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

MOBILE TELECOMMUNICATIONS TECHNOLOGIES, LLC,	§	
Plaintiff,	§	C.A. No. 2:16-cv-00082:
v.	§	JURY TRIAL REQUESTED
CHARTER COMMUNICATIONS, INC,	§	
Defendant.	§	

PLAINTIFF'S COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Mobile Telecommunications Technologies, LLC ("MTel"), by and through its undersigned counsel, files this complaint against Charter Communications, Inc. ("Charter" or "Defendant") 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, TX 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 Defendant Charter is a Delaware corporation with its principal place of business at 12405 Powerscourt Drive, St. Louis, Missouri.

5. On information and belief, Charter may be served with process through its registered agent Corporation Service Company d/b/a CSC-Lawyers Incorporating Service Company, 211 E. 7th Street, Suite 620, Austin, TX 78701.

6. MTel alleges that Charter 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.

7. On May 26, 2015 Charter Communications, Inc. and Time Warner Cable Inc. announced that they entered into a definitive agreement for Charter to merge with Time Warner Cable. On information and belief, the merger is scheduled to be complete by the first half of 2016.

8. Charter is a leading communications company that provides broadband Internet, video, voice, and business services. Charter now serves over 5.8 million residential customers and 386,000 commercial relationships. Charter operates in 28 states.

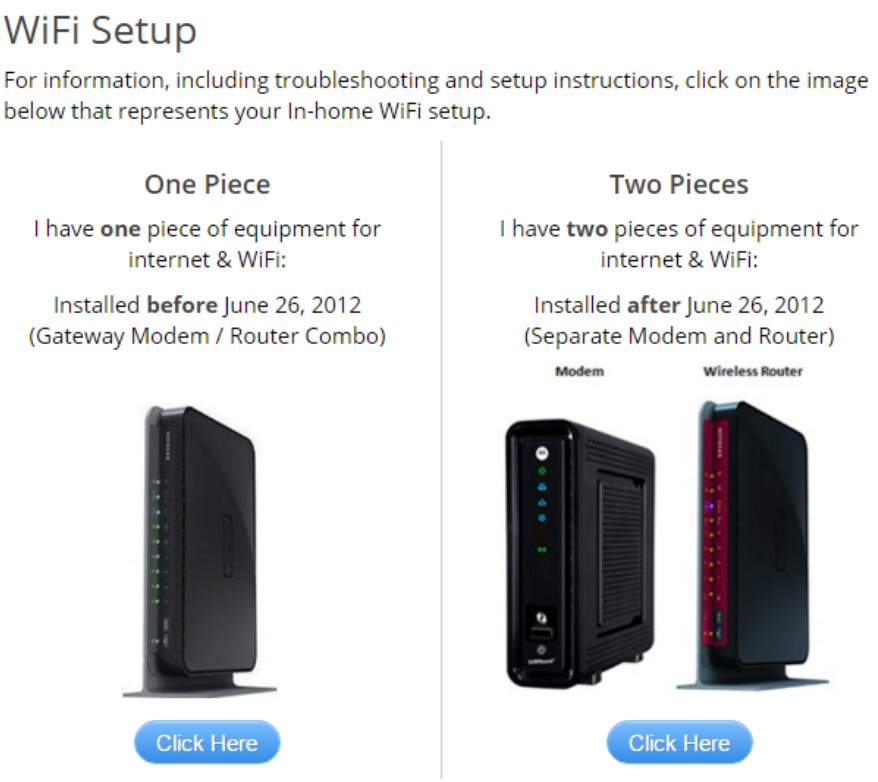
9. Charter conducts business in Texas, and within Collin and Denton counties of this judicial district, the Eastern District of Texas ("this District").

10. On information and belief, Charter maintains an office at 2430 S I35E #180, Denton, TX 76205.

11. During the Relevant Period, Charter operated in-home WiFi, also known as Charter WiFi, which is a residential service that provided customers a superior WiFi experience and allows the customers to connect all their wireless devices.

https://www.charter.com/browse/content/internet

12. During the Relevant Period, Charter provided its customers with customer-premises equipment, such as cable modems, wireless routers, and modem/wireless router gateways, which support IEEE 802.11 a, g, n or ac standards ("Wi-Fi Enabled CPE.")



http://www.charter.net/support/internet/home-wifi/

13. During the Relevant Period, Charter also provided Wi-Fi Enabled CPE to its Spectrum Business customers as a part of its WiFi Solutions offering.

14. MTel alleges that examples of Wi-Fi Enabled CPE which Charter provided to its customers included models made by ARRIS, Motorola, Ubee, Netgear, Cisco, and SMC Networks.

15. During the Relevant Period, Charter leased for a monthly fee (or bundled into its monthly charge for Internet service) Wi-Fi Enabled CPE to its customers, including customers within this District.

16. Charter's specially trained technicians set up Wi-Fi Enabled CPE, created the network, and enabled the best settings for Wi-Fi Enabled CPE leased (or bundled into the

monthly charge for Internet service) by customers. Charter also provided full support for Wi-Fi Enabled CPE leased by customers 24 hours a day, 7 days a week.

17. MTel alleges that Charter directed its customers who wished to purchase Wi-Fi Enabled CPE to a list of Wi-Fi Enabled CPE that it authorized for use on its systems.

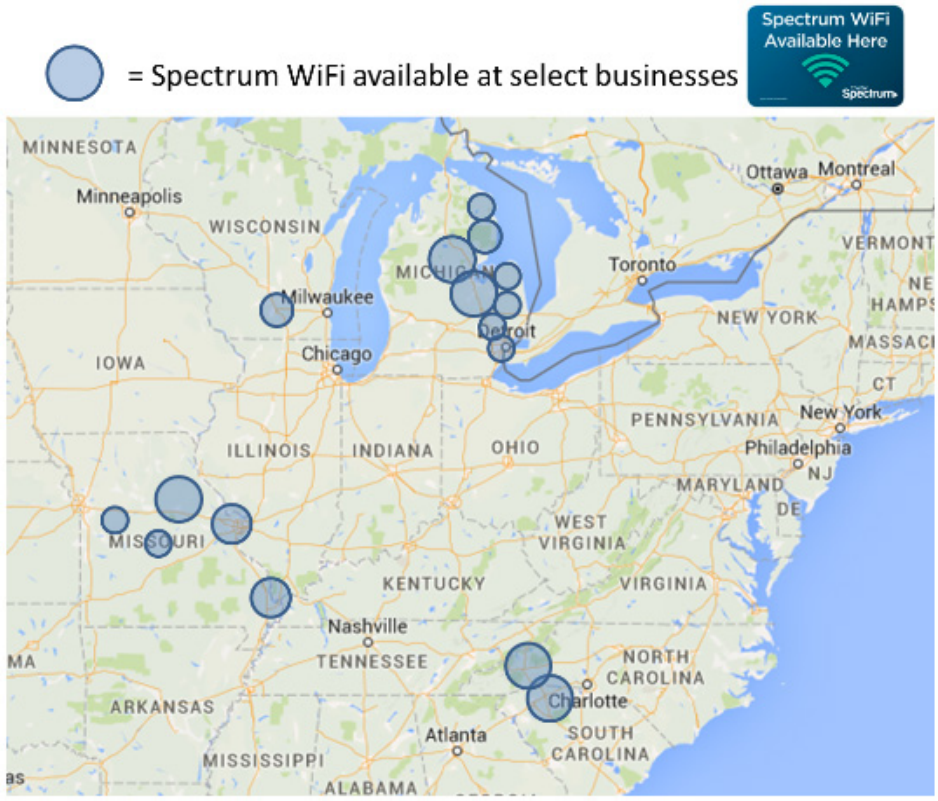
18. Charter controlled the features and functionality of Wi-Fi Enabled CPE used in the delivery of its high speed data service, regardless as to whether such Wi-Fi Enabled CPE was purchased or leased by the customer.

19. Charter controlled the features and functionality of Wi-Fi Enabled CPE used in the delivery of its high speed data service by, for instance, causing software (*e.g.* firmware or updates) to be downloaded to Wi-Fi Enabled CPE and otherwise making configuration changes to Wi-Fi Enabled CPE.

20. Charter provisioned and used Wi-Fi Enabled CPE in order to distribute to its customers its high speed data service, which it sold to its customers.

21. MTel alleges that Charter operated a public Wi-Fi service (*e.g.* Spectrum WiFi) that allowed its customers access to its high-speed WiFi Internet network even when they were away from home.

Spectrum WiFi can be found in the following areas:



http://www.charter.net/support/internet/spectrum-wifi/

22. Charter used Wi-Fi Enabled CPE in order to provide its streaming TV service, known as Spectrum TV, to customers' wireless devices, such as smartphones and streaming devices, on which Charter's applications ran.

23. Charter designed, delivered, tested, and installed both in its facilities and on its customers' networks, applications, such as Spectrum TV App, designed for Wi-Fi access networks and Wi-Fi Enabled CPE.

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

25. MTel alleges that Charter 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.
>
> 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.

A copy of the webpage is attached as Exhibit D.

26. In addition to its allegations concerning Wi-Fi networks, MTel alleges, on information and belief, that Charter, in order to provide wireless backhaul services, operated microwave networks, which infringed the '403, '210, and '891 Patents because, for instance, such networks employed certain subcarrier frequency structures and MIMO techniques ("MIMO Microwave Equipment.")

27. Charter 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 District.

JURISDICTION AND VENUE

28. 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).

29. 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.

30. As detailed above, Charter regularly and deliberately engaged in activities that resulted in the making, using, selling, offering for sale, or importing of infringing products or processes in the State of Texas and in this District. These activities violate the United States patent rights MTel has under the Asserted Patents. In addition, this Court also has personal jurisdiction over Charter because Charter conducts business in Texas and in this District.

FIRST CLAIM FOR RELIEF

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

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

32. 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.

33. MTel alleges that, during the Relevant Period, Charter directly infringed one or more claims of the ’403 Patent by making, using, selling, and offering to sell Wi-Fi Enabled CPE and associated services (*e.g.* Spectrum WiFi, Charter WiFi, and in-home WiFi) and applications relying on Wi-Fi networks (*e.g.* Spectrum TV App).

34. MTel alleges that Charter’s use of Wi-Fi Enabled CPE infringed one or more claims of the ’403 Patent literally and/or under the doctrine of equivalents, by, among other things, having used MIMO functionality and dynamically reassigning transmitters due to changing conditions within the network in order to allow roaming between wireless access points.

35. Charter implemented through its 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 Charter provided 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.

36. The main relevant MIMO techniques that Charter used to infringe the asserted claims included (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).

37. MTel alleges that Charter used and operation of Wi-Fi Enabled CPE, through which Charter distributed its high speed data service to customers, directly infringed the ’403 Patent, at least because such equipment employed MIMO techniques described above.

38. MTel alleges that Wi-Fi Enabled CPE listed in attached Exhibit E, and Charter’s use thereof, directly infringed the ’403 Patent at least because such equipment embodied the asserted claims of the ’403 Patent. This list is non-limiting and will be supplemented after appropriate discovery.

39. MTel alleges that Charter infringed the ’403 Patent each time it leased for a monthly fee leased (or bundled into the monthly charge for Internet service) Wi-Fi Enabled CPE to its high speed data service customers in order to wirelessly distribute the service throughout their homes or businesses.

40. MTel alleges that Charter directly infringed the ’403 Patent when its field service technicians installed and tested Wi-Fi Enabled CPE.

41. MTel alleges that Charter directly infringed the ’403 Patent when, for example, its technicians tested the maximum throughput that such Wi-Fi Enabled CPE achieved through, for example, causing a speed test to occur over a wireless data connection extending from an IEEE 802.11 n or ac device (*e.g.* a computer, tablet, television, media streaming device, or smartphone) through Wi-Fi Enabled CPE to Charter’s speed test server.

42. MTel alleges that Charter directly infringed the ’403 Patent by Charter’s use and operation of Spectrum WiFi, through which Charter distributed high speed data service to customers in locations, such as parks and shopping centers, at least because Wi-Fi access points used employed MIMO techniques described above.

43. MTel alleges that Charter directly infringed the ’403 Patent when its field service technicians installed and tested transmissions at locations offering Spectrum WiFi.

44. On information and belief, MTel alleges that Charter’s use of microwave networks during the Relevant Period directly infringed the ’403 Patent at least because such microwave networks employed MIMO techniques that are consistent with the MIMO techniques described above.

45. As a result of Charter’s unlawful infringement of the ’403 Patent, MTel has suffered damage. MTel is entitled to recover from Charter 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)

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 ’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.

48. MTel alleges that, during the Relevant Period, Charter directly infringed one or more claims of the ’891 Patent by making, using, selling, and offering to sell Wi-Fi Enabled CPE

and associated services (*e.g.* Spectrum WiFi, Charter WiFi, and in-home WiFi) and applications relying on Wi-Fi networks (*e.g.* Spectrum TV App).

49. MTel alleges, upon information and belief, that Charter's Wi-Fi networks and equipment directly infringe 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.

50. 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.

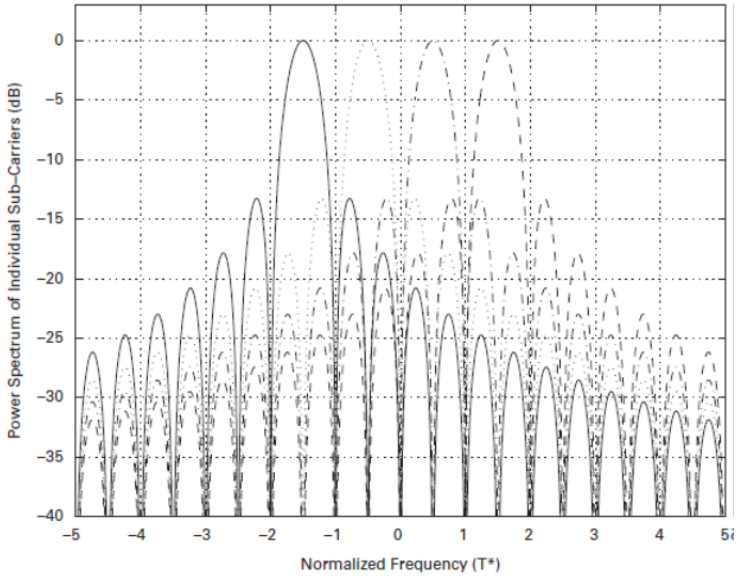


Figure 2.2 Power spectrum of the individual subcarriers of the OFDM waveform.

51. MTel alleges, for example, that Charter directly infringed claims of the '891 Patent in regards to the 802.11 systems that its Wi-Fi Enabled CPE 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 provided 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).

52. MTel alleges that Charter's use and operation of Wi-Fi Enabled CPE, through which Charter distributed its high speed data service (*e.g.* Charter WiFi and Spectrum WiFi) to customers, directly infringed the '891 Patent, at least because such Wi-Fi Enabled CPE operated according to the IEEE 802.11 OFDM scheme.

53. MTel alleges that Charter directly infringed the ’891 Patent when its field service technicians installed and tested Wi-Fi Enabled CPE. MTel alleges that Charter directly infringed the ’891 Patent when, for example, its technicians tested the maximum throughput that such Wi-Fi Enabled CPE achieved.

54. MTel alleges that Charter infringed the ’891 Patent each time it leased for a monthly fee (or bundled into the monthly charge for Internet service) Wi-Fi Enabled CPE to its high speed data service customers in order to wirelessly distribute the service throughout their homes or businesses.

55. MTel alleges that Charter directly infringed the ’891 Patent by its use and operation of Spectrum WiFi, through which Charter distributed high speed data service to customers in locations, such as parks and shopping centers, at least because Wi-Fi access points used by Charter operated according to the IEEE 802.11 OFDM scheme.

56. MTel alleges that Charter directly infringed the ’891 Patent when its field service technicians installed and tested transmissions at locations offering Spectrum WiFi.

57. MTel alleges that Charter’s use of microwave networks directly infringed the ’891 Patent at least because such microwave networks implemented channel structuring consistent with the description above.

58. As a result of Charter’s unlawful infringement of the ’891 Patent, MTel has suffered damage. MTel is entitled to recover damages from Charter 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)

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

60. 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.

61. MTel alleges that, during the Relevant Period, Charter directly infringed one or more claims of the ’210 Patent by making, using, selling, and offering to sell Wi-Fi Enabled CPE and associated services (*e.g.* Spectrum WiFi, Charter WiFi, and in-home WiFi) and applications relying on Wi-Fi networks (*e.g.* Spectrum TV App).

62. MTel alleges that Charter’s use of Wi-Fi Enabled CPE, through which Charter distributed its high speed data service to customers, infringed one or more claims of the ’210 Patent literally and/or under the doctrine of equivalents by, among other things, employed MIMO functionality and certain multi-carrier frequency structures, such as OFDM, as described above.

63. MTel alleges that Wi-Fi Enabled CPE listed in attached Exhibit 111, and Charter’s use thereof, directly infringed the ’210 Patent at least because such equipment embodies the asserted method claims of the ’210 Patent. This list is non-limiting and will be supplemented after appropriate discovery.

64. MTel alleges that Charter infringed the ’210 Patent each time it leased for a monthly fee (or bundled into the monthly charge for Internet service) Wi-Fi Enabled CPE to its

high speed data service customers in order to wirelessly distribute the service throughout their homes or businesses.

65. MTel alleges that Charter directly infringed the ’210 Patent when, for example, its technicians tested the maximum throughput that such Wi-Fi Enabled CPE achieved through, for example, causing a speed test to occur over a wireless data connection extending from an IEEE 802.11 n or ac device (*e.g.* a computer, tablet, television, media streaming device, or smartphone) through Wi-Fi Enabled CPE to Charter’s speed test server.

66. MTel alleges that Charter directly infringed the ’210 Patent by Charter’s use and operation of Spectrum WiFi, through which Charter distributed high speed data service to customers in locations, such as parks and shopping centers, at least because the Wi-Fi access points used by Charter employed MIMO functionality and operated according to the IEEE 802.11 OFDM scheme as further described above.

67. MTel alleges that Charter directly infringed the ’210 Patent when its field service technicians installed and tested transmissions at locations offering Spectrum WiFi.

68. MTel alleges that Charter’s use of microwave networks directly infringed the ’210 Patent at least because such microwave networks employed MIMO techniques and an OFDM scheme consistent with the above descriptions.

69. As a result of Charter’s unlawful infringement of the ’210 Patent, MTel has suffered damage. MTel is entitled to recover damages from Charter adequate to compensate for such infringement.

PRAYER FOR RELIEF

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

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

B. That Charter provide to MTel an accounting of all gains, profits, savings, and advantages derived by Charter's direct infringement of the Asserted Patents, and that MTel be awarded damages adequate to compensate for the wrongful infringement by Charter, 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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