

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

Civil Action No.: 1:21-cv-03170

COLONIAL LICENSING LLC, a Texas limited liability company,

Plaintiff,

v.

KEYSIGHT TECHNOLOGIES, INC., a Delaware corporation,

Defendant.

COMPLAINT FOR INFRINGEMENT OF PATENT

Now comes, Plaintiff, Colonial Licensing LLC (“Plaintiff” or “Colonial”), by and through undersigned counsel, and respectfully alleges, states, and prays as follows:

NATURE OF THE ACTION

1. This is an action for patent infringement under the Patent Laws of the United States, Title 35 United States Code (“U.S.C.”) to prevent and enjoin Defendant Keysight Technologies, Inc. (hereinafter “Defendant”), from infringing and profiting, in an illegal and unauthorized manner, and without authorization and/or consent from Plaintiff from U.S. Patent No. 8,970,710 (“the ‘710 Patent” or the “Patent-in-Suit”), which is attached hereto as Exhibit A and incorporated herein by reference, and pursuant to 35 U.S.C. §271, and to recover damages, attorney’s fees, and costs.

THE PARTIES

2. Plaintiff is a Texas limited liability company with its principal place of business at 4757 W. Park Blvd, Ste. 113-1101, Plano, TX 75093.

3. Upon information and belief, Defendant is a corporation organized under the laws of Delaware, having a principal place of business at 1400 Fountain Grove Parkway, Santa Rosa, CA 95403. Upon information and belief, Defendant may be served with process c/o C T Corporation, 1675 Broadway, Suite 1200, Denver, CO 80202.

JURISDICTION AND VENUE

4. This is an action for patent infringement in violation of the Patent Act of the United States, 35 U.S.C. §§1 *et seq.*

5. The Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§1331 and 1338(a).

6. This Court has personal jurisdiction over Defendant by virtue of its systematic and continuous contacts with this jurisdiction and its residence in this District, as well as because of the injury to Plaintiff, and the cause of action Plaintiff has risen in this District, as alleged herein.

7. Defendant is subject to this Court's specific and general personal jurisdiction pursuant to its substantial business in this forum, including: (i) at least a portion of the infringements alleged herein; (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 this forum state and in this judicial District; and (iii) residing in this District.

8. Venue is proper in this judicial district pursuant to 28 U.S.C. §1400(b) because Defendant resides in this District under the Supreme Court's opinion in *TC Heartland v. Kraft Foods Group Brands LLC*, 137 S. Ct. 1514 (2017) through its regular and established place of business in this District.

FACTUAL ALLEGATIONS

9. On March 2, 2015, the United States Patent and Trademark Office (“USPTO”) duly and legally issued the ‘710 Patent, entitled “Method and apparatus for measuring quality of video based on frame loss pattern” after a full and fair examination. The ‘710 Patent is attached hereto as Exhibit A and incorporated herein as if fully rewritten.

10. Plaintiff is presently the owner of the ‘710 Patent, having received all right, title and interest in and to the ‘710 Patent from the previous assignee of record. Plaintiff possesses all rights of recovery under the ‘710 Patent, including the exclusive right to recover for past infringement.

11. To the extent required, Plaintiff has complied with all marking requirements under 35 U.S.C. § 287.

12. One claimed invention in the ‘710 Patent pertains to a method for measuring a quality of a video. Ex. A at Col.9:2.

13. Another claimed invention in the ‘710 Patent pertains to an apparatus for measuring a quality of video. Ex. A at Col.9:45.

14. As identified in the ‘710 Patent, prior art systems had technological faults. See Ex. A at Col.1:25-51.

15. More particularly, the ‘710 Patent identifies that partial loss or partial corruption of information had a dramatic impact on user's perceived quality because a localized distortion within a frame can spatially and temporally propagate over frames. Ex. A at Col.1:27-31.

16. The visual impact of such frame loss varied between video decoders depending on their ability to deal with corrupted streams. Ex. A at Col.1:31-33.

17. In some cases, a decoder decided to drop some frames on its own initiative. For example, a decoder would entirely drop or discard the frame that has corrupted or missing information and repeat the previous video frame instead until the next valid decoded frame is available. Ex. A at Col.1:33-37.

18. Encoders also dropped frames during a sudden increase of motion in the content in a case that the target encoding bit rate was too low. In all the-above cases, this resulted in a frame loss in a video. Ex. A at Col.1:37-40.

19. In prior video quality monitoring products, the overall video quality of a media was analyzed based on three main coding artifacts, which are jerkiness, blockiness and blurring. Blockiness and blurring are two main kinds of spatial coding artifacts which behave as discontinuity in block boundary and high frequency loss respectively. While jerkiness is the most important temporal artifacts. Ex. A at Col.1:41-47.

20. A temporal video quality degradation caused by a set of group frame losses is called a jerkiness, wherein the group frame loss means a fact that one or more consecutive frames in a video sequence are lost together. Ex. A at Col.1:48-51.

21. To address these specific technical problems, Claim 1 in the ‘710 Patent comprises a non-abstract method for measuring the quality of video.

22. Particularly, the inventors of the ‘710 Patent found that a frame loss pattern of a video has a great influence on the perceptual impact of jerkiness, which in turn will impact the overall video quality. By “frame loss pattern”, it means a pattern generated by recording in sequence the status of each frame in a video sequence on whether they are successfully transmitted or lost during transmission with different representations. Therefore, the ‘710 Patent makes use of

this finding, by providing a method for measuring the quality of a video, and a corresponding apparatus. Ex. A at Col.2:7-17.

23. Claim 1 of the '710 Patent states:

“1. A method for measuring a quality of video, comprising:
generating a frame loss pattern of the video by recording, in sequence, a status for every successive frame in a group of frames and establishing for each such group of frames an arrangement indicating whether each frame in the group is lost or successfully transmitted relative to all frames in the group; and
evaluating the quality of the video as a function of the generated frame loss pattern” Ex. A at Col.9:2-10.

24. Claim 1 of the '710 Patent is a practical application and inventive step of technology that address these aforementioned specific computer-centric problems associated with video display, view and or editing.

25. Specifically, to address the with the video-centric drawbacks/problems of partial loss or partial corruption of information that creates a localized distortion, the method of Claim 1 in the '710 patent requires (a) generating a frame loss pattern of the video by recording, in sequence, a status for every successive frame in a group of frames and establishing for each such group of frames an arrangement indicating whether each frame in the group is lost or successfully transmitted relative to all frames in the group; and evaluating the quality of the video as a function of the generated frame loss pattern.

26. These specific elements of generating a frame loss pattern of the video by recording, in sequence, a status for every successive frame in a group of frames and establishing for each such group of frames an arrangement indicating whether each frame in the group is lost or successfully transmitted relative to all frames in the group; and evaluating the quality of the video as a function of the generated frame loss pattern, as combined, accomplish the desired result of measuring the quality of a video to overcome the then existing problems in the relevant field of

video display playback systems. *Ancora Technologies, Inc. v. HTC America, Inc.*, 908 F.3d 1343, 1348 (Fed. Cir. 2018) (holding that improving computer security can be a non-abstract computer-functionality improvement if done by a specific technique that departs from earlier approaches to solve a specific computer problem). See also *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999 (Fed. Cir. 2018); *Core Wireless Licensing v. LG Elecs., Inc.*, 880 F.3d 1356 (Fed. Cir. 2018); *Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299 (Fed. Cir. 2018); *Uniloc USA, Inc. v. LG Electronics USA, Inc.*, 957 F.3d 1303 (Fed. Cir. April 30, 2020).

27. Claim 1 of the ‘710 Patent provides meaningful details on *how* to implement its method, and thus adds something inventive. Namely, the USPTO infers in its Notice of Allowance that the prior art does not disclose the step of evaluating the quality of the video as a function of the generated frame loss pattern. See Ex. B at Page 2-4. Thus, the “*how to implement*” the method of Claim 1 corresponds to the USPTO’s reasons for allowance. “How” the method operates in an inventive way is due to the step of evaluating the quality of the video as a function of the generated frame loss pattern.

28. The specification of the ‘710 provides examples of how the quality of video is evaluated as a function of the generated frame loss pattern.

29. Claims need not articulate the advantages of the claimed combinations to be eligible. *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1309 (Fed. Cir. 2020).

30. These specific elements of Claim 1 of the ‘710 Patent were an unconventional arrangement of elements.

31. Claim 1 of the ‘710 Patent was able to unconventionally generate a method for measuring a quality of video. *Cellspin Soft, Inc. v. FitBit, Inc.*, 927 F.3d 1306 (Fed. Cir. 2019).

32. Further, regarding the specific non-conventional and non-generic arrangements of known, conventional pieces to overcome an existing problem, the method of Claim 1 in the ‘710 Patent provides a measuring a quality of video that would not preempt all ways of measuring the quality of video because it is based on generating a frame loss pattern of the video by recording, in sequence, a status for every successive frame in a group of frames and establishing for each such group of frames an arrangement indicating whether each frame in the group is lost or successfully transmitted relative to all frames in the group and evaluating the quality of the video as a function of the generated frame loss pattern, any of which could be removed or performed differently to permit a method of measuring the quality of video. *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016); See also *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014).

33. Based on the allegations, it must be accepted as true at this stage, that Claim 1 of the ‘710 Patent recites a specific, plausibly inventive way of measuring the quality of video and using specific protocols rather than the general idea of analyzing data. *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1319 (Fed. Cir. 2019), *cert. denied sub nom. Garmin USA, Inc. v. Cellspin Soft, Inc.*, 140 S. Ct. 907, 205 L. Ed. 2d 459 (2020).

34. Alternatively, there is at least a question of fact that must survive the pleading stage as to whether these specific elements of Claim 1 of the ‘710 Patent were an unconventional arrangement of elements. *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121 (Fed. Cir. 2018) See also *Berkheimer v. HP Inc.*, 881 F.3d 1360 (Fed. Cir. 2018), *cert. denied*, 140 S. Ct. 911, 205 L. Ed. 2d 454 (2020).

35. Defendant commercializes, inter alia, methods that perform all the steps recited in at least one claim of the ‘710 Patent. More particularly, Defendant commercializes, inter alia,

methods that perform all the steps recited in Claim 1 of the ‘710 Patent. Specifically, Defendant makes, uses, sells, offers for sale, or imports a method that encompasses that which is covered by Claim 1 of the ‘710 Patent.

DEFENDANT’S PRODUCT(S)

36. Defendant offers solutions, such as the “IXLOAD – VIDEO TEST SOLUTION” system (the “Accused Instrumentality”)¹, that enables accessing or playing recorded video. A non-limiting and exemplary claim chart comparing the Accused Instrumentality of Claim 1 of the ‘710 Patent is attached hereto as Exhibit C and is incorporated herein as if fully rewritten.

37. As recited in Claim 1, a system, at least in internal testing and usage, utilized by the Accused Instrumentality practices generating a frame loss pattern of the video by recording, in sequence, a status for every successive frame in a group of frames and establishing for each such group of frames an arrangement indicating whether each frame in the group is lost or successfully transmitted relative to all frames in the group. See Ex. C.

38. As recited in one step of Claim 1, the system, at least in internal testing and usage, utilized by the Accused Instrumentality practices evaluating the quality of the video as a function of the generated frame loss pattern. See Ex. C.

39. The elements described in the preceding paragraphs are covered by at least Claim 1 of the ‘710 Patent. Thus, Defendant’s use of the Accused Instrumentality is enabled by the method described in the ‘710 Patent.

INFRINGEMENT OF THE PATENT-IN-SUIT

40. Plaintiff realleges and incorporates by reference all of the allegations set forth in the preceding paragraphs

¹ The Accused Product is just one of the products provided by Defendant, and Plaintiff’s investigation is on-going to additional products to be included as an Accused Product that may be added at a later date.

41. In violation of 35 U.S.C. § 271, Defendant is now, and has been directly infringing, either literally or under the doctrine of equivalents, the ‘710 Patent.

42. Defendant has had knowledge of infringement of the ‘710 Patent at least as of the service of the present Complaint.

43. **Direct Infringement.** Defendant has directly infringed and continues to directly infringe at least one claim of the ‘710 Patent by making, using, at least through internal testing or otherwise, offering to sell, selling and/or importing, without limitation, the Accused Instrumentality without authority in the United States, and will continue to do so unless enjoined by this Court. As a direct and proximate result of Defendant’s direct infringement of the ‘710 Patent, Plaintiff has been and continues to be damaged. See Ex. C.

44. Upon information and belief, the Accused Instrumentality is performed by an apparatus infringes Claim 6.

45. **Induced Infringement.** Defendant has induced others to infringe the ‘710 Patent by providing the Accused Instrumentality and encouraging infringement, knowing that the acts Defendant induced constituted patent infringement, and its encouraging acts actually resulted in direct patent infringement either literally or under the doctrine of equivalents.

46. **Contributory Infringement.** Defendant actively, knowingly, and intentionally has been and continues materially contribute to their own customers’ infringement of the ‘710 Patent, literally or by the doctrine of equivalents, by selling the Accused Instrumentality to their customers for use in end-user products in a manner that infringes one or more claims of the ‘710 Patent. Moreover, the Accused Instrumentality is not a staple article of commerce suitable for substantial non-infringing use.

47. By engaging in the conduct described herein, Defendant has injured Plaintiff and is thus liable for infringement of the '710 Patent, pursuant to 35 U.S.C. § 271.

48. Defendant has committed these acts of infringement without license or authorization.

49. As a result of Defendant's infringement of the '710 Patent, Plaintiff has suffered monetary damages and is entitled to a monetary judgment in an amount adequate to compensate for Defendant's past infringement, together with interests and costs.

50. Plaintiff will continue to suffer damages in the future unless Defendant's infringing activities are enjoined by this Court. As such, Plaintiff is entitled to compensation for any continuing and/or future infringement up until the date that Defendant is finally and permanently enjoined from further infringement.

51. Plaintiff reserves the right to modify its infringement theories as discovery progresses in this case; it shall not be estopped for infringement contention or claim construction purposes by the claim charts that it provides with this Complaint. The claim chart depicted in Exhibit B is intended to satisfy the notice requirements of Rule 8(a)(2) of the Federal Rule of Civil Procedure and does not represent Plaintiff's preliminary or final infringement contentions or preliminary or final claim construction positions.

DEMAND FOR JURY TRIAL

52. Plaintiff demands a trial by jury of any and all causes of action.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for the following relief:

a. That Defendant be adjudged to have directly infringed the '710 Patent either literally or under the doctrine of equivalents;

b. An accounting of all infringing sales and damages including, but not limited to, those sales and damages not presented at trial;

c. That Defendant, its officers, directors, agents, servants, employees, attorneys, affiliates, divisions, branches, parents, and those persons in active concert or participation with any of them, be permanently restrained and enjoined from directly infringing the '710 Patent;

d. An award of damages pursuant to 35 U.S.C. §284 sufficient to compensate Plaintiff for the Defendant's past infringement and any continuing or future infringement up until the date that Defendant is finally and permanently enjoined from further infringement, including compensatory damages;

e. An assessment of pre-judgment and post-judgment interest and costs against Defendant, together with an award of such interest and costs, in accordance with 35 U.S.C. §284;

f. That Defendant be directed to pay enhanced damages, including Plaintiff's attorneys' fees incurred in connection with this lawsuit pursuant to 35 U.S.C. §285; and

g. That Plaintiff be granted such other and further relief as this Court may deem just and proper.

Dated: November 24, 2021

Respectfully submitted,

s/ Howard L. Wernow

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