jan. 29, 2018) (denying a motion to dismiss premised on the movant’s view of the proper construction of a claim term, where the non-movant also made out a plausible argument that the term should be construed in a manner that could demonstrate infringement) (citing cases).

2. Indirect Infringement

As to Plaintiff’s indirect infringement allegations, Defendant’s only argument is that because Plaintiff “did not adequately plead direct infringement, its indirect infringement claims should also be dismissed.” (D.I. 12 at 18) Because the Court has found that Plaintiff did adequately plead direct infringement, Defendant’s argument here too must fail.

3. Willful Infringement

Defendant lastly argues that Plaintiff’s willful infringement allegations fail to state a plausible claim, because they do not demonstrate how Defendant’s pre-filing conduct “constitutes an ‘egregious’ case of infringement as described in *Halo Elecs., Inc. v. Pulse Elecs. Inc.*, 136 S. Ct. 1923 (2016).” (D.I. 12 at 18-19 (citing *Princeton Dig. Image Corp. v. Ubisoft Entm’t SA*, Civil Action No. 13-335-LPS-CJB, 2016 WL 6594076, at *11 (D. Del. Nov. 4,

2016)); D.I. 22 at 9-10) However, in the time between the briefing and the issuance of this Memorandum Opinion, the Court issued an opinion in *Välinge Innovation AB v. Halstead New England Corp.*, Civil Action No. 16-1082-LPS-CJB, 2018 WL 2411218 (D. Del. May 29, 2018). In *Välinge*, the Court concluded that a plaintiff need not plead facts demonstrating “egregious” patent infringement in order to sufficiently state a claim for willful infringement. 2018 WL 2411218, at *6. Rather, it concluded that “in order to sufficiently plead willful infringement, a plaintiff must allege facts plausibly showing that as of the time of the claim’s filing, the accused infringer: (1) knew of the patent-in-suit; (2) after acquiring that knowledge, it infringed the patent; and (3) in doing so, it knew, or should have known, that its conduct amounted to infringement of the patent.” *Id.* at *13.

As Defendant’s only argument in its opening brief regarding the willfulness allegations is one that the Court has found not to be viable, Defendant’s Motion is denied as to those claims as well.

IV. CONCLUSION

For the reasons set out above, the Court DENIES Defendant’s Motion to the extent that it seeks to dismiss the Complaint on Section 101 grounds, without prejudice to Defendant’s ability to raise a Section 101 challenge at the summary judgment stage. And the Court DENIES the Motion to the extent that it seeks dismissal of the Complaint for failing to state plausible claims of direct, indirect, and willful infringement as to all of the asserted patents. An appropriate Order follows.