

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

VENKEE COMMUNICATIONS, LLC,

Plaintiff

v.

ARRIS GROUP, INC.,

Defendant

Civil Action No.: 2:18-cv-00050

JURY TRIAL DEMANDED

**PLAINTIFF VENKEE COMMUNICATIONS, LLC'S  
ORIGINAL COMPLAINT**

Plaintiff VenKee Communications, LLC (“Plaintiff” or “VenKee”) files this Complaint against Arris Group, Inc. (“Defendant” or “Arris”) seeking damages and other relief for patent infringement, and alleges with knowledge to its own acts, and on information and belief as to other matters, as follows:

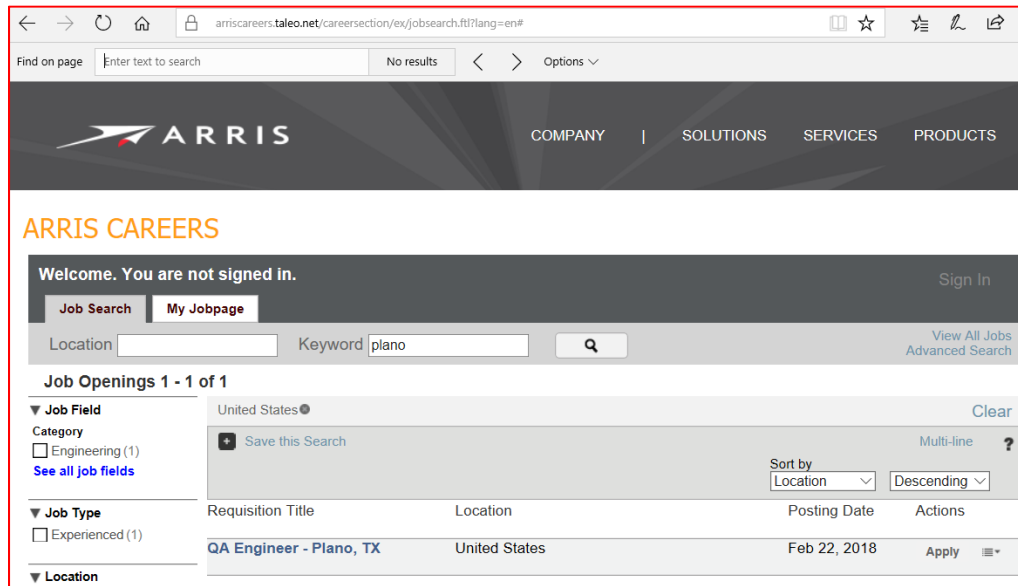
**NATURE OF ACTION**

1. This is an action for patent infringement arising under Title 35 of the United States Code, seeking monetary damages and other relief against Defendant due to its infringement of United States Patent No. 6,504,515 (the “515 Patent” or the “Patent-in-Suit”) in accordance with 35 U.S.C. § 271.

**PARTIES**

2. VenKee is a limited liability company organized and existing under the laws of the State of Texas, having its principal place of business at 5068 West Plano Parkway, Suite 300, Plano, Texas 75093.

3. Arris is a Delaware corporation with its principal office at 3871 Lakefield Drive, Suwanee, GA, 30024. Arris can be served through its registered agent, Corporation Service Company, 40 Technology Pkwy South, #300, Norcross, GA, 30092.
4. Arris maintained a place of business in this District at 101 E Park Blvd, Plano, Texas 75074.
5. Arris maintains an office in this District in Plano, Texas 75074.
6. Arris leases office space in this District.
7. Arris maintains business property in this District.
8. Arris conducts business in this District.
9. Arris employs engineers in this District.
10. Arris recruits engineers in this District. *See, e.g.*



<https://arriscareers.taleo.net/careersection/ex/jobsearch.ftl?lang=en#> (last accessed, February 22, 2018).

11. Arris has a regular and established place of business in this District.

12. Arris maintains a regular and established place of business at 4516 Seton Center Pkwy, Suite 185, Austin, TX 78759.

### **JURISDICTION AND VENUE**

13. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, et seq. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a). Venue is proper under 28 U.S.C. §§ 1391(a) & (c), and 1400(b).

14. This Court has personal jurisdiction over Defendant under the laws of the State of Texas, including the Texas long-arm statute, TEX. CIV. PRAC. & REM. CODE § 17.042.

15. This Court has personal jurisdiction over Arris in this action because Arris has committed acts within the Eastern District of Texas giving rise to this action and has established minimum contacts with this forum such that the exercise of jurisdiction over Arris would not offend traditional notions of fair play and substantial justice. Arris directly and/or through subsidiaries or intermediaries (including distributors, retailers, and others), has committed and continues to commit acts of infringement in this District by, among other things, making, using, importing, offering to sell and selling products and/or services that infringe the '515 Patent. Arris maintains a regular and established place of business in this District.

16. Venue is proper in this district under 28 U.S.C. §§ 1391(b), 1391(c) and 1400(b).

### **PATENT-IN-SUIT**

#### **U.S. Patent No. 6,504,515**

17. On May 1, 2001, United States Patent Application No. 09/846,786 entitled "High Capacity Broadband Cellular/PCS Base Station Using a Phased Array Antenna" was filed with the United States Patent and Trademark Office.

18. Application No. 09/846,786 is a continuation application of United States Patent Application No. 09/138,491, which was filed on Aug. 24, 1998 and issued as United States Patent No. 6,226,531.

19. Application No. 09/846,786 issued as the '515 Patent on January 7, 2003. A true and correct copy of the '515 Patent is attached hereto as "Exhibit 1" and is incorporated herein by reference.

20. The '515 Patent was subject to two reexaminations.

a. A first reexamination certificate was issued on May 8, 2014 in which the patentability of claims 1-2, 4-5, and 7-9 were confirmed – the other claims were not reexamined.

b. A second reexamination certificate was issued on March 31, 2015 in which claims 1 and 7 were determined to be patentable as amended, and claims 2, 4, 5, 8 and 9 were determined to be patentable based on the amendments to claims 1 and 7 – claims 3, 6, and 10 were not reexamined.

21. The '515 Patent is presumed valid.

22. Plaintiff is the sole owner of the '515 Patent.

23. The '515 Patent is directed to systems and methods for increasing the capacity of broadband base stations without a significant increase in hardware by combining a set of wideband digital radios with a phased array antenna to provide higher channel reuse and higher trunking efficiency. *See* '515 Patent, col. 1, ll. 9-16.

24. Some prior wideband radio systems had limited capacity in a multiple base station environment due to co-channel interference. *Id.* at col. 1, ll. 19-28. As a consequence, these prior

wideband radio systems suffered significant disadvantages compared to narrowband systems. *Id.* at col. 1, ll. 29-39.

25. One way to increase capacity of wideband radios is to implement a sectorized scheme employing directional antennas to subdivide spatial coverage. While this reduces potential interference, this approach suffers from reduced channel use. This approach also suffers from reduced trunking efficiency. *Id.* at col. 1, ll. 40-53.

26. The '515 Patent describes how the inventors overcame the disadvantages of prior art systems and describes methods and systems for increasing the capacity of broadband base stations without a significant increase in hardware by combining a set of wideband digital radios with a phased array antenna to provide higher channel reuse and higher trunking efficiency. *Id.* at col. 1, ll. 9-16.

27. In accordance with the disclosure of the '515 Patent, the disclosed system and methods provide a high capacity base station that combines wideband digital radio equipment with a phased array antenna to provide dynamic beam steering via the phased antenna array without a significant increase in hardware cost. *Id.* at col. 1, ll. 57-62.

28. The '515 Patent describes an improved approach to wideband digital radio communication. *See, e.g.,* '515 Patent, col. 1, l. 63 – col. 2, l. 53.

29. The '515 Patent does not preempt the field of wideband radio communication. As noted, the '515 Patent refers to other wideband radio communication systems. *Id.* at col. 1, ll. 19-53.

30. The '515 Patent claims are not directed to a method of organizing human activity or to a fundamental economic practice long prevalent in our system of commerce. The '515 Patent claims are directed toward systems and methods that solve a technical problem – how to increase capacity

of wideband digital radios while reducing co-channel interference without a significant increase in hardware costs. *Id.* at col. 1, l. 19 – col. 2, ll. 53.

31. The '515 Patent describes a solution to a technical problem that arises in the context of wideband digital radio communications. The '515 Patent's solution improves wideband digital radio communication by, at least, increasing capacity of digital base stations while reducing co-channel interference without a significant increase in hardware costs. *Id.*

32. By increasing capacity of a wideband digital radio base station, the '515 Patent describes a technical solution to a technical problem that is intrinsically tied to wireless communication systems. *Id.*

33. The '515 Patent describes improvements to wideband digital radio base stations. As an example, rather than providing an omnidirectional base station that suffers from co-channel interference or a sectorized base station that suffers from reduced channel use, the '515 Patent describes a high capacity wideband digital radio base station with a phased array antenna so as to provide dynamic beam steering resulting in increased capacity. *Id.* at col. 1, ll. 19-62.

34. The '515 Patent discloses multiple inventive concepts and improvements over prior wideband digital radio systems. *Id.* at col. 2, l. 55 – col. 6, l. 20; Figs. 1-4.

35. As demonstrated by its frequent citation by the United States Patent and Trademark Office, and other patent offices around the world in other later-issued patents and pending patent applications involving wireless digital communication, the '515 Patent represents a fundamental technical improvement involving wideband digital radio base stations. Specifically, the '515 Patent has been cited during the prosecution of over eleven subsequently issued U.S. patents and pending U.S. patent applications.

**COUNT I**  
**INFRINGEMENT OF U.S. PATENT NO. 6,504,515**

36. Plaintiff hereby incorporates by reference the proceeding paragraphs of the Complaint as if set forth here in full.

37. Defendant makes, uses, sells, imports, and/or offers for sale in the United States, without authority, products, equipment, and/or services that infringe one or more claims of the '515 Patent, including without limitation, the Arris Touchstone TG3442 Cable Voice Gateway, the Arris Touchstone TG2472 Cable Voice Gateway, and the Arris Touchstone TG1652 Cable Voice Gateway (collectively, "'515 Accused Products"). *See, e.g.*, Ex. 2, Arris Touchstone TG2472 Cable Voice Gateway; Ex. 3, Arris Touchstone TG3442 Data Sheet; and Ex. 4, Arris Touchstone TG1652 Cable Voice Gateway.

38. Defendant has been and is directly infringing, either literally or under the doctrine of equivalents, at least Claim 1 of the '515 Patent by making, using, offering to sell, importing, and/or selling the '515 Accused Products.

39. The '515 Accused Products include a base station that connects clients to a network. *Id.*

40. The '515 Accused Products include multiple antenna elements to support multiple-input and multiple-output (MIMO) operation. The antenna elements are physically separated from each other and form a multi-dimensional spatial array. The '515 Accused Products support beamforming, indicating that the antennas form a phased array antenna. *Id.*

41. The '515 Accused Products include multiple wideband digital radios covering the 2.4 GHz and 5 GHz frequency bands. The frequency bands include multiple channels, and the multiple wideband digital radios have an operational bandwidth spanning the multiple channels. *Id.*

42. The '515 Accused Products support multiple user MIMO (MU-MIMO), which requires multiple radio/antenna chains. *Id.* Each of the multiple radios is coupled to at least one antenna element. *Id.*

43. For the '515 Accused Products, “receive” channel signal processing corresponds to the uplink direction in 802.11n and 802.11ac. *Id.*

44. The '515 Accused Products support channel bonding, which enables the use of multiple 20MHz sub-channels as a single larger channel, such as a 40MHz channel or an 80MHz channel. *Id.*

45. The radios of the '515 Accused Products are adapted to perform receive channel signal processing when 40MHz or 80 MHz channels are used, such that the digital spectral representation for an antenna element is made up of respective receive channels representing waveforms of interest. *Id.*

46. For the '515 Accused Products, “transmit” channel signal processing corresponds to the downlink direction in 802.11n and 802.11ac. *Id.*

47. The '515 Accused Products support channel bonding, which enables the use of multiple 20MHz sub-channels as a single larger channel, such as a 40MHz channel or an 80MHz channel. *Id.*

48. The radios of the '515 Accused Products are adapted to perform transmit channel signal processing when 40MHz or 80 MHz channels are used, such that digital representations of multiple individual 20MHz channels are combined into a single 40MHz or 80MHz transmission channel. *Id.*

49. The '515 Accused Products support MU-MIMO operation defined by the 802.11ac specification. In MU-MIMO, the '515 Accused Products direct multiple individual spatial streams



(i.e., individual channels) to multiple client devices at the same time over the same frequency spectrum (i.e., the spatial streams (individual channels) are combined into a single channel). *Id.*

50. In view of the foregoing paragraphs, each and every element of Claim 1 of the '515 Patent is found in the '515 Accused Products. By making, using, offering for sale, importing, and/or selling '515 Accused Products, Defendant has injured Plaintiff and is liable to Plaintiff for infringing one or more claims (including at least Claim 1) of the '515 Patent, pursuant to 35 U.S.C. § 271(a).

51. Where acts constituting direct infringement of the '515 Patent are not performed by Defendant, such acts constituting direct infringement of the '515 Patent are performed by Defendant's customers or end-users.

52. Defendant has had actual knowledge of the '515 Patent since at least the service of this Complaint.

53. At least as early as service of this Complaint, Defendant indirectly infringes the '515 Patent within the United States by inducement under 35 U.S.C. § 271(b). By failing to cease making, using, selling, importing, and/or offering for sale the '515 Accused Products at least as of the service of this Complaint, Defendant has knowingly and intentionally induced users of the '515 Accused Products to directly infringe one or more claims of the '515 Patent, inter alia, by: (1) providing instructions or information, for example on its publicly available website, to explain how to use the '515 Accused Products in an infringing manner; and (2) touting these infringing uses of the '515 Accused Products in advertisements, including but not limited to, those on its website.

54. At least as of the service of this Complaint, Defendant indirectly infringes the '515 Patent within the United States by contributory infringement under 35 U.S.C. § 271(c). Defendant is

aware, at least as of the service of this Complaint, that components of the '515 Accused Products are a material and substantial part of the invention claimed by the '515 Patent, and that they are designed for a use that is both patented and infringing, and that has no substantial non-infringing uses.

55. Defendant's infringement of the '515 Patent has caused damages to Plaintiff, and Plaintiff is entitled to recover damages from Defendant (or any successor entity to Defendant).

**RELIEF REQUESTED**

WHEREFORE, Plaintiff respectfully requests that the Court:

- A. Enter judgment that Defendant has infringed one or more claims of the '515 Patent literally or under the doctrine of equivalents;
- B. Enter judgement that Defendant has induced infringement and continues to induce infringement of one or more claims of the '515 Patent;
- C. Enter judgement that Defendant has contributed to and continues to contribute to infringement of one or more claims of the '515 Patent;
- D. Award Plaintiff past and future damages, to be paid by Defendant, in an amount no less than a reasonable royalty and adequate to compensate Plaintiff for such past and future damages, together with pre-judgment and post-judgment interest for Defendant's infringement of the '515 Patent through the date that such judgment is entered in accordance with 35 U.S.C. § 284, and increase such award by up to three times the amount found or assessed in accordance with 35 U.S.C. § 284;
- E. Declare this case exceptional pursuant to 35 U.S.C. § 285; and
- F. Award Plaintiff its costs, disbursements, attorneys' fees, and such further and additional relief as is deemed appropriate by this Court.

**JURY DEMAND**

Pursuant to Federal Rule of Civil Procedure 38(b), Plaintiff hereby demands a trial by jury on all issues so triable.

Dated: March 2, 2018

Respectfully Submitted

/s/ Craig S. Jepson

Craig S. Jepson  
Texas State Bar No. 24061364  
cjepson@tlgiplaw.com  
Jeffrey G. Toler  
Texas State Bar No. 24011201  
jtoler@tlgiplaw.com  
Raymond W. Mort, III  
Texas State Bar No. 00791308  
rmort@tlgiplaw.com

TOLER LAW GROUP, PC  
8500 Bluffstone Cove, Suite A201  
Austin, Texas 78759  
Tel. (512) 327-5515  
Fax (512) 327-5575

**ATTORNEYS FOR PLAINTIFF  
VENKEE COMMUNICATIONS, LLC**