IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

EVOLVED WIRELESS, LLC, Plaintiff, v. APPLE INC., Defendant.	Civ. No. 15-542-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. HTC CORPORATION and HTC AMERICA, INC., Defendants.	Civ. No. 15-543-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. LENOVO GROUP LTD., LEVONO (UNITED STATES) INC., and MOTOROLA MOBILITY, Defendants.	Civ. No. 15-544-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. SAMSUNG ELECTRONICS CO., and SAMSUNG ELECTRONICS AMERICA, Defendants.	Civ. No. 15-545-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. ZTE (USA) INC., Defendant.	Civ. No. 15-546-SLR

EVOLVED WIRELESS, LLC, Plaintiff, v. MICROSOFT CORPORATION, MICROSOFT MOBILE OY, and NOKIA INC., Defendants.	)	Civ. No. 15-547-SLR

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MEMORANDUM OPINION

Dated: October 31, 2016
Wilmington, Delaware

ROBINSON, District Judge

I. INTRODUCTION

In June 2015, plaintiff Evolved Wireless, LLC ("plaintiff") brought separate patent infringement actions against the following defendants: Apple, Inc.; HTC Corporation; HTC America, Inc.; Lenovo Group Ltd.; Lenovo (United States) Inc.; Motorola Mobility; Samsung Electronics Co., Ltd.; Samsung Electronics America, Inc.; ZTE (USA) Inc.; Microsoft Corp.; Microsoft Mobile Oy; and Microsoft Mobile Inc. (collectively, "defendants"). In each separate action, plaintiff alleges that the defendants infringe five patents, including U.S. Patent Nos. 7,746,916 ("the '916 patent") and 8,218,481 ("the '481 patent"). The court has jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

Defendants have moved for judgment on the pleadings as to the '916 patent and '481 patent, arguing that those patents claim patent-ineligible subject matter under 35 U.S.C. § 101. (D.I. 71)[1] Patent eligibility under § 101 is a question of law that may be resolved at the pleading stage. *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 Fed. Appx. 988, 991 (Fed. Cir. 2014); *Content Extraction & Transmission LLC v. Wells Fargo Bank*, 776 F.3d 1343, 1349 (Fed.Cir.2014) (affirming decision to declare claims patent-ineligible under § 101 at pleading stage). For the reasons discussed below, defendants' motions are denied.

II. BACKGROUND

The '916 and '481 patents relate to mobile phones and devices using the LTE standard, which is the current standard in wireless communications systems. (D.I. 1 ¶ 15) Mobile (cellular) phones and devices allow users to make or receive telephone

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[1] All docket citations are to *Evolved Wireless, LLC v. Apple, Inc.*, 15-542-SLR.

calls and transmit and receive data wirelessly over a wide geographical area. (*Id.* at ¶ 18) The increasing number of mobile devices and the advancement of mobile device technology with increased features have driven demand for faster and more reliable data transmissions. (*Id.* at ¶ 22) The patents claim "specific solutions to improve mobile device functionality over the prior art with faster, more reliable, and more efficient voice and data transmissions." (*Id.* at ¶ 25)

A. The '916 Patent

The '916 patent claims methods and systems for generating and transmitting "a code sequence from a transmitting party to a receiving party in a wireless communication system." (D.I. 1-1 at 1:15-18) As the patent specification explains, a "preamble" of a wireless communication system is used for initial synchronization, cell search, and channel estimation. (D.I. 1-1 at 1:20-26) The preamble is comprised of a code sequence, and the code sequence is further comprised of orthogonal or quasi-orthogonal codes. (D.I. 1-1 at 1:20-26)

The '916 patent has 11 claims, including method claims 1-5 and 11 and apparatus claims 6-10. (D.I. 1-1 at 17:35-18:65) For the purposes of this motion, the parties have primarily focused on claim 1, which states:

> 1. A method for transmitting a code sequence from a transmitting party to a receiving party in a wireless communication system, the method comprising:
>
> (a) acquiring a code sequence having a second length by a cyclic extension of a code sequence having a first length;
>
> (b) performing a circular shift to the code sequence having the second length; and
>
> (c) transmitting the circular shifted code sequence having the second length to the receiving party,

(d) wherein the first length is a largest prime number smaller than the second length, and

(e) wherein the cyclic extension of the code sequence having the first length is performed such that a part of the code sequence having the first length, having a length corresponding to a difference between the first length and the second length, is added to either a start or an end of the code sequence having the first length, and

(f) wherein the circular shift is performed to the code sequence having the second length such that either a rear portion of the code sequence having the second length moves to a start of the code sequence having the second length, or a front portion of the code sequence having the second length moves to an end of the code sequence having the second length.

(*Id.* at 17:35-57)

Limitations (a) through (c) of claim 1 provide the steps for generating and transmitting a code sequence. Limitation (a) explains that a code sequence is acquired by performing a mathematical operation called a "cyclic extension" on a starting code sequence. (*Id.* at 17:38-41) The cyclic extension copies the front of the starting sequence to its end (or copies the end of the starting sequence to its front). (*Id.* at 17:46-50) For example, a cyclic extension of the sequence "34567" yields "345673" because the "3" at the front of "34567" is copied to the end. (D.I. 72 at 4) Limitation (b) requires another mathematical operation called a "circular shift," which shifts the cyclically extended sequence by moving a portion of the sequence from one end of the sequence to the opposite end. (D.I. 1-1 at 11:25-29) For example, a circular shift of "345673" yields "733456" because the "73" at the end of the sequence is moved to the front of the sequence and the remaining numbers are shifted to the right. (D.I. 72 at 4) Limitation (c) requires the transmission of the circular-shifted code sequence "to the receiving party." (D.I. 1-1 at 17:42-43)

Limitations (d) through (f) provide further specific limitations on the claim. Limitation (d) requires the starting sequence to have a length that is a prime number (as in the example above, because "34567" has a length of five digits, and five is a prime number). (*Id.* at 44-45; D.I. 72 at 4-5) Limitations (e) and (f) specify that the mathematical operations of cyclic extension and circular shift can be carried out on in either direction, front to back or back to front.

Independent method claim 11 includes most of the same requirements as claim 1, but reverses the order of the steps, performing the cyclic extension before the circular shift. (D.I. 1-1 at 17:44-65) Independent apparatus claim 6 includes language nearly identical to that of claim 1 but couches the mathematical operations of cyclic extension and circular shift in terms of the capabilities of a generic structural component called "a code sequence generator," and adds "a transmitting unit" with the ability to transmit. (*Id.* at 17:7-28)

Dependent claims 2-4 and 7-8 specify that the starting sequence includes "at least a cyclic prefix or a cyclic postfix" (meaning an additional sequence portion at either the front or back, respectively), or constitutes a "Zadoff-Chu (ZC) sequence" (a particular type of prior art mathematical sequence). (D.I. 72 at 5) Dependent claims 5 and 10 require that the resulting code sequence be transmitted "as a reference signal sequence" (a term the specification equates with a prior art signal in a wireless communications system). (*Id.*)

B. The '481 Patent

The '481 patent claims methods and systems for generating and transmitting a specific type of code sequence—a "preamble sequence"—over a random access

channel in a mobile communication system. (D.I. 1-5 at 1:18:33-42) As explained in the specification, mobile devices (referred to as "user equipment") utilize a preamble transmitted over a random access channel to access the network when the device is not yet synchronized with the base station, such as when the device is first turned on or after coming out of an idle state. (*Id.* at 1:24-30; 4:55-5:3)

Independent claim 1 of the '481 patent states:

> 1. A method of transmitting a preamble sequence in a mobile communication system, the method comprising:
>
> (a) repeating a specific sequence, having a length (L), N times to generate a consecutive sequence having a length (N*L);
>
> (b) generating said preamble sequence by concatenating a single cyclic prefix (CP) to a front end of said consecutive sequence; and
>
> (c) transmitting, on a random access channel, said preamble sequence to a receiving side.

(*Id.* at 18:1-42)

Accordingly, the '481 patent constructs a preamble sequence by repeating consecutive sequences some number of times (i.e., "N times") and adding a single cyclic prefix. (D.I. 72 at 6) For example, a starting sequence of "123" could be repeated twice (N=2) to create the consecutive sequence "123123." (*Id.*) Adding a "cyclic prefix" means copying some portion at the end of the sequence to the front of the sequence. (*Id.* at 7) Thus, in the example above, adding a cyclic prefix to the consecutive sequence "123123" could result in "3123123," where the last digit (3) has been copied to the front of the sequence. (*Id.*) The '481 patent claims that the resulting preambles are less susceptible to "noise or channel change," leading to better reception of the preamble at the base station. (D.I. 1-5 at 2:45-49; D.I. 83 at 6) Independent apparatus

claim 8 includes language nearly identical to that of claim 1 but couches the mathematical operations of repeating a sequence and adding a cyclic prefix in terms of the capabilities of a generic structural component called "a preamble generation unit," and adds "a transmitting unit" with the ability to transmit the resulting sequence on a random access channel. (D.I. 1-5 at 18:60-19:3)

Dependent claims 2-7 and 9-16 provide specific additional limitations to independent claims 1 and 8. Claims 2 and 9 specify that the starting "specific sequence" is a CAZAC sequence. (*Id.* at 18:43-45; *Id.* at 9:4-7) Cyclically shifted CAZAC sequences are orthogonal to each other, enabling a cell tower to differentiate between code sequences transmitted by different mobile devices. (D.I. 83 at 6) Claims 3-7 and 10-14 require a cyclic shift involving various additional mathematical operations. (D.I. 1-5 at 18:46-59; *Id.* at 19:8-20:8) Claims 15-16 require a certain number of repetitions and a specific length of the cyclic prefix. (*Id.* at 20:8-16)

III. STANDARD OF REVIEW

When deciding a Rule 12(c) motion for judgment on the pleadings, a district court must view the facts and inferences to be drawn from the pleadings in the light most favorable to the non-moving party. *Green v. Fund Asset Mgmt., L.P.*, 245 F.3d 214, 220 (3d Cir. 2001); *Janney Montgomery Scott, Inc. v. Shepard Niles, Inc.*, 11 F.3d 399, 406 (3d Cir. 1993). The motion can be granted only if no relief could be afforded under any set of facts that could be provided. *Turbe v. Gov't of the Virgin Islands*, 938 F.2d 427, 428 (3d Cir. 1991); *see also Astrazeneca AB v. Dr. Reddy's Lab., Inc.*, 2016 WL 3946799, at *7 (D. Del. July 20, 2016) ("If a complaint contains even the most basic of allegations that, when read with great liberality, could justify plaintiff's claim for relief,

motions for judgment on the pleadings should be denied." (quoting *Cardio–Med. Assoc., Ltd. v. Crozer–Chester Med. Ctr.*, 536 F. Supp. 1065, 1072 (E.D. Pa. 1982))). However, the court need not adopt conclusory allegations or statements of law. *In re Gen. Motors Class E Stock Buyout Sec. Litig.*, 694 F. Supp. 1119, 1125 (D. Del. 1988). Judgment on the pleadings will only be granted if it is clearly established that no material issue of fact remains to be resolved and that the movant is entitled to judgment as a matter of law. *Jablonski v. Pan Am. World Airways, Inc.*, 863 F.2d 289, 290 (3d Cir. 1988).

IV. DISCUSSION

Section 101 defines patent-eligible subject matter as "any ... process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. The Supreme Court has long held that that § 101 contains an important implicit exception. *Mayo Collaborative Serv. v. Prometheus Lab., Inc.*, 132 S.Ct. 1289, 1293 (2012). "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Id.* (internal quotation marks, brackets, and citations omitted). The purpose of these exceptions is to protect the "basic tools of scientific and technological work." *Id.* Defendants argue that the '916 patent and the '481 patent are directed to abstract ideas and are, therefore, patent-ineligible.

In *Alice*, the Supreme Court endorsed a two-step "framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S.Ct. 2347, 2355 (2014). First, the court must determine if the claims at issue are directed to a patent-ineligible concept. *Id.* If the answer is no, that ends the matter and the defendants' motion is denied. *See, e.g., Enfish, LLC v. Microsoft Corp.*,

822 F.3d 1327, 1337 (Fed. Cir. 2016) (determining at step one that the claims were not directed to an abstract idea and, therefore, not discussing step two). If, however, the answer is yes, then the court must "determine whether the additional elements transform the nature of the claim into a patent-eligible application." *Alice*, 134 S.Ct. at 2355.

A. Patent Eligibility of Mathematical Formulas

Defendants argue that the claims of the '916 patent and '481 patent are "directed to a mathematical algorithm for generating a code sequence." (D.I. 72 at 10) The Federal Circuit has stated that "[m]athematical formulas are a type of abstract idea," *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 2016 WL 4896481, at *6 (Fed. Cir. Sept. 13, 2016), and "as such [are] not accorded the protection of our patent laws," *Diamond v. Diehr*, 450 U.S. 175, 191 (1981). "Without additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Digitech Image Tech., LLC v. Elec. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014). The prohibition against patenting mathematical algorithms "cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Diehr*, 450 U.S. at 191. Similarly, "insignificant post-solution activity" will not transform an unpatentable mathematical algorithm into a patentable process. *Id.* at 191-92.

The Federal Circuit has also made clear, however, that "an invention is not ineligible just because it relies upon a law of nature or mathematical algorithm." *Digitech*, 758 F.3d at 1350. A claim containing a mathematical formula can satisfy the requirements of § 101 if it "implements or applies that formula in a structure or process

which, when considered as a whole, is performing a function which the patent laws were designed to protect." *Diehr*, 450 U.S. at 192.

Applying these guidelines in the relevant field of technology can be somewhat difficult, because "[t]he essence of software is manipulating existing data and generating additional data through algorithms." *Cal. Inst. of Tech. v. Hughes Commc'ns Inc.*, 59 F. Supp. 3d 974, 987 (C.D. Cal. 2014); *Oplus Techs. Ltd. v. Sears Holding Corp.*, 2013 WL 1003632, at *12 (C.D. Cal. Mar. 4, 2013) ("All software only 'receives data,' 'applies algorithms,' and 'ends with decisions.'"). Ultimately, the Federal Circuit instructs that not all "claims directed to software ... are inherently abstract." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Claims "improv[ing] the functioning of [a] computer" or "improving an existing technological process" are patent-eligible even if they rely on a mathematical algorithm. *Id.* at 1336; *see also Hughes*, 59 F. Supp. 3d at 993 ("When claims provide a specific computing solution for a computing problem, these claims should generally be patentable, even if their novel elements are mathematical algorithms.").

Accordingly, courts must distinguishing between claims directed to an unpatentable mathematical algorithm and claims directed to improving a technological process. Courts have found that claims were directed to an abstract idea where they were simply reciting the "use of an abstract mathematical formula on any general purpose computer." *Enfish*, 822 F.3d at 1338. For example, in *Benson*, the Supreme Court rejected as patent-ineligible "a method for converting binary-coded decimal (BCD) numerals into pure binary code." *Gottschalk v. Benson*, 409 U.S. 63, 64 (1972). The patent was essentially for a mathematical algorithm. Although the patent could be used

in any general purpose computer, it was "not limited to any particular art or technology, to any particular apparatus or machinery, or to any particular end use." *Id.* Similarly, courts have found patent-ineligible "a purely conventional computer implementation of a mathematical formula." *Enfish*, 822 F.3d at 1338. For example, in *Flook*, the Supreme Court rejected as patent-ineligible "a formula for computing an alarm limit." *Parker v. Flook*, 437 U.S. 584, 586 (1978).

In contrast, the Federal Circuit has found a patent-eligible technological improvement where the claims "provided an Internet-based solution to solve a problem unique to the Internet that (1) did not foreclose other ways of solving the problem, and (2) recited a specific series of steps that resulted in a departure from the routine and conventional sequence of events after the click of a hyperlink advertisement." *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1371 (Fed. Cir. 2015) (discussing *DDR Holdings, LLC v. Hotels.com*, 773 F.3d 1245 (Fed. Cir. 2014)). Specifically, in *DDR Holdings*, the Federal Circuit upheld as patent-eligible a software patent that generated a "hybrid website" when a visitor to the host website clicked an advertisement. 773 F.3d at 1257. The hybrid website retained the "look and feel" of the host website and allowed users to make purchases without leaving the host website. This prevented the host website from losing its audience. *Id.* at 1248–49.

Similarly, in *Enfish*, the Federal Circuit upheld as patent-eligible claims disclosing a logical model, called a "self-referential model," because the claims provided "a specific improvement to the way computers operate," 822 F.3d at 1330, 1336. Unlike conventional logical models, the self-referential model could store all data entities in a single table and define the table's columns by rows in that same table. *Id.* at 1332. The

self-referential model improved the functioning of a computer by permitting "faster searching of data," "more effective storage of data," and "more flexibility in configuring the database."[2] *Id.* at 1333.

All of the cases that found claims to be patent-eligible improvements to computers have not been resolved at the same step of the *Alice* framework. Some cases had to consider both *Alice* steps. *See*, *e.g.*, *DDR Holdings*, 773 F.3d at 1257. This court has suggested that "computer software comprises a set of instructions," making the first step of *Alice*, "for the most part, a given; i.e., computer-implemented patents generally involve abstract ideas." *CyberFone Systems, LLC v. Lexmark Int'l, Inc.*, 137 F. Supp. 3d 648, 652 (D. Del. 2015). "[S]ubsumed in the second step of *Alice*" is the question of whether a claim improved a technological process. *Id.* More recently, however, the Federal Circuit stated that courts should inquire at step one of *Alice* – as opposed to step two – "whether the focus of the claims is on the specific asserted improvement in computer capabilities." *Enfish*, 822 F.3d at 1336-37. Accordingly, the court will consider under the first step of *Alice* whether the '916 and '481 patents are directed to an abstract idea or a specific improvement in computer capabilities.

B. Analysis

In determining whether the mathematical algorithms disclosed in the patents at issue are directed to an abstract idea or technological improvement, the court finds

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[2] In *Enfish*, the court noted that the self-referential model "function[ed] differently than conventional database structures." *Id.* at 1337. This is similar to the consideration given in *DDR Holdings* to whether the patent departed from routine and conventional steps. *See* 773 F.3d at 1259. Unlike *DDR Holdings*, however, the court in *Enfish* did not consider whether the patent preempted other ways of solving the problem. *See DDR Holdings*, 773 F.3d at 1259.

instructive cases addressing similar technological problems and solutions.[3] In *Hughes*, the patent claimed a particular form of error correction code called an irregular repeat and accumulate ("IRA") code. *Cal. Inst. of Tech. v. Hughes Commc'ns Inc.*, 59 F. Supp. 3d at 977-78. During data transmission, a random or irregular fluctuation (known as noise) can occur in the signal and corrupt data. *Id.* at 977. An error correction code mitigates this problem by introducing redundancy. *Id.* An IRA code repeats (i.e., duplicates) different original bits irregularly (i.e., a different number of times), and then randomly permutes and combines these information bits to eventually form parity bits. *Id.* at 978. The parity bits are transmitted along with the original information bits. *Id.* The receiver can determine whether an error occurred during transmission by adding together the original information bits and parity bits. *Id.* The receiver knows whether this sum is supposed to be odd or even, and that an error occurred if the result does not

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[3] Defendants have cited several cases that the court finds inapplicable. Some of the cases involve claims that "can readily be understood as simply adding conventional computer components to well-known business practices." *Enfish*, 822 F.3d at 1338; *see Alice*, 134 S.Ct. at 2357 (using computers for intermediate settlements); *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 714–17 (Fed. Cir. 2014) (using the Internet to exchange advertising for copyrighted content); *buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1354–55 (Fed. Cir. 2014) (adding generic computer functionality to the formation of guaranteed contractual relationships). The '916 and '481 patents, however, do not claim a longstanding commercial practice made more efficient by using a computer. Other cases cited by defendants encompass "inventions pertaining to methods of organizing human activity," which has consistently been considered an abstract idea. *See In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016) (claims directed to abstract idea of classifying and storing digital images in an organized manner); *Cyberfone Sys., LLC v. CNN Interactive Grp., Inc.*, 558 F. App'x 988, 991 (Fed. Cir. 2014) (claims for capturing and storing data on a telephone directed to abstract idea); *Content Extraction v. Wells Fargo Bank*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (claims directed to abstract idea of collecting, sorting, and storing data); *Visual Memory LLC v. Nvidia Corp.*, 2016 WL 3041847, at *6 (D. Del. May 27, 2016) (finding claims directed to tiered data storage an abstract idea). The claims of the '916 and '481 patents, however, do not involve collecting, organizing, and storing data.

match. *Id.* Accordingly, the invention was not patent-ineligible under § 101 just because it involved, like the patents at issue here, repeating original data bits, combining the original bits with the duplicate bits, and transmitting the combined bits.

More importantly, the court in *Hughes* found that the invention provided a patent-eligible technological improvement over the prior art. The benefit of an IRA code is that not all bits are repeated the same number of times. *Hughes*, 59 F. Supp. 3d at 978. Although greater repetition allows for better error correction, it also forces the transmitter to send more bits, thereby increasing data transfer time. *Id.* IRA codes, therefore, balance the competing goals of data accuracy and efficiency. *Id.* This is similar to other types of technological improvements found to be patent-eligible. *See France Telecom S.A. v. Marvell Semiconductor Inc.*, 39 F. Supp. 3d 1080, 1097 (N.D. Cal. 2014) (holding that a method for correcting errors in telecommunication was not abstract where its purpose was "more accurate and efficient data transmission"); *Intellectual Ventures I LLC v. Ricoh Am. Corp.*, 2016 WL 1129183, at *7 (D. Del. Mar. 22, 2016) (finding patent-eligible an invention based on a mathematical algorithm that could "improve the image scanning rate" for a scanner).

The '916 and '481 patents describe problems and solutions firmly rooted in technology used for wireless communications. Specifically, the '916 patent explains that the number of code sequences available in the prior art to maintain orthogonality was "limited." (D.I. 1-1 at 1:31-34) As a result, telecommunication systems either had a higher level of interference or were only able to serve a limited number of mobile phones for a particular base station. (D.I. 1 ¶ 29) The '916 patent relates to a technique for optimizing the number of unique code sequences with orthogonality,

overcoming the limitations rooted in prior art. (D.I. 1 ¶ 28; D.I. 1-1 at 7:35-44; *Id.* at 8:13-23)

Similarly, the '481 patent describes several problems in the prior art with transmitting preamble sequences over a random access channel. (D.I. 1-5 at 1:45-2:33; D.I. 1 ¶¶ 54-59) Specifically, prior art systems used a preamble of fixed length, limiting flexibility under different cell sizes. (D.I. 1 ¶ 53) The '481 patent identifies several objects of the invention, including "using a long sequence to maximize time/frequency diversity and alleviat[e] performance attenuation due to channel;" "transmitting data through a code sequence in a mobile communication system, in which the quantity of data can be increased and the transmitted data becomes robust to noise or channel change;" and "minimizing access time of a user equipment to a random access channel in a mobile communication system." (D.I. 1-5 at 2:37-56) Because the '916 and '481 patents are directed to technological improvements resolving specific problems in a wireless communications system, the court finds that they claim patent-eligible subject matter under § 101.

The defendants ask this court to disregard the preamble and claim limitations as nothing more than limits to a "particular technological environment" or "insignificant post-solution activity," thereby leaving only a patent-ineligible mathematical algorithm. (D.I. 72 at 2, 12) The court, however, finds no reason to depart from the usual practice of considering plaintiff's patent claims as a whole. As the Supreme Court instructs, a claim containing a mathematical formula can satisfy the requirements of § 101 if it "implements or applies that formula in a structure or process which, when considered as a **whole**, is performing a function which the patent laws were designed to protect."

Diehr, 450 U.S. at 192 (emphasis added). "[A] series of conventional elements may together form an unconventional, patentable combination." *Hughes*, 59 F. Supp. 3d at 987; *see*, *e.g.*, *Ricoh*, 2016 WL 1129183, at *8 (finding parameters to "drive a motor," "output an image signal," and "store an image signal" provided limitations of sufficient specificity describing how the particular method operated a scanner, that it disclosed an inventive concept).

Finally, defendants argue that the inventions disclose elements "well-known" in the prior art. (*See*, *e.g.*, D.I. 72 at 7) This may be true, but "section 101 eligibility should not become a substitute for a patentability analysis related to prior art, adequate disclosure, or the other conditions and requirements of Title 35." *Research Corp. Tech., Inc. v. Microsoft Corp.*, 627 F.3d 859, 868 (Fed. Cir. 2010). Today, the court decides only that the asserted claims are patentable under § 101. Whether these claims survive § 102, § 103, or other requirements of the Patent Act is a separate question for another day, and the court expresses no views on these issues.

V. CONCLUSION

For the foregoing reasons, defendants' motions for judgment on the pleadings (D.I. 71)[4] are denied. An appropriate order shall issue.

[4] Corresponding motions in the above captioned cases are: Civ. No. 15-543, D.I. 74; Civ. No. 15-544, D.I. 66; Civ. No. 15-545, D.I. 85; Civ. No. 15-546, D.I. 73; Civ. No. 15-547, D.I. 72.

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

EVOLVED WIRELESS, LLC, Plaintiff, v. APPLE INC., Defendant.	Civ. No. 15-542-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. HTC CORPORATION and HTC AMERICA, INC., Defendants.	Civ. No. 15-543-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. LENOVO GROUP LTD., LEVONO (UNITED STATES) INC., and MOTOROLA MOBILITY, Defendants.	Civ. No. 15-544-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. SAMSUNG ELECTRONICS CO., and SAMSUNG ELECTRONICS AMERICA, Defendants.	Civ. No. 15-545-SLR
EVOLVED WIRELESS, LLC, Plaintiff, v. ZTE (USA) INC., Defendant.	Civ. No. 15-546-SLR

EVOLVED WIRELESS, LLC, Plaintiff, v. MICROSOFT CORPORATION, MICROSOFT MOBILE OY, and NOKIA INC., Defendants.	)	Civ. No. 15-547-SLR

ORDER

At Wilmington this 31st day of October 2016, consistent with the memorandum opinion issued this same date;

IT IS ORDERED that defendants' motions for judgment on the pleadings are denied. Corresponding motions in the above captioned cases are: Civ. No. 15-542, D.I. 71; Civ. No. 15-543, D.I. 74; Civ. No. 15-544, D.I. 66; Civ. No. 15-545, D.I. 85; Civ. No. 15-546, D.I. 73; Civ. No. 15-547, D.I. 72.

UNITED STATES DISTRICT JUDGE