UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

MOBILE TELECOMMUNICATIONS TECHNOLOGIES, LLC, Plaintiff, v. ARUBA NETWORKS, INC.; HEWLETT PACKARD ENTERPRISE COMPANY; and HP INC. Defendants.	§ § § § § § § § § §	C.A. No. 2:16-cv-0012 JURY TRIAL REQUESTED

PLAINTIFF'S COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Mobile Telecommunications Technologies, LLC ("MTel"), by and through its undersigned counsel, files this complaint against Defendants Aruba Networks, Inc. Hewlett-Packard Enterprise Company, and HP Inc. (collectively, "Aruba," "HP" or "Defendants") for infringement of U.S. Patent Nos. 5,590,403 (the "'403 Patent"), 5,659,891 (the "'891 Patent"), and 5,915,210 (the "'210 Patent"), (collectively, the "Asserted Patents" or the "Patents-in-Suit") in accordance with 35 U.S.C. § 271 and alleges as follows:

PARTIES

1. Plaintiff MTel is a Delaware limited liability company having a principal place of business at 1720 Lakepointe Drive, Suite 100, Lewisville, Texas 75057.

2. MTel is a wholly owned subsidiary of United Wireless Holdings Inc. ("United Wireless"). In 2008, United Wireless, through another of its wholly owned subsidiaries, Velocita Wireless LLC, purchased the SkyTel wireless network, including assets related to SkyTel's more than twenty-year history as a wireless data company. Velocita Wireless LLC, continued to operate the SkyTel wireless data network after the acquisition. As a result of that

transaction, United Wireless gained ownership and control over the intellectual property portfolio, including patents, that several SkyTel-related entities, including Mobile Telecommunication Technologies Corp. ("MTel Corp."), Destineer Corp., and SkyTel Communications, developed over the years. United Wireless subsequently assigned certain patent assets, including the Patents-in-Suit, together with all rights of recovery related to those patent assets, to its wholly owned subsidiary, MTel, which is the plaintiff here.

3. In a widely publicized November, 2014 jury trial in this District, MTel was awarded favorable infringement and validity verdicts against Apple, Inc. on the '403, '210, and '891 Patents.

4. MTel alleges, upon information and belief, that HP, Inc. is a corporation organized under the laws of Delaware, with a place of business in Texas at 5400 Legacy Drive, Plano, Texas 75024. HP, Inc. may be served with process through its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

5. MTel alleges, upon information and belief, that Hewlett Packard Enterprise Company is a corporation organized under the laws of Delaware, with a place of business in Texas at 5400 Legacy Drive, Plano, Texas 75024. Hewlett Packard Enterprise Company may be served with process through its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

6. MTel alleges, upon information and belief, that Aruba Networks, Inc. is a corporation organized under the laws of Delaware. Aruba was acquired by HP in 2015, in a transaction completed on May 19, 2015. Aruba is now a wholly-owned subsidiary of HP, but remains separately incorporated. Aruba may be served with process through its registered agent, CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

7. Upon information and belief, MTel alleges that Defendants made, used, sold, and offered to sell, infringing wireless equipment and services, during the terms of the ’403 Patent, the ’210 Patent, and the ’891 Patent (the “Relevant Period,”) within the United States, including within this District.

8. Aruba is a leader in high-performance networking technology, including wireless local networks (LANs).

9. MTel alleges that Aruba used wireless access points, WLAN controllers, gateways, and associated software that supports IEEE 802.11 a, g, n or ac standards (“Wi-Fi Equipment”) to deploy and manage enterprise and service provider Wi-Fi networks during the Relevant Period.

10. Aruba’s Wi-Fi Equipment includes Access Points, such as the Aruba 220 Series and Instant Access RAP-100 Series, Wireless Mesh Routers, Mobility Controllers, such as the Aruba 7200 Series Mobility Controllers, and associated software, such as ArubaOS and modules, including Aruba’s Policy Enforcement Firewall, RFProtect, Aruba Adaptive Radio Management, and ClientMatch.

11. MTel alleges that, in addition to its Aruba line of products and service, HP made, used, sold, and offered to sell, wireless access points, WLAN controllers, gateways, and associated software that supports IEEE 802.11 g, n or ac standards (“Wi-Fi Equipment”) to deploy and manage Wi-Fi networks during the Relevant Period.

12. HP’s Wi-Fi Equipment includes its HP Jetdirect 2700w Wireless Print Server with HP Color LaserJet Enterprise M885 and its HP E-MSM460 Dual Radio 802.11n Access Point.

13. Defendants' Wi-Fi Equipment supported Space Time Blocking Coding (STBC). See Exhibit E for a list of Defendants' Wi-Fi Equipment that supports STBC. This list is non-limiting and will be supplemented after appropriate discovery.

Aruba 130 Series Access Points

WIRELESS RADIO SPECIFICATIONS

- AP type: Dual-radio, dual-band 802.11n indoor
- Software-configurable dual radio supports 2.4 GHz and 5 GHz
- 3x3 MIMO 802.11n with three spatial streams and up to 450 Mbps per radio
- Supported frequency bands (country-specific restrictions apply):
  - 2.400 to 2.4835 GHz
  - 5.150 to 5.250 GHz
  - 5.250 to 5.350 GHz
  - 5.470 to 5.725 GHz
  - 5.725 to 5.850 GHz
- Available channels: Dependent upon configured regulatory domain
- Dynamic frequency selection (DFS) optimizes the use of available RF spectrum
- Supported radio technologies:
  - 802.11b: Direct-sequence spread-spectrum (DSSS)
  - 802.11a/g/n: Orthogonal frequency division multiplexing (OFDM)
  - 802.11n: 3x3 MIMO with three spatial streams
- Supported modulation types:
  - 802.11b: BPSK, QPSK, CCK
  - 802.11a/g/n: BPSK, QPSK, 16-QAM, 64-QAM
- Transmit power: Configurable in increments of 0.5 dBm
- Maximum transmit power (aggregated for three active transmit chains):
  - 2.4 GHz: 23 dBm (limited by local regulatory requirements)
  - 5 GHz: 23 dBm (limited by local regulatory requirements)
- Maximum ratio combining (MRC) for improved receiver performance
- Cyclic delay diversity for improved downlink RF performance
- Short guard interval for 20-MHz and 40-MHz channels
- Space-Time Block Coding (STBC) for increased range and improved reception
- Low-density parity check (LDPC) for high-efficiency error correction and increased throughput
- Transmit beam-forming (TxBF) for increased reliability in signal delivery (Supported in hardware; currently not enabled in software)
- Association rates (Mbps):
  - 802.11b: 1, 2, 5.5, 11
  - 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n: MCS0 to MCS23 (6.5 Mbps to 450 Mbps)
- 802.11n high-throughput (HT) support: HT 20/40
- 802.11n packet aggregation: A-MPDU, A-MSDU

http://community.arubanetworks.com/aruba/attachments/aruba/unified-wired-wireless-access/19417/1/DS_AP130Series.pdf

14. During the Relevant Period, Defendants' professional services teams designed, engineered, deployed, supported, and operated Wi-Fi networks in apartment buildings, hotels, sports venues, and public areas.

15. Defendants' deployment services teams, including Aruba's service delivery engineers, installed, configured, tested, or commissioned deployments that include Wi-Fi Equipment.

16. Defendants' engineers developed and executed test cases to thoroughly validate Wi-Fi Equipment.

17. Defendants controlled the features and functionality of Wi-Fi Equipment by, for instance, causing software (*e.g.* updates or firmware) to be downloaded to such equipment and otherwise making configuration changes thereto.

18. MTel alleges that, during the Relevant Period, Defendants made, used, sold, and offered to sell, wireless equipment and services, including Wi-Fi Equipment, which directly infringed the claims of the '403 Patent, the '210 Patent, and the '891 Patent, within the United States, including within this District.

19. MTel alleges that Defendants made, used, sold, and offered to sell, systems and products that embodied the claimed methods of the Patents-in-Suit because, for instance, such systems and products employed certain subcarrier frequency structures in the IEEE 802.11 orthogonal frequency-division multiplexing ("OFDM") scheme or techniques consistent with the MIMO aspects of IEEE 802.11 n or ac standards (*e.g.*, as described in "Wi-Fi CERTIFIED n: Longer-Range, Faster-Throughput, Multimedia-Grade Wi-Fi Networks" at 5-6, available at http://www.wi-fi.org/file/wi-fi-certified-n-longer-range-faster-throughput-multimedia-grade-wi-fi-networks-2009):

> A MIMO system has some number of transmitters (N) and receivers (M) ... Signals from each of the N transmitters can reach each of the M receivers via a different path in the channel. A MIMO device with multiple antennas is capable of sending multiple spatial streams – spatially distinct data streams within the same channel. A MIMO device with multiple antennas is capable of receiving multiple spatial streams. Multipath helps decorrelate the received signals enabling transmission of multiple data streams through the same MIMO channel – a technique called spatial multiplexing. MIMO can multiply data rate through a technique called spatial multiplexing - dividing a data stream into several branches and sending it as multiple parallel data streams simultaneously in the same channel.

A copy of this document is attached as Exhibit D.

20. MIMO can also be used to improve the robustness and range of 802.11n communications through a technique called spatial diversity. When the same data stream is transmitted across multiple spatial streams error rate can be reduced. An additional technique improving range and reliability called Space Time Block Coding (STBC) is also incorporated into Wi-Fi CERTIFIED n.

21. On information and belief, Defendants have voluntarily and purposely placed these and other products and services into the stream of commerce with the expectation that they would be offered for sale and sold in Texas and in this judicial district.

JURISDICTION AND VENUE

22. This is an action for patent infringement under the patent laws of the United States of America, 35 U.S.C. § 1 et seq. This Court has subject matter jurisdiction over the

matters pleaded in this complaint under 28 U.S.C. §§ 1331 and 1338(a). Venue is proper under 28 U.S.C. §§ 1391 and 1400(b).

23. This Court has personal jurisdiction over the Defendants under the law of the State of Texas, including the Texas long-arm statute, Tex. Civ. Prac. & Rem. Code § 17.042, due at least to its substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; (ii) conducting business within this District at its office in Plano, Texas; and (iii) 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 Texas and in this judicial district.

FIRST CLAIM FOR RELIEF

(Infringement of Claims 1, 10, 11 of United States Patent No. 5,590,403)

24. MTel incorporates by reference the preceding paragraphs of this Complaint as if set forth here in full.

25. The United States Patent and Trademark Office ("USPTO") duly and lawfully issued the '403 Patent, entitled "Method and System for Efficiently Providing Two Way Communication between a Central Network and Mobile Unit," on December 31, 1996. MTel is the assignee of all right, title, and interest in and to the '403 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past infringement. Each and every claim of the '403 Patent is valid and enforceable and each enjoys a statutory presumption of validity separate, apart, and in addition to the statutory presumption of validity enjoyed by every other of its claims. 35 U.S.C. § 282. A true and correct copy of the '403 Patent is attached as Exhibit A.

26. MTel alleges that, during the Relevant Period, Defendants directly infringed one or more claims of the ’403 Patent by making, using, selling, and offering to sell Wi-Fi Equipment and associated services.

27. MTel alleges that Defendants’ use of Wi-Fi Equipment infringed one or more claims of the ’403 Patent literally and/or under the doctrine of equivalents, by, among other things, using MIMO functionality and dynamically reassigning transmitters due to changing conditions within the network.

28. Defendants implemented through their Wi-Fi networks, services, and equipment the IEEE 802.11 standard versions n and ac, which employed MIMO technology in several variations to significantly increase data rates and coverage relative to the previous versions of the standard. The different MIMO configurations implemented by Defendants provide facilities to dynamically optimize system transmission for a desired level of robustness and diversity or capacity gain, depending on signal-to-noise ratio (SNR) and channel conditions.

29. The main relevant MIMO techniques that Defendants used include (i) Spatial Multiplexing (SM); (ii) Space Time Block Coding (STBC); (iii) Spatial Expansion (SE); (iv) Beam Forming (BF); and (v) HT Duplicate mode (MCS 32).

30. MTel alleges that Defendants’ use, operation, and maintenance of Wi-Fi Equipment directly infringed the ’403 Patent, at least because such equipment employed MIMO techniques described above.

31. MTel alleges that Defendants’ use and sale of Wi-Fi Equipment, such as the Aruba 220 Series and Instant Access RAP-100 Series access points, directly infringed the ’403 Patent at least because such equipment embodies the asserted method claims of the ’403 Patent.

32. MTel alleges that Defendants directly infringed the ’403 Patent when their service professionals used, installed, tested, deployed, or validated Wi-Fi Equipment.

33. MTel alleges that Defendants directly infringed the ’403 Patent when, for example, their technicians tested the throughput that such Wi-Fi Equipment achieved during testing in various wireless channel conditions that triggered adaptations in transmission modes.

34. MTel alleges that Defendants directly infringed the ’403 Patent when they used Wi-Fi Equipment, including the Instant Access Series, Aruba 7200 Series Mobility Controllers, Aruba Adaptive Radio Management, and ClientMatch, to dynamically reassign transmitters due to changing conditions within the wireless network to enable a Wi-Fi connected device to seamlessly roam between zones of the Wi-Fi network.

35. As a result of Defendants’ unlawful infringement of the ’403 Patent, MTel has suffered damage. MTel is entitled to recover from Defendants damages adequate to compensate for such infringement.

SECOND CLAIM FOR RELIEF

(Infringement of Claims 1, 2, 3, 4 and 5 of United States Patent No. 5,659,891)

36. MTel incorporates by reference the preceding paragraphs of this Complaint as if set forth here in full.

37. The USPTO duly and lawfully issued the ’891 Patent, entitled “Multicarrier Techniques in Bandlimited Channels,” on August 19, 1997. MTel is the assignee of all right, title, and interest in and to the ’891 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past, present, and future infringement. Each and every claim of the ’891 Patent is valid and enforceable and each enjoys a statutory presumption of validity separate, apart, and in addition to the statutory presumption of validity enjoyed by

every other of its claims. 35 U.S.C. § 282. A true and correct copy of the '891 Patent is attached as Exhibit B.

38. MTel alleges that, during the Relevant Period, Defendants directly infringed one or more claims of the '891 Patent by making, using, selling, and offering to sell Wi-Fi Equipment, and associated services.

39. MTel alleges, upon information and belief, that Defendants' Wi-Fi networks and equipment directly infringed one or more claims of the '891 Patent literally and/or under the doctrine of equivalents, by among other things, using certain subcarrier frequency structures of the IEEE 802.11 orthogonal frequency-division multiplexing ("OFDM") scheme.

40. OFDM systems contain individual subcarriers that are orthogonally spaced apart in the frequency domain such that they do not interfere with each other as shown in the figure below. To illustrate this concept, the power spectrum for four modulated subcarriers is shown in the below figure, with solid, dotted, dash-dotted, and dashed lines, respectively. It can be seen that, at the center frequency of each subcarrier, the power spectra of the other subcarriers have nulls in the spectrum and thus do not produce interference.

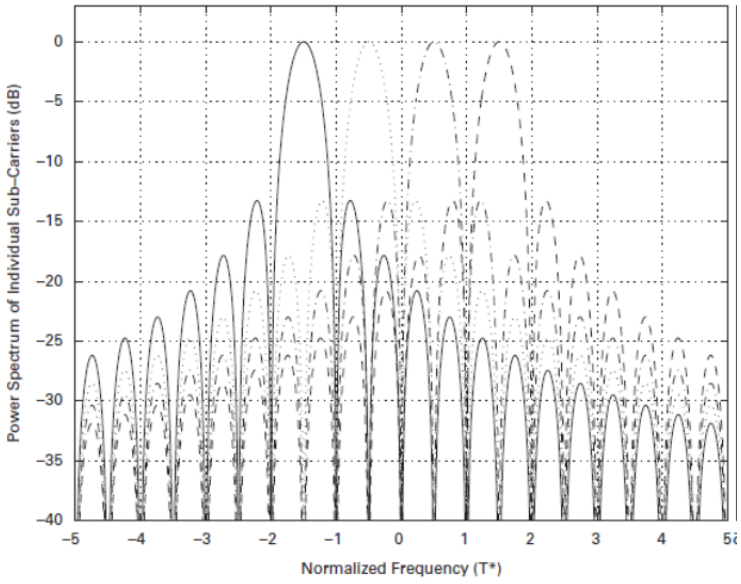

Figure 2.2 Power spectrum of the individual subcarriers of the OFDM waveform.

41. MTel alleges, for example, that Defendants directly infringed claims of the '891 Patent in regards to the 802.11 systems that its Wi-Fi Equipment implemented. For instance, when such equipment was using the 20 MHz channel bandwidth option, 64 subcarriers could fit into the available bandwidth of 20 MHz because 20 MHz = 64 x 312.5 kHz. In the 802.11 systems of interest, the orthogonal subcarrier spacing (ΔF) is 312.5 kHz. However, because of spectral band limitations, several subcarriers on each side of the band are not employed to minimize interference to adjacent channels and meet the transmit spectrum mask imposed by regulatory requirements. Since in the 20 MHz channel there are 10 MHz on both sides of the center frequency, the frequency separation from the outermost used subcarrier to the band edge is 1,250 kHz which corresponds to 4x ΔF, i.e. four times the inter-subcarrier frequency separation. Thus, by avoiding transmission on the outermost subcarriers, a guard-band is created that allows meeting the frequency mask restriction and enables the power spectral density to drop from 0 dBr at 9 MHz from the center frequency to -20 dBr at 11 MHz from the center frequency. Beyond 11 MHz, we have active subcarriers on the adjacent 20 MHz channel and this guard band arrangement provides reduced levels into adjacent channels. When operating using a 20 MHz channel for example, each subcarrier is spaced 0.3125 MHz apart. Using 52 subcarriers at a frequency spacing of 0.3125 MHz occupies 16.25 MHz for data transmission. The remaining 3.75 MHz of the 20 MHz channel is used as a guard on the upper and lower edge of the band—1.875 MHz at each edge. Therefore, the claimed frequency difference between the center frequency of the outer most subcarrier and the band edge (here, 1.875 MHz) is more than half the frequency difference between the center frequencies of each adjacent subcarrier (here, 0.3125 MHz / 2 or 0.15625 MHz).

42. MTel alleges that Defendants' use, operation, and maintenance of Wi-Fi Equipment, such as their access points, including the Aruba 220 Series and Instant Access RAP-100 Series, directly infringed the '891 Patent, at least because such equipment operated according to the IEEE 802.11 OFDM scheme of channelization structure.

43. MTel alleges that Defendants directly infringed the '891 Patent when their service professionals installed, tested, or validated Wi-Fi Equipment or conducted studies of the physical and spectral dynamics leading up to a wireless network deployment.

44. MTel alleges that Defendants directly infringed the '891 Patent when, for example, their professionals tested the maximum throughput that such Wi-Fi Equipment achieved.

45. As a result of Defendants' unlawful infringement of the '891 Patent, MTel has suffered damage. MTel is entitled to recover damages from Defendants adequate to compensate for such infringement.

THIRD CLAIM FOR RELIEF

(Infringement of Claims 1, 7, 8, 10, 15, 16, 17, and 19 of United States Patent No. 5,915,210)

46. MTel incorporates by reference the preceding paragraphs of this Complaint as if set forth here in full.

47. The USPTO duly and lawfully issued the '210 Patent entitled, "Method and System for Providing Multicarrier Simulcast Transmission," on June 22, 1999. MTel is the assignee of all right, title, and interest in and to the '210 Patent and possesses the exclusive right of recovery, including the exclusive right to recover for past, present, and future infringement. Each and every claim of the '210 Patent is valid and enforceable and each enjoys a statutory presumption of validity separate, apart, and in addition to the statutory presumption of validity

enjoyed by every other of its claims. 35 U.S.C. § 282. A true and correct copy of the ’210 Patent is attached as Exhibit C.

48. MTel alleges that, during the Relevant Period, Defendants directly infringed one or more claims of the ’210 Patent by making, using, selling, and offering to sell Wi-Fi Equipment and associated services.

49. MTel alleges that Defendants’ use and operation of Wi-Fi Equipment infringed one or more claims of the ’210 Patent literally and/or under the doctrine of equivalents by, among other things, employing MIMO functionality and certain multi-carrier frequency structures, such as OFDM, as described above.

50. MTel alleges that Defendants’ use and sale of Wi-Fi Equipment, such as their access points, including the Aruba 220 Series and Instant Access RAP-100 Series, directly infringed the ’210 Patent at least because such equipment embodies the asserted method claims of the ’210 Patent.

51. MTel alleges that Defendants directly infringed the ’210 Patent at least because Defendants made, sold, and offered to sell Wi-Fi Equipment, which implemented the claimed system of the ’210 Patent.

52. MTel alleges that Defendants directly infringed the ’210 Patent when their service professionals used, installed, tested, deployed, validated, and maintained Wi-Fi Equipment.

53. MTel alleges that Defendants directly infringed the ’210 Patent when, for example, their technicians tested the throughput that such Wi-Fi Equipment achieved during testing in various wireless channel conditions that triggered adaptations in transmission modes.

54. As a result of Defendants' unlawful infringement of the '210 Patent, MTel has suffered damage. MTel is entitled to recover damages from Defendants adequate to compensate for such infringement.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff MTel prays for entry of judgment against Defendants as follows:

A. That Defendants directly infringed each of the Asserted Patents under 35 U.S.C. § 271(a);

B. That Defendants provide to MTel an accounting of all gains, profits, savings, and advantages derived by Defendants's direct infringement of the Asserted Patents, and that MTel be awarded damages adequate to compensate for the wrongful infringement by Defendants, in accordance with 35 U.S.C. § 284;

C. That this case be declared an exceptional one in favor of MTel under 35 U.S.C. § 285, and that MTel be awarded its reasonable attorneys' fees and all other costs and expenses incurred in connection with this civil action in accordance with 35 U.S.C. § 285 and Rule 54(d) of the Federal Rules of Civil Procedure;

D. That MTel receive all other or further relief as this Court may deem just or proper.

DEMAND FOR JURY TRIAL

In accordance with Federal Rule of Civil Procedure 38(b), MTel hereby demands a trial by jury on all issues triable to a jury.

Dated: January 4, 2016

Respectfully Submitted,

/s/ Daniel Scardino
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