

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

TQ DELTA, LLC,

Plaintiff,

v.

DISH NETWORK CORPORATION,
DISH NETWORK LLC,
DISH DBS CORPORATION,
ECHOSTAR CORPORATION, and
ECHOSTAR TECHNOLOGIES, L.L.C.,

Defendants.

Civil Action No. 15-614-GBW

Brian E. Farnan, Michael J. Farnan, FARNAN LLP, Wilmington, DE 19801; Peter J. McAndrews, Thomas J. Wimbiscus, Paul W. McAndrews, Rajendra A. Chiplunkar, David Z. Petter, MCANDREWS, HELD & MALLOY, LTD., Chicago, IL 60661

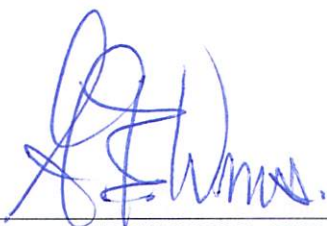
Counsel for Plaintiff

Nikita Gupta Fiorella, Warren K. Mabey, FISH AND RICHARDSON P.C., Wilmington, DE 19801; Ruffin B. Cordell, Adam R. Shartzter, Brian J. Livedalen, Jack R. Wilson, Daniel Y. Lee, Michael Ballanco, FISH AND RICHARDSON P.C., Washington, D.C., 20024; John-Paul Fryckman, FISH AND RICHARDSON, P.C., San Diego, CA 92130

Counsel for Defendants

MEMORANDUM OPINION

October 19, 2026
Wilmington, Delaware



GREGORY B. WILLIAMS
UNITED STATES DISTRICT JUDGE

Plaintiff TQ Delta, LLC (“Plaintiff”) brings the present patent infringement action against Defendants Dish Network Corporation, Dish Network LLC, Dish DBS Corporation, EchoStar Corporation, and EchoStar Technologies, L.L.C., (“Defendants”). Before the Court is Defendants’ Motion for Summary Judgment that claims 1, 2, 7, 12, 13, 14, 15 and 20 of U.S. Patent No. 9,014,243 (“the ’243 Patent”) and claims 1, 6 and 9 of U.S. Patent No. 8,718,158 (“the ’158 Patent”) (“together, the Asserted Claims”) are invalid under 35 U.S.C. § 101. (D.I. 562) (“Defendants’ First Summary Judgment Motion”). For the reasons set forth below, Defendants’ First Summary Judgment Motion is GRANTED-IN-PART and DENIED-IN-PART.

I. BACKGROUND

On July 17, 2015, Plaintiff commenced the present action, alleging that Defendants infringed, *inter alia*, claims 1, 2, 7, 12, 13, 14, 15 and 20 of the ’243 Patent” and claims 1, 6 and 9 of the ’158 Patent. (See D.I. 1 ¶¶ 34, 43). On September 11, 2024, Defendants filed their First Motion for Summary Judgment, asserting that claims 1, 2, 7, 12, 13, 14, 15 and 20 of the ’243 Patent” and claims 1, 6 and 9 of the ’158 Patent are invalid under 35 U.S.C. § 101. (D.I. 562).

A. The ’243 Patent

The ’243 Patent is directed to “[a] system and method that demodulates the phase characteristic of a carrier signal” (’243 Patent at Abstract). Claim 1 of the ’243 Patent is an independent claim and recites:

1. A method, in a multicarrier communications transceiver comprising a bit scrambler followed by a phase scrambler, comprising:

scrambling, using the bit scrambler, a plurality of input bits to generate a plurality of scrambled output bits, wherein at least one scrambled output bit is different than a corresponding input bit;

scrambling, using the phase scrambler, a plurality of carrier phases associated with the plurality of scrambled output bits;

transmitting at least one scrambled output bit on a first carrier; and

transmitting the at least one scrambled output bit on a second carrier.

('243 Patent at Claim 1).

B. The '158 Patent

The '158 Patent is directed to “[a] system and method that scrambles the phase characteristic of a carrier signal” ('158 Patent at Abstract). Claim 1 of the '158 Patent is an independent claim and recites:

1. In a multicarrier modulation system including a first transceiver in communication with a second transceiver using a transmission signal having a plurality of carrier signals for modulating a plurality of data bits, each carrier signal having a phase characteristic associated with at least one bit of the plurality of data bits, a method for scrambling the phase characteristics of the carrier signals comprising:

transmitting the plurality of data bits from the first transceiver to the second transceiver;

associating a carrier signal with a value determined independently of any bit of the plurality of data bits carried by the carrier signal, the value associated with the carrier signal determined by a pseudo-random number generator;

determining a phase shift for the carrier signal at least based on the value associated with the carrier signal;

modulating at least one bit of the plurality of data bits on the carrier signal;

modulating the at least one bit on a second carrier signal of the plurality of carrier signals.

(‘158 Patent at claim 1).

II. LEGAL STANDARD

A. Summary Judgment

“The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a). “A genuine issue of material fact is one that could lead a reasonable jury to find in favor of the nonmoving party.” *Bletz v. Corrie*, 974 F.3d 306, 308 (3d Cir. 2020) (citing *Willis v. UPMC Children’s Hosp. of Pittsburgh*, 808 F.3d 638, 643 (3d Cir. 2015)). “The court must review the record as a whole, draw all reasonable inferences in favor of the nonmoving party, and must not ‘weigh the evidence or make credibility determinations.’” *Id.* at 308 (quoting *Parkell v. Danberg*, 833 F.3d 313, 323 (3d Cir. 2016)).

B. Patent Eligible Subject Matter

Patentability under 35 U.S.C. § 101 is a threshold legal issue. *Bilski v. Kappos*, 561 U.S. 593, 602 (2010). Section 101 inquiry is properly raised at the pleading stage if it is apparent from the face of the patent that the asserted claims are not directed to eligible subject matter. *Cleveland Clinic Found. v. True Health Diagnostics LLC*, 859 F.3d 1352, 1360 (Fed. Cir. 2017); *see also SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1166 (Fed. Cir. 2018) (stating that patent eligibility “may be, and frequently has been, resolved on a Rule 12(b)(6) or (c) motion”); *FairWarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d 1089, 1097 (Fed. Cir. 2016) (stating that “it is possible and proper to determine patent eligibility under 35 U.S.C. § 101 on a Rule 12(b)(6) motion” (quoting *Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1373-74 (Fed. Cir. 2016))); *Voter Verified, Inc. v. Election Sys. & Software LLC*, 887 F.3d 1376, 1379 (Fed. Cir. 2018) (affirming Rule 12(b)(6) dismissal based on § 101 patent ineligibility). This is, however,

appropriate “only when there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law.” *Aatrix II*, 882 F.3d at 1128.

Section 101 of the Patent Act defines patent-eligible subject matter. It states, “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. § 101. The Supreme Court has held that there are exceptions to § 101. “Laws of nature, natural phenomena, and abstract ideas are not patentable.” *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208, 216 (2014) (internal quotation marks and citation omitted). “[I]n applying the § 101 exception, [the court] must distinguish between patents that claim the ‘building blocks’ of human ingenuity and those that integrate the building blocks into something more, thereby ‘transforming’ them into a patent-eligible invention.” *Id.* at 217 (cleaned up). “The former ‘would risk disproportionately tying up the use of the underlying’ ideas, and are therefore ineligible for patent protection.” *Id.* (internal citation omitted). “The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws.” *Id.*

The Supreme Court’s *Alice* decision established a two-step framework for determining patent-eligibility under § 101. In the first step, the court must determine whether the claims at issue are directed to a patent ineligible concept. *Alice*, 573 U.S. at 217. In other words, the inquiry is whether the claims are directed to a law of nature, natural phenomenon, or abstract idea. *Id.* If “no,” then the patent is not invalid for teaching ineligible subject matter under § 101. If “yes,” then the court proceeds to step two, where it considers “the elements of each claim both individually and as an ordered combination” to determine if there is an “inventive concept – i.e., an element or combination of elements that is sufficient to ensure that the patent in practice

amounts to significantly more than a patent upon the [ineligible concept] itself.” *Id.* at 217-18 (alteration in original). “A claim that recites an abstract idea must include ‘additional features’ to ensure that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].” *Id.* at 221 (internal quotation marks and citation omitted). Further, “the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” *Id.* at 222 (quoting *Bilski*, 561 U.S. at 610-11). Thus, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.* at 223. “Contesting patent eligibility under § 101 is an affirmative defense of invalidity, and the burden of proving invalidity falls squarely on . . . the movant.” *Aon Re, Inc. v. Zesty.AI, Inc.*, 791 F. Supp. 3d 531, 537 (D. Del. 2025) (citing *Commil USA, LLC v. Cisco Sys., Inc.*, 575 U.S. 632, 644 (2015); 35 U.S.C. § 282(a))

III. DISCUSSION

Plaintiff moves for summary judgment that all Asserted Claims are invalid under 35 U.S.C. § 101. (D.I. 562). For the reasons set forth below, the Court finds (1) the asserted claims of the ’243 Patent are not invalid under 35 U.S.C. § 101; and (2) the asserted claims of the ’158 Patent are invalid under 35 U.S.C. § 101.

A. Representativeness

Defendants assert that Claim 1 of the ’243 Patent “is representative for the purposes of the patent ineligibility analysis.” (D.I. 563 at 6). Similarly, Defendants contend that Claim 1 of the ’158 Patent is representative. (*Id.* at 7). In Defendants’ view, “[t]here is no meaningful difference between the claims that impact § 101 eligibility” for each of the two patents. (*Id.* at 6).

Courts may treat a claim as representative if all the claims are “substantially similar and linked to the same abstract idea.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass’n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014). “Courts may [also] 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 v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018); *see also Mobile Acuity Ltd. v. Blippar Ltd.*, 110 F.4th 1280, 1291-92 (Fed. Cir. 2024) (Claims can be treated as representative on a § 101 motion if the patentee does “not present a non-frivolous argument that the eligibility of the purported representative claim does not fairly represent all claims of the Asserted Patents.”). Courts will find a claim representative if “all of the challenged claims relate to the same abstract idea” and none of the other “claims add one or more inventive concepts that would result in patent eligibility.” *Cronos Techs., LLC v. Expedia, Inc.*, C.A. No. 13-1538-LPS, 2015 WL 5234040, at *2 (D. Del. Sept. 8, 2015).

In the present case, Defendants explain that “[t]here are no meaningful differences between the claims that impact § 101 eligibility” (D.I. 563 at 6). Defendants’ explanation is sufficient “to make a prima facie showing that the group of claims are ‘substantially similar and linked to the same’ ineligible concept.” *Mobile Acuity Ltd.*, 110 F.4th at 1290. Plaintiff does not challenge Defendants’ assertion of representativeness, but also does not explicitly agree that Claim 1 of the ’243 Patent and Claim 1 of the ’158 Patent are representative of the claims asserted in each patent. (*See generally* D.I. 616 (not making any arguments regarding representativeness)). To the extent Plaintiff did not concede that Claim 1 of the ’243 Patent and Claim 1 of the ’158 Patent were representative, it was required to “present non-frivolous arguments as to why the eligibility of the identified representative claim cannot fairly be treated as decisive of the eligibility of all claims in the group.” *Mobile Acuity Ltd.*, 110 F.4th at 1290. Because Plaintiff failed to present any arguments as to why Claim 1 of the ’243 Patent is not representative of all the asserted claims in

the '243 Patent, the Court finds that Claim 1 of the '243 Patent is representative of all the asserted claims in the '243 Patent for purposes of a § 101 analysis. Likewise, because Plaintiff failed to present any arguments as to why Claim 1 of the '158 Patent is not representative of all the asserted claims in the '158 Patent, the Court finds that Claim 1 of the '158 Patent is representative of all the asserted claims in the '158 Patent for purposes of a § 101 analysis.

B. The Court Denies Summary Judgment of Invalidity as to the '243 Patent

1. At Alice Step One, the '243 Patent is Not Directed to an Abstract Idea

Defendants assert that the '243 Patent is directed to the abstract idea of data conversion. D.I. 563 at 10. In Defendants' view, Claim 1 of the '243 Patent merely claims "a communication technique as the idea itself in results-based functional language," and thus is not directed to eligible subject matter under 35 U.S.C. § 101. (*Id.* at 11).

Plaintiff disagrees. Plaintiff contends that Defendants are oversimplifying Claim 1 of the '243 Patent and, when Claim 1 of the '243 Patent is read as a whole, it recites a specific way to transmit data that results in the reduction of the signal's peak-to-average ratio ("PAR"). (D.I. 616 at 10).

At *Alice* step one, courts look "to whether the claim in question is directed to an improvement in computer technology as opposed to simply providing for the use of a computer to perform 'economic or other tasks for which a computer is used in its ordinary capacity.'" *Epic IP LLC v. Backblaze, Inc.*, 351 F. Supp. 3d 733, 737 (D. Del. 2018) (Bryson, J., sitting by designation) (quoting *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)). "Where the claims at issue provide for an improvement in the operation of a computer, such as a new memory system, a new type of virus scan, or a new type of interface that makes a computer function more accessible, the Federal Circuit has found the claims patent-eligible." *Id.* (collecting cases). However, when the claims are directed to "a process that qualifies as an 'abstract idea' for which

computers are invoked merely as a tool,” the Federal Circuit has found such claims to be directed to ineligible subject matter. *Enfish*, 822 F.3d at 1336; *see also PersonalWeb*, 8 F.4th at 1315-18; *Berkheimer*, 881 F.3d at 1366-67; *Intell. Ventures I LLC v. Cap. One Bank (USA)*, 792 F.3d 1363, 1367-68 (Fed. Cir. 2015); *Customedia Techs., LLC v. Dish Network Corp.*, 951 F.3d 1359, 1364-65 (Fed. Cir. 2020).

The '243 Patent relates to “[a] system and method that demodulates the phase characteristic of a carrier signal” ('243 Patent at Abstract). “In a conventional multicarrier communications system, transmitters communicate over a communication channel using multicarrier modulation or Discrete Multitone Modulation (DMT).” ('243 Patent at 1:34-36). When transmitting signals using DMT, “[a]n input signal, which includes input data bits, is sent to a DMT transmitter” (*Id.* at 1:39-40). “The DMT transmitter typically modulates the phase characteristics, or phase, and amplitude of the carrier signals using an Inverse Fast Fourier Transform (IFFT) to generate a time domain signal, or transmission signal, that represents the input signal.” (*Id.* at 1:40-45). “The phase and amplitude of the carrier signals of DMT transmission signal can be considered random because the phase and amplitude result from the modulation of an arbitrary sequence of input data bits comprising the transmitted information.” (*Id.* at 1:48-52).

“If the phases of the modulated carriers is not random, then the PAR can increase greatly.” ('243 Patent at 2:15-16). “[A]n increased PAR can result in a system with high power consumption and/or with high probability of clipping the transmission signal.” (*Id.* at 2:25-28). To ensure that the PAR is sufficiently random, the '243 Patent claims “a system and method that scrambles the phase characteristics of the modulated carrier signals in a transmission signal.” (*Id.* at 2:34-35). To do so, the '243 Patent teaches that a value is generated “independently of any input bit value of the carrier signal” and is subsequently associated that carrier signal. (*Id.* at 2:36-44). “A phase

shift is computed for each carrier signal based on the value associated with that carrier signal.” (*Id.* at 2:37-39). “The phase shift computed for each carrier signal is combined with the phase characteristic of that carrier signal to substantial scramble the phase characteristics of the carrier signal.” (*Id.* at 2:40-44).

Defendants assert that “[t]he key purported advance of the Asserted Patents is the ‘phase scrambler,’” recited by the Asserted Claims. (D.I. 563 at 10). Defendants contend that the phase scrambler merely adjusts “the phases of the carrier signals, while still representing the same underlying data,” and thus Claim 1 of the ’243 Patent is drawn to nothing more than data conversion. (*Id.*).

In determining whether claims are directed to ineligible subject matter under § 101, courts have found helpful “to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases.” *Enfish*, 822 F.3d at 1334. In claiming that Claim 1 of the ’243 Patent is directed to an abstract idea, Defendants analogize Claim 1 of the ’243 Patent to the claims at issue in *Hawk Tech. Sys., LLC v. Castle Retail, LLC*, 60 F.4th 1349 (Fed. Cir. 2023). In *Hawk Tech.*, the Federal Circuit found that the claims of the asserted patent were “directed to a method of receiving, displaying, converting, storing, and transmitting digital video using result-based functional language,” when said claims only required “the functional results of ‘receiving video images,’ ‘digitizing any of the images not already in digital form,’ ‘displaying one or more of the digitized images,’ ‘converting one or more of the video source images into a selected video format,’ ‘storing at least a subset of the converted images,’ ‘providing a communications link,’ ‘receiving . . . a request to receive one or more specific streams of the video images,’ ‘transmitting . . . a version of one or more of the video images,’ and ‘displaying only the one or more requested specific streams of the video images.’” *Hawk Tech.*, 60 F.4th at 1357 (cleaned up). Importantly,

the Federal Circuit distinguished the claims at issue in *Hawk Tech.* from claims that had been found to be patent-eligible because the *Hawk Tech.* claims failed “to recite a specific solution to make the alleged improvement – conserving bandwidth while preserving quality – ‘concrete’ and at most recite abstract data manipulation.” *Id.* at 1358.

Plaintiff also analogizes Claim 1 of the ’243 Patent to those at issue in *Redwood Techs., LLC v. Netgear, Inc.*, 738 F. Supp. 3d 511 (D. Del. 2024). In *Redwood Techs.*, this Court found that the claims at issue were directed to “the abstract idea of ‘determining and using a modulation method to generate data.’” *Redwood Techs.*, 738 F. Supp. 3d at 518-19. The Patent at issue in *Redwood Techs.* claimed “a frame configuration determiner that determines a modulation system,” “a first symbol generator that modulates a digital transmission signal according to the modulation system,” and “a second symbol generator that modulates the digital transmission signal according to a predetermined modulation system” *Id.* at 518. Although the Court noted that “the specification explains, at least in part, how the frame configuration determiner functions and what factors it considers when judging what modulation system is appropriate for a specific communication environment,” the Court nonetheless found that “[t]he claim language does not require the details set forth in the specification.”

As discussed *supra*, Plaintiff asserts that Defendants are oversimplifying Claim 1 of the ’243 Patent and, when Claim 1 of the ’243 Patent is read as a whole, it recites a specific way to transmit data that results in the reduction of the signal’s peak-to-average ratio (“PAR”). (D.I. 616 at 10). The Court agrees with Plaintiff. The Court finds analogous the Federal Circuit’s decision in *Constellation Designs, LLC v. LG Elecs. Inc.*, 189 F.4th 1111 (Fed. Cir. 2026). In *Constellation Designs*, the claims found to be patent eligible recited:

A communication system, comprising a receiver that receives signals via a communication channel having a

channel signal-to-noise ratio (SNR), wherein the receiver uses a symbol constellation to transform the received signals into received bits, and the symbol constellation includes constellation points at a plurality of unique point locations, where:

the plurality of unique point locations are unequally spaced;

the constellation points each have a location and a different label; and

the locations of at least two of the constellation points are the same.

Constellation Designs, 189 F.4th at 1121. In finding the above claim to be patent eligible, the Federal Circuit explained that is “covers a concrete implementation of a technological improvement to solve a technological problem,” namely, using the spacing and location of various constellation points to improve coding gains. *Id.* at 1127-28.

Also instructive is the Federal Circuit’s decision in *Koninklijke KPN N.V. v. Gemalto M2M GmbH*, 942 F.3d 1143 (Fed. Cir. 2019). In *Koninklijke*, the Federal Circuit held that the claims were not directed “to the abstract idea of data manipulation,” but were “directed to an improved check data generating device that enables a data transmission error detection system to detect a specific type of error that prior art systems could not.” 942 F.3d at 1145. Specifically, the claims provided for an error-checking device that applied a permutation to original data “in time.” *Id.* The Federal Circuit ultimately found that, “[b]y requiring that the permutation applied to original data be modified ‘in time,’ [the claims] recite[d] a specific implementation of varying the way check data is generated that improves the ability of prior art error detection systems to detect systematic errors.” *Id.* at 1150.

Similar to the claims found to be patent eligible in *Constellation Designs* and *Koninklijke*, Claim 1 of the ’243 Patent “covers a concrete implementation of a technological improvement to

solve a technological problem.” *Constellation Designs*, 189 F.4th at 1127. Specifically, Claim 1 of the ’243 Patent describes a method that comprises scrambling “a plurality of input bits to generate a plurality of output bits” using a bit scrambler, and scrambling “a plurality of phases associated with the plurality of scrambled output bits” using a phase scrambler. (’243 Patent at Claim 1). The Court has interpreted phase scrambler as meaning a “component operable to adjust the phases of the carrier signals, by pseudo-randomly varying amounts.” (D.I. 202 at 2); *see also AI Visualize, Inc. v. Nuance Commc’ns, Inc.*, 610 F. Supp. 3d 638, 645 (D. Del. 2022), *aff’d*, 97 F.4th 1371 (Fed. Cir. 2024) (“Whether a claim is drawn to patent-eligible subject matter ‘is a matter of both claim construction and statutory construction.’” (citation omitted)). Thus, when reading Claim 1 of the ’243 Patent as a whole, and as interpreted by the Court, it describes how to lower PAR by pseudo-randomly scrambling the phases of carrier signals. Specifically, Claim 1 of the ’243 Patent describes a method where (1) input bits are scrambled to output bits, (2) phases are scrambled and associated with the output bits, and (3) the scrambled output bits are transmitted on multiple carriers. (’243 Patent at Claim 1). As the specification of the ’243 Patent explains, “[b]y scrambling the phase characteristics of the carrier signals, the phase scrambler 66 reduced (with respect to unscrambled phase characteristics) the combined PAR of the plurality of carrier signals and, consequently, the transmission signal 38”. (*Id.* at 6:48-53). Thus, Claim 1 of the ’243 Patent does not present a scenario where the purported benefits of the claimed invention, as described in the specification, are absent from the claim language. Instead, Claim 1 of the ’243 Patent is directed to a specific technological solution that improves the functionality of the multicarrier communications transceiver. *See Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1011 (Fed. Cir. 2018) (finding as not directed to patent ineligible subject matter a claim that recited “a specific structure (i.e., notebook tabs) within a particular spreadsheet display that performs a

specific function (i.e., navigating within a three-dimensional spreadsheet”); *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1305-07 (Fed. Cir. 2020) (finding as not directed to patent ineligible subject matter a claim directed to “a primary station for use in a communications system” because the claimed invention was directed to “the reduction of latency experienced by parked secondary stations in communication systems”). Thus, the Court finds that Claim 1 of the ’243 Patent is not directed toward an abstract idea. Therefore, the asserted claims of the ’243 Patent are not invalid under 35 U.S.C. § 101, and Defendants’ First Summary Judgment Motion is DENIED as to the ’243 Patent.

C. The Court Grants Summary Judgment as to the ’158 Patent

1. At Alice Step One, the ’158 Patent Is Directed to an Abstract Idea

Defendants next assert that the ’158 Patent, which shares a common specification to the ’243 Patent¹, is also directed to an abstract idea. (D.I. 563 at 13). In addition to Defendants’ arguments relating to the ’243 Patent, which Defendants contend apply equally to the ’158 Patent, Defendants assert that Claim 1 of the ’158 Patent is directed to patent ineligible subject matter because the steps of Claim 1 of the ’158 Patent “are drawn to the preparatory steps of calculating a desired phase shift . . . without claiming the steps the phase scramble would take to [a]ffect a phase shift to achieve the phase scrambling.” (*Id.* at 14). In Defendant’s view, because no step of the ’158 Patent requires that phase shift “cause an adjustment in the amount computed,” the claims must be directed toward an abstract idea. (*Id.*).

Plaintiff disagrees. Plaintiff contends the arguments that Defendants offer specific to the ’158 Patent are without merit. *First*, Plaintiff alleges that “a claim need not recite every element needed for the practical utilization of the claimed subject matter.” (D.I. 616 at 14 (citation

¹ Because both the ’243 and ’158 Patent share a common specification, the Court will not repeat the technical background discussed *supra* § III.B.1.

omitted)). *Second*, although Plaintiff concedes that applying the phase adjustment to the carrier wave is not required by Claim 1 of the '158 Patent, Plaintiff asserts that the claims do tie the computation of the phase adjustment to the actual adjusting of the phase. (*Id.* at 15).

The Court agrees with Defendants. Absent an instruction by Claim 1 of the '158 Patent to apply the phase shift to the phase of a carrier signal, the '158 Patent is directed to the abstract idea of calculating scrambled phases.

As discussed *supra* § III.B.1, courts should compare the claims at issue “to those claims already found to be directed to an abstract idea in previous cases” in making a § 101 determination. *Enfish*, 822 F.3d at 1334. The Court finds instructive the Federal Circuit’s decision in *Digitech Image Techs., LLC v. Elecs. for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014). In *Digitech*, the claims recited:

A method of generating a device profile that describes properties of a device in a digital image reproduction system for capturing, transforming or rendering an image, said method comprising:

generating first data for describing a device dependent transformation of color information content of the image to a device independent color space through use of measured chromatic stimuli and device response characteristic functions;

generating second data for describing a device dependent transformation of spatial information content of the image in said device independent color space through use of spatial stimuli and device response characteristic functions; and

combining said first and second data into the device profile.

Digitech, 758 F.3d at 1351. In finding the above claim directed to an abstract idea, the Federal Circuit noted that “[t]he above claim thus recites an ineligible abstract process of gathering and combining data that does not require input from a physical device.” *Id.* Although the Federal

Circuit identified benefits mentioned in the specification of the patent-in-suit in *Digitech* by using the using the device profile generated by the above claim in an image processor, the Federal Circuit nonetheless found that the claim at issue “does not claim [an image] processor’s use of that profile in the capturing, transforming, or rendering of a digital image.” *Id.*

Similar to the claim in *Digitech*, Claim 1 of the ’158 Patent does not claim using the phase scrambler to scramble the phases of the carrier signals. (’158 Patent at Claim 1). Importantly, Plaintiff concedes this point in its briefing. (D.I. 616 at 15). Plaintiff cites to a single case, *Stiftung v. Renishaw PLC*, 945 F.2d 1173 (Fed. Cir. 1991), for the proposition that “a claim need not recite every element needed for the practical utilization of the claimed subject matter.” (D.I. 616 at 14 (citing *Stiftung*, 945 F.2d at 1181)). However, as Plaintiff appears to recognize, the Federal Circuit in *Stiftung* made that statement in the context of 35 U.S.C. § 101’s *utility* requirement, not while determining whether a claim was directed toward patent-ineligible subject matter. *Stiftung*, 945 F.2d at 1180-81. Thus, *Stiftung* is unpersuasive.

Importantly, “[t]he analysis at step one must focus on the claim language.” *Hawk Tech. Sys., LLC v. Castle Retail, LLC*, 60 F.4th 1349, 1357. (citation omitted). “Features that are not claimed ‘are irrelevant as to step 1 or step 2 of the *Alice* analysis.’” *All Terminal Servs., LLC v. Roboflow, Inc.*, C.A. No. 25-476-WCB, 2025 WL 2576394, at *10 (D. Del. Sept. 5, 2025) (Bryson, J., sitting by designation) (citing *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 967 F.3d 1285, 1293 (Fed. Cir. 2020)). Although the Court recognizes that Plaintiff contends that skilled artisan would understand to apply the calculated scrambled phase, recited in Claim 1 of the ’158 Patent, to the existing phase of a carrier wave, such a requirement is not present in Claim 1 of the ’158 Patent. Thus, the Court concludes that Claim 1 of the ’158 Patent is directed to the abstract idea of calculating scrambled phases and proceeds to *Alice* step 2.

2. At *Alice* Step Two, the Claim Elements of the '158 Patent Fail to Supply an Inventive Concept

Defendants assert that, at *Alice* step 2, each claim element, individually and as an ordered combination, fails to provide an inventive concept sufficient to render Claim 1 of the '158 Patent subject matter patent eligible. (D.I. 563 at 18). Citing to the shared specification of the '243 and '158 Patents, as well as to the testimony of named-inventor Mr. Tzannes, Defendants assert that conventional multicarrier communications systems operated in the same manner as the multicarrier modulation system recited in Claim 1 of the '158 Patent, as well as the claimed bit scramblers, were well known and conventional. (*Id.* at 17-19).

Plaintiff disagrees. Plaintiff asserts that the ordered combination of elements in Claim 1 of the '158 Patent recite specific steps “which are not done on a generic computer in a routine or conventional way.” (D.I. 616 at 17). Specifically, Plaintiff contends that “Defendants do not show that modulating at least one data bit on first and second carrier signals that have had a phase shift determined based on a value determined by a PNG was conventional.” (*Id.* at 18-19).

The Court agrees with Defendants. Plaintiff does not assert that any element of Claim 1 of the '158 Patent, on its own, supplies an inventive concept. (See D.I. 616 at 16-19 (not making any such argument)). Although Plaintiff asserts that the ordered combination of elements of Claim 1 of the '158 Patent provides “distinct improvements to multicarrier transceiver functionality, resulting in robust data transmission without high PAR,” (D.I. 616 at 16), such benefit is absent from the claim’s language. As discussed *supra* § III.C.1, applying the calculated phase shift is not required by Claim 1 of the '158 Patent. Thus, it would be improper for the Court to consider applying the calculated phase shift in its *Alice* step 2 analysis. *All Terminal Servs.*, 2025 WL 2576394, at *10 (“Features that are not claimed ‘are irrelevant as to step 1 or step 2 of the *Alice* analysis.”). As the specification of the '158 Patent makes clear, applying the calculated phase

shift is a necessary step to achieve the purported benefit of the invention: the reduction of PAR. ('158 Patent at 3:1-5 (In one embodiment, a modulator, in communication with the phase scrambler, modulates bits of an input signal onto the carrier signals *having substantially scrambled phase characteristics* to produce a transmission signal with a reduced PAR.” (emphasis added); *see also* '158 Patent at 2:46-49)). In order for the ordered combination of claim elements to supply an inventive concept at *Alice* step 2, the benefit of the invention must be captured by the claims themselves. *Blue Spike LLC v. Charter Commc'ns, Inc.*, C.A. No. 19-158-LPS, 2019 WL 6895972, at *3 (D. Del. Dec. 18, 2019) (“I do understand the law to require at step 2 that the inventive concept be captured in the claims. . . . I reject Plaintiffs’ argument . . . that it could be sufficient that if you practice the claims, sometimes you will have as a result improved computer functionality. In my view, that is not enough. It has to be a requirement of the claims to be captured by the claims in order to satisfy step 2.”). Absent an improvement in multicarrier functionality being captured by the claims (in this case, a reduction in PAR), the ordered combination of the elements of Claim 1 of the '158 Patent fails to provide an inventive concept. Thus, the Court finds that Claim 1 of the '158 Patent is invalid under 35 U.S.C. § 101. Therefore, all the asserted claims of the '158 Patent are invalid under 35 U.S.C. § 101, and Defendants’ First Summary Judgment Motion is GRANTED as to the '158 Patent.

IV. CONCLUSION

For the foregoing reasons, Defendants’ First Summary Judgment Motion (D.I. 562) is GRANTED-IN-PART and DENIED-IN-PART. An appropriate Order will follow.