

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION**

IN RE NEO WIRELESS, LLC PATENT LITIG.	§ § § § § § §	2:22-MD-03034-TGB HON. TERRENCE G. BERG
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NEO WIRELESS, LLC, <i>Plaintiff,</i> v. FORD MOTOR COMPANY, <i>Defendant.</i>	§ § § § § § § § §	2:22-CV-11402-TGB HON. TERRENCE G. BERG JURY TRIAL DEMANDED
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**PLAINTIFF NEO WIRELESS, LLC’S FIRST AMENDED
COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Neo Wireless, LLC (“Neo Wireless,” “Neo,” or “Plaintiff”), brings this action for patent infringement under 35 U.S.C. § 271 against Defendant Ford Motor Company (“Ford” or “Defendant”). Neo files this amended complaint to address the arguments made in Ford’s Motion to Dismiss (Dkt. 16). To be clear, Neo strongly disagrees with the arguments in Ford’s motion, which mischaracterize Neo’s original complaint, ignore the clear sufficiency of Neo’s complaint under the appropriate pleading standards, and improperly rely on matter

outside the pleadings. Neo's original complaint, which contained over 300 pages of detailed allegations and claims charts, drastically *exceeded* the specificity required to plausibly allege Ford's infringement of the Asserted Patents. Nevertheless, to reduce the burden on the Court, Neo has filed this Amendment within its time to do so as a matter of course, in order to moot Ford's motion and leave no doubt that Neo has stated a claim for which relief can be granted.

Plaintiff alleges, based upon its own personal knowledge with respect to its own actions and based upon information and belief with respect to all others' actions, as follows:

THE PARTIES

1. Plaintiff Neo Wireless, LLC is a Delaware corporation with its principal place of business located in Wayne, Pennsylvania.
2. On information and belief, Ford is organized and existing under the laws of Delaware, with its principal place of business at 1 American Road, Dearborn, Michigan 48126. Ford may be served through its registered agent, The Corporation Company, at 120 South Central Avenue, Clayton, Missouri 63105.

JURISDICTION AND VENUE

3. This action includes a claim of patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

4. Subject matter jurisdiction is proper in this Court under 28 U.S.C. §§ 1331 and 1338(a).

5. Venue is proper in the Western District of Missouri under 28 U.S.C. § 1400(b) because, on information and belief, Ford (1) has committed acts of infringement in the Western District of Missouri and (2) has a regular and established place of business in the Western District of Missouri.

6. On information and belief, Ford owns and operates an assembly plant located at 8121 US-69, Claycomo, Missouri 64119, which is in the Western District of Missouri. Upon information and belief, this facility manufactures infringing products, including the Ford F-150.¹ Upon information and belief, the Ford F-Series are the best selling vehicles in the United States.² Upon information and belief, Ford's Claycomo plant is over 4 million square feet and employs over 7,000 people.³ Upon information and belief Ford's Claycomo plant manufactures more vehicles than any other facility in the United States and is the largest tax generator in Clay County, MO.⁴

¹ See <https://fordauthority.com/fmc/ford-motor-company-plants-facilities/ford-motor-company-usa-plants-facilities/ford-motor-company-kansas-city-assembly-plant-clay-county-missouri-usa/>; <https://corporate.ford.com/operations/locations/global-plants/kansas-city-assembly-plant.html>.

² <https://www.caranddriver.com/news/g36005989/best-selling-cars-2021/>

³ <https://fordauthority.com/fmc/ford-motor-company-plants-facilities/ford-motor-company-usa-plants-facilities/ford-motor-company-kansas-city-assembly-plant-clay-county-missouri-usa/>

⁴ *Id.*

7. Ford is subject to the Western District of Missouri Court's specific personal jurisdiction due at least to Ford's substantial business activities in the Western District of Missouri, including (1) at least a portion of the infringements alleged herein; (2) maintaining a regular and established place of business; and/or (3) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Missouri and in the Western District of Missouri.

8. Ford does and intends to do business in Missouri and in the Western District of Missouri, directly or through intermediaries, and offer their products and/or services, including those accused herein of infringement, to customers and potential customers located in Missouri and in the Western District of Missouri.

9. Ford, both directly and through its subsidiaries or intermediaries (including distributors, retailers, and others), have purposefully and voluntarily placed one or more infringing products and/or services, as described below, into the stream of commerce with the expectation that those products will be purchased and used by customers and/or consumers in the Western District of Missouri.

10. These infringing products and/or services have been and continue to be made, used, sold, offered for sale, purchased, and/or imported by customers and/or consumers in the Western District of Missouri.

11. Defendant has placed the Accused Products into the stream of commerce by making, selling, and/or offering to sell Accused Products in the Western District of Missouri, shipping Accused Products into the Western District of Missouri, and/or shipping Accused Products knowing that those products would be shipped into the Western District of Missouri.

THE ASSERTED PATENTS

I. The '366 Patent

12. On June 18, 2013, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 8,467,366 (“the ’366 patent”), entitled “Methods and Apparatus for Random Access in Multi-Carrier Communication Systems.” A copy of the ’366 patent is attached as Exhibit 1.

13. The ’366 patent issued from U.S. Patent Application 13/205,579, which was filed by Neocific Inc. on August 8, 2011 on behalf of the inventors. The now-issued ’366 patent was assigned from Neocific, Inc. to CFIP NCF LLC on November 22, 2019 before it was assigned to Neo Wireless LLC on January 23, 2020.

14. The ’366 patent is valid and enforceable.

II. The '908 Patent

15. On November 10, 2020, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,833,908 (“the ’908 patent”),

entitled “Channel Probing Signal for a Broadband Communication System.” A copy of the ’908 patent is attached as Exhibit 2.

16. The ’908 patent issued from U.S. Patent Application 16/902,740, which was filed on June 16, 2020 by Neo Wireless LLC on behalf of the inventors.

17. The ’908 patent is valid and enforceable.

III. The ’941 Patent

18. On September 11, 2018, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,075,941 (“the ’941 patent”), entitled “Methods and Apparatus for Multi-Carrier Communications with Adaptive Transmission and Feedback.” A copy of the ’941 patent is attached as Exhibit 3.

19. The ’941 patent issued from U.S. Patent Application 15/082,878, which was filed by Neocific, Inc. on March 28, 2016. The now-issued ’941 patent was assigned from Neocific, Inc. to CFIP NCF LLC on November 22, 2019 before it was assigned to Neo Wireless LLC on January 23, 2020.

20. The ’941 patent is valid and enforceable.

IV. The ’450 Patent

21. On October 15, 2019, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,447,450 (“the ’450 patent”), entitled

“Method and System for Multi-Carrier Packet Communication with Reduced Overhead.” A copy of the ’450 patent is attached as Exhibit 4.

22. The ’450 patent issued from U.S. Patent Application 15/676,421, which was filed by Neocific, Inc. on August 14, 2017. The now-issued ’450 patent was later assigned from Neocific, Inc. to CFIP NCF LLC on November 22, 2019 before it was assigned to Neo Wireless LLC on January 23, 2020.

23. The ’450 patent is valid and enforceable.

V. The ’512 Patent

24. On March 30, 2021, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,965,512 (“the ’512 patent”), entitled “Method and Apparatus Using Cell-Specific and Common Pilot Subcarriers in multi-Carrier, Multi Cell Wireless Communication Networks.” A copy of the ’512 patent is attached as Exhibit 5.

25. The ’512 patent issued from U.S. Patent Application 17/012,813, which was filed by Neo Wireless on September 4, 2020.

26. The ’512 patent is valid and enforceable.

VI. The ’302 Patent

27. On September 8, 2020, the United States Patent and Trademark Office duly and legally issued U.S. Patent No. 10,771,302 (“the ’302 patent”), entitled

“Method and System for Multi-Carrier Packet Communication with Reduced Overhead.” A copy of the ’302 patent is attached as Exhibit 6.

28. The ’302 patent issued from U.S. Patent Application 15/953,950, which was filed on April 16, 2018 and was assigned from Neocific, Inc. to CFIP NCF LLC on November 22, 2019 before it was assigned to Neo Wireless LLC on January 23, 2020.

29. The ’302 patent is valid and enforceable.

30. Neo Wireless owns all rights, title, and interest in and to each of the ’366, ’908, ’941, ’450, ’512, and ’302 patents (the “Patents-in-Suit” or “Asserted Patents”) and possesses all rights of recovery.

FACTUAL ALLEGATIONS

31. Inventor Xiaodong (Alex) Li, Ph.D. founded Neocific Inc. in the early 2000s to design, develop, and implement a new wireless communication system. He and his co-inventors had extensive experience with wireless communications systems, including the development of the Wi-Max standards, and a deep understanding of the flaws in existing systems at the time. The inventors saw an opportunity to create a new wireless communication system meant to address those flaws while incorporating cutting-edge Orthogonal Frequency-Division Multiple Access (OFDMA) based technologies, and, starting in the 2004–2005 timeframe, they filed patents on the work.

32. Dr. Li served as the President and Founder of Neocific. Dr. Li obtained his Ph.D. in electrical engineering from the University of Washington, his M.S. from Shanghai Jiao Tong University, and his B.S. from Tsinghua University. Dr. Li has authored more than 30 journal and conference papers in wireless communications, video coding, and networking. He has been granted more than 100 U.S. and foreign patents.

33. Dr. Titus Lo, Ph.D. is a founding employee of Neocific. Dr. Lo obtained his Ph.D. in electrical engineering from McMaster University and his B.S. from the University of British Columbia. Dr. Lo has authored more than 30 technical papers in international peer-reviewed journals and presented more than 50 times at industry events. He has been granted more than 100 U.S. and foreign patents.

34. The inventions in the Patents-in-Suit relate to various improvements in OFDMA networks and corresponding user equipment, and those improvements have since been incorporated into the 3GPP standards for 4G/LTE and 5G/NR networks.

35. Neo Wireless owns all substantial right, title, and interest in the Patents-in-Suit, and holds the right to sue and recover damages for infringement thereof.

36. David Loo is the CEO of Plaintiff Neo Wireless. Mr. Loo works and resides in Wayne, Pennsylvania. Mr. Loo has over a decade of experience as a licensing executive and patent attorney with a well-established track record of assisting companies, inventors, and patent holders to ensure they are fairly compensated for their inventions.

37. The wireless communication industry has been developing rapidly since Bell Labs developed the First Generation of modern commercial cellular technology in 1984. Multiple wireless communication technologies designated by generations emerged and brought new capacities to people all over the world. In 2008, 3GPP created and finalized the LTE standards as an upgrade to 3G. The cellular industry recognized its major benefits, and virtually all cellular device manufacturers have embraced LTE as the next generation of commercial cellular technology and developed phones, hotspots, and other cellular-connectivity devices to utilize the 4G LTE technology.

38. In recent years, automakers have implemented this cellular communications technology into their vehicles. Telematics systems first debuted in 1996 through OnStar using analog cell networks, which allowed consumers to receive remote diagnostics, remotely unlock vehicles, and receive emergency services after a collision. In 2007, 3G technology emerged, bringing greater speed

and capacity to these features and allowing automakers to design more advanced functions.

39. When the technology emerged, Ford began implementing the newest 4G LTE cellular technology into many of its products. 4G LTE technology provided for 10 times faster data speeds, increased responsiveness, and the ability to support voice and data connections simultaneously. 4G LTE connection further provides consumers with a variety of in-vehicle Wi-Fi hot spots and vast entertainment options. As a result, Ford could better support a variety of wireless features, including remote lock and unlock, remote start and remote start scheduling, parked vehicle location, Vehicle Health Alerts, remote fuel level checks, and Wi-Fi hotspot.

40. Ford provides 4G LTE connectivity in its various products via FordPass Connect, SYNC Connect, and/or Lincoln Connect (collectively referred to as “FordPass”), which are integrated into its vehicles.

41. Building on these 4G LTE capabilities, Ford developed and utilizes the FordPass App and the Lincoln Way App (collectively, the “FordPass App”) that enable customers to connect, control, and interact with their vehicles from their cellular devices, using the cellular connectivity of the vehicles. Features on the FordPass App include remotely starting the vehicle, remotely locking and unlocking the vehicle, providing vehicle status information such as fuel or charge

level and maintenance information, and receiving Vehicle Health Alerts when the vehicle needs attention.

42. Ford models that implement 4G/LTE communications—including but not limited to the Ford F-150, Explorer, Escape, EcoSport, Edge, Expedition, Super Duty, Fusion, Mustang, Transit, Ranger, Bronco, Maverick, and Lincoln Navigator, Aviator, Corsair, Nautilus, MKZ, MKC, MKS, MKX, and Continental models (and their different variants and trims)—as well as those that may in the future implement 4G/LTE or 5G/NR capabilities, are collectively referred to herein as the “Accused Products.”

43. Ford’s Accused Products are configured to operate within 4G/LTE and/or NR/5G cellular networks and in communication with base stations and other network access points. The cellular networks and base stations are interoperable and implement the one or more releases of the 4G/LTE and NR/5G 3GPP standards from release 8 through at least release 17. The cellular networks, including the cell-serving base stations, are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base station may operate differently based on the wireless conditions, location, and/or network configuration.

44. Additionally, the communications between Ford’s Accused Products and the serving base station include a multitude of signals back and forth in normal

operation, such as when establishing connections, sending and receiving control information, sending and receiving reference signaling, communicating data in the uplink and downlink, obtaining network parameters, etc. And Ford's Accused Products do this across a potentially large range of time and locations, including across a variety of base station equipment and configurations and/or wireless conditions. As such, Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards.

45. As described further below and set forth in Exhibits 7–12, the Asserted Patents read onto portions of the 4G/LTE or NR/5G standards, each of which Ford implements in its Accused Products. In particular, Ford and/or its customers and end users must practice one or more claims from each of the Asserted Patents in order to implement the 4G/LTE and/or NR/5G standards in the Accused Products. Thus, on information and belief, Ford's implementation(s) of the LTE/4G and/or NR/5G standards necessarily infringes one or more claims of the Asserted Patents.

46. Ford does not have any rights to the Patents-in-Suit.

47. Neo Wireless has complied with 35 U.S.C. § 287. Neo Wireless does not make, offer for sale, or sell within the United States any patented article under the Asserted Patents. Additionally, to the extent it was necessary, Neo Wireless

provided Ford with actual notice of its infringement prior to the filing of this lawsuit, or at a minimum by the filing of this Complaint.

48. In the interest of providing detailed averments of infringement, Neo Wireless has identified below at least one claim per patent to demonstrate infringement. However, the selection of claims should not be considered limiting, and additional claims of the Patents-in-Suit (including method, system, and apparatus claims) that are infringed by Ford will be disclosed in compliance with the Court's rules related to infringement contentions.

FORD'S ACTS OF PATENT INFRINGEMENT

49. Neo Wireless incorporates by reference the preceding paragraphs as if fully set forth herein.

50. As set forth below, Ford's Accused Products incorporate, without any license from Neo Wireless, 4G/LTE and/or 5G/NR technology protected by patents owned by Neo Wireless. Neo Wireless respectfully seeks relief from this Court for Ford's infringement.

51. Ford has directly infringed, and continues to directly infringe, the Asserted Patents under 35 U.S.C. § 271(a) by making, using, selling and/or offering to sell, in the Western District of Missouri and elsewhere in the United States, and/or importing into the Western District of Missouri and elsewhere in the United States, one or more of Ford's Accused Products, that is, certain infringing

vehicles outfitted with instrumentalities that infringe the Asserted Patents, as further described in detail in Counts I–VI *infra*.

52. Ford makes, sells, offers for sale, uses, designs, develops, tests, and manufactures the Accused Products in the United States.

53. Ford makes, sells, offers for sale, uses, and imports vehicles outfitted with instrumentalities that infringe the Asserted Patents to its customers, subsidiaries, distributors, retailers, dealerships and/or end users in the United States.

54. For example, Ford owns and operates at least nineteen manufacturing, development, and/or assembly plants across the United States responsible for designing, building, assembling, manufacturing, offering for sale, and selling the Accused Products sold throughout the United States.⁵

55. Ford also imports foreign-made vehicles outfitted with instrumentalities that infringe the Asserted Patents for use, sale, offer for sale, and other distribution throughout the United States.

56. Similarly, Ford owns and operates the official Ford website that offers for sale infringing vehicles outfitted with instrumentalities that infringe the Asserted Patents in the United States.

⁵ See <https://fordauthority.com/fmc/ford-motor-company-plants-facilities/ford-motor-company-usa-plants-facilities/>.

57. Ford has indirectly infringed the Asserted Patents under 35 U.S.C. § 271(b) by actively inducing infringement by others, such as its subsidiaries, dealerships, distributors, retailers, and end-user customers, by, for example, implementing the infringing features in its cellular-capable products, encouraging its users to take advantage of 4G/LTE and/or 5G/NR features within the United States, and/or instructing, dictating, or training its dealerships and customers to use the infringing features. Because Ford performed these acts with full knowledge of the Asserted Patents and their infringement thereof, as set forth in detail below, Ford has specifically intended others, such as its subsidiaries, dealerships, distributors, retailers, and end-user customers, to infringe Neo's Asserted Patents knowing its subsidiaries, dealerships, distributors, retailers, and end-user customers' acts constitute infringement.

58. For example, Ford's advertising, sales, design, development, and/or technical materials related to the 3GPP LTE/4G and/or 5G/NR standards associated with the Accused Products contained and continue to contain instructions, directions, suggestions, and/or invitations that invite, entice, lead on, influence, encourage, prevail on, move by persuasion, and/or cause its subsidiaries, distributors, retailers, dealerships, customers, and the public to directly infringe at least one claim of each of the Patents-in-Suit, either literally or under the doctrine of equivalents.

59. Ford provides the above-mentioned technical documentation and training materials to its subsidiaries, distributors, retailers, dealerships, customers, and the public that cause end users of the Accused Products to utilize the products in a manner that directly infringe on one or more claims of the Asserted Patents, and engaged in such inducement to promote the sales of the Accused Products (e.g. through user manuals, product support, marketing materials, technical materials, and training materials) to actively induce the end users of the Accused Products to infringe the Asserted Patents.

60. Ford advertises on its website to its customers and other end users Ford's FordPass application that is powered by a 4G LTE modem and its technological capabilities in the Accused Products.⁶ These advertisements are meant to entice sales and the use of the Accused Instrumentalities, and further describe to a customer or end user how to use the Accused Instrumentalities.

61. Ford further advertises and provides its customers and end users with specifications describing the Accused Instrumentalities and how they are used in the Accused Products.

62. Ford took the above actions intending to cause infringing acts by others.

⁶ See <https://www.ford.ca/technology/connected-technology/>.

63. Further, Ford has made, used, sold, offered to sell, imported and/or encouraged the making, using, selling, offering to sell, or importing of Ford's Accused Products despite knowing of an objectively high likelihood that its actions constituted infringement of the Asserted Patents at all times relevant to this suit. Alternatively, Ford subjectively believed there was a high probability that others would infringe the Asserted Patents but took deliberate steps to avoid confirming that it was actively inducing infringement by others.

64. Neo sent a letter to Ford on November 29, 2021 that Ford received no later than December 1, 2021, informing Ford of Neo Wireless's relevant patent portfolio, including listing the patents-in-suit and how the patents-in-suit cover certain 3GPP wireless standards used in Ford's Accused Products in an attempt to initiate commercial licensing discussions. Despite Neo's fulsome disclosure, Ford refused to engage in any good-faith licensing negotiations. Ford continued using, selling, and offering for sale vehicles equipped with infringing technology. Ford had actual knowledge of Neo's Asserted Patents and their standard essentiality and its likely infringement through the use of standard-compliant modem technology using Neo's Asserted Patents, and deliberately took action to avoid learning these facts. In any event, Ford was on actual notice of the Asserted Patents and its infringement on the date of service of this Complaint. Therefore, Ford was or is now aware of the Asserted Patents or/and has willfully blinded itself as to the

existence of the Asserted Patents and the Accused Products' infringement thereof and has deliberately and wantonly continued to infringe on Neo's patent rights.

65. For the reasons described above, Ford's infringement of the Asserted Patents has been willful and egregious.

66. Ford's acts of infringement have caused damage to Neo Wireless. Neo Wireless is entitled to recover from Ford the damages incurred by Neo Wireless as a result of Ford's wrongful acts.

COUNT ONE: INFRINGEMENT OF THE '366 PATENT

67. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

68. As described above, Ford has infringed and continues to infringe the '366 Patent by implementing, using, offering for sale, and selling 4G/LTE and/or 5G/NR cellular functionality according to one or more 3GPP standard releases from 8 through 17 in the Accused Products, and performing the acts of infringement described above.

69. Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards. Ford's Accused Products are configured to operate within 4G/LTE and/or NR/5G cellular networks that are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base

station may operate differently based on the wireless conditions, location, and/or network configuration. Accordingly, Ford's Accused Products are configured to accommodate those differences and implement the 3GPP standards holistically, and do not exclude particular modes or schemes in which a serving base station may be configured to operate.

70. Each of Ford's Accused Products implements the portions of the 3GPP LTE standard specification that read on at least claim 1 of the '366 patent. *See* Exhibit 7. Exhibit 7 illustrates how implementing and carrying out certain portions of the 3GPP LTE standard ("covered functionality") requires the practicing of at least claim 1 of the '366 patent. *Id.* On information and belief, each portion of the standard cited in Exhibit 7 is implemented to provide LTE functionality in the Accused Products. For example, the covered functionality of the '366 patent is present in the 3GPP LTE standard from the earliest release number 8 through the last LTE release number 17. As further illustrated in Exhibit 7, third-party industry experts through textbooks and articles confirm the inclusion of the covered functionality within the 3GPP LTE standard. Further, industry experts consulted by Neo have confirmed that, based on their experience with and knowledge of the 3GPP standards and their implementation, the Accused Products are configured to practice the covered functionality when they provide LTE connectivity. The technology covered by claim 1 of the '366 patent and reflected in

the 3GPP standard portions set out in Exhibit 7 is a core part of communications on an LTE network, and would be required in any device operating on said network. For example, the covered functionality related to the random-access procedure is integral to the establishment of connections between Ford's Accused Products and the serving base stations for LTE networks. Additionally, based on FCC filings and corroborating public information, Ford's Accused Products are compliant with various 3GPP LTE releases, including release 8 and later releases, and are configured with the covered functionalities. Finally, on information and belief, due to the features Ford advertises as enabled by the 4G/LTE functionality, including but not limited to remote connectivity and Wi-Fi internet access, Ford's Accused Products implement the covered functionality of the 3GPP LTE standard regardless of whether one or more aspects of that functionality is mandatory or optional to implement the LTE standard.

71. Ford's Accused Products therefore meet at least one claim of the '366 patent.

72. To the extent that Ford releases any new version of Ford's Accused Products, such instrumentalities will meet the claims of the '366 patent and infringe under 35 U.S.C. § 271(a)–(b) in ways analogous to Ford's current infringement described above.

73. Neo Wireless has been damaged and continues to be damaged by Ford's infringement of the '366 patent.

COUNT TWO: INFRINGEMENT OF THE '908 PATENT

74. Neo Wireless incorporates the allegations of the foregoing paragraphs as if fully restated herein.

75. As described above, Ford has infringed and continues to infringe the Asserted Patents by implementing and using 4G/LTE and/or 5G/NR cellular functionality according to one or more 3GPP standard releases from 8 through 17 in the Accused Products, and performing the acts of infringement described above.

76. Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards. Ford's Accused Products are configured to operate within 4G/LTE and/or NR/5G cellular networks that are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base station may operate differently based on the wireless conditions, location, and/or network configuration. Accordingly, Ford's Accused Products are configured to accommodate those differences and implement the 3GPP standards holistically, and do not exclude particular modes or schemes in which a serving base station may be configured to operate. For example, the Accused Products are configured to operate within one or more frequency bands, including bands corresponding to

more than 6 resource blocks, and thus, transmit a random access signal in only a portion of the frequency band.

77. Each of Ford's Accused Products implements the portions of the 3GPP LTE standard specification that read on at least claim 11 of the '908 patent. *See* Exhibit 8. Exhibit 8 illustrates how implementing and carrying out certain portions of the 3GPP LTE standard ("covered functionality") require the practicing of at least claim 11 of the '908 patent. *Id.* On information and belief, each portion of the standard cited in Exhibit 8 is implemented to provide LTE functionality in the Accused Products. For example, the covered functionality of the '908 patent is present in the 3GPP LTE standard from the earliest release number 8 through the last LTE release number 17. As further illustrated in Exhibit 8, third-party industry experts through textbooks and articles confirm the inclusion of the covered functionality within the 3GPP LTE standard. Further, industry experts consulted by Neo have confirmed that, based on their experience with and knowledge of the 3GPP standards and their implementation, the Accused Products are configured to practice the covered functionality when they provide LTE connectivity. The technology covered by claim 11 of the '908 patent and reflected in the 3GPP standard portions set out in Exhibit 8 is a core part of communications on an LTE network, and would be required in any device operating on said network. For example, the covered functionality related to the random-access procedure is

integral to the establishment of connections between Ford's Accused Products and the serving base stations for LTE networks. Additionally, based on FCC filings and corroborating public information, Ford's Accused Products are compliant with various 3GPP LTE releases, including release 8 and later releases, and are configured with the covered functionalities. Finally, on information and belief, due to the features Ford advertises as enabled by the 4G/LTE functionality, including but not limited to remote connectivity and Wi-Fi internet access, Ford's Accused Products implement the covered functionality of the 3GPP LTE standard regardless of whether one or more aspects of that functionality is mandatory or optional to implement the LTE standard.

78. Ford's Accused Products therefore meet at least one claim of the '908 patent.

79. To the extent that Ford releases any new version of Ford's Accused Products, such instrumentalities will meet the claims of the '908 patent and infringe under 35 U.S.C. § 271(a)–(b) in ways analogous to Ford's current infringement described above.

80. Neo Wireless has been damaged and continues to be damaged by Ford's infringement of the '908 patent.

COUNT THREE: INFRINGEMENT OF THE '941 PATENT

81. Neo Wireless incorporates the allegations of the foregoing paragraphs as if fully restated herein.

82. As described above, Ford has infringed and continues to infringe the Asserted Patents by implementing and using 4G/LTE and/or 5G/NR cellular functionality according to one or more 3GPP standard releases from 8 through 17 in the Accused Products, and performing the acts of infringement described above.

83. Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards. Ford's Accused Products are configured to operate within 4G/LTE and/or NR/5G cellular networks that are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base station may operate differently based on the wireless conditions, location, and/or network configuration. Accordingly, Ford's Accused Products are configured to accommodate those differences and implement the 3GPP standards holistically, and do not exclude particular modes or schemes in which a serving base station may be configured to operate. For example, the Accused Products are configured to receive and process DCI format 2, as well as other DCI formats.

84. Each of Ford's Accused Products implements the portions of the 3GPP LTE standard specification that read on at least claim 13 of the '941 patent.

See Exhibit 9. Exhibit 9 illustrates how implementing and carrying out certain portions of the 3GPP LTE standard (“covered functionality”) require the practicing of at least claim 13 of the ’941 patent. *Id.* On information and belief, each portion of the standard cited in Exhibit 9 is implemented to provide LTE functionality in the Accused Products. For example, the covered functionality of the ’941 patent is present in the 3GPP LTE standard from the earliest release number 8 through the last LTE release number 17. As further illustrated in Exhibit 9, third-party industry experts through textbooks and articles confirm the inclusion of the covered functionality within the 3GPP LTE standard. Further, industry experts consulted by Neo have confirmed that, based on their experience with and knowledge of the 3GPP standards and their implementation, the Accused Products are configured to practice the covered functionality when they provide LTE connectivity. The technology covered by claim 13 of the ’941 patent and reflected in the 3GPP standard portions set out in Exhibit 9 is a core part of communications on an LTE network, and would be required in any device operating on said network. For example, the covered functionality is related to the configuring the mobile device for accurate signal reception of subsequent signals based on the characteristics of the serving network components. Additionally, based on FCC filings and corroborating public information, Ford’s Accused Products are compliant with various 3GPP LTE releases, including release 8 and later releases, and are

configured with the covered functionalities. Finally, on information and belief, due to the features Ford advertises as enabled by the 4G/LTE functionality, including but not limited to remote connectivity and Wi-Fi internet access, Ford's Accused Products implement the covered functionality of the 3GPP LTE standard regardless of whether one or more aspects of that functionality is mandatory or optional to implement the LTE standard.

85. Ford's Accused Products therefore meet at least one claim of the '941 patent.

86. To the extent that Ford releases any new version of Ford's Accused Products, such instrumentalities will meet the claims of the '941 patent and infringe under 35 U.S.C. § 271(a)–(b) in ways analogous to Ford's current infringement described above.

87. Neo Wireless has been damaged and continues to be damaged by Ford's infringement of the '941 patent.

COUNT FOUR: INFRINGEMENT OF THE '450 PATENT

88. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

89. As described above, Ford has infringed and continues to infringe the Asserted Patents by implementing and using 4G/LTE and/or 5G/NR cellular

functionality according to one or more 3GPP standard releases from 8 through 17 in the Accused Products, and performing the acts of infringement described above.

90. Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards. Ford's Accused Products are configured to operate within 4G/LTE and/or NR/5G cellular networks that are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base station may operate differently based on the wireless conditions, location, and/or network configuration. Accordingly, Ford's Accused Products are configured to accommodate those differences and implement the 3GPP standards holistically, and do not exclude particular modes or schemes in which a serving base station may be configured to operate. Specifically, the Accused Products are configured to receive and process all the PDCCH formats, including the ones comprising 2, 4, or 8 CCEs.

91. Each of Ford's Accused Products implements the portions of the 3GPP LTE standard specification that read on at least claim 7 of the '450 patent. *See* Exhibit 10. Exhibit 10 illustrates how implementing and carrying out certain portions of the 3GPP LTE standard ("covered functionality") require the practicing of at least claim 7 of the '450 patent. *Id.* On information and belief, each portion of the standard cited in Exhibit 10 is implemented to provide LTE functionality in the

Accused Products. For example, the covered functionality of the '450 patent is present in the 3GPP LTE standard from the earliest release number 8 through the last LTE release number 17. As further illustrated in Exhibit 10, third-party industry experts through textbooks and articles confirm the inclusion of the covered functionality within the 3GPP LTE standard. Further, industry experts consulted by Neo have confirmed that, based on their experience with and knowledge of the 3GPP standards and their implementation, the Accused Products are configured to practice the covered functionality when they provide LTE connectivity. The technology covered by claim 7 of the '450 patent and reflected in the 3GPP standard portions set out in Exhibit 10 is a core part of communications on an LTE network, and would be required in any device operating on said network. For example, the covered functionality related to the recovery of information over the Physical Downlink Control Channel is central to the operation of the mobile devices within LTE networks, including allowing the update of information to allow the mobile device to communicate within serving base stations. Additionally, based on FCC filings and corroborating public information, Ford's Accused Products are compliant with various 3GPP LTE releases, including release 8 and later releases, and are configured with the covered functionalities. Finally, on information and belief, due to the features Ford advertises as enabled by the 4G/LTE functionality, including but not limited to remote connectivity and

Wi-Fi internet access, Ford's Accused Products implement the covered functionality of the 3GPP LTE standard regardless of whether one or more aspects of that functionality is mandatory or optional to implement the LTE standard.

92. Ford's Accused Products therefore meet at least one claim of the '450 patent.

93. To the extent that Ford releases any new version of Ford's Accused Products, such instrumentalities will meet the claims of the '450 patent and infringe under 35 U.S.C. § 271(a)–(b) in ways analogous to Ford's current infringement described above.

94. Neo Wireless has been damaged and continues to be damaged by Ford's infringement of the '450 patent.

COUNT FIVE: INFRINGEMENT OF THE '512 PATENT

95. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

96. As described above, Ford has infringed and continues to infringe the Asserted Patents by implementing and using 4G/LTE and/or 5G/NR cellular functionality according to one or more 3GPP standard releases from 8 through 17 in the Accused Products, and performing the acts of infringement described above.

97. Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards.

Ford's Accused Products are configured to operate within 4G/LTE and/or NR/5G cellular networks that are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base station may operate differently based on the wireless conditions, location, and/or network configuration. Accordingly, Ford's Accused Products are configured to accommodate those differences and implement the 3GPP standards holistically, and do not exclude particular modes or schemes in which a serving base station may be configured to operate. For example, the Accused Products are configured to operate in cells supporting non-MBSFN transmission, and are configured to receive downlink data that is transmitted in a variety of transmission modes, including at least transmission mode 7 using UE-specific reference signals.

98. Each of Ford's Accused Products implements the portions of the 3GPP LTE standard specification that read on at least claim 15 of the '512 patent. *See* Exhibit 11. Exhibit 11 illustrates how implementing and carrying out certain portions of the 3GPP LTE standard ("covered functionality") require the practicing of at least claim 15 of the '512 patent. *Id.* On information and belief, each portion of the standard cited in Exhibit 11 is implemented to provide LTE functionality in the Accused Products. For example, the covered functionality of the '512 patent is present in the 3GPP LTE standard from the earliest release number 8 through the last LTE release number 17. As further illustrated in Exhibit 11, third-party

industry experts through textbooks and articles confirm the inclusion of the covered functionality within the 3GPP LTE standard. Further, industry experts consulted by Neo have confirmed that, based on their experience with and knowledge of the 3GPP standards and their implementation, the Accused Products are configured to practice the covered functionality when they provide LTE connectivity. The technology covered by claim 15 of the '512 patent and reflected in the 3GPP standard portions set out in Exhibit 11 is a core part of communications on an LTE network, and would be required in any device operating on said network. For example, the covered functionality related to the reference signaling is important to maintain accurate signaling between the mobile device and the serving cells in the LTE network, particularly for mobile devices, such as those implemented in Ford's Accused Products that are highly mobile and often move through multiple serving cells. Additionally, based on FCC filings and corroborating public information, Ford's Accused Products are compliant with various 3GPP LTE releases, including release 8 and later releases, and are configured with the covered functionalities. Finally, on information and belief, due to the features Ford advertises as enabled by the 4G/LTE functionality, including but not limited to remote connectivity and Wi-Fi internet access, Ford's Accused Products implement the covered functionality of the 3GPP LTE standard

regardless of whether one or more aspects of that functionality is mandatory or optional to implement the LTE standard.

99. Ford's Accused Products therefore meet at least one claim of the '512 patent.

100. To the extent that Ford releases any new version of Ford's Accused Products, such instrumentalities will meet the claims of the '512 patent and infringe under 35 U.S.C. § 271(a)–(b) in ways analogous to Ford's current infringement described above.

101. Neo Wireless has been damaged and continues to be damaged by Ford's infringement of the '512 patent.

COUNT SIX: INFRINGEMENT OF THE '302 PATENT

102. Plaintiff incorporates the allegations of all of the foregoing paragraphs as if fully restated herein.

103. As described above, Ford has infringed and continues to infringe the Asserted Patents by implementing and using 4G/LTE and/or 5G/NR cellular functionality according to one or more 3GPP standard releases from 8 through 17 in the Accused Products, and performing the acts of infringement described above.

104. Ford's Accused Products are configured to operate across the various modes, formats, and schemes defined in the 4G/LTE and NR/5G 3GPP standards. Ford's Accused Products are configured to operate within 4G/LTE and/or NR/5G

cellular networks that are controlled and configured by various carriers and implemented using a variety of hardware and/or software. Additionally, each base station may operate differently based on the wireless conditions, location, and/or network configuration. Accordingly, Ford's Accused Products are configured to accommodate those differences and implement the 3GPP standards holistically, and do not exclude particular modes or schemes in which a serving base station may be configured to operate. For example, the Accused Products are configured to support simultaneous transmission of SRS and PUCCH, e.g., by transmitting the SRS over a time period that overlaps with the transmission period of one or more PUCCH signals transmitted by other mobile devices.

105. Each of Ford's Accused Products implements the portions of the 3GPP LTE standard specification that read on at least claim 23 of the '302 patent. *See* Exhibit 12. Exhibit 12 illustrates how implementing and carrying out certain portions of the 3GPP LTE standard ("covered functionality") require the practicing of at least claim 23 of the '302 patent. *Id.* On information and belief, each portion of the standard cited in Exhibit 12 is implemented to provide LTE functionality in the Accused Products. For example, the covered functionality of the '302 patent is present in the 3GPP LTE standard from the earliest release number 8 through the last LTE release number 17. As further illustrated in Exhibit 12, third-party industry experts through textbooks and articles confirm the inclusion of the

covered functionality within the 3GPP LTE standard. Further, industry experts consulted by Neo have confirmed that, based on their experience with and knowledge of the 3GPP standards and their implementation, the Accused Products are configured to practice the covered functionality when they provide LTE connectivity. The technology covered by claim 23 of the '302 patent and reflected in the 3GPP standard portions set out in Exhibit 12 is a core part of communications on an LTE network, and would be required in any device operating on said network. For example, the covered functionality related to reference signaling allows for accurate channel measurement and allocation of bandwidth resources, which is particularly important for highly mobile devices, such as those implemented in Ford's Accused Products, whose channel conditions and other wireless conditions may change frequently. Additionally, based on FCC filings and corroborating public information, Ford's Accused Products are compliant with various 3GPP LTE releases, including release 8 and later releases, and are configured with the covered functionalities. Finally, on information and belief, due to the features Ford advertises as enabled by the 4G/LTE functionality, including but not limited to remote connectivity and Wi-Fi internet access, Ford's Accused Products implement the covered functionality of the 3GPP LTE standard regardless of whether one or more aspects of that functionality is mandatory or optional to implement the LTE standard.

106. Ford's Accused Products therefore meet at least one claim of the '302 patent.

107. To the extent that Ford releases any new version of Ford's Accused Products, such instrumentalities will meet the claims of the '302 patent and infringe under 35 U.S.C. § 271(a)–(b) in ways analogous to Ford's current infringement described above.

108. Neo Wireless has been damaged and continues to be damaged by Ford's infringement of the '302 patent.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff respectfully requests the following relief:

- a. a judgment in favor of Plaintiff that Defendant has infringed, either literally and/or under the doctrine of equivalents, the Asserted Patents;
- b. a judgment that Defendant's infringement has been and is willful;
- c. a judgment and order requiring Defendant to pay Plaintiff its damages, costs, expenses, and any enhanced damages to which Plaintiff is entitled for Defendant's infringement;
- d. a judgment and order requiring Defendant to provide an accounting and to pay supplemental damages to Plaintiff, including without limitation, pre-judgment and post-judgment interest;
- e. a judgment and order requiring Defendant to pay ongoing royalties;

- f. a judgment and order finding that this is an exceptional case within the meaning of 35 U.S.C. § 285 and awarding Plaintiff its reasonable attorney fees against Defendant; and
- g. any and all other relief as the Court may deem appropriate and just under the circumstances.

DEMAND FOR JURY TRIAL

Pursuant to Fed. R. Civ. P. 38, Plaintiff hereby demands trial by jury on all claims and issues so triable.

DATED: July 20, 2022

Respectfully submitted,

/s/ Jason D. Cassady _____
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**ATTORNEYS FOR PLAINTIFF
NEO WIRELESS, LLC**

CERTIFICATE OF SERVICE

The undersigned certifies that on July 20, 2022, the foregoing document was filed electronically with the Clerk of Court using the CM/ECF system, which will send notification of such filing to all attorneys of record.

/s/ Jason D. Cassady
Jason D. Cassady