

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

IN RE: NEO WIRELESS, LLC,
PATENT LITIGATION

Case No. 2:22-MD-03034-TGB
HON. TERRENCE G. BERG

DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

Pursuant to Fed. R. Civ. P. 56, Ford Motor Company (“Ford”), General Motors Company and General Motors LLC (collectively “GM”), Tesla, Inc. (“Tesla”), Nissan North America Inc. and Nissan Motor Acceptance Corporation a/k/a Nissan Motor Acceptance Company LLC (collectively “Nissan”), FCA US LLC (“FCA”), Toyota Motor Corporation, Toyota Motor North America, Inc., Toyota Motor Sales, U.S.A., Inc. and Toyota Motor Engineering & Manufacturing North America, Inc. and Toyota Motor Credit Corporation (collectively “Toyota”), and American Honda Motor Co., Inc. and Honda Development & Manufacturing of America, LLC (collectively “Honda”) (together the “Defendants”) hereby move for summary judgment against Neo Wireless LLC (“Neo”) on the following grounds:

(1) No infringement of Neo’s asserted U.S. Patent Nos. 10,075,941, 10,447,450, 10,771,302 and 10,833,908 (the “Asserted Patents”);

(2) No damages prior to commencement of suit for failure to mark patented products pursuant to 35 U.S.C. § 287 (a); and

(3) No willful patent infringement.

Defendants rely on the accompanying Brief in Support of this motion for summary judgment.

CONCURRENCE PURSUANT TO L.R. 7.1(a)

Pursuant to L.R. 7.1(a), the parties met-and-conferred telephonically on June 14, 2024 regarding the relief sought in this Motion. Neo did not concur on any of the relief requested herein.

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**BRIEF IN SUPPORT OF DEFENDANTS’
MOTION FOR SUMMARY JUDGMENT**

TABLE OF CONTENTS

TABLE OF AUTHORITIES	iii
CONCISE STATEMENT OF THE CASE	iv
I. INTRODUCTION	1
II. STATEMENT OF MATERIAL FACTS	3
A. The Inventors Did Not Participate in the Development of the 4G LTE Standard that Neo Accuses of Infringement	3
B. Non-Infringement of the '908 and '302 Patents	3
C. Non-Infringement of the '941 Patent	8
D. Non-Infringement of the '450 Patent	9
E. No Pre-Suit Damages and No Willful Infringement.....	11
III. ARGUMENT.....	14
A. The Accused Products Do Not Infringe the '302 and '908 Patents....	14
1. The Accused Products Do Not Practice the Court's "DSSS" Construction for the '908 and '302 Patents	14
a. DSSS Signals Are Generated by Multiplying Information Bits and a Spreading Sequence.....	15
b. The accused 4G/LTE signals are not DSSS signals	18
c. The Accused Products Do Not Meet the DSSS Construction Under the Doctrine of Equivalents	22
2. The Accused Products Do Not Meet the "assigned by" Limitation of the '908 Patent	24
B. The Accused Products Do Not Infringe the '941 Patent.....	28
C. The Accused Products Do Not Infringe the '450 Patent.....	32
D. Neo Is Not Entitled to Pre-Suit Damages Under 35 U.S.C. § 287(A).....	34
1. The Marking Requirement of 35 U.S.C. § 287.....	34
2. Neo Is Not Entitled to Pre-Suit Damages	35
a. The <i>Arctic Cat</i> Letter Identified the Unmarked, Licensed Products	36

b.	Neo Failed to Show Compliance with § 287(a)	36
c.	Neo’s Failure to Comply with the Marking Statute Precludes It from Recovering <i>Any</i> Damages Prior to Providing Actual Notice	38
d.	Neo Failed to Provide Defendants with Actual Pre-Suit Notice of Alleged Infringement.....	39
E.	Neo Cannot Prove Willful Patent Infringement.....	41
1.	Legal Standard for Willful Patent Infringement	41
2.	Neo Cannot Prove Pre-Suit Willful Infringement	41
3.	Neo Cannot Prove Post-Suit Intentional Infringement.....	44
IV.	CONCLUSION.....	45

TABLE OF AUTHORITIES

Cases

<i>Adrea, LLC v. Barnes & Noble, Inc.</i> , 2015 WL 4610465 (S.D.N.Y. July 24, 2015)	38
<i>Amsted Indus. v. Buckeye Steel Castings Co.</i> , 24 F.3d 178 (Fed. Cir. 1994)	35, 39
<i>Arctic Cat Inc. v. Bombardier Rec. Prods. Inc.</i> , 876 F.3d 1350 (Fed. Cir. 2017)	13, 34, 35, 36
<i>Arctic Cat Inc. v. Bombardier Recreations Prods. Inc.</i> 950 F.3d 860 (Fed. Cir. 2020)	35, 38
<i>Bayer Healthcare LLC v. Baxalta Inc.</i> , 989 F.3d 964 (Fed. Cir. 2021)	43, 45
<i>Brilliant Instruments, Inc. v. GuideTech, LLC</i> , 707 F.3d 1342 (Fed. Cir. 2013)	22
<i>Clancy Sys. Int’l v. Symbol Techs., Inc.</i> , 953 F. Supp. 1170 (D. Colo. 1997)	36
<i>Decisioning.com, Inc. v. Federated Dep’t Stores, Inc.</i> , 527 F.3d 1300 (Fed. Cir. 2008)	22
<i>Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.</i> , 946 F.3d 1367 (Fed. Cir. 2020)	41, 45
<i>Finjan, Inc. v. Cisco Sys. Inc.</i> , 2017 WL 2462423 (N.D. Cal. June 7, 2017)	42
<i>Halo Elecs., Inc. v. Pulse Elecs., Inc.</i> , 579 U.S. 93 (2016)	41
<i>IMRA Am., Inc. v. IPG Photonics Corp.</i> , 2011 WL 13174666 (E.D. Mich. Mar. 14, 2011)	40
<i>Kasit IP US LLC v. Samsung Elecs. Co.</i> , 2018 WL 10498197 (E.D. Tex. May 22, 2018)	36

<i>K-TEC, Inc. v. Vita-Mix Corp.</i> , 696 F.3d 1364 (Fed. Cir. 2012).....	34
<i>Maxwell v. J. Baker, Inc.</i> , 86 F.3d 1098 (Fed. Cir. 1996).....	37
<i>Michigan Motor Techs. v. Volkswagen AKG</i> , 472 F. Supp. 3d 377 (E.D. Mich. 2020).....	42, 43
<i>Netlist, Inc. v. Micron Tech., Inc.</i> , 2024 WL 402182 (E.D. Tex. Jan. 11, 2024).....	37, 38
<i>Nike, Inc. v. Wal-Mart Stores, Inc.</i> , 138 F.3d 1437 (Fed. Cir. 1998).....	34
<i>Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.</i> , 843 F.3d 1315 (Fed. Cir. 2016).....	23
<i>Schwendimann v. Stahls', Inc.</i> , 510 F. Supp. 3d 503 (E.D. Mich. 2021).....	41, 43
<i>Team Worldwide Corp. v. Academy, Ltd.</i> , 2021 WL 1854302 (E.D. Tex. May 10, 2021).....	38
<i>Trutek Corp. v. BlueWillow Biologics, Inc.</i> , 2024 WL 180851 (E.D. Mich. Jan. 17, 2024)	37, 41, 44
<i>U.S. Ethernet Innovations, LLC v. Acer, Inc.</i> , 2013 WL 4456161 (C.D. Cal. Aug. 16, 2013).....	37
<i>Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.</i> , 520 U.S. 17 (1997).....	22

Statutes

35 U.S.C. § 287	2, 12, 13, 34, 35, 36, 37, 38, 40
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Other Authorities

<i>133rd Mtg. of the Acoustical Society of Am.</i> , Vol. 30 (1997)	17
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CONCISE STATEMENT OF THE ISSUES

1. Should the Court enter summary judgment of no infringement where there is no genuine dispute that the 4G LTE cellular communication standard that Neo accuses of infringing its four patents lacks limitations, as the Court has construed them, of each asserted patent claim?

Defendants Answer: Yes.

2. Should the Court enter summary judgment of no pre-suit damages under 35 U.S.C. § 287(a) where there is no genuine dispute that (i) [REDACTED]

[REDACTED] (ii) Neo's licensees did not mark their infringing products with those patent numbers, and (iii) Neo did not accuse the Defendants of infringing the Asserted Patents before the filing of Neo's respective complaints against those Defendants?

Defendants Answer: Yes.

3. Should the Court enter summary judgment of no willful patent infringement because there is no genuine dispute that, before and after Neo filed its complaints, the Defendants lacked the required intent to infringe those patents?

Defendants Answer: Yes.

I. INTRODUCTION

There is no genuine dispute that the cellular modem components of the MDL Defendants' vehicles (the "Accused Products") do not infringe Neo Wireless LLC's ("Neo's") U.S. Patent Nos. 10,075,941 ("the '941 Patent"), 10,447,450 ("the '450 Patent"), 10,771,302 ("the '302 Patent") and 10,833,908 ("the '908 Patent") (collectively the "Asserted Patents"). There is no infringement because:

- for the '302 and '908 Patents, the 4G LTE Zadoff-Chu sequences on which Neo relies for the "random access signal" and the "probing signal" limitations of the asserted claims do not meet the Court's "direct sequence spread spectrum signal" claim construction.
- for the '941 Patent, the 4G LTE "bitmap" on which Neo relies for the "mobile specific transmission parameter" limitation of the asserted claims is not "capable of indicating, as alternatives, both distributed subcarriers and localized subcarriers in the frequency domain as subchannel configurations" as required by the Court's construction of that claim limitation.
- for the '450 Patent, Neo's expert admitted that the 4G LTE control channel elements ("CCEs") of the physical downlink control channel (PDCCH) do not satisfy the "N=2, 4, or 8" limitation.

The fact that the 4G LTE standard Neo points to does not infringe the Asserted Patents is unsurprising given the fact that— [REDACTED]

[REDACTED] Because there is no genuine dispute that the Accused Products lack at least one limitation of each asserted claim of each Asserted Patent, the Court should enter summary judgment of no infringement.

The Court should also enter summary judgment of no pre-suit damages under 35 U.S.C. § 287(a) because there is no genuine dispute that (i) [REDACTED]

[REDACTED], and (iii) Neo did not accuse the Defendants of infringing the Asserted Patents before the filing of Neo's respective complaints against those Defendants.

Finally, the Court should enter summary judgment of no willful patent infringement because there is no genuine dispute that, before Neo filed its complaints, the Defendants lacked knowledge of the Asserted Patents, and thus lacked the required intent to infringe those patents. Following the complaints, the Defendants advanced numerous and meritorious non-infringement and invalidity defenses confirming a complete lack of any knowing infringement.

II. STATEMENT OF MATERIAL FACTS

A. The Inventors Did Not Participate in the Development of the 4G LTE Standard that Neo Accuses of Infringement

1. Neo alleged in its respective complaints against the MDL Defendants that their compliance with the 4G LTE standard in their cellular-connected vehicles infringes the Asserted Patents.

2. [REDACTED]

[REDACTED] Ex. 1, Li Dep. Tr., at 135:17-136:4, Ex. 2, Lo Dep., Tr. at 181:2-13; 183:1-12, Ex. 3, Wang Dep. Tr., at 59:17-19; Ex. 4, Marino Dep. Tr., at 148:14-20.

3. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. *Id.*

B. Non-Infringement of the '908 and '302 Patents

4. The '302 and '908 Patents relate to a “broadband wireless communication system where both the Multi-Carrier (“MC”) and Direct Sequence Spread Spectrum (“DSSS”) signals are intentionally overlaid together in both time and frequency domains.” ECF No. 28-7, PageID.218 at 2:39–42; ECF No. 28-3, PageID.129 at 2:42-45.

5. The '908 Patent is a continuation of the '302 Patent with common title, inventorship, and specifications.

6. Asserted claims 1-3, 5-6, 8-9 of the '908 Patent require “a transmitter configured to transmit . . . a random access signal.” ECF No. 28-3, PageID.134 at cl. 1.

7. The Court construed “random access signal” as “a direct sequence spread spectrum signal used as a random access signal.” ECF No. 198, PageID.11595.

8. Asserted claim 23 of the '302 Patent requires “a transmitter configured to form and transmit . . . the probing signal.” ECF No. 28-7, PageID.223 at cl. 23.

9. The Court construed “probing signal” as “a direct sequence spread spectrum signal used as a probing signal.” ECF No. 198, PageID.11630

10. A DSSS signal, as required by the Court's constructions, is generated by modulating a spreading sequence with information bits. Ex. 5, Mahon Dep. Tr. at 571:3-6, 560:9-561:23, 564:8-23, 581:23-582:4; ECF No. 28-3, PageID.129-131 at 2:67-3:3, 5:7-11.

11. Such modulation is typically performed by multiplying a spreading sequence by information bits. Ex. 5 at 335:10-337:8, 559:3-10, 561:17-23, 564:8-23, 596:21-597:1; Ex. 6, Buehrer Reb. Rpt. at ¶ 40; Ex. 7, Bims Reb. Rpt. at ¶ 256.

12. In multiplying a spreading sequence by information bits, even if the information bits are all ones (“1s”), the spreading sequence is still multiplied (modulated) by the information bits. Ex. 5. at 572:15-573:5; Ex. 8, Bims Dep. Tr. at 149:5-6; Ex. 9, Buehrer Dep. Tr. at 141:16-22.

13. Neo accuses LTE’s “random access preamble” to be the “random access signal” in the ’908 Patent. Ex. 10, Mahon Op. Rpt., Appx. J¹ at ¶¶ 20-22.

14. Neo accuses LTE’s Sounding Reference Signal (“SRS”) to be the “probing signal” in the ’302 Patent. *Id.*, Ex., 11, Mahon Op. Rpt., Appx. M at ¶¶ 20-22.

15. The accused random access preamble and the SRS are generated using Zadoff-Chu sequences. Ex. 10 at ¶¶ 20-22; Ex. 11 at ¶¶ 20-22; Ex. 12, 3GPP TS 36.300 V8.12.0 at 21-22, 27–29, 40.

16. Neo identifies only Zadoff-Chu sequences as the alleged DSSS sequences. Ex. 5 at 536:10-537:7.

17. The Zadoff-Chu sequences used as the random access preamble and the SRS are not multiplied by information bits. Ex. 5 at 540:2-12.

18. Claim 1 of the ’908 Patent requires a transmitter in a mobile station

¹ Dr. Mahon’s infringement opinions are similar for each Defendant and arise from the same 4G LTE standard. Defendants thus attach Dr. Mahon’s infringement opinions with respect to Ford, which are representative of his opinions with respect to other Defendants.

configured to “transmit, to the base station, a random access signal . . . , wherein the random access signal includes ***a sequence associated with the base station.***”² ECF No. 28-3, PageID.134 at cl. 1.

19. The Court construed “associated with” as having its plain and ordinary meaning. ECF No. 198, PageID.11595.

20. The Court also explained that, during a prior IPR proceeding involving the ’908 Patent, Neo “***clearly and unmistakably*** told the PTO that ‘associated with’ does not mean ‘assigned by.’” ECF No. 198, PageID.11592; *see also id.* at PageID.11593 (“Plaintiff’s arguments clearly and unmistakably indicate that ‘associated with’ does not mean ‘assigned by.’ It would be ‘illogical to suggest’ otherwise . . . to the extent that Plaintiff argues ‘associated with’ means ‘assigned by,’ the Court rejects that argument.”).

21. Neo’s infringement expert, Dr. Mahon, confirmed his understanding that “the Court has found that ‘associated with’ does not mean ‘assigned by.’” Ex. 37, Mahon Op. Rpt., Appx. R at ¶ 75.

22. For the ’908 Patent, Dr. Mahon accuses the random access procedure in the 4G LTE standard. Ex. 10, Mahon Op. Rpt., Appx. J ¶¶ 18-23.

23. Dr. Mahon explains, “[t]he LTE random access procedure comes in two

² All emphases in this brief have been added, unless otherwise indicated.

forms, i.e., either contention based random access or non-contention based random access.” Ex. 14, Mahon Op. Rpt. Appx. A ¶ 19.

24. Dr. Mahon accuses both forms of random access procedures of infringing the ’908 Patent’s asserted claims. Ex. 5, at 495:24-496:6.

25. For the non-contention based (also known as “contention free”) form of the 4G LTE standard’s random access procedure, Dr. Mahon admits that the accused sequence in the 4G LTE standard is assigned by the base station:

Q Isn’t it true that in contention-free random access, the Zadoff-Chu ***sequence is assigned by the base station to the UE?***

THE WITNESS: The UE receives information from the target base station of which a Zadoff-Chu sequence, it should use to connect to it during handover.

BY MR. CHU: Q Wasn’t that assigned?

THE WITNESS: In that context, ***it’s certainly assigned and associated with that base station.***

Ex. 5, 496:8-21 (objections omitted).

26. During deposition, Dr. Mahon explained: “[t]he Court says [‘associated with’] does not mean ‘assigned by,’ but that doesn’t exclude the possibility of being ‘assigned by’ so long as it’s ‘associated with.’” *Id.* at 496:23-497:11.

27. Dr. Mahon conceded that, if the Court’s construction excludes “assigned by,” then the non-contention based random access procedure in 4G LTE would not infringe any asserted claim of the ’908 Patent:

Q. But if the construction actually excludes “assigned by,” would that -- would the contention-free random access procedure still meet

Claim 1 of the '908 patent?

THE WITNESS: Well, if the Court construed the term to say that even though it's assigned by the target base station, it cannot be interpreted as "associated with," then I'd have to accept that construction from the Court. I don't see that.

BY MR. CHU: Q. *And if you accept that construction from the Court, then the contention-free random access procedure would not infringe the '908 patent; correct?*

THE WITNESS: Well, under those tight constraints that the Court hasn't issued, then I would have to reevaluate that, and most likely *I would say that it wouldn't be able to be associated with.*

Id. at 501:3-502:2 (objections omitted).

C. Non-Infringement of the '941 Patent

28. The '941 Patent relates to methods and apparatus for "adaptive transmission of wireless communication signals ... where MCS (modulation and coding scheme), coding rates, training pilot patterns, TPC (transmission power control) levels, and subchannel configurations are jointly adjusted to adapt to the channel conditions." ECF No. 28-4, PageID.146 at 2:33-38.

29. Neo asserts claims 8, 13, and 14 of the '941 Patent. Ex. 13, Mahon Op. Rpt. at ¶ 1.

30. The Court construed the '941 Patent claims to require "at a minimum, the mobile-specific transmission parameters are capable of indicating, as alternatives, both distributed subcarriers and localized subcarriers in the frequency domain as subchannel configurations." ECF No. 198, PageID.11622.

31. The Court’s claim construction order states that the Court “agrees” that “the PTAB considered and expressly rejected Plaintiff’s argument based on the claim term ‘characterized’ to avoid a separate parameter that indicates these two alternatives.” *Id.* at PageID.11620.

32. Neo alleges that the “mobile specific transmission parameter” limitation is met by “a bitmap indicating the resource blocks that are assigned to the UE.” Ex. 14, Mahon Op. Rpt., Appx. A at ¶69.

33. The Accused Products do not infringe the asserted claims of the ’941 Patent because the “bitmap” on which Neo relies for the “mobile specific transmission parameter” recited in the asserted claims is not “capable of indicating, as alternatives, both distributed subcarriers and localized subcarriers in the frequency domain as subchannel configurations” as required by the Court’s construction. Ex. 15, NEO-MDL_NI003955 (annotated); Ex. 16, Wells Reb. Rpt., at ¶¶295-297.

D. Non-Infringement of the ’450 Patent

34. The ’450 Patent generally relates “to wireless communication and, in particular, to multi-carrier packet communication networks.” ECF No. 28-5, PageID.167 at 1:27–29. The ’450 Patent discloses “[a] system and method for minimizing the control overhead in a multi-carrier wireless communication network

that utilizes a time-frequency resource.” *Id.*, 2:45–47; Ex. 17, Wells Op. Rpt., at ¶¶ 100-107.

35. Neo asserts claim 7 of the ’450 Patent. Ex. 13 at ¶ 1.

36. Claim 7 of the ’450 Patent recites in relevant part, with emphasis added to the pertinent language, “the segment comprising N time-frequency resource units within a time interval, each unit containing a set of frequency subcarriers in a group of OFDM symbols, **where $N=2, 4, \text{ or } 8$** ;” ECF No. 28-5, PageID.173 at cl. 7.

37. During his deposition, Neo’s expert, Dr. Mahon, testified that claim 7’s number of time-frequency resource units is limited to only 2, 4, and 8. Ex. 5 at 220:23-225:11, 226:19-25, 227:22-231:4.)

38. Dr. Mahon maps claim 7 of the ’450 Patent to the LTE standard. Ex. 5 at 234:9-13.

39. Dr. Mahon maps claim 7’s “segment comprising N time-frequency resource units” to the 4G LTE standard’s physical downlink control channel (PDCCH). *Id.* at 285:8-12.

40. Dr. Mahon maps the claimed “time-frequency resource units” to the 4G LTE standard’s control channel elements (“CCEs”). *Id.* at 288:15-290:24.

41. In the 4G LTE standard, the time-frequency resource units are not limited to 2, 4, and 8; rather, a PDCCH is formed by an aggregation of 1, 2, 4, or 8 CCEs. *Id.* at 136:24-137:1; Ex. 14 at ¶¶ 60, 64.

E. No Pre-Suit Damages and No Willful Infringement

42. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

43. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Ex. 21, Neo v. Apple Complaint; Ex. 22, Neo v. LG Complaint. Neo never sued Samsung. Ex. 4 at 73:11-20.

44. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Ex. 18 at NEO-AUTO_0092635-636; Ex. 23 NEO-AUTO_0092918 at 092919-20; Ex. 24 NEO-AUTO_0094028 at 029.

45. Neo alleges that Defendants practice the Asserted Patents based on their manufacture and sale of components complying with the 4G LTE standard, and

concedes that the Cellphone Makers practice the same patents based on their manufacture and sale of products complying with the same standard. Toyota FAC ¶¶ 49-50; Ford FAC ¶¶ 42-43; Honda FAC ¶¶ 45-46; Nissan FAC ¶¶ 45-46; GM FAC ¶¶ 46-47; Tesla FAC ¶¶ 44-45; FCA Compl. ¶¶ 45-46; Ex. 4 at 282:23-283:5.

46. [REDACTED]

[REDACTED]

[REDACTED] Ex. 4 at 147:11-15; 282:23-283:5; Ex. 25, Loo Dep. Tr., at 190:13-18; 191:25-192:3.

47. [REDACTED]

[REDACTED] Ex. 26, Neo's Response to Common Interrogatory No. 9; Ex 4 at 283:11-17.

48. [REDACTED]

[REDACTED] Ex. 18 at NEO-AUTO_0092635; Ex. 19 at 0093055; Ex. 20 at 0094085; Ex. 4 at 282:16-19.

49. [REDACTED]

[REDACTED] Ex. 4 at 282:16-283-17.

50. Before filing its complaints, Neo sent, or attempted to send, letters to each of the Defendants, except for GM. Ex. 27 (Neo's November 29, 2021 letter to Honda); Ex. 28; Ex. 29; Ex. 30; Ex. 31; Ex. 32 (letters to each of Toyota, FCA, Nissan, Tesla, Ford).

51. The stated purpose of Neo’s pre-suit letters was to “gauge [each automaker’s] interest in commercial discussions with Neo-Wireless, regarding Neo’s portfolio of standard essential patents.” Ex. 4. at 286:16-288:20 (discussing the letter to Honda), 288:4-289:6 (to other defendants).

52. Neo’s pre-suit letters do not specifically allege infringement of the Asserted Patents, and do not demand that Defendants cease and desist use of any allegedly patented technology. *Id.* at 286:21-287:1.

53. Neo’s letters do not identify any claims of any Asserted Patents practiced by any Defendant’s products. Ex. 4 at 286:25-288:20.

54. Neo’s pre-suit letters attached a list of the approximately 180 patents in Neo’s portfolio. *Id.*

55. On May 4, 2023, Defendants sent Neo a letter invoking the Federal Circuit’s decision in *Arctic Cat Inc. v. Bombardier Rec. Prods. Inc.*, 876 F.3d 1350 (Fed. Cir. 2017) (“*Arctic Cat I*”). Ex. 33, 2023-05-04 Letter from Defendants to Neo.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. *Id.* at 2-3.

56. Neo did not respond with any evidence that the Cellphone Makers' licensed products do not practice the Asserted Patents' claims or they were marked with any Asserted Patents.

III. ARGUMENT

A. The Accused Products Do Not Infringe the '302 and '908 Patents

1. The Accused Products Do Not Practice the Court's "DSSS" Construction for the '908 and '302 Patents

The Court held—over Neo's objection—that each asserted claim of the '908 and '302 Patents require “a direct sequence spread spectrum signal.” Specifically, the Court construed the '908 Patent's claim term “random access signal” as “a direct sequence spread spectrum signal used as a random access signal.” ECF No. 198, PageID.11595. And the Court construed the '302 Patent's claim term “probing signal” as “a direct sequence spread spectrum signal used as a probing signal.” *Id.* at PageID.11603.

As all experts on both sides agree, DSSS signals are a particular type of spread spectrum signal generated by multiplying (modulating) information bits and a spreading sequence. Ex. 7, Bims Reb. Rpt., at ¶¶ 256-262, 353-359 (quoting numerous textbook descriptions of DSSS signals); Ex. 6 at ¶¶ 39-55 (same); Ex. 34, Proceedings of Meetings on Acoustics, Vol. 30 at 5 (similar description in Neo's expert's thesis). But DSSS signals are not used in the 4G/LTE standard. Ex. 7 at ¶¶ 263, 360 (“The working group that developed 4G/LTE chose not to include DSSS

in 4G/LTE.”); Ex. 8 at 141:4-5 (“[I]n an LTE system, there are no DSSS signals to begin with.”). [REDACTED] [REDACTED]

[REDACTED] Ex. 35, Mayo Rpt., at ¶¶ 56, 100.

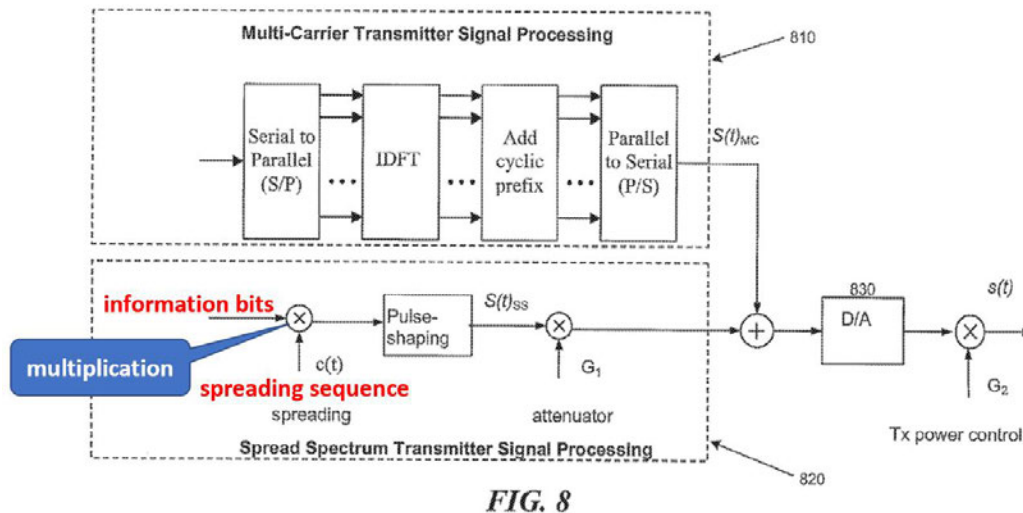
Rather than dropping its infringement allegations after the Court’s claim construction, Neo instead argued that the 4G LTE standard’s use of Zadoff-Chu sequences somehow satisfies the patents’ claim requirement of a DSSS signal. Ex. 5 at 535:20-21 (“In my infringement analysis, I’m pointing to a Zadoff-Chu sequence.”). But Zadoff-Chu sequences are not DSSS signals.

a. DSSS Signals Are Generated by Multiplying Information Bits and a Spreading Sequence

In its *Markman* Order, the Court recognized that “[t]he fundamental aspect of the invention is the concept of overlaying or overlapping a Multi-Carrier (MC) signal with a Direct Sequence Spread Spectrum (DSSS) signal in both the time and frequency domains.” ECF No. 198, PageID.11596, 11623. As the Court noted, the ’908 and ’302 Patents first provide an overview of the advantages and disadvantages of the MC and DSSS signals, and then disclose the invention as “a broadband wireless communication system where both the MC and DSSS signals are intentionally overlaid together in both time and frequency domains” to take advantage of both techniques by “mitigat[ing] their weaknesses.” ECF No. 198, PageID.11596-11597, 11624-11625. (quoting ’908 Patent at 2:42–47). After an extensive review of the patents’ common specification, ECF No. 198,

PageID.11597-11603, 11625-11630, the Court held that the '908 Patent's claimed "random access signal" and the '302 Patent's "probing signal" must be "DSSS signals."

DSSS signals are a type of signal well-known in this field that are generated by multiplying (modulating) a spreading sequence (sometimes called a "DSSS sequence") by information bits. The patents themselves confirm that "the DSSS sequence is modulated by the information bits." ECF No. 28-3, PageID.131 at 5:8-9. This multiplication of information bits with a spreading sequence is shown in annotated Figure 8 of these Patents illustrating spread spectrum transmitter signal processing:



ECF No. 28-3, PageID.118 at Fig. 8 (annotated); Ex. 5 at 552:12-557:24 (discussing Figure 8's "Multi-Carrier Transmitter Signal Processing" block), 559:3-566:12 (discussing Figure 8's "Spread Spectrum Transmitter Signal Processing" block,

including its multiplication operation to generate a DSSS signal); *see also id.* at 335:10-336:8 (“[I]n general, when you modulate something, you are multiplying or applying a mathematical operation of some sort, or shifting a frequency of a signal.”).

The technical literature reflects this common understanding of a DSSS signal as being generated through the multiplication of a spreading sequence with information bits. *See, e.g.,* Ex. 7 at ¶¶ 257-262, 353-359 (citing and quoting five definitions, including three textbooks, each explaining DSSS signals are formed by “multiplication” of information bits and spreading sequences); Ex. 6 at ¶¶ 39-55 (citing and quoting four definitions for same). Neo’s own expert’s thesis, as published, describes a DSSS signal as obtained by this “multiplication.” Ex. 36, Mark P. Mahon et al., “Atmospheric Multipath Resolution Using Spread Spectrum Acoustic Signals,” *133rd Mtg. of the Acoustical Society of Am.*, Vol. 30 (1997) at 5 (“The spread-spectrum signal is then obtained by multiplication of the maximal length sequence with the sinusoidal carrier.”).

All the experts therefore agree on what a DSSS signal is. *See, e.g.,* Ex. 6 at ¶ 40 (“DSSS is well-understood by a POSITA to be a modulation scheme where the data waveform is spread in frequency by directly multiplying the data waveform by a high rate spreading waveform in the time domain.”); Ex. 7 at ¶ 256 (“Direct sequence spread spectrum signal, or ‘DSSS signals,’ are the resulting signals

generated by multiplying (or modulating) a data stream by a spreading sequence.”). Thus, a “DSSS signal” is a signal generated by multiplying information bits by a spreading sequence.

b. The accused 4G/LTE signals are not DSSS signals

The accused 4G/LTE standard does not use DSSS signals at all, much less as a random access signal or probing signal. Ex. 7 at ¶¶ 255-275, 352-372; Ex. 6, at ¶¶ 240-261, 286-309.

To assert infringement, Neo and its expert point to a type of sequence used in 4G/LTE called “Zadoff-Chu sequences.” Ex. 5 at 535:20-21 (“In my infringement analysis, I’m pointing to a Zadoff-Chu sequence.”). As Dr. Mahon admitted, the Zadoff-Chu sequences are, however, **not** modulated:

Q Okay. So you’d agree with me there’s a -- would you agree with me that the Zadoff-Chu sequence that’s transmitted at a random access preamble in LTE is **unmodulated**?

THE WITNESS: Yes.

Q You’d agree with me that a Zadoff-Chu sequence used for SRS in LTE is **unmodulated**?

THE WITNESS: Yes.

Id. at 540:2-12 (objections omitted). Yet, Dr. Mahon conceded that, “in general, when you **modulate** something, you are **multiplying** or applying a mathematical operation of some sort, or shifting a frequency of a signal.” *Id.* at 335:16-19. Because the 4G LTE’s Zadoff-Chu sequences are not multiplied, neither Neo nor its

expert can show any transmitter in the Accused Products or in the standard that is configured to multiply these Zadoff-Chu sequences by information bits to generate a DSSS signal. Since the Zadoff-Chu sequences have not been multiplied (modulated) by information bits or anything else, they are not DSSS signals under the definition that all experts have applied, as discussed above.

Sidestepping this fundamental flaw in Neo’s infringement case, Dr. Mahon argues that Zadoff-Chu sequences exhibit some “properties” of DSSS sequences such as having “good autocorrelation properties.” Ex. 37, Mahon Op. Rpt., Appx. R at ¶¶ 29-31; *see also* Ex. 38, Mahon Op. Rpt., Appx. D at ¶¶ 24-33. In other words, Dr. Mahon argues that Zadoff-Chu sequences have properties that would make them theoretically good DSSS sequences candidates to create DSSS signals. Ex. 37 at ¶¶ 29-31. But the mere fact that Zadoff-Chu sequences *may* share some common properties with DSSS sequences or *could* theoretically be used as DSSS sequences, does not make them DSSS sequences, as Dr. Mahon admitted. Ex. 5 at 545:13-15 (“Q So are two things the same merely because they share some of the same properties? THE WITNESS: No.”).

Nor does Dr. Mahon’s reliance on Zadoff-Chu **sequences** meet the Court’s claim construction. Under the Court’s construction, the asserted claims of the ’908 and ’302 Patents require a DSSS **signal**, which is different from a DSSS **sequence**. A DSSS sequence is what is multiplied with information bits to generate a DSSS

signal. Further, because the accused Zadoff-Chu sequences are not multiplied in LTE, there can be no resultant DSSS signal. Ex. 5 Mahon Dep. Tr. at 540:2-12.

To rescue Neo's infringement read, Dr. Mahon argues that these patents' common specification may not require multiplication (modulation), by pointing to an embodiment where "the information bits modulating the DSSS sequence are always one" and "the modulation symbol on the DSSS sequence is one and the sequence is unmodulated." Ex. 37 at ¶ 26 (citing '908 Patent at 3:1-2, 4:61-62). But these disclosures actually contradict his argument, because the first passage expressly requires a modulation operation. *Id.* As Dr. Mahon conceded, multiplying a spreading sequence by ones constitutes modulating the sequence. Ex. 5 at 572:22-573:1 ("Well, can I have a stream of ones coming there on the left, and I have a spreading sequence that's -- those ones are being applied to, does that encompass modulating a DSSS sequence? The answer is yes."). This is consistent with the testimony of Defendants' experts. Ex. 9 at 141:18-22 ("We're modulating, but because we're using all ones, the result is that the sequence values themselves have not been changed."); Ex. 8 at 149:5-6 ("Data modulation still occurs even if all of the information bits are one."). And the second passage discusses a DSSS *sequence* rather than a DSSS *signal*. Thus, while the patents' disclosures explain that modulation by all ones ("1s") does not change the output sequence, the patents do

not change the defining feature of a DSSS signal: multiplying a spreading sequence with the information bits.

This is the same conclusion that a German court reached in addressing Neo’s European counterpart patent to the ’908 Patent. In parallel with this present MDL proceeding, Neo sued most of the Defendants in Germany by reading this European counterpart patent on the 4G LTE standard. At the start of the merits hearing less than two months ago, the German Court informed Neo that the 4G LTE standard cannot infringe this counterpart patent because the asserted claim requires that the “random access signal is a *spread spectrum signal*.” See ECF No. 239.³ As for the DSSS (direct sequence spread spectrum) signals here, Neo had argued in Germany that the Zadoff-Chu sequences in the 4G LTE standard met the claimed “spread spectrum signal” requirement. The German Court so plainly rejected Neo’s argument at the hearing that Neo promptly dismissed its infringement actions against Tesla at the hearing, and all other defendants (Ford, FCA, Nissan, and Toyota) in the following days. Given the similarity in the dispositive issue between Neo’s German litigation and the present case, this Court should also reject Neo’s infringement argument for the ’908 and ’302 Patents for the same reason.

³ In that case, as in this one, the Defendants argued that the claimed “random access signal” which the claim recited as a “spread spectrum signal” must be a DSSS signal.

c. The Accused Products Do Not Meet the DSSS Construction Under the Doctrine of Equivalents

Recognizing that it cannot establish literal infringement in view of the Court’s claim construction, Neo alternatively asserts infringement under the Doctrine of Equivalents (“DOE”). The Court should reject this DOE assertion for two reasons.

First, Neo’s efforts to circumvent the Court’s construction would improperly vitiate the Court’s requirement of “a DSSS signal.” *See, e.g., Decisioning.com, Inc. v. Federated Dep’t Stores, Inc.*, 527 F.3d 1300, 1315-16 (Fed. Cir. 2008) (having construed “remote interface” to encompass only publicly-accessible computer equipment that is remote from a server, the court found that the plaintiff could not assert DOE to capture personal computers “as doing so would vitiate an element of the claims--i.e., ‘remote interface’ as construed”). As the Supreme Court explained, the DOE cannot apply “if a theory of equivalence would entirely vitiate a particular claim element, partial or complete judgment should be rendered by the court.” *Warner-Jenkinson Co., Inc. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 39 n.8 (1997). “[V]itiation applies when one of skill in the art would understand that the literal and substitute limitations are not interchangeable, not insubstantially different, and when they do not perform substantially the same function in substantially the same way, to accomplish substantially the same result.” *Brilliant Instruments, Inc. v. GuideTech, LLC*, 707 F.3d 1342, 1347 (Fed. Cir. 2013). Thus, “if a court determines that a finding of infringement under the doctrine of equivalents would entirely vitiate

a particular claimed element, then the court should rule that there is no infringement under the doctrine of equivalents.” *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 843 F.3d 1315, 1344 (Fed. Cir. 2016) (citing *Lockheed Martin Corp. v. Space Sys./ Loral, Inc.*, 324 F.3d 1308, 1321 (Fed. Cir. 2003)).

Second, Neo’s DOE allegation fails because it cannot satisfy the “substantially the same” test required for DOE. As explained above, the accused LTE signals use Zadoff-Chu sequences ***without multiplying*** them with information bits, which is substantially different from the way in which spreading sequences are ***multiplied*** with information bits to generate DSSS signals. See Ex. 7 at ¶¶ 276-285, 373-382 (explaining that Neo’s function-way-results test fails); Ex. 6 at ¶¶ 262-274, 310-321 (same). Therefore, there is no genuine issue of material fact that the accused signals are generated in substantially a different way than DSSS signals. See, e.g., *Augme Techs.*, 755 F.3d at 1336-1337 (“In light of these undisputed differences in the way in which linked versus embedded code operates, we cannot conclude that . . . [there is] a genuine issue of fact regarding infringement under the doctrine of equivalents.”).

For these reasons, the accused products do not infringe the ’908 and ’302 Patent claims under the Doctrine of Equivalents. *Id.* at 1335 (rejecting an attempt by patentee to argue that “the very thing that the [court’s] construction [had] excluded” was an equivalent of the claimed limitation).

2. The Accused Products Do Not Meet the “assigned by” Limitation of the ’908 Patent

Claim 1 of the ’908 Patent also requires a transmitter in a mobile station configured to “transmit, to the base station, a random access signal . . . , wherein the random access signal includes *a sequence associated with the base station.*” The Court construed “associated with” as having its plain and ordinary meaning. ECF No. 198, PageID.11591. The Court also explained that, during a prior IPR proceeding involving the ’908 Patent, Neo “*clearly and unmistakably* told the PTO that ‘associated with’ does *not* mean ‘assigned by.’” ECF No. 198, PageID.11592; *see also* ECF No. 198, PageID.11593 (“Plaintiff’s arguments clearly and unmistakably indicate that ‘associated with’ does *not* mean ‘assigned by.’ It would be ‘illogical to suggest’ otherwise . . . to the extent that Plaintiff argues ‘associated with’ means ‘assigned by,’ the Court rejects that argument.”). And Neo’s infringement expert, Dr. Mahon, confirmed his understanding that “the Court has found that ‘associated with’ does not mean ‘assigned by.’” Ex. 37, Mahon Op. Rpt., Appx. R at ¶ 75.

Yet, to allege infringement of the ’908 Patent, Dr. Mahon ignores the established distinction he acknowledged the Court found. Dr. Mahon asserts that the random access procedure in the 4G LTE standard meets the “associated with” limitation. Ex. 10, Mahon Op. Rpt., Appx. J at ¶¶ 18-23. Dr. Mahon explains, “[t]he LTE random access procedure comes in two forms, i.e., either contention based

random access or non-contention based random access.” Ex. 14, Mahon Op. Rpt., Appx. A ¶ 19. Dr. Mahon accuses both forms of random access procedures of infringing the ’908 Patent’s asserted claims. Ex. 5, Mahon Dep. Tr., 495:24-496:6.

For the non-contention based (also known as “contention free”) form of the 4G LTE standard’s random access procedure, Dr. Mahon admits that the accused sequence in the 4G LTE standard is assigned by the base station:

Q. Isn’t it true that in contention-free random access, the Zadoff-Chu ***sequence is assigned by the base station to the UE?***

THE WITNESS: The UE receives information from the target base station of which a Zadoff-Chu sequence, it should use to connect to it during handover.

Q. Wasn’t that assigned?

THE WITNESS: In that context, it’s certainly assigned and associated with that base station.

Ex., 5, Mahon Dep. Tr., at 496:8-21 (objections omitted).

Despite this admission that the sequence is assigned by the base station in the 4G LTE standard’s non-contention based random access procedure, Dr. Mahon opines: “The Court says [‘associated with’] does not mean ‘assigned by,’ but that doesn’t exclude the possibility of being ‘assigned by’ so long as it’s ‘associated with.’” *Id.* at 496:23-497:11. In other words, Dr. Mahon believes that “associated with” could mean “assigned by” without violating the Court’s construction. *Id.* at 499:3-6: (“Q. So are you saying that ‘associated with’ could include ‘assigned by?’ THE WITNESS: I’m saying, based under the plain and ordinary meaning, yes.”).

Dr. Mahon conceded that, if the Court's construction excludes "assigned by," then the non-contention based random access procedure in 4G LTE would not infringe any asserted claim of the '908 Patent:

Q. But if the construction actually excludes "assigned by," would that -- would the contention-free random access procedure still meet Claim 1 of the '908 patent?

THE WITNESS: Well, if the Court construed the term to say that even though it's assigned by the target base station, it cannot be interpreted as "associated with," then I'd have to accept that construction from the Court. I don't see that.

Q. And if you accept that construction from the Court, then the contention-free random access procedure would not infringe the '908 patent; correct?

THE WITNESS: Well, under those tight constraints that the Court hasn't issued, then I would have to reevaluate that, and most likely *I would say that it wouldn't be able to be associated with.*

Id. at 501:3-25 (objections omitted).

The Court's construction unambiguously excludes "assigned by" from the construction of "associated with." ECF No. 198, PageID.11591-11593. Dr. Mahon's only basis for maintaining infringement against the non-contention based random access procedure in 4G LTE is his assertion that "associated with" **could** include "assigned by" without running afoul of the Court's construction. Ex., 5, Mahon Dep. Tr., 499:3-6. This hair-splitting assertion ignores the reasoning underlying the Court's construction. The Court's *Markman* order was clear that Neo excluded "assigned by" from the scope of the '908 Patent's claims during a prior IPR

proceeding. ECF No. 198, PageID.11591-11593. This is why the Court’s *Markman* order underscored that “Plaintiff’s arguments clearly and unmistakably indicate that ‘associated with’ does not mean ‘assigned by.’ It would be ‘illogical to suggest’ otherwise.” ECF No. 198, PageID.11592. The Court reiterated this point several times, saying for example that Neo “clearly and unmistakably told the USPTO that ‘associated with’ does not mean ‘assigned by.’” ECF No. 198, PageID.11592; *see also* ECF No. 198, PageID.11593 (“Plaintiff’s arguments clearly and unmistakably indicate that ‘associated with’ does not mean ‘assigned by.’ It would be ‘illogical to suggest’ otherwise . . . to the extent that Plaintiff argues ‘associated with’ means ‘assigned by,’ the Court rejects that argument.”). Simply put, the plain and ordinary meaning of “associated with” does not include a random access signal that is “assigned by” the base station. ECF No. 198, PageID.11591-11593.

Once Neo’s and Dr. Mahon’s misreading of the Court’s claim construction order is corrected, there is no factual dispute that the accused sequence is “assigned” by the base station for the non-contention based random access procedure. As Dr. Mahon admitted in deposition, the sequence is “certainly **assigned** and associated with that base station.” Ex., 5, Mahon Dep. Tr., 496:8-21. He further conceded that, if the Court’s construction excludes “assigned by” from “associated with,” then non-contention based random access procedure in the 4G LTE standard cannot infringe. *Id.* at 501:3-25 (admitting that “most likely I would say that it

wouldn't be able to be associated with"). Thus, the non-contention based random access procedure in the 4G LTE standard does not infringe the '908 Patent.

B. The Accused Products Do Not Infringe the '941 Patent

The Accused Products do not transmit the "mobile station-specific transmission parameters [that] indicate . . . [a] corresponding subchannel configuration characterized by distributed subcarriers or localized subcarriers in the frequency domain" limitation recited in claims 8 and 13 of the '941 Patent.

During prosecution and in IPRs, Neo distinguished over prior art that did not transmit a parameter indicating between adjacent or scattered subcarrier configurations. ECF No. 198, PageID.11621 (quoting ECF 131-19, PageID.9943 (Apr. 12, 2018 Resp. to Off. Action)); ECF 131-18, PageID.9930 (citations omitted). Eventually, Neo argued in an IPR that it had made a "binding disclaimer" compelling a construction requiring parameters "capable of indicating, as alternatives, both distributed subcarriers and localized subcarriers." ECF No. 198, PageID.11618.

The Court, in its claim construction order, noted that "the parties dispute whether the phrase requires a separate indicator flag for indicating distributed subcarriers or localized subcarriers, as Defendants propose." ECF No. 198, PageID.11618. As it explained, Neo argued "the purpose behind Defendants' proposal is to import an arbitrary limitation that the subchannel configuration must take the form of an indicator flag, which, for example, has a value of 0 for distributed

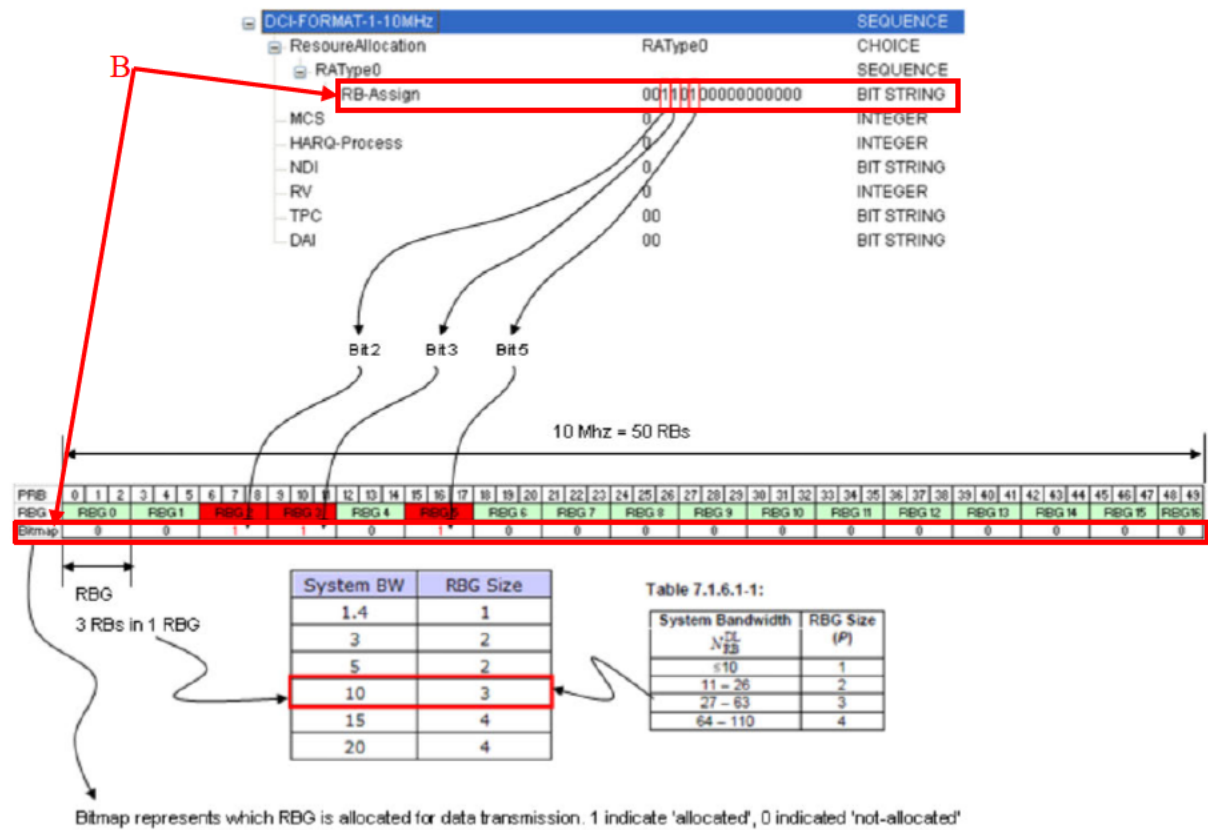
subcarriers and has a value of 1 for localized subcarriers.” ECF No. 198, PageID.11620. But the Court “agree[d] with Defendants” that the PTAB already rejected Plaintiff’s argument for a broad understanding that would “avoid a separate parameter that indicates these two alternatives.” *Id.* The Court held this limitation requires affirmative indication:

Thus, the claim language requires some affirmative indication, i.e., a mobile station specific transmission parameter, that would at least “indicate ... a corresponding subchannel configuration characterized by distributed subcarriers or localized subcarriers in the frequency domain” for a subsequent transmission from a base station to a mobile station.

ECF No. 198, PageID.11620-11621. The Court thus construed this limitation to require “at a minimum, the mobile-specific transmission parameters are capable of indicating, as alternatives, both distributed subcarriers and localized subcarriers in the frequency domain as subchannel configurations.” ECF No. 198, PageID.11622. In doing so, the Court specifically rejected Neo’s interpretation of the “characterized by” language that would afford a broader meaning. ECF No. 198, PageID.11619-11621.

Neo’s infringement contentions and expert report fail to identify a specific parameter indicating the subcarrier alternatives required by the Court’s claim construction. Neo points to the transmission of a map of resource block assignments—what its expert calls “a bitmap indicating the resource blocks that are assigned to the UE.” Ex. 14, Mahon Op. Rpt., Appx. A at ¶169; see Ex. 39, 3GPP TS

36.213 V8.8.0 at §7.1.6.1. But this bitmap is a string of 1’s and 0’s identifying *all groups of subcarriers* allocated to a receiving UE. Each digit in the string indicates “allocated” or “not-allocated” as shown in this annotated example:



Ex. 15, (annotated by adding red letter B and red arrows); *see also* Ex. 16, Wells Reb. Rpt. ¶¶295-297. For example, in the “001101000000000000” bit string shown above, the 1’s each represent a group of subcarriers allocated to the receiving UE rather than individual subcarriers. *Id.* As this example shows, the bitmap which Neo points to as an indication of allocated locations is not a separate parameter that exists to “indicate . . . a corresponding subchannel configuration characterized by

distributed subcarriers or localized subcarriers in the frequency domain.” *Id.* at ¶ 287.

Neo contends that the bitmap is enough to meet the construction because, if a skilled artisan reviews whether the 1’s are next to each other, he can infer from the bitmap that the arrangement is distributed or localized. But the Court has explained that “the claim language requires some ***affirmative indication***” to “indicate . . . a corresponding subchannel configuration characterized by distributed subcarriers or localized subcarriers.” ECF No. 198, PageID.11620-11621. The accused formats have no such separate “parameter” and the Court already ***rejected*** a broader construction where the parameter merely needs to communicate a configuration that could itself be “characterized” as distributed or localized, based on Neo’s own admitted “binding disclaimer.” ECF No. 198, PageID.11619.

Notably, there are other non-accused DCI formats in the 4G LTE standard that include such parameters. In those formats, which are not accused and cannot infringe because they do not meet other claim limitations, the base station provides a “one bit flag ***[that] indicates whether localized virtual resource blocks or distributed virtual resource blocks are assigned*** (value 0 indicates Localized and value 1 indicates Distributed VRB assignment).” Ex. 39, 3GPP TS 36.213 V8.8.0 at §7.1.6.3. There is no such flag in the accused format, which cannot satisfy the “mobile station-specific transmission parameters” limitation.

C. The Accused Products Do Not Infringe the '450 Patent

Claim 7 of the '450 Patent recites “the segment comprising *N time-frequency resource units* within a time interval, each unit containing a set of frequency subcarriers in a group of OFDM symbols, *where N=2, 4, or 8; . . .*” ECF No. 28-5, PageID.173. Seeking to avoid the prior art, Neo’s technical expert, Dr. Mahon, testified that the '450 Patent requires limiting the number of time-frequency resource units “N” to *only* 2, 4, and 8. Ex. 5, Mahon Dep. Tr., at 220:23-225:11, 226:19-25, 227:22-231:4. He conceded that any system failing to restrict the number of time-frequency resource units N *only* to 2, 4, and 8 does not practice claim 7. His concession was unequivocal:

The claim specifically lists 2, 4, 8 – so it’s delineated up to 8 – and so therefore, by that delineation, and based on my analysis from the perspective of a person of ordinary skill in the art, they would understand, within those – that plurality range listed, *they’re restricting it as 2, 4, 8 as part of the invention.*

Ex. 5, Mahon Dep. Tr., at 230:21-231:4; *see also id.* at 222:23-223:3.

To illustrate his strict read, Dr. Mahon testified that a system disclosing N equals 3, 5, 6, 7 or 10—in addition to 2, 4, and 8—would be “outside” the claim’s scope. *Id.* at 222:12-17; 223:23-224:21; 226:19-25, 228:2-10; 229:12-13. And he confirmed that a system disclosing N=1—in addition to 2, 4, and 8—is also outside the scope of the claim:

Q. And the patentee also did not list *N equals 1*; right?

THE WITNESS: Well, the claim element is directed to a plurality. So that falls out – that’s not addressed in this claim element...

Q. That falls outside the scope of the claim; right?

THE WITNESS: It doesn’t – *it doesn’t address a single unit*. It addresses only plural units in this case, which are *restricted to 2, 4, and 8*.

Id. at 229:17-230:4 (objections omitted). According to Dr. Mahon, there must have been “a reason that the inventors picked 2, 4, and 8.” *Id.* at 230:8-13. In this case, Neo has adopted its “expert disclosures concerning infringement.” Ex. 40, Neo’s 9/9/2022 Response to Common Int. Nos. 1-7, pp. 23-24.

The Accused Products do not infringe claim 7 of the ’450 Patent because they do not limit the number of alleged time-frequency resource units to exactly $N=2, 4$, and 8. To assert infringement, Dr. Mahon maps claim 7’s “segment comprising N time-frequency resource units” to the 4G LTE standard’s “PDCCH” (physical downlink control channel). Ex. 5, Mahon Dep. Tr., at 285:8-12 (“Q. And the segment is the PDCCH; is that right?” “A. I am pointing to the PDCCH, yes.”). He further maps the claimed “time-frequency resource units” to the 4G LTE standard’s “CCEs” (control channel elements). *Id.* at 288:15-290:24 (“Q. . . [T]he CCEs are time-frequency resource units, the answer is yes? A. Yes.”). And he conceded that “[a]n LTE PDCCH is formed by an aggregation of 1, 2, 4, or 8 CCEs.” *Id.* at 136:24-137:1; *see also* Ex. 14 (Mahon Op. Rpt., Appx. A) ¶¶ 60, 64. Because the 4G LTE standard permits the number of CCEs to be equal to 1 and because the number 1 is

not part of Dr. Mahon's restricted set of N=2, 4, and 8, the Accused Products do not infringe claim 7 of the '450 Patent.

D. Neo Is Not Entitled to Pre-Suit Damages Under 35 U.S.C. § 287(A)

Neo is not entitled to pre-suit damages under 35 U.S.C. § 287(A) as a matter of law due to its failure to provide constructive notice of the Asserted Patents or actual pre-suit notice of alleged infringement.

1. The Marking Requirement of 35 U.S.C. § 287

While a patent owner (or its licensee) is not required to mark its patent number on products practicing the claimed invention, a failure to do so bars an award of damages accrued before an alleged infringer was put on notice of the infringement. A party that fails to mark patented products shall receive “***no*** damages...except on proof that the infringer was notified of the infringement and continued to infringe thereafter, in which event damages may be recovered ***only for infringement occurring after such notice.***” 35 U.S.C. § 287(a). Section 287(a) thus provides only two ways to provide notice: (1) actual notice or (2) constructive notice by marking. 35 U.S.C. § 287(a); *see also K-TEC, Inc. v. Vita-Mix Corp.*, 696 F.3d 1364, 1379 (Fed. Cir. 2012).

“The patentee bears the burden of pleading and proving [it] complied with § 287(a)'s marking requirement.” *Arctic Cat I*, 876 F.3d at 1366; *see also Nike, Inc. v. Wal-Mart Stores, Inc.*, 138 F.3d 1437, 1446 (Fed. Cir. 1998). An accused infringer

bears only “an initial burden of production to articulate the products it believes are unmarked ‘patented articles’ subject to § 287.” *Arctic Cat I*, 876 F.3d at 1368. Once over that “low bar,” “the patentee bears the burden to prove the products identified do not practice the patented invention.” *Id.* “A patentee’s licensees must also comply with § 287.” *Arctic Cat Inc. v. Bombardier Recreations Prods. Inc.*, 950 F.3d 860, 864 (Fed. Cir. 2020) (“*Arctic Cat II*”). “Thus, it is does not excuse [a patentee’s] lack of marking that it is [the patentee’s] licensee, rather than [the patentee] itself, who sold unmarked products.” *Id.*

To the extent a patentee relies on “actual notice” in lieu of marking to recover pre-suit damages, “[a]ctual notice requires the affirmative communication of a specific charge of infringement by a specific accused product or device.” *Amsted Indus. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994); *Arctic Cat II*, 950 F.3d at 864 (same).

2. Neo Is Not Entitled to Pre-Suit Damages

Neo failed to meet its marking obligations, and therefore § 287(a) expressly limits Neo’s damages to those accruing after Neo provided each Defendant actual notice of its infringement allegations or filed suit. *See* 35 U.S.C. § 287(a); *Arctic Cat I*, 876 F.3d at 1365. [REDACTED]

[REDACTED] Ex. 4 at 147:11-15, 282:23-283:5; Ex. 25 at 190:13-18, 191:25-192:3. [REDACTED]

Ex. 4 at 282:16-19.

Id. at 282:20-

22. No evidence exists that any Cellphone Makers ever marked any licensed products with any Asserted Patent numbers. Under the plain language of § 287(a), Neo is barred from recovering damages from any Defendant prior to providing actual notice of the alleged infringement.

a. The *Arctic Cat* Letter Identified the Unmarked, Licensed Products

The Federal Circuit provides a strict, simple regime for determining whether there is a failure-to-mark limitation on damages. Defendants met their burden of identifying unmarked products licensed to practice the Asserted Patents in their *Arctic Cat* Letter by specifically identifying unmarked, licensed products sold by the Cellphone Makers. Defendants thereby passed the “low bar” of “put[ting] the patentee on notice that he or his authorized licensees sold specific unmarked products which the alleged infringer believes practices the patent.” *Arctic Cat I*, 876 F.3d at 1368; *see also Kasit IP US LLC v. Samsung Elecs. Co.*, No. 2:16-CV-01314-JRG-RSP, 2018 WL 10498197, at *3 (E.D. Tex. May 22, 2018).

b. Neo Failed to Show Compliance with § 287(a)

Defendants’ *Arctic Cat* letter shifted the burden to Neo to prove that those products do not practice the Asserted Patents. *See Arctic Cat I*, 876 F.3d at 1367-68; *Clancy Sys. Int’l v. Symbol Techs., Inc.*, 953 F. Supp. 1170, 1175 (D. Colo. 1997).

Neo never attempted to make any such showing. To the contrary, Neo admitted that it “alleg[ed] and belie[ved] that the accused [Cellphone Maker] products did in fact practice the asserted patents”—the same patents asserted in this case. Ex. 26.

As licensor, Neo had a duty to make “reasonable efforts to ensure compliance with the marking requirements.” *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111-12 (Fed. Cir. 1996). The marking obligation under § 287(a) applies to Neo’s authorization of licensees to make and sell patented items “in whatever form the authorization was given, regardless of whether the authorizations are settlement agreements, covenants not to sue or licenses.” See *U.S. Ethernet Innovations, LLC v. Acer, Inc.*, No. 10-CV-724, 2013 WL 4456161, at *8 (C.D. Cal. Aug. 16, 2013); *Trutek Corp. v. BlueWillow Biologics, Inc.*, No. 21-10312, 2024 WL 180851, at *2 (E.D. Mich. Jan. 17, 2024) (same).

Neo made no effort to comply with § 287(a). [REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Ex. 4, at 282:16-283:17.

Neo thus failed to meet the requirements of § 287(a) and is statutorily barred from recovering damages prior to actual notice of infringement. *See Arctic Cat II.*, 950 F.3d at 862; *see also Netlist, Inc.*, 2024 WL 402182, at *5.

c. Neo’s Failure to Comply with the Marking Statute Precludes It from Recovering *Any* Damages Prior to Providing Actual Notice

“In the event of failure so to mark, **no** damages shall be recovered by the patentee in any action for infringement...” 35 U.S.C. § 287(a). Section 287 “prohibits a patentee from receiving **any** damages in a subsequent action for infringement after a failure to mark.... The notice requirement to which a patentee is subjected cannot be switched on and off as the patentee or licensee starts and stops making or selling its product.” *Arctic Cat II.*, 950 F.3d at 865. Neo thus may not recover **any** damages before Neo provided Defendants with actual notice of their alleged infringement of the Asserted Patents as a matter of law. *See also Team Worldwide Corp. v. Academy, Ltd.*, Case No. 2:19-cv-00092-RJG-RSP, 2021 WL 1854302, at *1 (E.D. Tex. May 10, 2021) (patentee that marks for a period of time and then ceases, loses the right to damages even for the period during which it marked); *Adrea, LLC v. Barnes & Noble, Inc.*, No. 13-cv-4137(JSR), 2015 WL 4610465 at *3 (S.D.N.Y. July 24, 2015) (The “argument is foreclosed by the plain language of Section 287. The operative sentence provides that, if the patentee fails

to mark its products but provides defendant with actual notice, damages may be recovered *only for infringement occurring after such notice.*”).

d. Neo Failed to Provide Defendants with Actual Pre-Suit Notice of Alleged Infringement

Because Neo failed to provide constructive notice of the Asserted Patents by marking the Cellphone Makers’ licensed products, Neo can only recover pre-suit damages if it provided Defendants with “actual notice” of alleged infringements. “For purposes of section 287(a), [actual] notice must be of ‘the infringement,’ not merely notice of the patent’s existence or ownership. Actual notice requires the affirmative communication of a *specific* charge of infringement by a *specific* accused product or device” *Amsted*, 24 F.3d at 187.

Neo’s pre-suit letters to Defendants failed to provide “affirmative notice” of alleged infringement of the Asserted Patents. Rather, Neo invited “commercial discussions.” Ex. 4 at 286:16-20, 291:3-17; Exs. 27-32. [REDACTED]

[REDACTED]

[REDACTED] Ex. 4 at 286:16-288:20, 291:18-292:14; Exs. 27-32. Nor did Neo charge any of Defendant’s specific products with infringement of any Asserted Patents. *Id.* Rather, Neo buried the application numbers of the Asserted Patents within an 11-page-long list of patent families. But merely listing the asserted patents is insufficient to provide actual notice. *IMRA Am., Inc. v. IPG*

Photonics Corp., No. 06-15139, 2011 WL 13174666, at *6 (E.D. Mich. Mar. 14, 2011) (finding the “stringent” notice requirements of § 287 were not met).

Further, several of Neo’s pre-suit letters failed to provide actual notice of infringement for the additional reason that they were wrongly addressed. Neo’s purported letter to “Honda,” for example, was addressed to 115 Gaither Dr, Mt. Laurel Township, New Jersey 08054. Ex. 27 at 1. This is a New Jersey parts facility (a warehouse for distributing car parts in the region) for defendant American Honda Motor Co., Inc. (“AHM”), and not AHM’s headquarters in Torrance, California. AHM is one of the two Honda entities that Neo ultimately sued. As to defendant Honda Development & Manufacturing of America LLC (“HDMA”), Neo never claimed to have sent any letter to HDMA.

The letter directed to Toyota was incorrectly addressed to someone named “Takashi Fujimoto” at the Toyota Motor North America, Inc. headquarters in Plano, Texas. Ex. 28. But Toyota Motor North America has never employed a “Takashi Fujimoto”. Ex. 41, Schell Dep. Tr., at 204:15-205:9. Mr. Fujimoto is and was employed by TMC and not TMNA. See FAC ¶ 70 (alleging Mr. Fujimoto is “TMC’s Group Manager of Standardization & IP Support Group”).

Having failed to provide any Defendant constructive or actual notice prior to filing suit, Neo is limited to damages that accrued only since it filed suit and summary judgment of no pre-suit damages is required.

E. Neo Cannot Prove Willful Patent Infringement⁴

1. Legal Standard for Willful Patent Infringement

“[L]iability for willful infringement requires knowledge of the patent and intentional or knowing infringement – *i.e.*, acting despite a risk of infringement that was either known or so obvious that it should have been known.” *Schwendimann v. Stahls', Inc.*, 510 F. Supp. 3d 503, 508 (E.D. Mich. 2021); *Eko Brands, LLC v. Adrian Rivera Maynez Enters., Inc.*, 946 F.3d 1367, 1378 (Fed. Cir. 2020). Thus, “[t]o establish willful patent infringement, a party must demonstrate both knowledge of the patent and knowledge of the infringement.” *Trutek Corp. v. Bluewillow Biologics, Inc.*, No. 2:21-CV-10312, 2022 WL 17039307, at *3 (E.D. Mich. Nov. 17, 2022).

2. Neo Cannot Prove Pre-Suit Willful Infringement

Neo cannot prove pre-suit willful infringement because it failed to establish each Defendant’s pre-suit knowledge of the Asserted Patents and their purported infringement. Furthermore, the record is devoid of any evidence of Defendants’ intentional infringement, let alone “egregious infringement behavior.”⁵

⁴ Honda and Nissan have moved to dismiss *inter alia* Neo’s willfulness claims, and that motion is currently pending. See ECF Nos. 50, 68, and 79.

⁵ Following the Supreme Court’s decision in *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 579 U.S. 93 (2016), this Court has acknowledged a split among district courts concerning whether a patentee, in order to sustain willful infringement claims, must allege “egregious infringement behavior.” *Schwendimann*, 510 F. Supp. 3d at 512-

Neo’s only evidence of pre-suit knowledge of the Asserted Patents is the pre-suit letters. But the letters are insufficient notice of the patents and their purported infringement for the reasons described above. *Supra* §III.D.2.d. The letters bury the Asserted Patents in a list of approximately 180 total patent assets, and do not highlight them in any way. The letters do not specify any asserted claims of the Asserted Patents or identify accused products. Neo’s pre-suit letters do nothing more than state that a large patent portfolio exists. As a matter of law, this cannot satisfy the requirement that Defendants possessed ***knowledge of infringement and intent to infringe*** required to prove willfulness. *Finjan, Inc. v. Cisco Sys. Inc.*, No. 17-CV-00072-BLF, 2017 WL 2462423, at *5 (N.D. Cal. June 7, 2017) (“Knowledge of a patent portfolio generally is not the same thing as knowledge of a specific patent.”); *see also Michigan Motor Techs. v. Volkswagen AKG*, 472 F. Supp. 3d 377, 384-385 (E.D. Mich. 2020) (“plaintiff’s allegation that the defendants ‘knew about the patent and nothing more’ will not make the grade.”). Nor do the letters provide any infringement allegations to which Defendants could have been willfully blind. The Federal Circuit has rejected the notion that merely selling a product—even after learning of a patent—demonstrates willfulness. *Bayer Healthcare LLC v. Baxalta*

13 (*citing, e.g., Michigan Motor Techs.*, 472 F.Supp.3d at 382-84 (collecting cases and adopting an egregiousness requirement with reliance principally on *Halo* and additional Federal Circuit case law)). This Court did not decide the egregiousness issue in *Schwendimann. Id.* at 513.

Inc., 989 F.3d 964, 988 (Fed. Cir. 2021) (affirming JMOL of no willful infringement where evidence “merely demonstrate[d] Baxalta’s knowledge of the [patent] and Baxalta’s direct infringement of the asserted claims”).

Defendants expect Neo to argue that Defendants were willfully blind because they adopted 4G LTE technology without obtaining a license from Neo. But this cannot be enough. [REDACTED]

[REDACTED] Ex. 4 at 148:2-20. Thus, even if it were true that each Defendant blindly adopted the 4G LTE standard without obtaining necessary licenses, no such license would have involved Neo because Neo was not a known 4G LTE patent holder.

This case is analogous to *Schwendimann*, where pre-suit willfulness was inadequately pled. 510 F. Supp. 3d at 514. There, the only factual allegations pertaining to defendant’s knowledge at the time of defendant’s purported infringement was plaintiffs’ request that defendant take an unspecified license. *Id.* The complaint failed to say “how” defendant infringed plaintiff’s patents, let alone the patents-in-suit. *Id.* Here, infringement was not even mentioned in Neo’s letter. As in *Schwendimann*, Neo’s evidence fails to support any reasonable inference of intentional or knowing infringement. *Id.*

Even if this Court applies an “egregiousness” requirement, *see Michigan Motor Techs.*, 472 F. Supp. 3d at 381-85, Neo has provided no facts to support it. *Id.*

at 385 (“there are no facts in the SAC from which a factfinder could infer that the defendants deliberately copied the ideas or design of another, that the defendants had a motivation for infringing the patents, or that that they otherwise behaved poorly or acted with bad faith”). Neo’s complaints recite that the purported infringement was “egregious,” without providing any supporting facts. *See* Toyota FAC ¶¶ 72-73; FCA Compl. ¶ 65; Nissan FAC ¶ 72; Tesla FAC ¶ 67; Honda FAC ¶ 70; Ford FAC ¶ 65.⁶ And during discovery, Neo produced no additional facts to support “egregiousness.” Therefore, Neo’s pre-suit willfulness case fails as a matter of law.

3. Neo Cannot Prove Post-Suit Intentional Infringement

Neo’s post-suit infringement case fails for similar reasons. Neo’s only evidence of post-suit knowledge of the asserted patents and their purported infringement is the filing of the Complaint. *E.g.*, Honda FAC ¶¶ 54, 70-71. This Court held in *Trutek Corp.* that a claim of post-suit willful infringement is insufficient where plaintiff alleges only notice of the alleged infringement from the filing of the complaint and that defendant continued to sell its product. 2022 WL 17039307, at *3-4 (“Plaintiff’s new, proposed allegations stop short of establishing that Defendant intentionally infringed the patent.”). More is required, but Neo has

⁶ Neo alleges GM’s infringement was willful, but not egregious. GM FAC ¶70.

no additional evidence. *See Bayer Healthcare*, 989 F.3d at 988; *Eko Brands*, 946 F.3d at 1378. Neo's case for post-suit willfulness fails as a matter of law.

IV. CONCLUSION

For the above reasons, the Court should grant summary judgment in the Defendants' favor finding (1) non-infringement of the Asserted Patents, (2) no pre-suit damages, and (3) no willful infringement.

Respectfully submitted,

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