

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

INTELLECTUAL VENTURES I LLC  
AND INTELLECTUAL VENTURES II  
LLC,

Plaintiffs,

v.

T-MOBILE USA, INC. AND T-MOBILE  
US, INC.,

Defendants.

Civil Action No. \_\_\_\_\_

JURY TRIAL DEMANDED

**COMPLAINT ALLEGING PATENT INFRINGEMENT**

Plaintiffs Intellectual Ventures I and Intellectual Ventures II LLC allege the following against Defendants T-Mobile USA, Inc. and T-Mobile US, Inc. (d/b/a/ T-Mobile US, Inc.) (collectively, “T-Mobile”):

**PARTIES**

1. Intellectual Ventures I is a Delaware limited liability company with its principal place of business located in Bellevue, Washington.
2. Intellectual Ventures II is a Delaware limited liability company with its principal place of business located in Bellevue, Washington.
3. Defendant T-Mobile US, Inc., formerly named MetroPCS Communications, Inc., is a Delaware corporation, with its principal place of business at 12920 SE 38th Street, Bellevue, Washington 98006. T-Mobile US, Inc. is the U.S. wireless operation of Deutsche Telekom AG.

4. Defendant T-Mobile USA, Inc., a wholly-owned subsidiary of T-Mobile US, Inc., is a Delaware corporation, with its principal place of business at 12920 SE 38th Street, Bellevue, Washington 98006.

### **NATURE OF THE ACTION**

5. This is a civil action alleging infringement of U.S. Patent No. 6,640,248; U.S. Patent No. 5,602,831; U.S. Patent No. 6,023,783; US Patent No. 6,952,408; U.S. Patent No. 6,370,153; U.S. Patent No. 5,963,557; U.S. Patent No. 8,310,993; U.S. Patent No. 7,269,127; U.S. Patent No. 7,848,353; U.S. Patent No. 8,396,079; U.S. Patent No. 7,787,431; and U.S. Patent No. 7,385,994 (the “Patents-in-Suit”), under the U.S. Patent Laws, 35 U.S.C. § 1 *et seq.*

### **JURISDICTION AND VENUE**

6. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the U.S. patent laws, including 35 U.S.C. § 271 *et seq.*

7. This Court has personal jurisdiction over T-Mobile because it has committed acts of infringement in this District in violation of 35 U.S.C. § 271, and has placed infringing products into the stream of commerce with the knowledge and/or understanding that such products are used and sold in this District. These acts have caused and continue to cause injury to Intellectual Ventures I and Intellectual Ventures II within the District. T-Mobile derives substantial revenue from the sale of infringing services and products distributed within the District, and/or expects or should reasonably expect its actions to have consequences within the District, and derives substantial revenue from interstate and international commerce.

8. T-Mobile maintains places of business within the District from which it sells products or services to residents of the District. Additionally, T-Mobile provides telecommunications services to customers through base stations, switching equipment and other components of their telecommunications networks, which are located in the District.

9. Further, T-Mobile is subject to this Court's jurisdiction by virtue of its incorporation in Delaware and its availing itself of the laws and protections of this District.

10. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391 and 1400(b).

### **THE PATENTS-IN-SUIT**

11. Paragraphs 1-10 are reincorporated by reference as if fully set forth herein.

12. On October 28, 2003, the United States Patent and Trademark Office (“PTO”) issued U.S. Patent No. 6,640,248 (“the ’248 Patent”), titled “Application-aware, Quality of Service (QoS) Sensitive, Media Access Control (MAC) Layer.” The ’248 Patent is attached hereto as Exhibit A.

13. Intellectual Ventures I owns all substantial right, title, and interest in the ’248 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

14. On February 11, 1997, the PTO issued U.S. Patent No. 5,602,831 (“the ’831 Patent”), titled “Optimizing Packet Size to Eliminate Effects of Reception Nulls.” The ’831 Patent is attached hereto as Exhibit B.

15. Intellectual Ventures I owns all substantial right, title, and interest in the ’831 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

16. On February 8, 2000, the PTO issued U.S. Patent No. 6,023,783 (“the ’783 Patent”), titled “Hybrid Concatenated Codes and Iterative Decoding.” The ’783 Patent is attached hereto as Exhibit C.

17. Intellectual Ventures I is the exclusive licensee who possesses all substantial right, title, and interest in the ’783 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

18. On October 4, 2005, the PTO issued U.S. Patent No. 6,952,408 (“the ’408 Patent”), titled “Method of Baseband Frequency Hopping Utilizing Time Division Multiplexed Mapping Between a Radio Transceiver and Digital Signal Processing Resources.” The ’408 Patent is attached hereto as Exhibit D.

19. Intellectual Ventures I owns all substantial right, title, and interest in the ’408 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

20. On April 9, 2002, the PTO issued U.S. Patent No. 6,370,153 (“the ’153 Patent”), titled “Method and Apparatus for Reserving Resources of One or More Multiple Access Communication Channels.” The ’153 Patent is attached hereto as Exhibit E.

21. Intellectual Ventures II owns all substantial right, title, and interest in the ’153 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

22. On October 5, 1999, the PTO issued U.S. Patent No. 5,963,557 (“the ’557 Patent”), titled “High Capacity Reservation Multiple Access Network with Multiple Shared Unidirectional Paths.” The ’557 Patent is attached hereto as Exhibit F.

23. Intellectual Ventures II owns all substantial right, title, and interest in the ’557 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

24. On November 13, 2012, the PTO issued U.S. Patent No. 8,310,993 (“the ’993 Patent”), titled “Acknowledging Communication in a Wireless Network.” The ’993 Patent is attached hereto as Exhibit G.

25. Intellectual Ventures II owns all substantial right, title, and interest in the ’993 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

26. On September 11, 2007, the PTO issued U.S. Patent No. 7,269,127 (“the ’127 Patent”), titled “Preamble Structures for Single-Input, Single-Output (SISO) and Multi-Input, Multi-Output (MIMO) Communication Systems.” The ’127 Patent is attached hereto as Exhibit H.

27. Intellectual Ventures II owns all substantial right, title, and interest in the ’127 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

28. On December 7, 2010, the PTO issued U.S. Patent No. 7,848,353 (“the ’353 Patent”), titled “Method, Communication System and Communication Unit for Synchronisation for Multi-rate Communication.” The ’353 Patent is attached hereto as Exhibit I.

29. Intellectual Ventures II owns all substantial right, title, and interest in the ’353 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

30. On March 12, 2013, the PTO issued U.S. Patent No. 8,396,079 (“the ’079 Patent”), titled “Communication Units Operating with Various Bandwidths.” The ’079 Patent is attached hereto as Exhibit J.

31. Intellectual Ventures II owns all substantial right, title, and interest in the ’079 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

32. On August 31, 2010, the PTO issued U.S. Patent No. 7,787,431 (“the ’431 Patent”), titled “Methods and Apparatus for Multi-carrier Communications with Variable Channel Bandwidth.” The ’431 Patent is attached hereto as Exhibit K.

33. Intellectual Ventures II owns all substantial right, title, and interest in the ’431 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

34. On June 10, 2008, the PTO issued U.S. Patent No. 7,385,994 (“the ’994 Patent”), titled “Packet Data Queuing and Processing.” The ’994 Patent is attached hereto as Exhibit L.

35. Intellectual Ventures II owns all substantial right, title, and interest in the ’994 Patent, and holds the right to sue and recover damages for infringement thereof, including past infringement.

## **FACTUAL BACKGROUND**

### **Intellectual Ventures**

36. Intellectual Ventures Management, LLC (“Intellectual Ventures”) was founded in 2000. Since its founding, Intellectual Ventures has been deeply involved in the business of invention. Intellectual Ventures creates inventions and files patent applications for those inventions; it collaborates with others to develop and patent inventions; and it acquires and licenses patents from individual inventors, universities, and other institutions. A significant aspect of Intellectual Ventures’ business is managing the plaintiffs Intellectual Ventures I and Intellectual Ventures II.

37. Intellectual Ventures’ business includes purchasing important inventions from individual inventors and institutions, and then licensing the inventions to those who need them. Through this business, Intellectual Ventures enables inventors to reap a financial reward from their innovations, which is often a difficult task for individual inventors.

38. Intellectual Ventures also develops its own inventions. Intellectual Ventures has a staff of scientists and engineers who develop ideas in a broad range of fields, including agriculture, computer hardware, life sciences, medical devices, semiconductors, and software. Intellectual Ventures has invested millions of dollars developing such ideas and has filed hundreds of patent applications on its inventions every year, making it one of the top patent filers in the world. Intellectual Ventures also has invested in laboratory facilities to assist with the development and testing of new ideas.

39. Intellectual Ventures develops inventions by collaborating with inventors and research institutions around the world. For example, Intellectual Ventures has developed inventions by selecting a technical challenge, requesting proposals from inventors and institutions for inventions that would overcome the challenge, selecting the most promising ideas, rewarding the inventors and institutions for their contributions, and filing patent applications on the selected ideas. Intellectual Ventures has invested millions of dollars in this way and has created a network of more than 3000 inventors worldwide.

### **T-Mobile's Telecommunications Network**

40. T-Mobile is in the business of providing wireless phone services to customers throughout the United States, including the State of Delaware, under its T-Mobile and MetroPCS brands. The future of T-Mobile's business and the subject of this lawsuit is T-Mobile's Long Term Evolution ("LTE") wireless network.

41. T-Mobile recently engaged in a series of business combinations with former competitor MetroPCS. The purpose of these combinations was to strengthen T-Mobile's spectrum position for its roll-out of 4G LTE services, particularly in major metropolitan areas, and to drive both its T-Mobile and MetroPCS brands onto a common LTE network. By taking advantage of the resources, positioning, coverage, and spectrum provided by the T-Mobile-MetroPCS mergers, T-Mobile has positioned itself to challenge other LTE wireless giants like AT&T and Verizon for the U.S. wireless market. T-Mobile also plans to expand the MetroPCS no-contract model into new geographies to further grow the MetroPCS brand.

42. T-Mobile has been enormously successful, especially since the T-Mobile-MetroPCS mergers. By the end of the second quarter of 2013, T-Mobile had approximately 44 million wireless customers nationwide. It has launched its 4G LTE network, and the network includes 116 metropolitan areas, covering 157 million people. T-Mobile's annual revenue for 2012 was nearly \$25 billion.

43. T-Mobile's ability to employ LTE service is critical to its business. The primary impetus for the T-Mobile-MetroPCS mergers was a substantial increase in the demand for wireless service in the United States. T-Mobile's LTE network is critical to driving down its cost of providing service, to maintaining and growing its customer base, and to promoting the health of the company. T-Mobile has no other viable option than deploying LTE.

44. Each passing day, T-Mobile adds to its LTE customer base by converting 3G customers to its 4G LTE network and by taking customers from third parties who lack LTE capabilities. Each passing day, T-Mobile also competes unfairly by using its substantial market power and muscle to push aside competitors, which it can do because of its substantial financial resources and because it refuses to pay royalties for the patent rights necessary to legally employ its LTE technology.

45. T-Mobile is aware that there are numerous patents in the LTE space. Yet, upon information and belief, T-Mobile has no policy in place to obtain rights from patent holders to use their LTE technology. Upon information and belief, this is by design, and T-Mobile employs a corporate policy of ignoring the risk of patent infringement and willfully infringing LTE patents. In this fashion, T-Mobile has been able to keep its costs down and to compete unfairly against companies who lawfully take licenses to the patents in suit.

46. In this evolving marketplace, which is highly cost-competitive, a competitor who has lawfully taken a license to the patents in suit is operating under a competitive disadvantage to T-Mobile, which refuses to pay for the accused technology. A damage award would be insufficient to vindicate the rights of Intellectual Ventures I and its current and future licensees, and Intellectual Ventures II and its current and future licensees, and to restore the market to the condition it would have been in had T-Mobile taken a license.



## **COUNT I**

### **(T-Mobile's Infringement of the '248 Patent)**

47. Paragraphs 1-46 are incorporated by reference as if fully restated herein.

48. T-Mobile has infringed the '248 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

49. Intellectual Ventures I has suffered damage as a result of T-Mobile's infringement of the '248 Patent.

## **COUNT II**

### **(T-Mobile's Infringement of the '831 Patent)**

50. Paragraphs 1-49 are incorporated by reference as if fully restated herein.

51. T-Mobile has infringed the '831 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

52. Intellectual Ventures I has suffered damage as a result of T-Mobile's infringement of the '831 Patent.

## **COUNT III**

### **(T-Mobile's Infringement of the '783 Patent)**

53. Paragraphs 1-52 are incorporated by reference as if fully restated herein.

54. T-Mobile has infringed the '783 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

55. Intellectual Ventures I has suffered damage as a result of T-Mobile's infringement of the '783 Patent.

**COUNT IV**

**(T-Mobile's Infringement of the '408 Patent)**

56. Paragraphs 1-55 are incorporated by reference as if fully restated herein.

57. T-Mobile has infringed the '408 Patent, literally and/or under the doctrine of equivalents, by making, using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services are T-Mobile's cellular services, including, but not limited to, cellular services that implement LTE in wireless base stations.

58. Intellectual Ventures I has suffered damage as a result of T-Mobile's infringement of the '408 Patent.

**COUNT V**

**(T-Mobile's Infringement of the '153 Patent)**

59. Paragraphs 1-58 are incorporated by reference as if fully restated herein.

60. T-Mobile has infringed the '153 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

61. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '153 Patent.

**COUNT VI**

**(T-Mobile's Infringement of the '557 Patent)**

62. Paragraphs 1-61 are incorporated by reference as if fully restated herein.

63. T-Mobile has infringed the '557 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

64. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '557 Patent.

### **COUNT VII**

#### **(T-Mobile's Infringement of the '993 Patent)**

65. Paragraphs 1-64 are incorporated by reference as if fully restated herein.

66. T-Mobile has infringed the '993 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

67. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '993 Patent.

### **COUNT VIII**

#### **(T-Mobile's Infringement of the '127 Patent)**

68. Paragraphs 1-67 are incorporated by reference as if fully restated herein.

69. T-Mobile has infringed the '127 Patent, literally and/or under the doctrine of equivalents, by making, using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

70. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '127 Patent.

### **COUNT IX**

#### **(T-Mobile's Infringement of the '353 Patent)**

71. Paragraphs 1-70 are incorporated by reference as if fully restated herein.

72. T-Mobile has infringed the '353 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

73. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '353 Patent.

### **COUNT X**

#### **(T-Mobile's Infringement of the '079 Patent)**

74. Paragraphs 1-73 are incorporated by reference as if fully restated herein

75. T-Mobile has infringed the '079 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

76. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '079 Patent.

### **COUNT XI**

#### **(T-Mobile's Infringement of the '431 Patent)**

77. Paragraphs 1-76 are incorporated by reference as if fully restated herein.

78. T-Mobile has infringed the '431 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

79. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '431 Patent.

### **COUNT XII**

#### **(T-Mobile's Infringement of the '994 Patent)**

80. Paragraphs 1-79 are incorporated by reference as if fully restated herein.

81. T-Mobile has infringed the '994 Patent, literally and/or under the doctrine of equivalents, by using or performing one or more of the claims without authority and in violation of 35 U.S.C. § 271(a). Among the infringing services is T-Mobile's 4G LTE network services.

82. Intellectual Ventures II has suffered damage as a result of T-Mobile's infringement of the '994 Patent.

### **PRAYER FOR RELIEF**

WHEREFORE, Intellectual Ventures I and Intellectual Ventures II respectfully request the following relief:

- a) A judgment that U.S. Patent Nos. 6,640,248; 5,602,831; 6,023,783; 6,952,408; 6,370,153; 5,963,557; 8,310,993; 7,269,127; 7,848,353; 8,396,079; 7,787,431; and 7,385,994 are valid and enforceable.
- b) A judgment that T-Mobile has infringed the '248 Patent;
- c) A judgment that T-Mobile has infringed the '831 Patent;
- d) A judgment that T-Mobile has infringed the '783 Patent;
- e) A judgment that T-Mobile has infringed the '408 Patent;
- f) A judgment that T-Mobile has infringed the '153 Patent;
- g) A judgment that T-Mobile has infringed the '557 Patent;
- h) A judgment that T-Mobile has infringed the '993 Patent;
- i) A judgment that T-Mobile has infringed the '127 Patent;
- j) A judgment that T-Mobile has infringed the '353 Patent;
- k) A judgment that T-Mobile has infringed the '079 Patent;
- l) A judgment that T-Mobile has infringed the '431 Patent;
- m) A judgment that T-Mobile has infringed the '994 Patent;

n) An order enjoining T-Mobile and its officers, agents, servants and employees, privies, and all persons in active concert or participation with it, from further infringement of said patents;

o) A judgment that Intellectual Ventures I and Intellectual Ventures II be awarded all appropriate damages under 35 U.S.C. § 284 for T-Mobile's past infringement, and any continuing or future infringement of the Patents-in-Suit, up until the date such judgment is entered, including pre and post judgment interest, costs, and disbursements as justified under 35 U.S.C. § 284 and, if necessary to adequately compensate Intellectual Ventures I and Intellectual Ventures II for T-Mobile's infringement, an accounting:

- a. that this case be declared exceptional within the meaning of 35 U.S.C. § 285 and that Intellectual Ventures I and Intellectual Ventures II be awarded the reasonable attorneys' fees that they incur in prosecuting this action;
- b. that Intellectual Ventures I and Intellectual Ventures II be awarded costs and expenses that they incur in prosecuting this action; and
- c. that Intellectual Ventures I and Intellectual Ventures II be awarded such further relief at law or in equity as the Court deems just and proper.

**DEMAND FOR JURY TRIAL**

Intellectual Ventures I and Intellectual Ventures II hereby demand trial by jury on all claims and issues so triable.

DATED: October 7, 2013

Respectfully submitted,

FARNAN LLP

/s/ Brian E. Farnan

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