IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF WISCONSIN

NOKIA CORPORATION	
Plaintiff,	

V.

APPLE INC.

Defendant.

CIVIL ACTION NO. 10CV249

JURY TRIAL DEMANDED

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Nokia Corporation ("Nokia"), on personal knowledge as to its own acts, and on information and belief as to all others based on its investigation, alleges as follows:

INTRODUCTION

1. This is an action brought by Nokia against Apple Inc. ("Apple") for Apple's infringement of Nokia's patents. In particular, Nokia seeks remedies for Apple's infringement of Nokia's U.S. Patent Nos. 6,317,083 ("the 083 Patent"); 6,348,894 ("the 894 Patent"); 6,373,345 ("the 345 Patent"); 6,603,431 ("the 431 Patent"); 7,558,696 ("the 696 Patent"); 7,532,680 ("the 680 Patent"); and 5,752,172 ("the 172 Patent") (collectively, "the patents-in-suit").

PARTIES

2. Plaintiff Nokia is incorporated under the laws of Finland and has its principal place of business at Keilalahdentie 4, Espoo, Finland. Nokia operates throughout the United States through its wholly owned indirect subsidiary Nokia Inc.

- 3. Nokia was founded in 1865 and is the world's largest manufacturer of mobile telephones. Nokia is one of the champions of wireless cellular communications and has received numerous awards and accolades for its achievements, including introducing the first car phone on the first international cellular mobile network in 1981.
- 4. Nokia's innovations continue today. In 1991, the world's first genuine call on GSM was made with a Nokia phone. In 1996, Nokia introduced the Nokia 9000 Communicator, which was the first all-in-one phone, fax, calendar, e-mail and Internet device in a hand-portable size. The Nokia 8110i, introduced in 1997, was the first mobile phone with a dynamic menu supporting Smart Messaging. Just two years later, Nokia introduced the Nokia 7110, which was the first mobile phone compliant with the Wireless Application Protocol 1.1, which provided access to mobile Internet services, such as banking, e-mail, and news, as well as the first phone with predictive text input.
- 5. In 2001, Nokia made the world's first 3G WCDMA voice call on a commercial system, and launched its first imaging phone with an integrated camera, the Nokia 7650. In 2002, Nokia introduced the world's first UMTS/GSM dual mode phone, and the first Nokia phone to record video simultaneously with sound. The Nokia 5140, launched in 2003 was the first Push-to-Talk GSM handset. In 2006, Nokia introduced the N95, which was the first Nokia phone with built-in GPS.
- 6. Research is one of the keys to Nokia's success. As of December 2008, Nokia had research and development presence in 16 countries and employed over 39,000 people in research and development. Such research and development led to the innovations found in the patents-in-suit.

- 7. In the 1980s, Nokia led the charge to establish the communications protocols that form the backbone of modern wireless cellular communications. Nokia continues to be a leader in mobile communications worldwide and continues to invest millions of dollars annually in new developments in mobile communications.
- 8. Upon information and belief, Defendant Apple is a corporation duly organized and existing under the laws of the state of California and has a principal place of business at 1 Infinite Loop, Cupertino, California 95014.
- 9. Upon information and belief, Apple did not make telephones, much less mobile telephones, until 2007. Apple's wireless communication devices take advantage of the decades of continued investments by Nokia to advance cellular communications and to distinguish Nokia's handsets from those offered by its competitors. Apple's unauthorized use of Nokia's technology has damaged Nokia's competitive advantage in the marketplace, resulting in irreparable harm to Nokia's business reputation and market share.

JURISDICTION AND VENUE

- 10. This is an action arising under the patent laws of the United States.

 Accordingly, this Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).
- 11. This Court has personal jurisdiction over Apple because Apple has established minimum contacts with the forum. Apple manufactures (directly or indirectly through third party manufacturers) and/or assembles products that are and have been used, offered for sale, sold, and purchased in the Western District of Wisconsin. Apple, directly and/or through its distribution network, places wireless communication devices

within the stream of commerce, which stream is directed at this district, with the knowledge and/or understanding that such products will be sold in the Western District of Wisconsin. Therefore, the exercise of jurisdiction over Apple would not offend traditional notions of fair play and substantial justice.

12. Apple does business in this district, including providing products that are used, offered for sale, sold, and purchased in Western District of Wisconsin. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391(b), (c), and 1400(b).

FACTUAL BACKGROUND

OVERVIEW OF THE PATENTS-IN-SUIT

13. The patents-in-suit are a reflection of Nokia's research and development and achievements in the world of mobile communications. One patent allows for better transmission of speech and data by providing a modulator with a high signal-to-noise ratio. Another patent facilitates design of applications that use positioning data. Three other patents represent Nokia's achievements in the area of antenna design. These patents provide antenna configurations that improve performance and save space, allowing devices to do more in less volume. The remaining two patents allow for improved power amplification techniques. Improved power amplification provides, for example, for improved transmission in high speed cellular data services.

THE MODULATOR PATENT

14. The 345 Patent, entitled "Modulator Structure for a Transmitter and Mobile Station," was duly and lawfully issued on April 16, 2002. Nokia is the current owner of all rights, title, and interest in the 345 Patent. A true and correct copy of the 345 Patent is attached hereto as Exhibit A.

15. The 345 Patent is directed to a modulator with a high signal-to-noise ratio. Wireless communication devices, such as mobile phones, include one or more modulators that modify a carrier wave in order to transmit data. One of the most important characteristics of a modulator is its signal-to-noise ratio. Transmissions with a high signal-to-noise ratio are more likely to be received, offering a better experience to users. The 345 Patent provides a high signal-to-noise ratio while reducing the number of filters needed to do so.

THE POSITIONING PATENT

- 16. The 696 Patent, entitled "Method and Device for Position Determination," was duly and lawfully issued on July 7, 2009. Nokia is the current owner of all rights, title, and interest in the 696 Patent. A true and correct copy of the 696 Patent is attached hereto as Exhibit B.
- 17. The 696 Patent relates to providing a centralized interface for applications running on a mobile device to obtain position data. The 696 Patent allows, for example, for application developers to make use of existing positioning capabilities, without having to write as much code for their applications. The availability of applications with positioning capability, as allowed by the 696 Patent, provides for a better user experience.

THE ANTENNA PATENTS

18. The 083 Patent, entitled "Antenna Having a Feed and a Shorting Post Connected Between Reference Plan and Planar Conductor Interacting to Form a Transmission Line," was duly and lawfully issued on November 13, 2001. Nokia is the current owner of all rights, title, and interest in the 083 Patent. A true and correct copy of the 083 Patent is attached hereto as Exhibit C.

- 19. Antennas commonly have multiple sections, such as a reference or ground plane, a feed section, and one or more resonating regions. The 083 Patent relates to an antenna design in which the feed section components interact to form a transmission line. The 083 Patent allows for improved antenna characteristics, including an increased impedance bandwidth with limited, if any, loss of efficiency. These characteristics, in turn, allow for better communication and a better user experience.
- 20. The 894 Patent, entitled "Radio Frequency Antenna," was duly and lawfully issued on February 19, 2002. Nokia is the current owner of all rights, title, and interest in the 894 Patent. A true and correct copy of the 894 Patent is attached hereto as Exhibit D.
- 21. The 894 Patent is directed to an antenna design integrated into a system connector. The 894 Patent reduces the space needed for an antenna, allowing tighter integration of components and smaller, more compact mobile phones.
- 22. The 431 Patent, entitled "Mobile Station and Antenna Arrangement in Mobile Station," was duly and lawfully issued on August 5, 2003. Nokia is the current owner of all rights, title, and interest in the 431 Patent. A true and correct copy of the 431 Patent is attached hereto as Exhibit E.
- 23. The 431 Patent is directed to an antenna arrangement for a mobile station. The 431 Patent allows for an internal antenna with greater performance by creating an antenna assembly space free of the printed circuit board. The increased space allows for design of slimmer devices and improves the antenna characteristics, including a broader impedance band and better radiation efficiency. These characteristics, in turn, allow for better communication and a better user experience.

THE POWER AMPLIFICATION PATENTS

- 24. The 680 Patent, entitled "Multi-mode Radio Frequency Transmitter," was duly and lawfully issued on May 12, 2009. Nokia is the current owner of all rights, title, and interest in the 680 Patent. A true and correct copy of the 680 Patent is attached hereto as Exhibit F.
- 25. The 680 Patent is directed to facilitating power transmission when changing modulation formats between adjacent time slots. This capability provides for improved data rates via multi-mode transmission, for example, in EDGE cellular technology.
- 26. The 172 Patent, entitled "Distributed Transmitter Output Power Control Circuit and Method for a Radio Telephone," was duly and lawfully issued on May 12, 1998. Nokia is the current owner of all rights, title, and interest in the 172 Patent. A true and correct copy of the 172 Patent is attached hereto as Exhibit G.
- 27. The 172 Patent is directed to a transmitter circuit with multiple adjustable amplifier stages. Wireless communication devices typically vary the transmit power level as conditions change, and may be required to operate over a wide dynamic range. The 172 Patent provides, for example, for power amplification over a wide dynamic range while limiting the dynamic range needed for individual components. This allows for improved performance using less complexity and cost.

APPLE'S INFRINGEMENT

28. Upon information and belief, Apple has infringed and continues to infringe each of the patents-in-suit by engaging in acts constituting infringement under 35 U.S.C. § 271, including but not necessarily limited to one or more of making, using, selling and offering to sell, in this District and elsewhere in the United States, and

importing for sale into this District and elsewhere in the United States, one or more products and services, including wireless communication devices such as the Apple iPhone, Apple iPhone 3G, Apple iPhone 3GS, Apple iPhone 4, Apple iPad, Apple iPad 3G, Apple iPod Touch, Apple MacBook, Apple MacBook Pro, and Apple MacBook Air.

29. On information and belief, Apple is aware of these patents and is infringing them willfully and deliberately. With respect to at least the 431 Patent, Apple has confirmed its prior awareness by raising the 431 patent in discovery requests served on Nokia in International Trade Commission Investigation No. 337-TA-701.

HARM TO NOKIA FROM APPLE'S INFRINGEMENT

- 30. Nokia is harmed by Apple's unauthorized use of Nokia patented technology in a way that cannot be compensated for by a payment of damages alone. Nokia and Apple compete directly, with respect to at least certain Apple product offerings. Apple's unauthorized use of the patents-in-suit in its products at the time of their sale allows it to charge less for its products because it does not have to recover the costs of development of the technology used in the device. This allows it to obtain market share that it would otherwise not be able to obtain were its products to bear the costs for the patented technology. This also harms Nokia's reputation for innovation by preventing Nokia from distinguishing its products based on the patented technology.
- 31. Nokia's products must bear the costs of the development of the technology described in the patents-in-suit. Apple's infringement prevents Nokia from garnering the positive reputation for innovation that the patents-in-suit would otherwise provide. This puts Nokia in a competitive disadvantage to Apple's unauthorized use
- 32. Even when Apple is required to pay damages for past infringement, it will still enjoy a market share it otherwise would not have but for the period of unauthorized

use. Nokia will likewise have lost its portion of the market share for the period of the unauthorized use. Similarly, Apple will still have benefitted from public perceptions that it properly incorporated Nokia technology in its products, and Nokia will likewise still suffer harm to its reputation for innovation. Due to the difficulty in predicting whether, if at all, such market share can be recovered, and such reputation restored, Nokia's harm cannot be compensated by payment of damages alone.

COUNT I INFRINGEMENT OF U.S. PATENT NO. 6,317,083

- 33. Nokia incorporates by reference the allegations set forth in Paragraphs 1-32 of this Complaint as though fully set forth herein.
- 34. Apple has infringed and is infringing the 083 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the Apple iPhone 3G and Apple iPhone 3GS, that infringe one or more claims of the 083 Patent, including at least claims 1-2, 6-10, 12, 16, 18, 20, 22, and 24.
- 35. Apple's infringement of the 083 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 36. Apple's infringement of the 083 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

COUNT II INFRINGEMENT OF U.S. PATENT NO. 6,348,894

- 37. Nokia incorporates by reference the allegations set forth in Paragraphs 1-36 of this Complaint as though fully set forth herein.
- 38. Apple has infringed and is infringing the 894 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the Apple iPhone, Apple iPhone 3G, Apple iPhone 3GS, and Apple iPhone 4 that infringe one or more claims of the 894 Patent, including at least claims 1, 8-12, 14-17, 19-20, and 23.
- 39. Apple is inducing the infringement of the 894 Patent by others in the United States. The direct infringement occurs by the activities of end users of the accused products.
- 40. Apple is contributing to the infringement of the 894 Patent by others in the United States. The direct infringement occurs by the activities of end users of the accused products.
- 41. Apple's infringement of the 894 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 42. Apple's infringement of the 894 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.
- 43. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

COUNT III INFRINGEMENT OF U.S. PATENT NO. 6,373,345

- 44. Nokia incorporates by reference the allegations set forth in Paragraphs 1-43 of this Complaint as though fully set forth herein.
- 45. Apple has infringed and is infringing the 345 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the Apple iPhone 3G, Apple iPhone 3GS, Apple iPhone 4, Apple iPad, Apple iPad 3G, and Apple iPod Touch, that infringe one or more claims of the 345 Patent, including at least claims 1-3, 5-9, and 11-12.
- 46. Apple's infringement of the 345 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 47. Apple's infringement of the 345 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.
- 48. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

COUNT IV INFRINGEMENT OF U.S. PATENT NO. 6,603,431

- 49. Nokia incorporates by reference the allegations set forth in Paragraphs 1-48 of this Complaint as though fully set forth herein.
- 50. Apple has infringed and is infringing the 431 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the Apple iPhone, Apple iPhone 3G,

Apple iPhone 3GS, and Apple iPhone 4 that infringe one or more claims of the 431 Patent, including at least claims 1, 2, and 4-7.

- 51. Apple's infringement of the 431 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 52. Apple's infringement of the 431 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.
- 53. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

COUNT V INFRINGEMENT OF U.S. PATENT NO. 7,558,696

- 54. Nokia incorporates by reference the allegations set forth in Paragraphs 1-53 of this Complaint as though fully set forth herein.
- 55. Apple has infringed and is infringing the 696 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the Apple iPhone, Apple iPhone 3G, Apple iPhone 3GS, Apple iPhone 4, Apple iPad, Apple iPad 3G, Apple iPod Touch, Apple MacBook, Apple MacBook Pro, and Apple MacBook Air, that infringe one or more claims of the 696 Patent, including at least claims 1, 3-5, 9, 11-14, 16, 18-19, 21-23, and 25.
- 56. Apple is inducing the infringement of the 696 Patent by others in the United States. The direct infringement occurs by the activities of end users of the accused products.

- 57. Apple is contributing to the infringement of the 696 Patent by others in the United States. The direct infringement occurs by the activities of end users of the accused products.
- 58. Apple's infringement of the 696 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 59. Apple's infringement of the 696 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.
- 60. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

COUNT VI INFRINGEMENT OF U.S. PATENT NO. 7,532,680

- 61. Nokia incorporates by reference the allegations set forth in Paragraphs 1-60 of this Complaint as though fully set forth herein.
- 62. Apple has infringed and is infringing the 680 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the iPhone 3G, iPhone 3GS, iPhone 4, and iPad 3G, that infringe one or more claims of the 680 Patent, including at least claims 1-31.
- 63. Apple is inducing the infringement of the 680 Patent by others in the United States. The direct infringement occurs by the activities of end users of the accused products.

- 64. Apple is contributing to the infringement of the 680 Patent by others in the United States. The direct infringement occurs by the activities of end users of the accused products.
- 65. Apple's infringement of the 680 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 66. Apple's infringement of the 680 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.
- 67. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

COUNT VII INFRINGEMENT OF U.S. PATENT NO. 5,752,172

- 68. Nokia incorporates by reference the allegations set forth in Paragraphs 1-67 of this Complaint as though fully set forth herein.
- 69. Apple has infringed and is infringing the 172 Patent by making, using, offering for sale, and selling in the United States, without authority, products and services including wireless communication devices such as the iPhone 3G, iPhone 3GS, iPhone 4, and iPad 3G, that infringe one or more claims of the 172 Patent, including at least claims 1-2.
- 70. Apple's infringement of the 172 Patent is willful and deliberate, justifying an increase of damages of up to three times under 35 U.S.C. § 284.
- 71. Apple's infringement of the 172 Patent is exceptional and entitles Nokia to attorneys' fees and costs incurred in prosecuting this action under 35 U.S.C. § 285.

72. Apple's acts of infringement have caused damage to Nokia, and Nokia is entitled to recover from Apple compensation as a result of Apple's wrongful acts in an amount subject to proof at trial, injunctive relief, and such other relief as may be appropriate.

DEMAND FOR JURY TRIAL

73. Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Nokia demands a trial by jury of this action.

PRAYER FOR RELIEF

WHEREFORE, Nokia prays for judgment and seeks relief against Apple as follows:

- (a) For judgment that the patents-in-suit have been and continue to be directly and/or indirectly infringed by Apple;
 - (b) For judgment that the patents-in-suit are not invalid and are enforceable;
- (e) For a preliminary and permanent injunction preventing further infringement, contributory infringement, and inducement of infringement of the patents-in-suit by Apple, including its agents, affiliates, subsidiaries, divisions, employees, servants, and others in privity with Apple.
 - (f) For damages together with all interest permitted by law;
 - (g) For enhanced damages to the full extent available under 35 U.S.C. § 284;
- (h) For an award of attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law;
 - (i) For all costs of suit; and
 - (j) For such other and further relief as the Court may deem just and proper.

Dated: September 17, 2010 Respectfully submitted,

s/Ryan Koppelman
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CERTIFICATE OF SERVICE

I hereby certify that on September 17, 2010 I caused true and correct copies of First Amended Complaint for Patent Infringement to be served on all counsel of record by the ECF notification system.

s/Ryan Koppelman Ryan Koppelman