

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF TEXAS**

USTA TECHNOLOGY, LLC,

Plaintiff,

v.

MOTOROLA MOBILITY LLC,

Defendant.

Civil Action No. 3:24-cv-2659

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff USTA Technology, LLC (“USTA” or “Plaintiff”), for its Original Complaint against Defendant Motorola Mobility LLC (“Defendant” or “Motorola”), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*

THE PARTIES

2. Plaintiff USTA is a limited liability company organized under the laws of the State of Delaware with a place of business at 211 W Tyler St., Ste. C, Longview, TX 75601.

3. On information and belief, Motorola is a Delaware limited liability company with its principal place of business at Floor 18, Suite 1800, 222 W Merchandise Mart Plaza, Chicago, Illinois 60654. Since May 21, 2010, Motorola has been registered to do business in Texas under Texas SOS file number 0801272658. Motorola may be served through its registered agent for service, CT Corporation System, located at 1999 Bryan St., Suite 900, Dallas, Texas 75201. On information and belief, Motorola does business in Texas and in the Northern District of Texas, directly or through its subsidiaries.

4. Upon information and belief, Motorola is a wholly owned subsidiary of Motorola Mobility Holdings LLC, which is indirectly a wholly owned subsidiary of Lenovo Group. Upon information and belief, Motorola Mobility Holdings LLC is Motorola Mobility, LLC's only member. Motorola Mobility Holdings LLC's only member is Motorola Mobility Holdings UK Limited, a company incorporated under the laws of England and Wales with its principal place of business in the United Kingdom. Motorola Mobility Holdings UK Limited is a corporation and a citizen of a foreign state.

JURISDICTION AND VENUE

5. This is an action for patent infringement arising under the Patent Laws of the United States, Title 35 of the United States Code.

6. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331 and 1338(a).

7. Upon information and belief, venue is proper in this judicial district under 28 U.S.C. §§ 1391 and 1400(b).

8. This Court has personal jurisdiction over Motorola under the laws of the State of Texas, due at least to its substantial business in Texas and in this judicial district, directly or through intermediaries, including: (i) at least a portion of the infringements alleged herein; and (ii) 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 the State of Texas and in this District.

9. This Court also has personal jurisdiction over Motorola based on their introduction and delivery of infringing products and services into the stream of commerce with the expectation that such infringing products would be sold and/or used in this judicial district. *See In re Toyota Hybrid Brake Litig.*, 2021 U.S. District LEXIS 124918 (E.D. Tex. Jul. 6, 2021).

Nor would the Court's exercise of personal jurisdiction over Motorola violate traditional notions of fair play and substantial justice.

10. Upon information and belief, Motorola has regular and established places of business in this District., including at 13301 Park Vista Blvd., Fort Worth, TX 76177. *See, e.g., Emergent Mobile LLC, v. Motorola Mobility LLC*, No. 4:22-cv-00272-P, Dkt. 44 at 2 (N.D. Tex. Oct. 28, 2022); *Seven Networks, LLC v. Motorola Mobility LLC*, No. 3:21-cv-1036, Dkt. 61 at 2 (N.D. Tex. Mar. 10, 2022).

BACKGROUND

11. Jerry D. Burchfiel is the inventor of U.S. Patent No. RE47,720 ("the '720 patent"). A true and correct copy of the '720 patent is attached as Exhibit 1.

12. The '720 patent resulted from the pioneering efforts of Mr. Burchfiel (hereinafter "the Inventor") in the area of spectrum management in wireless networking systems. These efforts resulted in the development of a method and apparatus for increasing the available spectrum in a wireless network by sharing existing allocated (and in-use) portions of the RF spectrum in a manner that will minimize the probability of interfering with existing legacy users in 2002. At the time of these pioneering efforts, there was increasing demand for spectrum-based services and devices to address decreasing wireless communications network bandwidth. Moreover, managing interference levels was made particularly difficult by the greater density, mobility and variability of "next generation" (XG) radio frequency emitters. (*See* '720 patent at 1:19-34.)

13. While the then-existing solutions for spectrum management to address increasing demand for spectrum-based services and devices sought to assign locally unoccupied portions of the RF spectrum to XG users, the FCC Spectrum Management Policy Task Force recommended that secondary users of a band are required to accept interference from primary users and must

cause no “harmful” interference to the primary users. The Task Force policy permitted secondary (*e.g.*, unlicensed) users to radiate only enough power in an area of interest to raise the interference temperature in the band to a specified threshold T_0 for the band, service, and locality, and would create an opportunity to “underlay” existing primary applications with low-power, low-impact opportunistic applications that operate below the threshold. (*See e.g., id.* at 1:35-53.)

14. However, the Spectrum Policy Task Force Report did not address how to build and configure networks and devices that comply with the proposed rules. Accordingly, the Inventor conceived of the inventions claimed in the '720 patent to describe tools, devices and applications XG users can build, configure and deploy in order to take advantage of the proposed spectrum policies. (*See e.g., id.* at 1:54-62.)

15. For example, the Inventor conceived of a node of a network communications system that could be configured to:

- (a) Continuously carry out real-time sensing and characterization of the local spectrum usage by (potentially interfering) narrowband and wideband emitters;
- (b) Dynamically and autonomously adapt (on a time scale of milliseconds) to the local spectrum environment by selecting and controlling the waveforms (power spectral density (PSD) and Media Access Control (MAC) protocols) that its network neighbors use when transmitting to this node;

- (c) Automatically carry out a closed loop power control algorithm with each neighbor to throttle back on unnecessarily high-power levels, thereby enhancing Low Probability of Detection (LPD);
- (d) Apply transmission security (“TRANSEC”) parameters to the spread spectrum modulation process to enhance Low Probability of Intercept (LPI); and/or
- (e) Carry out packet forwarding (routing) in a way that balances aggregate network throughput against average end-to-end delay. (This results in real time traffic, e.g., voice, being sent with higher power, minimizing latency due to channel access delays at multiple hops, and bulk traffic being sent with lower power, minimizing network self-interference, maximizing spatial reuse of frequencies, and enhancing LPI/LPD).

(*See e.g., id.* at 2:12-38.)

16. The inventions of the ’720 patent also provide a way to underlay new services on then-existing bandwidth allocations with minimal or no interference to, and from, existing legacy users, by underlaying spectrum-efficient megabit rate networking onto bands allocated for other purposes, while providing up to 30 times greater throughput than then-current spectrum management systems. (*See id.* at 2:7-11.) For example, military networking could underlie any narrowband-channelized spectrum where individual channels have less than 100% duty cycle, such as in commercial cellular, without interfering with existing legacy users of these bands. At the same time, the flexible hardware and software made possible by the inventions of the ’720 patent will also operate in other frequencies without hardware modification when necessary, such as in overseas locations and in wartime. (*See id.* at 2:49-64.)

17. The inventions of the '720 patent address individual spectrum management devices and provide an integrated system concept for dynamic, adaptive, radio frequency spectrum assignment and use. The result is far greater spectrum efficiency, providing megabit/sec rate communications networks that can extend far beyond the capabilities of then-existing wireless networking systems and devices. (*See id.* at 1:66-2:7.)

18. Moreover, the design of the highly advanced networking communications architecture described and claimed by the '720 patent combines dynamic spectrum management techniques with matching adaptive networking and full exploitation of multiple transceivers per communications node. The inventions of the '720 patent thus provide increased flexibility and scalability, and may be easily adapted for use with other forward-looking wireless communications systems and technologies. (*See id.* at 2:39-48.)

19. The claims of the '720 patent do not merely recite the performance of some well-known business practice from the Pre-Internet world along with the requirement to perform it on the Internet. Instead, the claims of the '720 patent recite inventive concepts that are deeply rooted in engineering technology and overcome problems specifically arising out of how to design and develop tools, devices and applications that take advantage of the spectrum management policies proposed by the FCC Spectrum Management Policy Task Force. (*See id.* at 1:52-64.)

20. In addition, as set forth, the claims of the '720 patent recite inventive concepts that improve the functioning spectrum management in wireless local area networking systems. The inventive concepts recited by the claims of the '720 patent are not merely routine or conventional use of wireless networking technology. Instead, the patented inventions disclosed and claimed in the '720 patent provide a new and novel solution to specific problems related to

improving spectrum management in wireless networks in light of the rapidly increasing number and complexity of “next generation” (XG) radio frequency emitters in or around 2002. (*See id.* at 1:19-34.)

21. And finally, the patented inventions disclosed and claimed in the ’720 patent do not preempt all the ways of improving spectrum management in wireless networks, nor does the ’720 patent preempt any other well-known or prior art technology.

22. Accordingly, the claims in the ’720 patent recite a combination of elements sufficient to ensure that the claim in substance and in practice amounts to significantly more than a patent-ineligible abstract idea.

23. The Institute of Electrical and Electronics Engineers (IEEE) is the leading standards-development organization for the development of industrial standards (having developed over 900 active industry technical standards) in a broad range of disciplines, including electric power and energy, telecommunications, consumer electronics, biomedical technology and healthcare-information technology, information assurance, transportation, aerospace, and nanotechnology.

24. Today, IEEE is the world’s largest association of technical professionals with more than 420,000 members in over 160 countries around the world. Its objectives are the educational and technical advancement of electrical and electronic engineering, telecommunications, computer engineering, and allied disciplines.

25. The IEEE 802.11 standards, created by the IEEE, are a set of media access control (MAC) and physical layer (PHY) specifications for implementing wireless local area network (WLAN) computer communication in the 900 MHz and 2.4, 3.6, 5, and 60 GHz frequency bands.

26. The IEEE 802.11 standards are created and maintained by the IEEE LAN/MAN Standards Committee (IEEE 802). The base version of IEEE 802.11 was released in 1997 and has had subsequent amendments. The standard and amendments provide the basis for wireless network products using the Wi-Fi brand.

27. IEEE Std. 802.11-2016, commonly shortened to 802.11-2016, is a revision based on the IEEE 802.11-2012 wireless-networking standard, and further incorporates five amendments, including 802.11ac-2013 (commonly shortened to 802.11ac).

28. 802.11ac is an amendment to IEEE 802.11, published in December 2013, and builds on 802.11n. The goal of 802.11n was to improve network throughput over the two previous standards—802.11a and 802.11g—with a significant increase in the maximum net data rate from 54 Mbit/s to 600 Mbit/s (slightly higher gross bit rate, including, for example, error-correction codes, and slightly lower maximum throughput) with the use of four spatial streams at a channel width of 40 MHz.

29. Changes in 802.11ac compared to 802.11n include wider channels (80 or 160 MHz versus 40 MHz) in the 5 GHz band, more spatial streams (up to eight versus four), higher-order modulation (up to 256-QAM vs. 64-QAM), and the addition of Multi-user MIMO (MU-MIMO). While initial implementations supported 80 MHz channels, three spatial streams, and 256-QAM, in 80 MHz channels in the 5 GHz band, more recent devices support 160 MHz channels, four spatial streams, and MU-MIMO.

30. The 802.11ac standard has enabled increased efficiency, as evidenced by the fact that most high-end, Wi-Fi-enabled consumer electronics on the market are 802.11ac compliant. The majority of products adopting this technological advance are advertised as being compliant with the standard, and companies regularly list their product as compliant with this particular

standard on trade group web sites (such as the Wi-Fi Alliance website). DL MU-MIMO is one of the advanced features specified in 802.11ac standard.

31. Later 802.11 standards including the 802.11ax and 802.11be versions include further technological advances and specify DL MU-MIMO as a required feature.

Motorola's Accused Instrumentalities

32. Upon information and belief, Motorola has developed, tested, manufactured and used one or more 802.11 access points in the United States.

33. Upon information and belief, Motorola has developed, tested, manufactured and used 802.11ac compliant (including backwards compatible) access points including, but not limited to: Motorola B12, Motorola mb7220, mb7420, mb7621, mb8600, mb8611, mg7315, mg7540, mg7550, mg7700, mg8702, mg8725, mh7020, mh7021, mh7022, mh7023, mh7601, mh7603, ml2410, mr2600, mt7711, mt8733, Motorola Q11, Q14, Motorola R14, and Motorola SB3100, SB6121 Modems and/or Routers ("Accused Access Points").

34. Upon information and belief, one or more of the Accused Access Points support MU-MIMO.

35. Upon information and belief, one or more of the Accused Access Points support DL MU-MIMO.

36. Upon information and belief, one or more of the Accused Access Points support MU-MIMO beamforming.

37. Upon information and belief, one or more of the Accused Access Points support DL MU-MIMO beamforming.

38. Upon information and belief, one or more of the Accused Access Points support RTS and CTS.

39. Upon information and belief, one or more of the Accused Access Points support the RTS and CTS procedures set forth in 802.11ac (including 802.11-2016 or 802.11ac second wave).

40. Upon information and belief, one or more of the Accused Access Points support VHT transmit.

41. Upon information and belief, one or more of the Accused Access Points support the VHT transmit specification set forth in 802.11ac (including 802.11-2016 or 802.11ac second wave)

42. Upon information and belief, one or more of the Accused Access Points support the PHY transmit.

43. Upon information and belief, one or more of the Accused Access Points support the PHY transmit procedure set forth in 802.11ac (including 802.11-2016 or 802.11ac second wave).

44. Upon information and belief, one or more of the Accused Access Points support the beamforming and use of Beamforming Feedback matrices.

45. Upon information and belief, one or more of the Accused Access Points support the beamforming and use of Compressed Beamforming Feedback matrices.

46. Upon information and belief, one or more of the Accused Access Points support the VHT sounding protocol.

47. Upon information and belief, one or more of the Accused Access Points support the use of VHT Compressed Beamforming Report fields.

48. Upon information and belief, Motorola has developed, tested, manufactured and used one or more 802.11ac compliant stations in the United States.

49. Upon information and belief, Motorola has developed, tested, manufactured and used 802.11ac compliant (including backwards compatible) stations including, but not limited to: Motorola moto E7, moto E7 plus, edge+, edge 5G UW, moto g 5G, moto g 5G 2023, moto g PLAY, moto g power 5G, moto g pure, moto g stylus, moto g stylus 5G, razr, razr+, razr 2023, Edge 30, Edge 40 and ThinkPhone Smartphones, along with associated hardware and/or software, and related 802.11ac-compliant services (“Motorola Accused Stations”).

50. Collectively, the Motorola Accused Access Points and Motorola Accused Stations along with related hardware, software and services are referred to as the “Accused Instrumentalities.”

COUNT I – INFRINGEMENT OF U.S. PATENT NO. RE47,720

51. The allegations set forth in the foregoing paragraphs 1 through 50 are incorporated into this First Claim for Relief.

52. On November 5, 2019, the ’720 patent was duly and legally reissued by the United States Patent and Trademark Office under the title “Spectrum-Adaptive Networking.”

53. USTA is the assignee and owner of the right, title and interest in and to the ’720 patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

54. The inventions claimed in the ’720 patent relate to technologies for radio frequency spectrum management in a wireless local area network system. Such technologies are a required part of the very-high throughput (“VHT”) beamforming protocols of the 802.11ac standard, subsequently incorporated into 802.11-2016. Accordingly, devices supporting the 802.11ac standard necessarily meet the claim limitations of the ’720 patent.

55. Upon information and belief, Defendant has and continues to directly infringe one or more claims of the ’720 patent by selling, offering to sell, making, using, and/or providing and

causing to be used 802.11ac-compliant products, including backwards compatible devices compliant with 802.11ax or later versions of the 802.11 standard (the “Accused Instrumentalities”), including but not limited to Motorola B12, Motorola mb7220, mb7420, mb7621, mb8600, mb8611, mg7315, mg7540, mg7550, mg7700, mg8702, mg8725, mh7020, mh7021, mh7022, mh7023, mh7601, mh7603, ml2410, mr2600, mt7711, mt8733, Motorola Q11, Q14, Motorola R14, and Motorola SB3100, SB6121 Modems and/or Routers.

56. Additionally, Defendant makes or sell at least the following products that qualify as Accused Instrumentalities: 802.11ac-compliant stations (including backwards compatible stations) made, used, offered for sale, sold and/or imported by Motorola, including, but not limited to: Motorola moto E7, moto E7 plus, edge+, edge 5G UW, moto g 5G, moto g 5G 2023, moto g PLAY, moto g power 5G, moto g pure, moto g stylus, moto g stylus 5G, razr, razr+, razr 2023, Edge 30, Edge 40 and ThinkPhone Smartphones, along with associated hardware and/or software, and related 802.11ac-compliant services.

57. As another example, Motorola sells compatible Wi-Fi modules for the Accused Instrumentalities via its Parts Lookup website (<https://support.Motorola.com/us/en/parts-lookup>). Upon information and belief, Motorola tests the Wi-Fi capabilities of the Accused Instrumentalities and performs the claimed methods to ensure computability and functionality.

58. The Accused Instrumentalities include any and all products that Defendant has or continues to make, use, sell, import and/or provide and cause to be used that incorporate the wideband channel access features of the 802.11ac standard, whether certified for 802.11ac or other versions of the 802.11 standard, including via backwards compatibility with 802.11ac.

59. Upon information and belief, the Accused Instrumentalities perform a method for managing interference in a radio communications network, comprising the steps of: (1) receiving

at a first node in the radio communications network an instruction transmitted from a second node in the radio communications network to avoid using a plurality of frequencies to transmit to the second node; (2) filtering a transmission signal to remove power from the transmission signal at each frequency in the plurality of frequencies to be avoided; transmitting the filtered transmission signal to the second node; (3) separately from the receipt of the instruction, receiving a particular signal at the first node that is transmitted from the second node; (4) generating a feedback based on a received power and one or more frequencies via which the particular signal is received; compressing the feedback; (5) transmitting the compressed feedback from the first node to the second node, for use by the second node in determining a transmit power with which the second node transmits to the first node via at least one antenna of a plurality of antennas, while simultaneously transmitting to one or more other nodes; (6) wherein the filtered transmission signal is transmitted to the second node using an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol; (7) wherein an update of the compressed feedback is repeatedly generated, compressed, and transmitted at time periods of less than one second; and (8) so that the transmit power is repeatedly updated based thereupon at time periods of less than one second.

60. Exemplary infringement analysis showing infringement of claims 53 and 95 of the '720 patent is set forth in Exhibit 2. This infringement analysis is necessarily preliminary, as it is provided in advance of any discovery provided by the Defendant with respect to the '720 patent. USTA reserves all rights to amend, supplement and modify this preliminary infringement analysis. Nothing in the attached chart should be construed as any express or implied contention or admission regarding the construction of any term or phrase of the claims of the '720 patent.

61. The Accused Instrumentalities and their use infringed and continue to infringe at least claim 53 and claim 95 of the '720 patent during the pendency of the '720 patent.

62. On information and belief, the Accused Instrumentalities are used, marketed, provided to, and/or used by Defendant and for each of Defendant's partners, clients, agents, customers, and end users across the country and in this District.

63. USTA has been harmed by Defendant's infringing activities.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, USTA demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff USTA demands judgment for itself and against the Defendant as follows:

- A. An adjudication that Defendant has infringed the '720 patent;
- B. An award of damages to be paid by Motorola adequate to compensate USTA for Defendant's past infringement of the '720 patent, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;
- C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of USTA's reasonable attorneys' fees; and
- D. An award to USTA of such further relief at law or in equity as the Court deems just and proper.

Dated: October 23, 2024

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/s/ Chad Henson

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