

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION**

MAXELL, LTD.,

Plaintiff,

v.

TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.); TCL Industries Holdings Co., Ltd.; T.C.L. Industries Holdings (H.K.) Limited; TTE Technology, Inc. (d/b/a TCL North America); TTE Corporation; TCL Moka International Limited; TCL Moka Manufacturing S.A. de C.V.; TCL King Electrical Appliances (Huizhou) Co. Ltd.; Manufacturas Avanzadas S.A. de C.V.; TCL Smart Device (Vietnam) Co., Ltd.; Shenzhen TCL New Technology Co., Ltd.; TCL Optoelectronics Technology (Huizhou) Co., Ltd.; TCL Overseas Marketing Ltd.; and TCL Technology Group Corporation (f/k/a TCL Corp.),

Defendants.

Civil Action No. _____

**COMPLAINT AND DEMAND
FOR JURY TRIAL**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Maxell, Ltd. (“Maxell”), by and through its undersigned counsel, files this complaint under 35 U.S.C. § 271 for Patent Infringement against Defendants TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.); TCL Industries Holdings Co., Ltd.; T.C.L. Industries Holdings (H.K.) Limited; TTE Technology, Inc. (d/b/a TCL North America); TTE Corporation; TCL Moka International Limited; TCL Moka Manufacturing S.A. de C.V.; TCL King Electrical Appliances (Huizhou) Co. Ltd.; Manufacturas Avanzadas S.A. de C.V.; TCL Smart Device (Vietnam) Co., Ltd.; Shenzhen TCL New Technology Co., Ltd.; TCL

Optoelectronics Technology (Huizhou) Co., Ltd.; TCL Overseas Marketing Ltd.; and TCL Technology Group Corporation (f/k/a TCL Corp.) (all collectively, “TCL” or “Defendants”) and further alleges as follows, upon actual knowledge with respect to itself and its own acts, and upon information and belief as to all other matters.

OVERVIEW

1. This is an action for patent infringement by Maxell. Founded in 1961 as Maxell Electric Industrial Co., Ltd., Maxell is a leading global manufacturer of information storage media products, including magnetic tapes, optical discs, and battery products such as lithium ion rechargeable micro batteries and alkaline dry batteries, and the company has over 50 years of experience producing industry-leading recordable media and energy products for both the consumer and the professional markets. Maxell is also a leading manufacturer of projectors and lenses and additionally sells various other devices, such as Bluetooth headsets, wireless charging solutions, etc.

2. Maxell has built up an international reputation for excellence and reliability, for pioneering the power supplies and digital recordings for today’s mobile and multi-media devices, and leading the electronics industry in the fields of storage media and batteries.

3. Since being one of the first companies to develop alkaline batteries and Blu Ray camcorder discs, Maxell has always assured its customers of industry-leading product innovation and is one of the world’s foremost suppliers of memory, power, audio, and video goods. Maxell’s well-recognized logo and iconic “blown away” image exemplify the reputation Maxell carefully developed in these markets.



4. As more fully described below, in 2009 Hitachi, Ltd. assigned much of its consumer product-facing intellectual property to its consumer product business division, Hitachi Consumer Electronics Co., Ltd. Then, in 2013, the consumer electronics division of Hitachi Consumer Electronics Co., Ltd., was transferred to Hitachi Maxell, Ltd. This involved assigning the intellectual property including the patents in this case, to Hitachi Maxell, Ltd. In 2017, Hitachi Maxell engaged in a reorganization and name change—to Maxell, Ltd.—in an effort to align its intellectual property with the business development, research and development, and licensing efforts of Maxell, including in the mobile and mobile-media device market (Hitachi, Ltd. and Hitachi Consumer Electronics Co., Ltd. are referred to herein collectively as “Hitachi”). In October 2021, Maxell Holdings, Ltd. and Maxell, Ltd. underwent an absorption-type merger and name change. In that merger, Maxell, Ltd. was absorbed by Maxell Holdings, Ltd., including the ownership of the patents at issue in this matter and the rights to license agreements covering such patents. Maxell Holdings, Ltd. then changed its name to Maxell, Ltd. Maxell continues to own all rights to the patents-in-suit, as well as the entire Maxell portfolio initially obtained from Hitachi.

5. Today, Maxell maintains a thriving business in the mobile device market including wireless charging solutions, wireless flash drives, multimedia players, storage devices, and

headphones. Maxell also maintains intellectual property related to televisions, computer products, tablets, digital cameras, and mobile phones. As a technology developer and industry leader, and due to its historical and continuous investment in research and development, including in the State of Texas, Maxell owns a portfolio of patents related to such technologies and actively enforces its patents through licensing and/or litigation. Leading television manufacturers have recognized the value of Maxell's intellectual property and have obtained a license from Maxell in the recent past—including many of the television companies well-known to consumers.

6. Maxell is forced to bring this action against TCL as a result of TCL's knowing and ongoing infringement of Maxell's patents as further described herein.

TCL's Knowledge of Maxell's Patent Portfolio

7. TCL has been aware of Maxell's patents since at least before September 14, 2015, when Hitachi's licensing agent, Inpro, sent TCL a letter to resume communications and update TCL on the licensing program. This letter specifically mentioned U.S. Patent No. 7,924,366.

8. After some communications back and forth, in January 2016, TCL requested claim charts. On January 29, 2016, TCL was sent three claim charts, which included a claim chart for U.S. Patent No. 7,924,366. The parties engaged in some technical discussions including providing additional, more detailed, claim charts. Back and forth communication continued throughout 2017 without any progress.

9. Maxell followed up these initial conversations with TCL with a letter on November 8, 2019 including a list of thirty-three patents and list of infringing products. This included U.S. Patent Nos. 10,375,341 and 10,219,020.

10. On May 21, 2020, Maxell sent TCL four claims charts detailing TCL's infringement of U.S. Patent Nos. 7,924,366, 10,200,735, 10,542,232, and 10,650,780.

11. On June 9, 2020, TCL requested to enter into a nondisclosure agreement (“NDA”) and on June 10, 2020, Maxell sent a draft NDA to TCL to facilitate further discussions between the parties and the parties began negotiations related to the draft NDA. On June 29, 2020, Maxell and TCL entered into the NDA.

12. On August 5, 2020, TCL and Maxell had a teleconference to discuss the parties’ positions.

13. On August 19, 2020, Maxell sent TCL a proposed term sheet and list of Maxell TV patents.

14. On April 30, 2021, Maxell and TCL held another teleconference and TCL agreed to provide sales data. Maxell provided TCL with a list of its licensees for Maxell’s TV portfolio.

15. On July 20, 2021, Maxell sent TCL a follow-up notice letter notifying TCL of further infringement of additional Maxell patents. This letter included 70 patents, including some of the asserted patents in this complaint.

16. On May 13, 2022, TCL sent Maxell two prior art references for U.S. Patent No. 10,200,735 and asked for Maxell’s comments. Maxell responded explaining why the patent was valid over the identified prior art.

17. In August 2022, TCL and Maxell agreed to an extension of the NDA and Maxell again requested that TCL provide its sales data.

18. On September 22, 2022, TCL and Maxell held another teleconference.

19. On February 24, 2023, Maxell sent TCL a draft of the NDA and an updated patent list. Maxell agreed to provide summary information regarding its licenses if TCL entered into the NDA in an effort to move the negotiations forward in a productive way. In return, Maxell requested

that TCL provide Maxell with a reasonable licensing offer (utilizing the summary agreements) within 30 days after receipt of the summary license agreements.

20. On March 27, 2023, TCL provided revisions to the draft NDA and requested two months to provide an offer.

21. On July 14, 2023, Maxell responded with a signed copy of the NDA and an offer to provide the summary of the license agreements. Maxell further explained the value of its portfolio through recent prior successes and explained why additional technical discussions on a subset of patents would not be productive. Maxell again asked for TCL's sales data that it has been requesting for over two years but still agreed to provide an offer based on publicly available sales data. Maxell explained that given all the delays it could not agree to an additional month for TCL to respond.

22. On August 21, 2023, TCL responded and provided the countersigned NDA. TCL agreed to provide a counteroffer after receiving the summary of license agreements and term sheet from Maxell.

23. On September 6, 2023, Maxell responded and provided TCL with a term sheet and summary of its license agreements. As of the filing of this Complaint, Maxell has not received a response from TCL.

24. Maxell had hoped that the parties could reach a mutually beneficial solution—but TCL instead implemented dilatory tactics for years and elected not to enter into an agreement with Maxell and/or license Maxell's patents for its televisions. Accordingly, Maxell has filed this Complaint because TCL continues to make, use, sell, and offer for sale Maxell's patented technology without a license.

PARTIES

25. Plaintiff Maxell, Ltd. is a Japanese corporation with a registered place of business at 1 Koizumi, Oyamazaki, Oyamazaki-cho, Otokuni-gun, Kyoto, Japan.

26. Upon information and belief, TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.) (“TCL Electronics”) is a limited liability company duly organized and existing under the laws of the Cayman Islands, having an address of 7th Floor, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, New Territories, Hong Kong. TCL Electronics may also be served with process by serving the Texas Secretary of State, 1019 Brazos Street, Austin, Texas 78701, as its agent for service because it engages in business in Texas but has not designated or maintained a resident agent for service of process in Texas as required by statute. This action arises out of that business.

27. TCL Electronics is an indirect wholly-owned subsidiary of TCL Technology Group Corporation. TCL Electronics is involved in the manufacture and sales of TVs, smart mobile phones, smart connective devices and services, smart commercial display and smart home products and provision of Internet platform operating services.¹ This action arises out of that business.

28. Upon information and belief, Defendant TCL Industries Holdings Co., Ltd. is a corporation organized and existing under the laws of the People’s Republic of China with its principal place of business at 22nd Floor, TCL Technical Tower, Huifeng 3 Road, Zhongkai Development Zone Huizhou, China. This action arises out of that business.

29. Upon information and belief, Defendant T.C.L. Industries Holdings (H.K.) Limited is a corporation organized and existing under the laws of Hong Kong with its principal place of

¹ See TCL Electronics Holdings Limited Annual Report 2021, at 139. (<https://doc.irasia.com/listco/hk/tclelectronics/annual/2021/ar2021.pdf>).

business at 8th Floor, Building 22E, Phase Three, Hong Kong Science Park, Pak Shek Kok, New Territories, Hong Kong. This action arises out of that business.

30. Upon information and belief, Defendant TTE Technology, Inc. (d/b/a TCL North America) (“TTE Technology, Inc.”) is a corporation organized and existing under the laws of Delaware with its principal place of business at 1860 Compton Avenue, Corona, CA 92881. This action arises out of that business.

31. Upon information and belief, Defendant TTE Corporation is a corporation organized and existing under the law of the British Virgin Islands with its principal place of business at 7th Floor, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, New Territories, Hong Kong. This action arises out of that business.

32. Upon information and belief, Defendant TCL Moka International Limited is a Hong Kong corporation with a principal place of business at 7th Floor Hong Kong Science Park, Building 22 E, 22 Science Park East Avenue, Shatin, New Territories, Hong Kong or 13th Floor, TCL Tower, 8 Tai Chung Road, Tsuen Wan, New Territories, Hong Kong. This action arises out of that business.

33. Upon information and belief, Defendant TCL Moka Manufacturing S.A. de C.V. is a company organized under the laws of Mexico with a principal place of business at Calle Cuarta. No. 55, Ciudad Industrial Nueva Tijuana, Tijuana, BJ 66050, Mexico. This action arises out of that business.

34. Upon information and belief, Defendant TCL King Electrical Appliances (Huizhou) Co. Ltd. is a corporation organized and existing under the laws of the People’s Republic of China with its principal place of business at No. 78, Huifeng 4 Road, Zhongkai Development Zone Huizhou, 516006 P.R. China. This action arises out of that business.

35. Upon information and belief, Defendant Manufacturas Avanzadas S.A. de C.V. is a corporation organized and existing under the law of Mexico with a principal place of business at Blvd. Independecia No. 2151, Ciudad Juarez, Chihuahua, 32580, Mexico. This action arises out of that business.

36. Upon information and belief, Defendant TCL Smart Device (Vietnam) Co., Ltd. is a corporation organized and existing under the laws of Vietnam with its principal place of business at No. 26 VSIP II-A, Street 32, Vietnam Singapore Industrial Park II-A, Tan Binh Commune, Bac Tan Uyen District, Binh Duong Province, 75000, Vietnam. This action arises out of that business.

37. Upon information and belief, Defendant Shenzhen TCL New Technology Co., Ltd. is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at 9th Floor, TCL Electronics Holdings Limited Building, TCL International E City, No. 1001 Zhongshan Park Road, Nanshan, China. This action arises out of that business.

38. Upon information and belief, Defendant TCL Optoelectronics Technology (Huizhou) Co., Ltd. is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at Ltd. No. 78 Huifeng Si Rd, Zhongkai High-New Development Zone, Huizhou, Guangdong, 516006, China. This action arises out of that business.

39. Upon information and belief, Defendant TCL Overseas Marketing Ltd. is a corporation organized and existing under the laws of the British Virgin Islands with its principal place of business at 5th Floor, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, New Territories, Hong Kong. This action arises out of that business.

40. Upon information and belief, TCL Technology Group Corporation ("TCL Technology") is a company duly organized and existing under the laws of China, with its principal

place of business located at No 26, the Third Road, Zhongkai Avenue, Huizhou City, Guangdong, China 516006, and may be served pursuant to the provisions of the Hague Convention. TCL Technology may also be served with process by serving the Texas Secretary of State, 1019 Brazos Street, Austin, Texas 78701, as its agent for service because it engages in business in Texas but has not designated or maintained a resident agent for service of process in Texas as required by statute. This action arises out of that business.

41. TCL Technology—together with its subsidiaries—describes itself as “principally engag[ing] in the R&D, manufacturing and sales of consumer electronic products such as smart screens, mobile communication devices and independently develop[ing] home Internet services.” *See supra* note 1, at 3.

42. Upon information and belief, Defendant TCL Industries Holdings Co., Ltd is the ultimate parent company of all of the other named defendants, and as the ultimate parent, induces its subsidiaries, affiliates, retail partners, and customers in the making, using, selling, offering for sale, and/or importing of products accused of infringement in this Complaint through its subsidiaries.

43. Upon information and belief, Defendants are part of the same corporate structure and distribution chain for making, using, selling, offering for sale, and/or importing the accused televisions in the United States, including in this State and this District. Defendants do business as a collective whole under the TCL brand.

44. Upon information and belief, Defendants (“TCL”)are part of an interrelated group of companies which together comprise one of the largest makers and sellers of televisions in the United States, including the TCL brands. TCL, which refers to the company and its subsidiaries as the “Group,” describes itself as one of the “world’s leading consumer electronics company” and

states that the Group is “mainly involved in the manufacture and sale of television (‘TV’) sets, smart mobile, smart connective devices and services, smart commercial display and smart home products and provision of Internet platform operating services.” *See supra* note 1, at 3; 139.

45. Defendants and their affiliates are part of the same corporate structure and distribution chain for the making, importing, offering to sell, selling, and using of the accused devices in the United States, including in the State of Texas generally and this judicial district in particular.

46. Defendants and their affiliates are part of the same management, common ownership, advertising platforms, facilities, distribution chains and platforms, and accused product lines and products involving related technologies.

47. Thus, Defendants and their affiliates operate as a unitary business venture and are jointly and severally liable for the acts of patent infringement alleged herein.

48. The parties to this action are properly joined under 35 U.S.C. § 299 because of the right to relief asserted against defendants jointly and severally arises out of the same series and transactions or occurrences relating to the making and using of the same products or processes. Additionally, questions of fact common to all defendants will arise in this action.

NATURE OF THE ACTION, JURISDICTION, AND VENUE

49. Maxell brings this action for patent infringement under the patent laws of the United States, 35 U.S.C. § 271 *et seq.*

50. This Court has subject matter jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because the action arises under the patent laws of the United States.

51. This Court has personal jurisdiction over Defendants pursuant to due process and/or the Texas Long Arm Statute because (1) Defendants conduct business and continue to do business in Texas, (2) Defendants have committed acts of direct and indirect patent infringement in this District, the State of Texas, and elsewhere in the United States, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein. In addition, or in the alternative, this Court has personal jurisdiction over Defendants pursuant to Fed. R. Civ. P. 4(k)(2).

52. This Court previously found that a number of the Defendants are subject to personal jurisdiction in this forum. *See Canon, Inc. v. TCL Elecs. Holdings Ltd.*, No. 2:18-CV-00546-JRG, 2020 WL 1478356, at *3 (E.D. Tex. Mar. 25, 2020).

53. Personal jurisdiction also exists specifically over each of the Defendants because they have overlapping executives, interlocking corporate structures, and close relationships as manufacturer, importer, and distributor of accused products.

54. On information and belief, venue is proper over Defendant TTE Technology, Inc. at least because it has committed acts of direct and/or indirect infringement in this District, has a regular and established place of business in this District, and has transacted business in this District, including offering to sell, selling, having sold and/or importing televisions which infringe at least one of the patents-in-suit.

55. Defendant TTE Technology, Inc. has previously availed itself of courts in the Eastern District of Texas, including voluntarily submitting to jurisdiction and venue in this forum for purposes of a patent litigation. *See, e.g., American Patents LLC, v. TCL Corp. et al.*, No. 4:18-

cv-00767, Dkt. 46 at 2 (E.D. Tex., Feb. 20, 2019) (“TCL King Electrical Appliances (Huizhou) Co. Ltd., TTE Technology, Inc., Huizhou TCL Mobile Communication Co. Ltd., and TCT Mobile (US) Inc. agree that, for this case only, they will not assert that venue in the Eastern District of Texas is improper under Section 1400(b).”).

56. On information and belief, Defendant TTE Technology, Inc. maintains a regular and established place of business in the Eastern District of Texas at least because repair shops conduct the business of Defendant TTE Technology, Inc. by performing, processing, and/or handling warranty services for TCL branded products according to the TCL North America Limited Product Warranty published at <https://www.tcl.com/us/en/warranty/mobile-warranty>.

57. Venue is proper in this district pursuant to 28 U.S.C. §§ 1391(b), 1391(c), and 1400(b) because (1) Defendants have done and continue to do business in this district; (2) Defendants have committed and continue to commit acts of patent infringement in this district, including making, using, offering to sell, and/or selling accused products in this district, and/or importing accused products into this district, including by internet sales and sales via retail and wholesale stores, and/or inducing others to commit acts of patent infringement in this district; and (3) Defendants are foreign entities.

58. Venue is also proper as to foreign Defendants, each of which is organized under the laws of a foreign jurisdiction. 28 U.S.C. § 1391(c)(3) provides that “a defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants.” *See also In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018).

59. Additionally, Maxell has had regular and continuous business in Texas since 2014. As a result of such business dealings and hopes to expand those and other business dealings, a

Maxell affiliate, Maxell Research and Development America, LLC (“MRDA”), was founded in Marshall, Texas. MRDA is part of a joint venture with another business in Marshall, and the entities work together on research and development related to IoT, mobile, media and battery technologies. MRDA’s ongoing projects include, for example, the research and development of lensless camera technology, which Maxell hopes will be utilized for sensor and camera technology in smartphones. Maxell has regularly met and continues to regularly meet with MRDA to expand its business, and investments are being made by Maxell, MRDA, and others in this District to further the goals of these companies.

60. Maxell has filed other lawsuits in Texas including one to enforce the patent portfolio of which the currently asserted patents are a part against Hisense Co Ltd et al.

COUNT 1 - INFRINGEMENT OF U.S. PATENT NO. 7,924,366

61. Maxell incorporates paragraphs 1-60 above by reference.

62. U.S. Patent No. 7,924,366 (the “’366 Patent,” attached hereto at Exhibit 1) duly issued on April 12, 2011 and is entitled *Image Display Apparatus*.

63. Maxell is the owner by assignment of the ’366 Patent and possesses all rights under the ’366 Patent, including the exclusive right to recover for past and future infringement.

64. The ’366 Patent is directed to large-size image display apparatuses, such as slim structure televisions, and the supporting structures of the panel module. The ’366 Patent is more specifically directed to an image display apparatus and supporting structures being suitable for thin-sizing of the apparatus when the panel module area increases due to the large-sizing of the image display apparatuses, including structures for attaching the power source board and driver circuit board, etc. on the rear surface of the panel module. For example, the ’366 Patent claims recite a display panel, signal board, and power source board. The claims also recite a projection portion mounted on the power source board along with circuit elements and where the projection

portion is higher above the circuit element and not connected to a member opposing the mounting side of the circuit element.

65. The '366 Patent explains that, at the time of its priority date, there was increased demand for a large-size and thin-type image displaying apparatuses such as televisions as well as the conventional projection-type display in apparatuses including liquid crystal display (LCD) and the plasma display (PDL). The '366 Patent at 1:17-25. However, installing a large-size LCD into a thin-type apparatus, including a reflection plate and/or a back light device therein, as a unit, and also a housing having a predetermined configuration (including a frame and a rear plate), a power source board or substrate, a driver circuit board, and other components, remained a challenge to construct while maintaining its mechanical strength. *Id.* at 1:43-55, 2:6-14. Yet, the conventional art at the time, such as those providing a structure in the “X” like shaped supporting member, contained drawbacks and problems within thin-sizing of the image display apparatus, and were therefore not suitable for practical use. *Id.* at 2:15-21.

66. The '366 Patent solved these problems by providing a thin plate-like frame and a display element mounted on the frame attached to the housing to create further reinforcement. *Id.* at 2:34-43. More specifically, the claimed invention includes a projection portion provided on a mounting surface of the power source board and configured to be higher above the mounting surface and not connected with a member facing the mounting surface of the power source board. As such, the signal board and power source board could be cooled by air flowing from a lower side of the display apparatus. Another aspect of the claimed invention provides that a projection portion is configured to prevent contacting of the circuit element of the power source board with a member positioned facing to the mounting surface of the power source board when the rear cover

of the display apparatus is pushed. Therefore, a suitable thin-sized image display apparatus with appropriate mechanical strength can be accomplished.

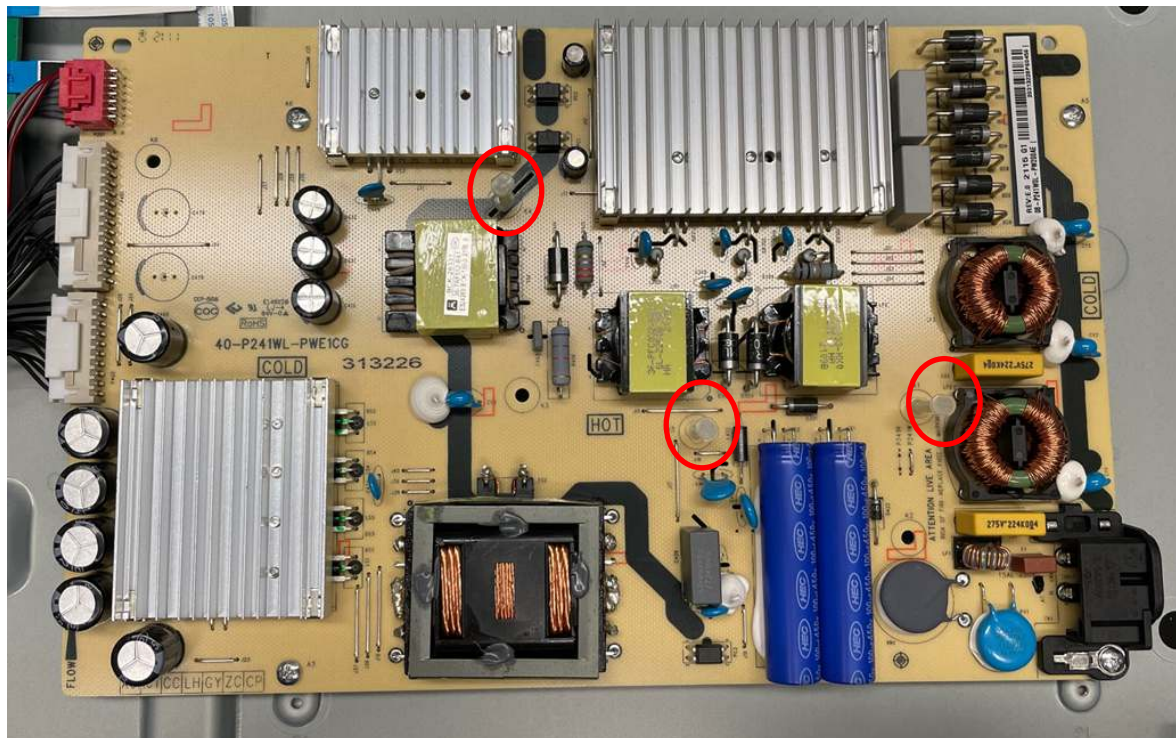
67. TCL has directly infringed one or more claims of the '366 Patent in this District and elsewhere in Texas, including at least claims 5, 6, and 9 literally and/or under the doctrine of equivalents, by or through making, using, importing, offering for sale and/or selling its televisions technology, including at least the 8-Series (65Q825, 75Q825), 6-Series (55R617, 65R617, 75R617, 55R625, 65R625, 55R635, 65R635, 75R635, 55R646, 65R646, 75R646, 65R648, 75R648, 55R655, 65R655, 75R655, 85R655), 5-Series (55S531, 65S531, 50S535, 55S535, 65S535, 75S535, 50S546, 55S546, 65S546, 75S546, 50S555, 55S555, 65S555, 75S555, 55T551, 65T551, 65T554, 50T555, 55T555, 65T555, 75T555, 43S525, 50S525, 55S525, 65S525, 43S515, 49S515, 55S515, 65S515, 43S517, 49S517, 55S517, 65S517), 4-Series (55S21, 55S41, 65S41, 43S45, 50S45, 75S45, 43S421, 50S421, 55S421, 65S421, 75S421, 43S425, 49S425, 50S425, 55S425, 65S425, 75S425, 70S430, 43S431, 50S431, 55S431, 65S431, 75S431, 85S431, 75S433, 43S434, 50S434, 55S434, 65S434, 70S434, 75S434, 43S435, 50S435, 55S435, 65S435, 85S435, 43S446, 50S446, 55S446, 65S446, 75S446, 85S446, 43S451, 50S451, 55S451, 65S451, 75S451, 85S451, 43S453, 50S453, 55S453, 65S453, 75S453, 43S455, 50S455, 55S455, 58S455, 65S455, 75S455, 85S455), 3-series (32S21, 32S325, 40S325, 43S325, 49S325, 32S327, 32S330, 40S330, 32S331, 32S334, 40S334, 43S334, 32S335, 40S355, 32S356, 32S357, 32S359), S-Class (32S210R, 32S250R, 32S310R, 40S310R, 43S310R, 32S330G, 40S330G, 43S330G, 32S350F, 40S350F, 40S35F, 32S350G, 40S350G, 43S350G, 32S350R, 40S350R, 43S350R, 32S370G, 40S370G, 43S370G, 43S450F, 50S450F, 55S450F, 65S450F, 75S450F, 43S450G, 50S450G, 55S450G, 65S450G, 75S450G, 85S450G, 50S45G, 43S450R, 50S450R, 43S470G, 50S470G, 55S470G, 58S470G, 65S470G, 70S470G, 75S470G, 85S470G, 98S550G), Q-Class (55Q650F,

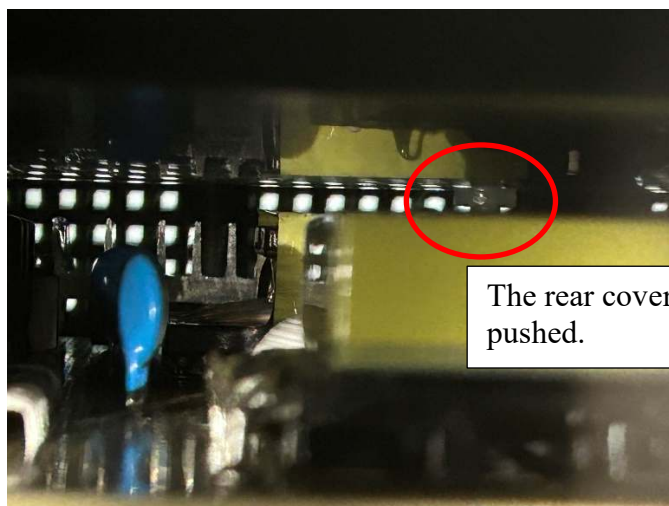
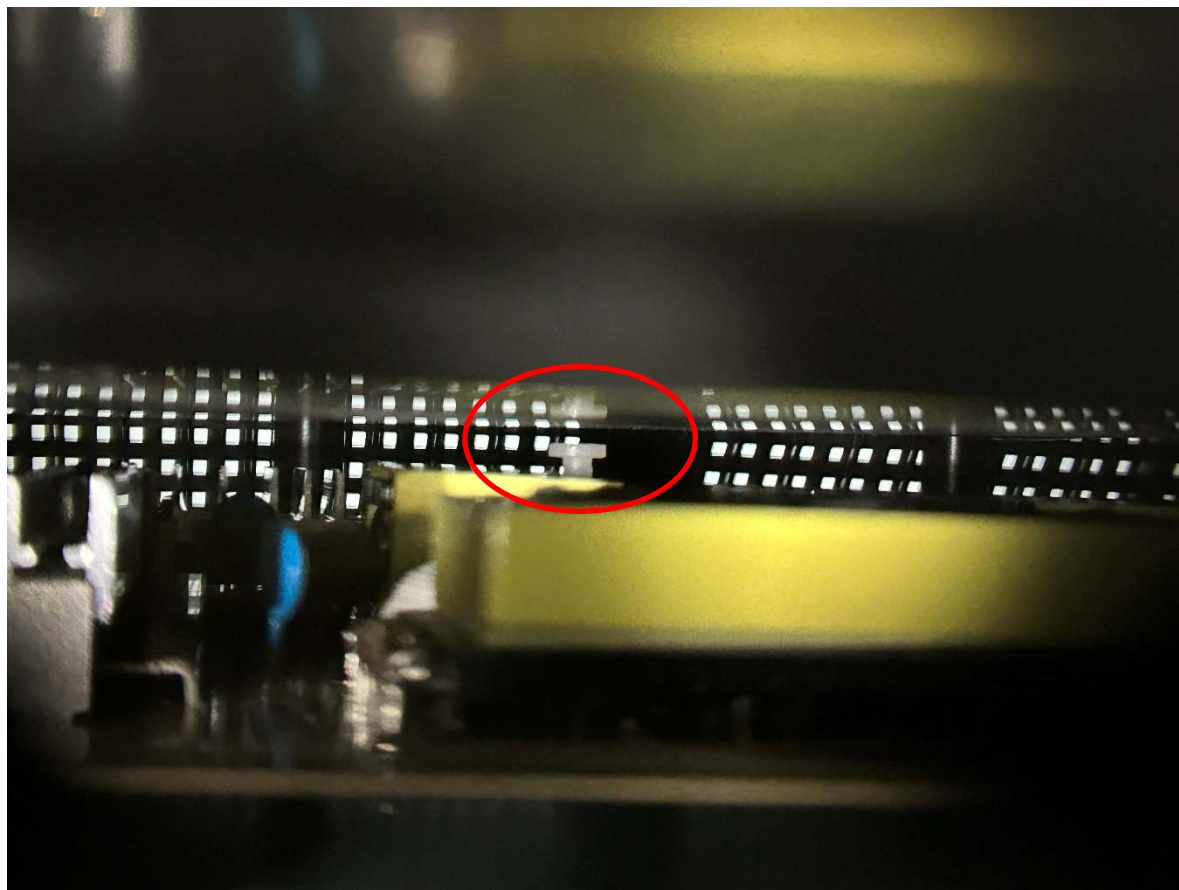
65Q650F, 75Q650F, 50Q550G, 55Q550G, 65Q550G, 55Q650G, 65Q650G, 75Q650G, 85Q650G, 55Q670G, 65Q670G, 75Q670G, 85Q670G, 55Q750G, 65Q750G, 75Q750G, 85Q750G, 98QM850G, 85QM850G, 75QM850G, 65QM850G), XL Collection (85X925PRO, 98R754, 85R745), P-Series (55P607, 55P605), C-Series (55C803, 75C803, 55C807, 65C807, 75C807), S-Series (40S303, 43S303, 49S303; 28S305, 32S305, 40S305, 43S305, 49S305; 43S403, 49S403, 43S405, 49S405, 55S405, 65S405; 43S403, 49S403, 55S403, 65S403; 43S401, 49S401, 55S401, 65S401), D-Series (32D100, 40D100, 49D100) (collectively, “the ’366 Accused Products”). Maxell reserves the right to discover and pursue any additional infringing devices that incorporate infringing functionalities. For the avoidance of doubt, the ’366 Accused Products are identified to describe TCL’s infringement and in no way limit the discovery and infringement allegations against TCL concerning other devices that incorporate the same or reasonably similar functionalities.

68. Each of the ’366 Accused Products is observed to include a display panel, a signal board configured to process an image signal, and a power source board configured to supply power, with the signal board and power source board disposed in a horizontal direction of the display panel.

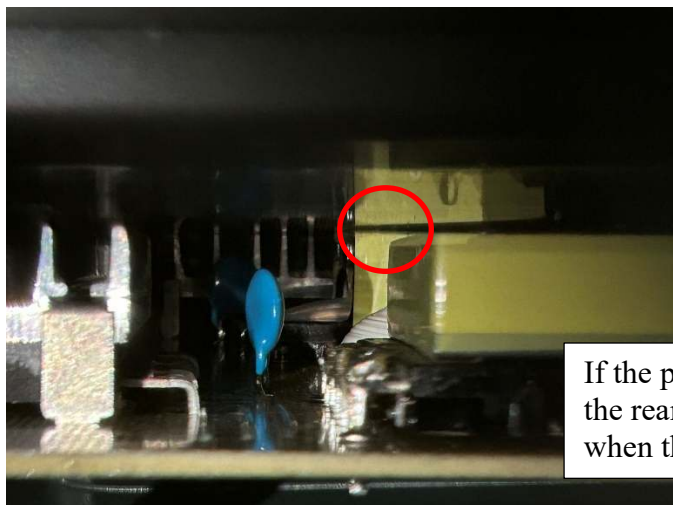
69. Each of the ’366 Accused Products also includes a projection portion configured to be provided on a mounting surface of the power source board where a circuit element of the power source board is mounted. Further, the projection portion is configured to be higher above the mounting surface of the power source board than said circuit element and not connected with a member facing to the mounting surface of the power source board. The projection portion is also configured to prevent contacting of the circuit element of the power source board with a member

positioned facing to the mounting surface of said power source board, when the rear cover is pushed. An example is shown below for the TCL 50S535:





The rear cover contacts the pin when the rear cover is pushed.



If the pin is removed from the power source board, the rear cover contacts with the circuit element when the rear cover is pushed.

70. The foregoing features and capabilities of each of the '366 Accused Products and TCL's description and/or demonstration thereof, including in user manuals and advertising, reflect TCL's direct infringement by satisfying every element of at least claims 5, 6, and 9 of the '366 Patent, under 35 U.S.C. § 271(a).

71. TCL has been aware of the '366 Patent since, at least, September 14, 2015, by virtue of correspondence with Maxell. Further, TCL has been on notice of its infringement of the '366 Patent since at least January 29, 2016. By the time of trial, TCL will thus have known and intended (since receiving such notice), that its continued actions would actively induce and contribute to actual infringement of at least claims 5, 6, and 9 of the '366 Patent.

72. TCL undertook and continued its infringing actions despite an objectively high likelihood that such activities infringed the '366 Patent, which has been duly issued by the USPTO, and is presumed valid. TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '366 Patent, nor could it reasonably, subjectively believe that the patent is invalid. For example, at least since it received Maxell's claim chart on January 29, 2016, and in conjunction with its knowledge and awareness of Maxell's broader portfolio as a result of the communications with Maxell, TCL has been aware of an objectively high likelihood that its

actions constituted and continue to constitute infringement of the '366 Patent, and that the '366 Patent is valid. On information and belief, TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '366 Patent, nor could it reasonably, subjectively believe that the patent is invalid. Despite that knowledge and subjective belief, and the objectively high likelihood that its actions constitute infringement, TCL has continued its infringing activities. As such, TCL willfully infringes the '366 Patent.

73. Maxell has been damaged by TCL's infringement of the '366 Patent.

COUNT 2 - INFRINGEMENT OF U.S. PATENT NO. 10,650,780

74. Maxell incorporates paragraphs 1-73 above by reference.

75. U.S. Patent No. 10,650,780 (the "'780 Patent," attached hereto at Exhibit 2) duly issued on May 12, 2020 and is entitled *Display Apparatus*.

76. Maxell is the owner by assignment of the '780 Patent and possesses all rights under the '780 Patent, including the exclusive right to recover for past and future infringement.

77. Prior to the priority date of the '780 Patent, image display apparatuses were not capable of seamlessly handling the different requirements between image interface circuitry and networks in order to received image information from different sources and in different manners in an uniform interface. The IEEE 1394 standard, the HDMI standard, the Universal Serial Bus (USB) standard, and different network standards used by local area networks (LAN) and wireless networks, have different requirements and limitations, and therefore created various problems of interoperability and source switching for implementation in a single digital apparatus and uniform interface.

78. For example, as explained in the '780 Patent, in the HDMI system, a baseband signal of an uncompressed high definition picture signals and audio signals are transmitted, and an apparatus which received the transmitted high definition picture signal does not record the received

signal. Such interface is also capable of higher bandwidth and therefore may be subjected to different encryption processing such as High-Bandwidth Digital Content Protection (HDCP). On the other hand, the USB circuitry and LAN and wireless interfaces transmit still pictures as compressed picture information, but do so in different ways with their own set of requirements and limitations (such as bandwidth limitations), transmitted via a cable versus wirelessly. In addition to these interoperability issues, these dissimilarities also created difficulties in providing a single user interface for those devices.

79. The asserted claims of the '780 Patent provide improvements over the prior art by the unconventional use of a first signal, a second signal, and a predetermined time interval, to conduct and display a slide show in a specific manner with one user interface, supporting images received by dissimilar interface circuitry, such as from USB and wireless LAN interfaces, and thus solving these conventional issues of interoperability and source switching in image display devices. More specifically, the claimed "first signal," "second signal," and "predetermined time interval" allow the image display apparatus to better switch and interact with external image devices (e.g., digital cameras) connected through the distinct circuitry required by the claims, the USB and wireless LAN interface circuitry. The signals of the claimed invention are transmitted via the USB and wireless LAN and the processing from the transmission of the image request signal to the conversion processing of the picture signal for display by the image stream signalization circuit is repeated at predetermined time intervals. This enables the image signals to be subjected to the appropriate processing necessary to enable interoperability between the interface circuitry.

80. For example, the USB interface circuitry transmits, over the USB cable, a first signal to the digital camera for causing the digital camera to output compressed first image information corresponding to first still pictures, and receives, over the cable, the compressed first

image information corresponding to first still pictures output from the digital camera. The wireless LAN interface circuitry wirelessly transmits, over the network, a second signal to the digital camera for causing the digital camera to output compressed second image information corresponding to second still pictures, and wirelessly receives, over the network, the compressed second image information corresponding to second still pictures output from the digital camera. The picture data may also be processed at predetermined time intervals, (e.g., resizing, rotation, and/or conversion) in order for it to be properly displayed. This results in the convenience of viewing a slide show on an image display apparatus that connects to external devices, (e.g., digital cameras), without the interoperability issues caused by the diverse circuitry of those external devices.

81. Prior to the priority date of the '780 Patent, image display apparatuses did not conduct a slide show from images in an external image device connected to the display through interface circuitry containing different underlying operational requirements and limitations, and further could not provide for a single user interface for doing so. But, as explained above, the recitations of the asserted claims enable the switching of and interoperability between the USB and wireless LAN interfaces, resulting in an image display apparatus with different interfaces—an improved computer hardware device.

82. TCL has directly infringed one or more claims of the '780 Patent in this District and elsewhere in Texas, including at least claim 1 literally and/or under the doctrine of equivalents, by or through making, using, importing, offering for sale and/or selling its televisions, including by way of example the TCL 50S535.

83. The 50S535 is a smart television that can display images from various sources, including broadcasted television content, and externally connected sources.

84. The 50S535 has USB ports for receiving and processing image information for display on the display of the television and a wireless LAN interface for receiving and processing image information received wirelessly. The 50S535 is equipped with a USB port and wireless LAN interface, allowing it to display, for example, compressed images stored on a digital camera. The 50S535 includes a central processor or comparable hardware or software that decodes compressed image information (e.g., JPEG, PNG, and GIF) received by the USB port or wireless LAN interface from, for example, a digital camera. This is shown in the screenshots below from the 50S535.

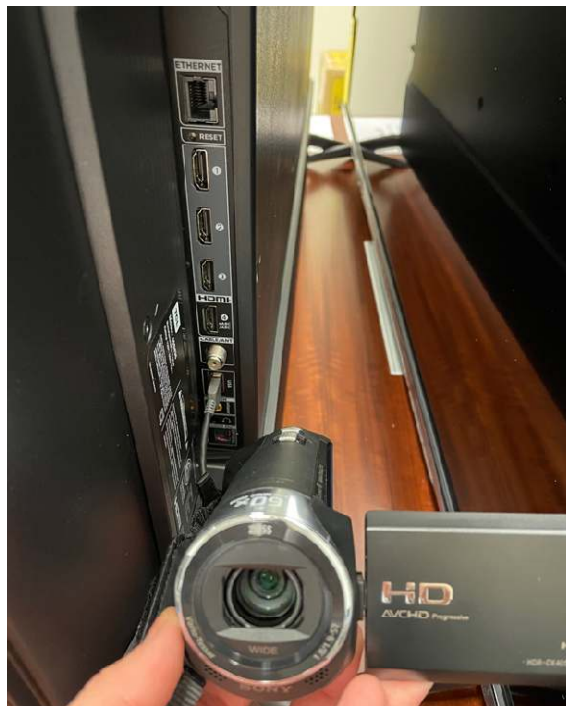




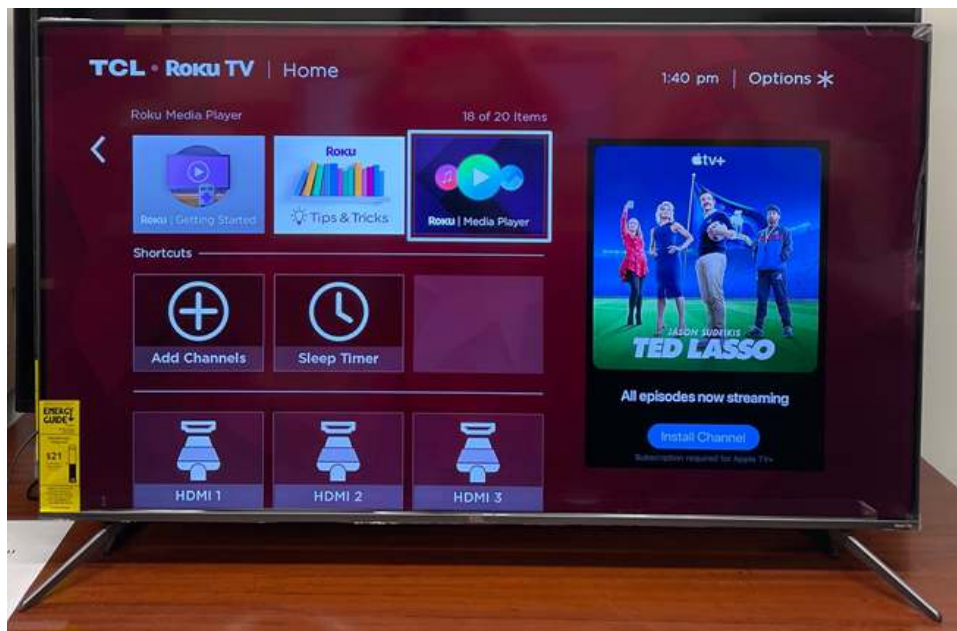


85. The 50S535 also includes the functionality of displaying a slide show of images received from the USB and wireless LAN circuitry. For example, when a digital camera containing JPEG images is connected to the USB port of the 50S535 and a user selects the USB port as the input source, in response to an operation by the user for conducting a slide show (e.g., selection of slide show functionality) via a remote controller, the 50S535 transmits a signal to the digital camera via the USB port causing it to output compressed image information corresponding to first still pictures, receives the compressed image information output from the digital camera via the USB port, decodes the received compressed image information by the central processor or comparable hardware or software, and conducts a slide show at predetermined time intervals. This is shown in the screenshots below from the 50S535.

Step 1: Connect a digital camera containing JPEG images to the USB port.



Step 2: Choose "Roku Media Player" at the "Home" screen.



Step 3: Choose “Photo” from “Media Type Selection” screen.



Step 4: Choose “USB Drive” from “Select Media device” screen.



Step 5: Display folders on the digital camera (e.g., “DCIM”)



Step 6: Select a folder (e.g., “DCIM”) and display low-level folders of the selected folder (“DCIM”) by using the remote controller.



Step 7: Select a low-level folder (e.g., “100MSDCF”) storing photos that you want to view, and display JPEG files stored in the selected folder by using the remote controller.



Step 8: Select a JPEG file (e.g., “DSC00165”) among the JPEG files by using the remote controller and display a decoded image corresponding to the selected JPEG file.

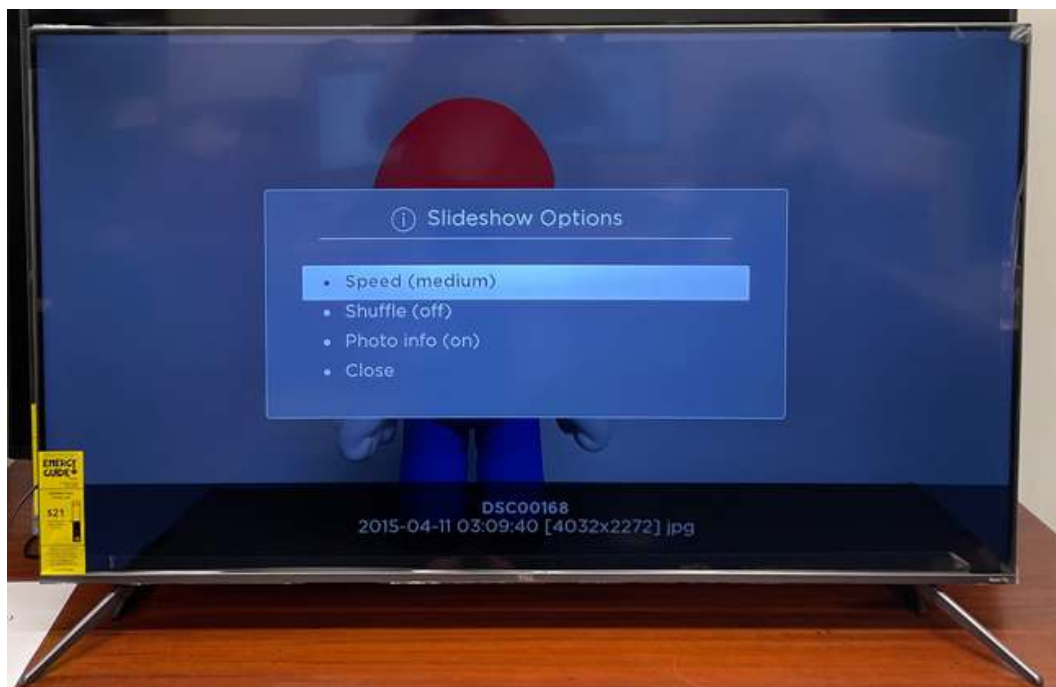


Step 9: Automatically begin a slideshow starting with a decoded image corresponding to the selected JPEG file (e.g., “DSC00165”).



Step 10: slideshow options

Displaying “Slideshow Options” by pressing “*” key on the remote controller:



Selecting “fast” speed of slideshow, speed is selectable from fast/medium/slow:



Selecting “slow” speed of slideshow, speed is selectable from fast/medium/slow:



86. In addition, for example, when the digital camera containing JPEG images is connected wirelessly via the wireless LAN interface circuitry of the 50S535 based on a user input in the input device, in response to an operation by the user for conducting a slide show, the 50S535

transmits a signal to the digital camera via the wireless LAN interface circuitry causing it to output compressed images, receives the compressed images from the digital camera via the wireless LAN interface circuitry, decodes the received compressed image information by the central processor or comparable hardware or software, and conducts a slide show at predetermined time intervals.

This is shown in the screenshots below from the 50S535.

Step 1: Wirelessly connect the digital camera via the Wi-Fi adapter and choose “Roku Media Player” at the “Home” screen.



Step 2: Choose “Photo” from “Media Type Selection” screen.



Step 3: Choose “Media Server” from “Select Media device” screen.



Step 4: Display folder on the digital camera (e.g., “SD”).



Step 5: Select the folder (e.g., “SD”) and display low-level folder (e.g., “AVCHD” and “JPEG”) in the selected folder.



Step 6: Select a low level folder (e.g., “JPEG”) storing photos that you want to view, and display JPEG files stored in the selected low level folder by using the remote controller.



Step 7: Choose a JPEG file (e.g., “JPEG_0001”) among the JPEG files by using the remote controller and display a decoded image corresponding to the selected JPEG file.

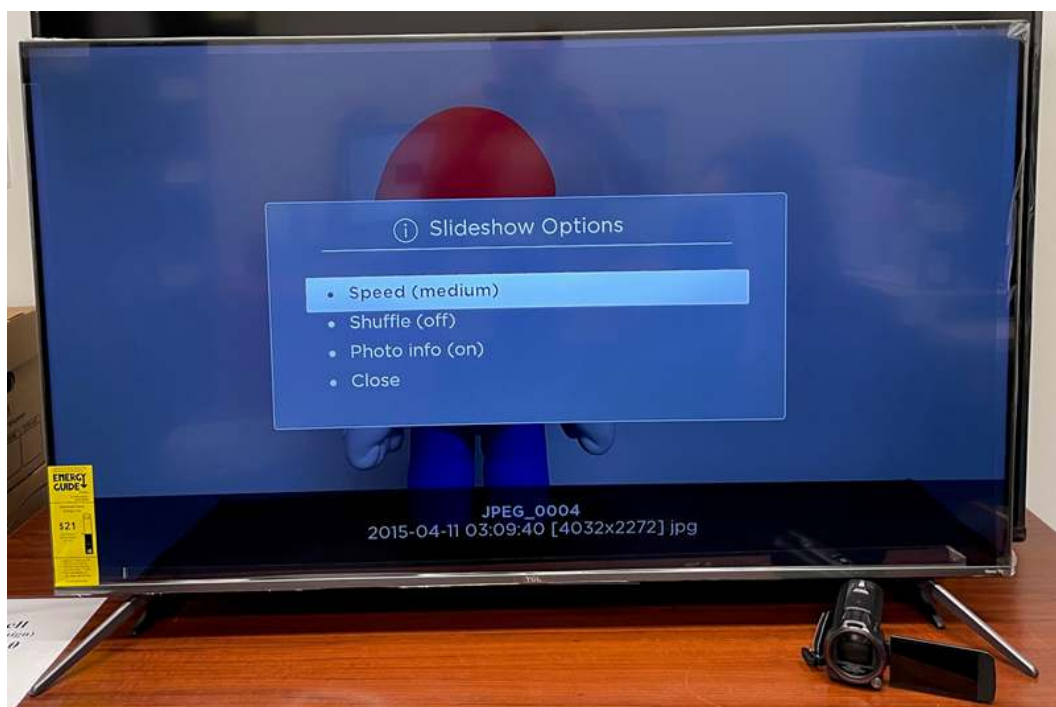


Step 8: Automatically begin a slideshow starting with a decoded image corresponding to the selected JPEG file (e.g., “JPEG_0001”).



Step 9: Slideshow options

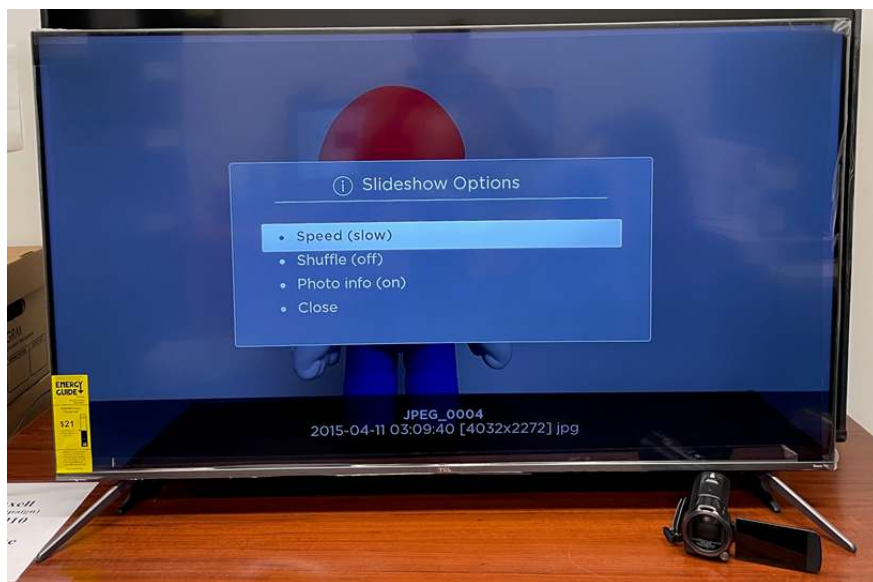
(Displaying “Slideshow Options” by pressing “*” key on the remote controller)



Selecting “fast” speed of slideshow, speed is selectable from fast/medium/slow)



(Selecting “slow” speed of slideshow, speed is selectable from fast/medium/slow)



87. The foregoing features and capabilities of the TCL 50S535, and TCL’s description and/or demonstration thereof, including in user manuals and advertising, reflect TCL’s direct infringement by satisfying every element of at least claim 1 of the ’780 Patent, under 35 U.S.C. § 271(a).

88. On information and belief, TCL further infringes the ’780 Patent through additional products utilizing the same or reasonably similar functionalities as described above with respect

to the TCL 50S535 (collectively, “the ’780 Accused Products”). On information and belief, the ’780 Accused Products include, for example, 8-Series (65Q825, 75Q825), 6-Series (55R635, 65R635, 75R635, 65R648, 75R648, 55R655, 65R655, 75R655, 85R655), 5-Series (55S531, 65S531, 50S535, 55S535, 65S535, 75S535, 50S555, 55S555, 65S555, 75S555, 55T551, 65T551, 50T555, 55T555, 65T555, 75T555), 4-Series (55S21, 55S41, 65S41, 43S45, 50S45, 75S45, 43S421, 50S421, 55S421, 65S421, 75S421, 43S425, 49S425, 50S425, 55S425, 65S425, 75S425, 43S431, 50S431, 55S431, 65S431, 75S431, 85S431, 75S433, 43S435, 50S435, 55S435, 65S435, 85S435, 75S446, 85S446, 43S451, 50S451, 55S451, 65S451, 75S451, 85S451, 43S453, 50S453, 55S453, 65S453, 75S453, 43S455, 50S455, 55S455, 58S455, 65S455, 75S455, 85S455), 3-series (32S325, 40S325, 43S325, 49S325, 32S327, 32S331, 32S335, 40S355, 32S357, 32S359), S-Class (32S210R, 32S250R, 32S310R, 40S310R, 43S310R, , 32S350F, 40S350F, 40S35F, 32S350R, 40S350R, 43S350R, 43S450F, 50S450F, 55S450F, 65S450F, 75S450F, 43S450R, 50S450R), Q-Class (55Q650F, 65Q650F, 75Q650F), XL Collection (85R745). For example, each of these products is also equipped with a slideshow functionality, allowing it to communicate with a digital camera using both USB and wireless LAN interface circuitry to receive and decode compressed image information and conduct a slideshow at predetermined intervals. Maxell reserves the right to discover and pursue any additional infringing devices that incorporate infringing functionalities. For the avoidance of doubt, the ’780 Accused Products are identified to describe TCL’s infringement and in no way limit the discovery and infringement allegations against TCL concerning other devices that incorporate the same or reasonably similar functionalities.

89. TCL has indirectly infringed at least claim 1 of the ’780 Patent in this District and elsewhere in the United States by, among other things, actively inducing the use, offering for sale, selling, or importation of at least the ’780 Accused Products. TCL’s customers who purchase

devices and components thereof and operate such devices and components in accordance with TCL's instructions directly infringe one or more claims of the '780 Patent in violation of 35 U.S.C. § 271. TCL instructs its customers through at least user guides or websites, such as those located at: <https://www.tcl.com/us/en/products/home-theater/5-series/50-class-5-series-4k-qlcd-hdr-smart-roku-tv-50s535>. TCL is thereby liable for infringement of the '780 Patent pursuant to 35 U.S.C. § 271 (b).

90. TCL has indirectly infringed at least claim 1 of the '780 Patent, by, among other things, contributing to the direct infringement of others, including customers of the '780 Accused Products by making, offering to sell, or selling, in the United States, or importing a component of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in infringement of the '780 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

91. For example, the '780 Accused Products include a USB port and wireless LAN interface circuitry for receiving images from an external image apparatus such as a digital camera for conducting a slide show at predetermined time intervals. These are components of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process. Furthermore, such components are a material part of the invention and upon information and belief are not a staple article or commodity of commerce suitable for substantial non-infringing use. Thus, TCL is liable for infringement of the '780 Patent pursuant to 35 U.S.C. § 271(c).

92. TCL has been on notice of the '780 Patent since at the latest, May 21, 2020. By the time of trial, TCL will thus have known and intended (since receiving such notice), that its

continued actions would actively induce and contribute to actual infringement of at least claim 1 of the '780 Patent.

93. TCL undertook and continues its infringing actions despite an objectively high likelihood that such activities infringed the '780 Patent, which has been duly issued by the USPTO, and is presumed valid. TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '780 Patent, nor could it reasonably, subjectively believe that the patent is invalid. For example, since at least May 21, 2020, TCL has been aware of an objectively high likelihood that its actions constituted and continue to constitute infringement of the '780 Patent, and that the '780 Patent is valid. On information and belief, TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '780 Patent, nor could it reasonably, subjectively believe that the patent is invalid. Despite that knowledge and subjective belief, and the objectively high likelihood that its actions constitute infringement, TCL has continued its infringing activities. As such, TCL willfully infringes the '780 Patent.

94. Maxell has been damaged by TCL's infringement of the '780 Patent.

COUNT 3 - INFRINGEMENT OF U.S. PATENT NO. 10,375,341

95. Maxell incorporates paragraphs 1-94 above by reference.

96. U.S. Patent No. 10,375,341 (the "'341 Patent," attached hereto at Exhibit 3) duly issued on August 6, 2019 and is entitled *Video Display Apparatus And Terminal Apparatus*.

97. Maxell is the owner by assignment of the '341 Patent and possesses all rights under the '341 Patent, including the exclusive right to recover for past and future infringement.

98. The '341 Patent is directed to video display apparatuses and methods of changing the displayed content where casting of such content utilizes two different types of bi-directional wireless communications. Prior to the priority date of the '341 Patent, viewing of content from

different wireless devices was not possible using casting using a seamless and user-friendly video display apparatus, and without user interaction. The '341 Patent solved this problem by including specific means of operation and communication between two different wireless devices.

99. More specifically, the '341 Patent is directed to casting to a TV from two different wireless devices; one via a router and one without going via a router. For example, the claims of the '341 Patent recite devices and methods that execute two types of bi-directional wireless communication—first bi-directional wireless communication with a first wireless control device without going via a router and second bi-directional wireless communication via a router with a second wireless control device that is different from the first. If a first command for changing a video content on the display from a first video content is selected by the first wireless control device to a second video content is transmitted from the second wireless control device via the router during displaying the first video content, the display unit terminates displaying the first video content and starts to display the second video content and sends first information for informing termination of the displaying of the first video content to the first wireless control device without going via a router. If a second command for changing a video content on the display from a second video content selected by the second wireless control device to another video content is transmitted from the third wireless control device, the display terminates displaying the second video content and starts to display another video content and sends second information for informing termination of the displaying of the second video content via the router to the second wireless control device.

100. TCL has directly infringed one or more claims of the '341 Patent in this District and elsewhere in Texas, including at least claim 3 literally and/or under the doctrine of equivalents,

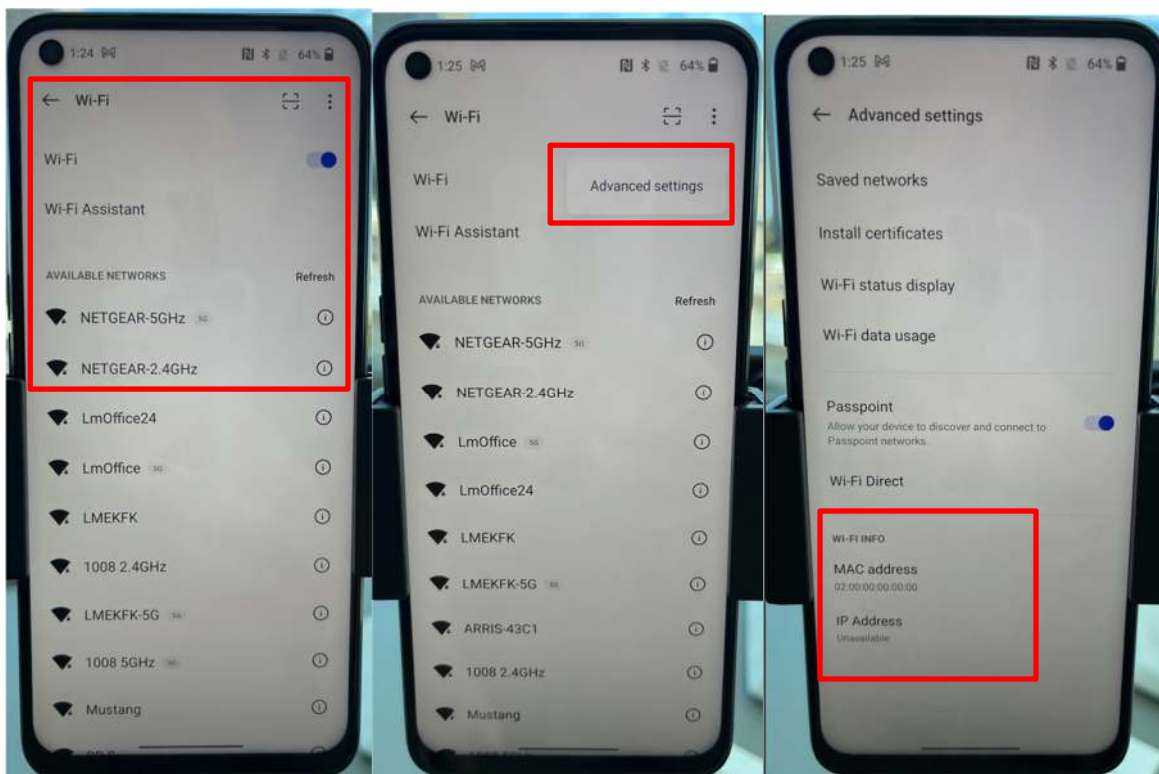
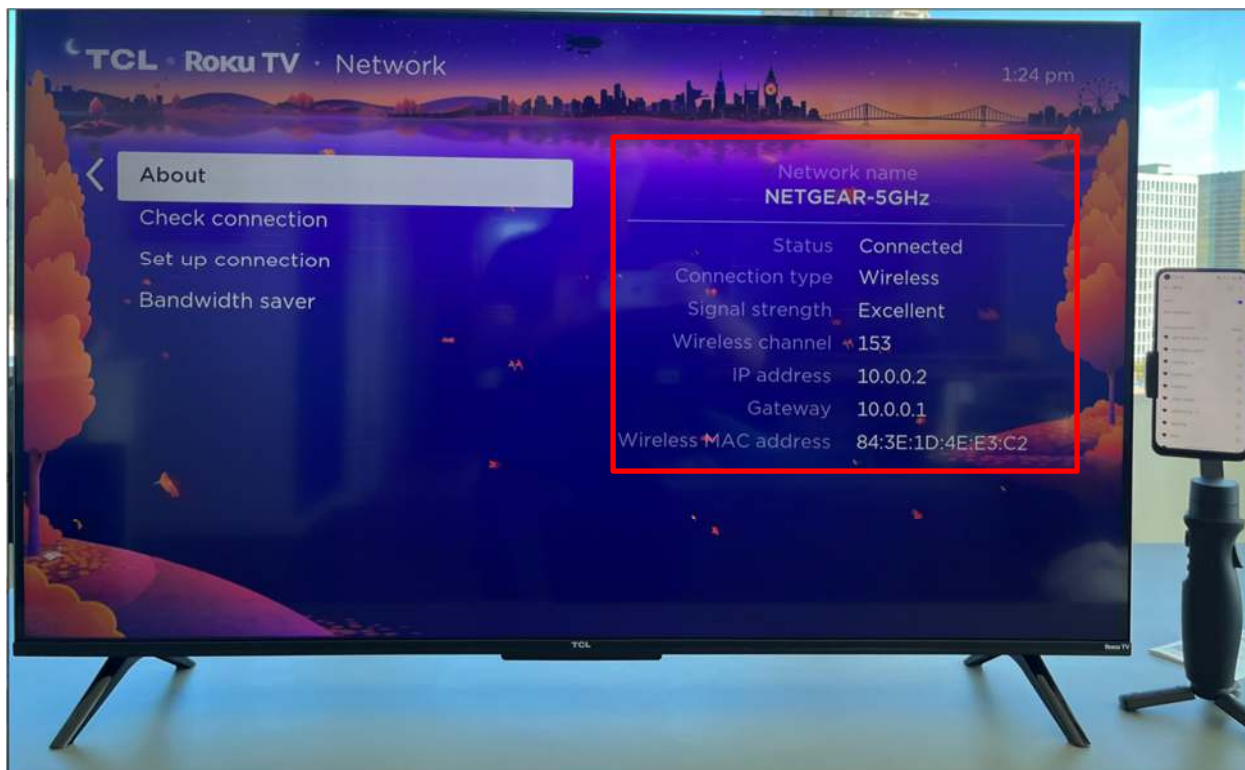
by or through making, using, importing, offering for sale and/or selling its televisions, including by way of example the TCL 43S450R .

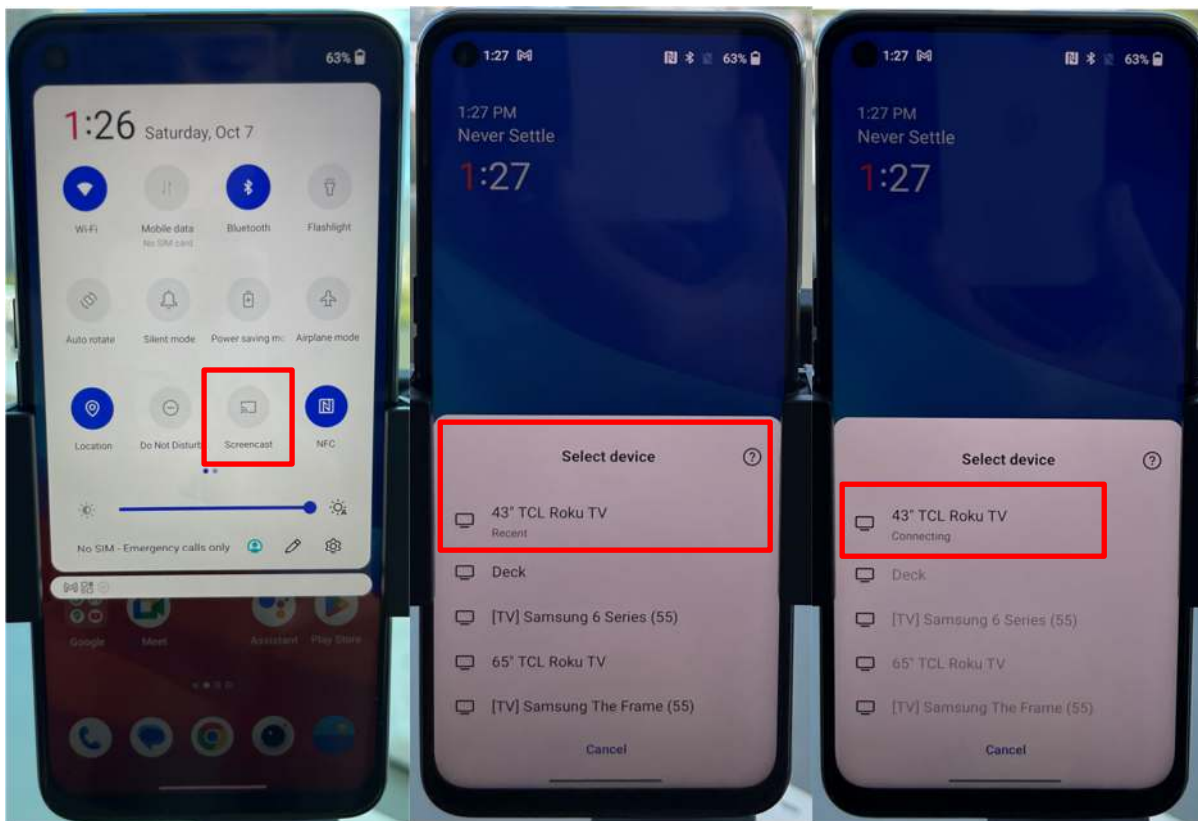
101. The TCL 43S450R is a smart television that can connect to an antenna or satellite to display contents acquired via the television broadcast and can connect to the internet through its wireless adapter to display contents via the internet. The 43S450R has a physical remote controller that can control the television through an infrared ray. The screenshots below of the 43S450R show broadcast content and content acquired via the internet.

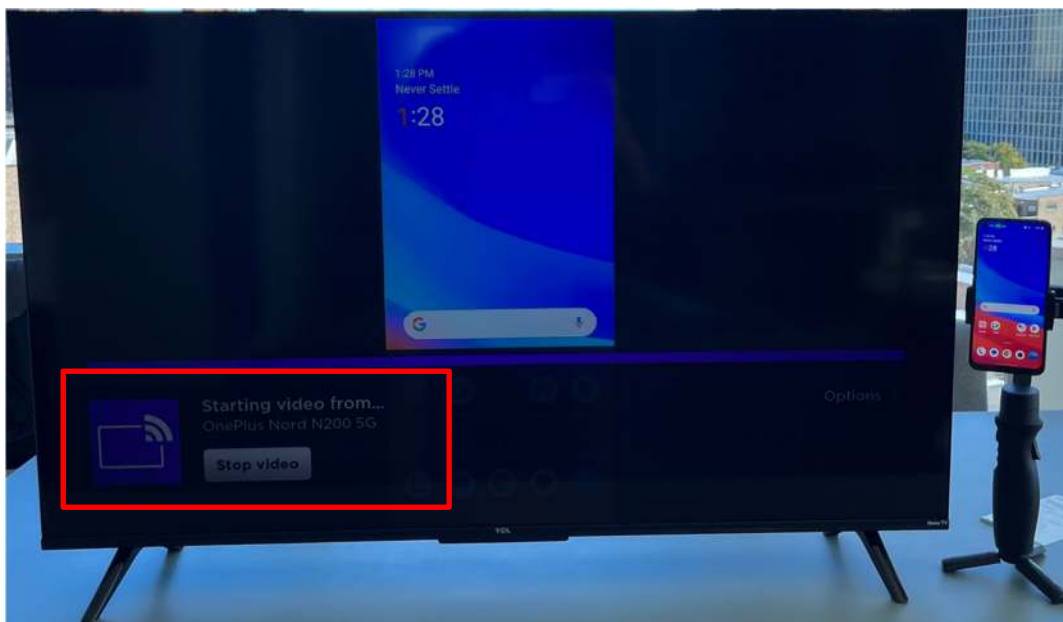




102. The 43S450R is equipped with a mirroring functionality, allowing it to communicate directly with a wireless terminal such as a smartphone, for example via Wi-Fi Direct, Miracast, screen mirroring and/or Wi-Fi Display. This is shown in the screenshots below of the 43S450R, where the smartphone is an example of a first wireless control device. In the example below, the TV has a bi-directional communication with the smartphone without going via a router. The screenshots below demonstrate the TCL 43S450R connected to the internet but the smartphone (first wireless control device or “Smartphone A”) not connected to any networks. A Miracast, Screen Mirroring and/or Wi-Fi Display connection is then directly established between TCL 43S450R and the smartphone (first wireless control device or “Smartphone A”), wherein content from the smartphone (first wireless control device or “Smartphone A”) is displayed on the TCL 43S450R. In the example below, the TCL 43S450R TV’s name is “43’ TCL Roku TV.”



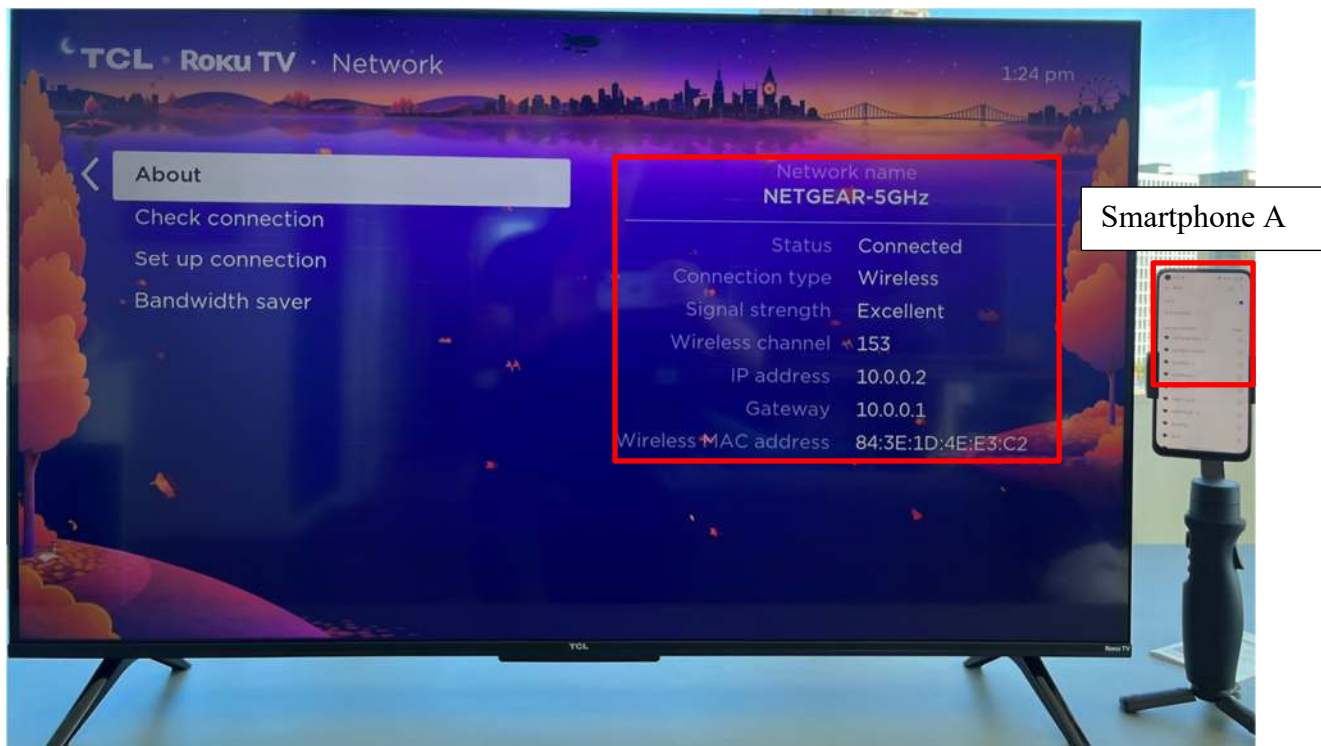


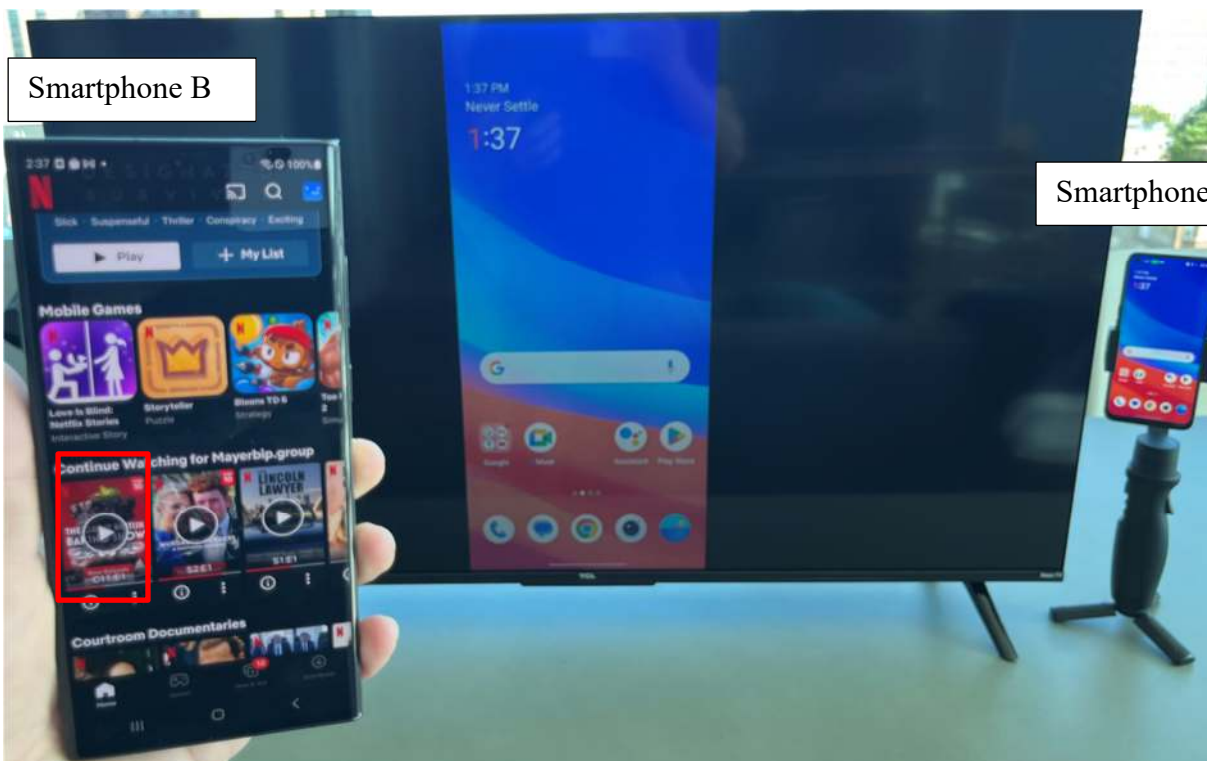
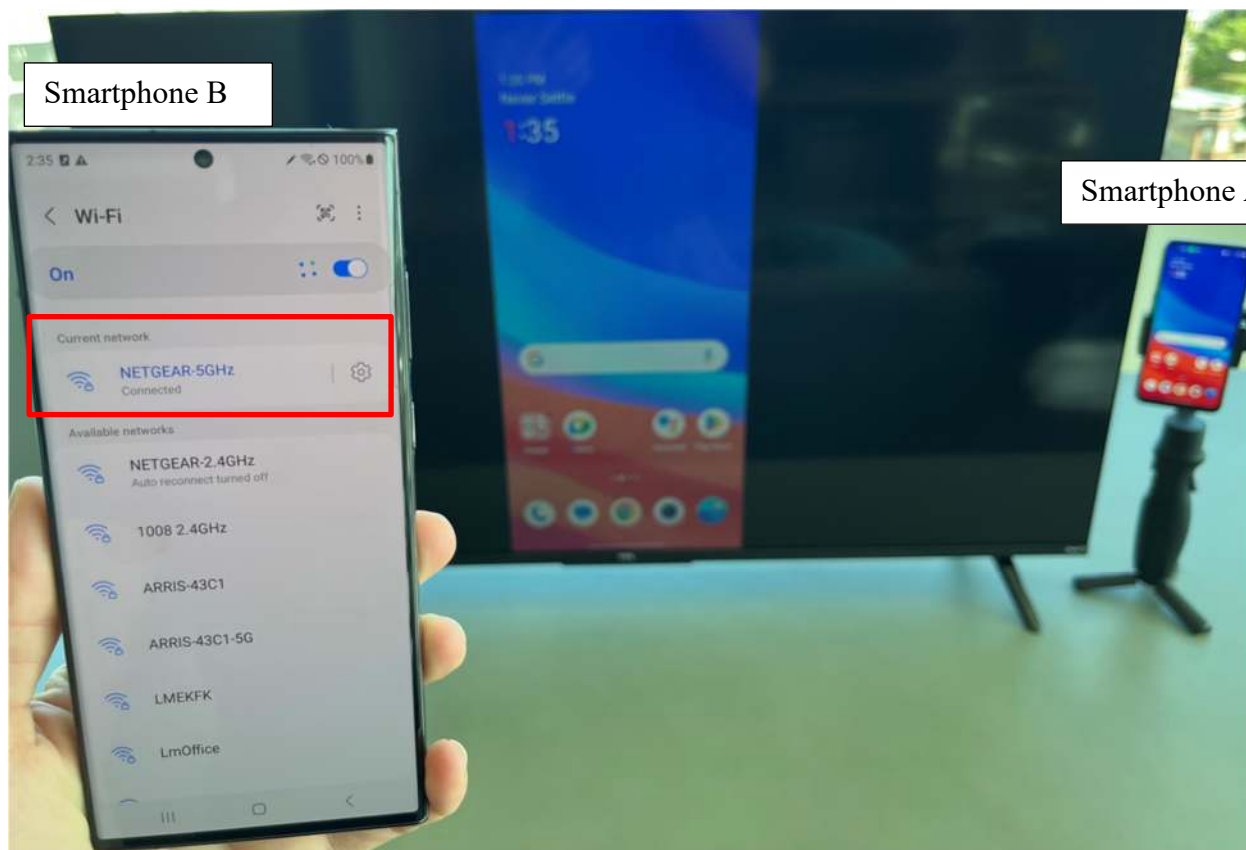


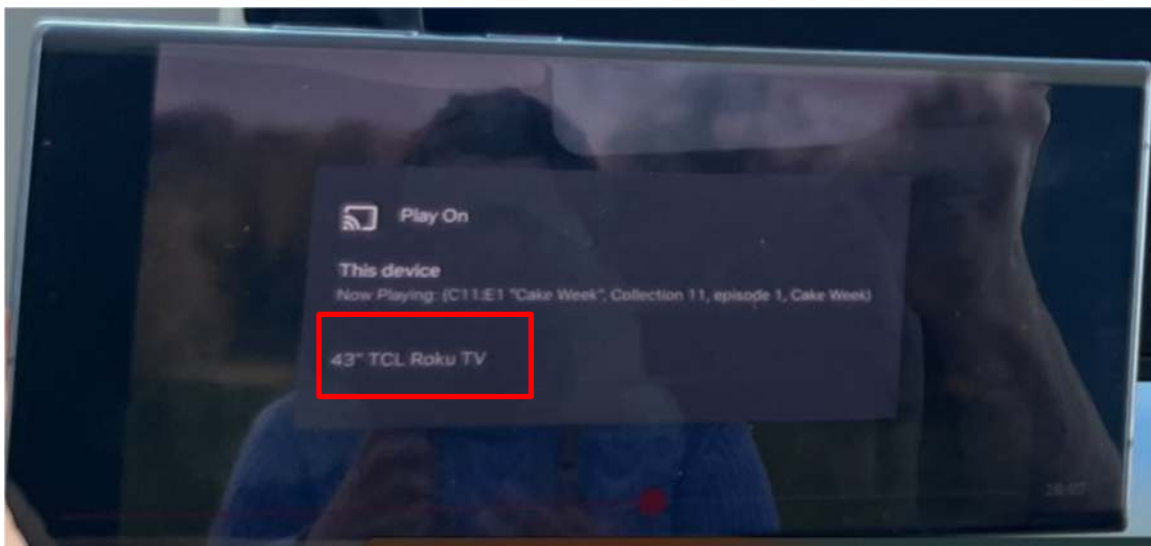
103. The 43S450R is equipped with network interface circuitry allowing it to communicate with other devices on the same network, such as WiFi-enabled smartphone devices. This communication via a router may occur, for example, via the DIAL protocol. For example, when a second smartphone (second wireless control device or "Smartphone B") that is connected to the same network as the 43S450R TV, it establishes a connection with the 43S450R via a router using a network protocol such as the DIAL protocol, and the screen mirroring connection

previously established between the first smartphone (first wireless control device or “Smartphone A”) and the 43S450R terminates, and the second video content from the second smartphone (second wireless control device or “Smartphone B”) starts displaying on the 43S450R. During this process, the 43S450R sends a termination notification to Smartphone A. The Smartphone B (second wireless control device) is an example of the second wireless control device which is different from Smartphone A (first wireless control device).

104. This is shown in the screenshots below of the 43S450R. The content casted from Smartphone A via Miracast, Screen Mirroring and/or Wi-Fi Display connection is displayed on TCL 43S450R. Smartphone B is connected to the same network as the 43S450R TV, and it displays a screen showing that casting is available to the 43S450R TV. Once selected, Smartphone B starts casting content and the TCL 43S450R starts to receive the content from the internet and the Miracast, Screen Mirroring and/or Wi-Fi Display connection is terminated in response to, for example, the casting request via a router from Smartphone B.



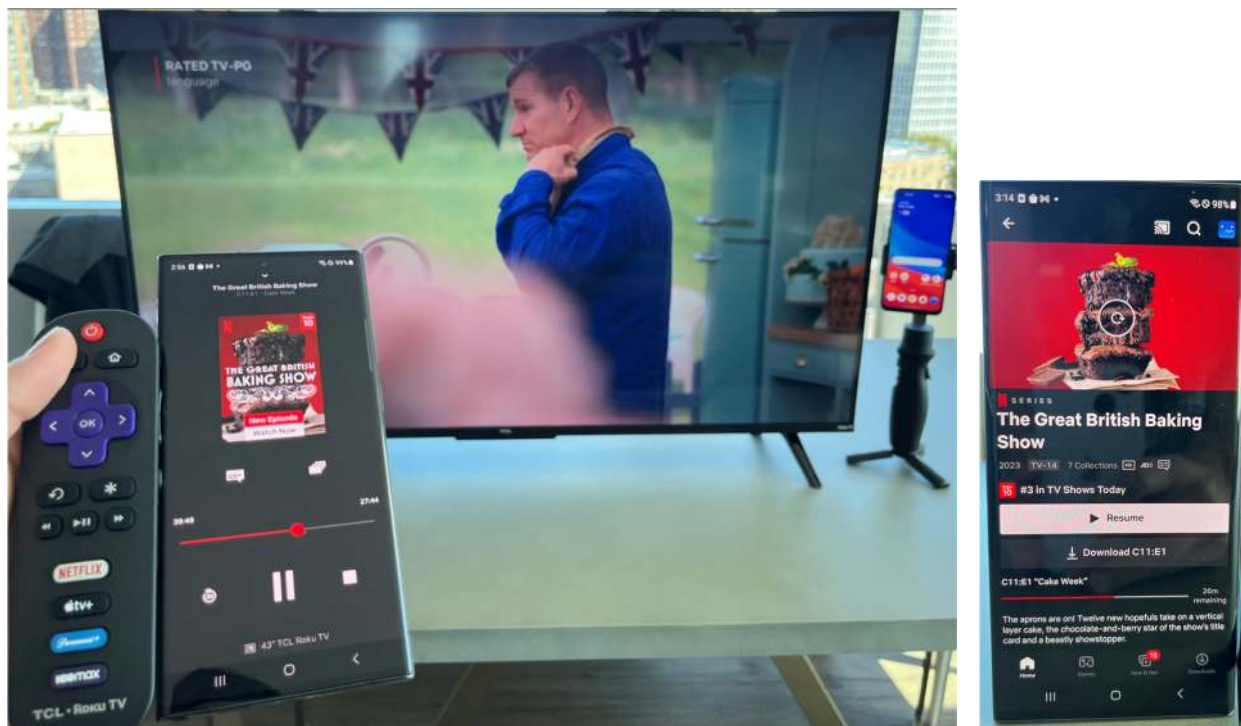






105. In addition, when a user operates the remote controller to change the video content transmitted from the second video content to another video content, the connection established between Smartphone B and the 43S450R via a network protocol such as the DIAL protocol terminates, and the video content selected by the remote controller starts displaying on the 43S450R. During this process, the 43S450R sends a termination notification to Smartphone B.

106. This is shown in the screenshots below of the 43S450R. The second video content selected by Smartphone B is displaying on the display screen of the TCL 43S450R and the user prepares for sending a second command for changing a video content on the display from a second video content to another video content by using the remote controller (third wireless control device). The status screen on Smartphone B shows that casting of the second video content from Smartphone B was disconnected.



107. The foregoing features and capabilities of the TCL 43S450R, and TCL's description and/or demonstration thereof, including in user manuals and advertising, reflect TCL's

direct infringement by satisfying every element of at least claim 3 of the '341 Patent, under 35 U.S.C. § 271(a).

108. On information and belief, TCL further infringes the '341 Patent through additional products utilizing the same or reasonably similar functionalities as described above with respect to the TCL 43S450R (collectively, "the '341 Accused Products"). On information and belief, the '341 Accused Products include, for example, 8-Series (65Q825, 75Q825), 6-Series (55R617, 65R617, 75R617, 55R625, 65R625, 55R635, 65R635, 75R635, 65R648, 75R648, 55R655, 65R655, 75R655, 85R655), 5-Series (55S531, 65S531, 50S535, 55S535, 65S535, 75S535, 50S555, 55S555, 65S555, 75S555, 55T551, 65T551, 65T554, 50T555, 55T555, 65T555, 75T555, 50S546, 55S546, 65S546, 75S546, 43S525, 50S525, 55S525, 65S525), 4-Series (55S21, 55S41, 65S41, 43S45, 50S45, 75S45, 43S421, 50S421, 55S421, 65S421, 75S421, 43S425, 49S425, 50S425, 55S425, 65S425, 75S425, 70S430, 43S431, 50S431, 55S431, 65S431, 75S431, 85S431, 75S433, 43S434, 50S434, 55S434, 65S434, 70S434, 75S434, 43S435, 50S435, 55S435, 65S435, 85S435, 43S451, 50S451, 55S451, 65S451, 75S451, 85S451, 43S453, 50S453, 55S453, 65S453, 75S453, 43S455, 50S455, 55S455, 58S455, 65S455, 75S455, 85S455), 3-series (32S21, 32S325, 40S325, 43S325, 49S325, 32S327, 32S330, 40S330, 32S331, 32S334, 40S334, 43S334, 32S335, 40S355, 32S356, 32S357, 32S359), S-Class (32S210R, 32S250R, 32S310R, 40S310R, 43S310R, 32S350F, 40S350F, 40S35F, 32S350R, 40S350R, 43S350R, 43S450F, 50S450F, 55S450F, 65S450F, 75S450F, 43S450R, 50S450R.), Q-Class (55Q650F, 65Q650F, 75Q650F). For example, each of these products is also equipped with a mirroring functionality, allowing it to communicate directly with a wireless terminal such as a smartphone and with a network interface allowing it to communicate with other devices on the same network, such as WiFi-enabled smartphone devices to receive and display video content. Maxell reserves the right to discover and

pursue any additional infringing devices that incorporate infringing functionalities. For the avoidance of doubt, the '341 Accused Products are identified to describe TCL's infringement and in no way limit the discovery and infringement allegations against TCL concerning other devices that incorporate the same or reasonably similar functionalities.

109. TCL has indirectly infringed at least claim 3 of the '341 Patent in this District and elsewhere in the United States by, among other things, actively inducing the use, offering for sale, selling, or importation of at least the '341 Accused Products. TCL's customers who purchase devices and components thereof and operate such devices and components in accordance with TCL's instructions directly infringe one or more claims of the '341 Patent in violation of 35 U.S.C. § 271. TCL instructs its customers through at least user guides or websites, such as those located at: <https://www.tcl.com/us/en/products/home-theater/5-series/50-class-5-series-4k-qled-hdr-smart-roku-tv-50s535>. TCL is thereby liable for infringement of the '341 Patent pursuant to 35 U.S.C. § 271 (b).

110. TCL has indirectly infringed at least claim 3 of the '341 Patent, by, among other things, contributing to the direct infringement of others, including customers of the '341 Accused Products by making, offering to sell, or selling, in the United States, or importing a component of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in infringement of the '341 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

111. For example, the '341 Accused Products include a mirroring functionality, allowing it to communicate directly with a wireless terminal and a network interface allowing it to communicate with other devices on the same network to receive and display video content. These

are components of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process. Furthermore, such components are a material part of the invention and upon information and belief are not a staple article or commodity of commerce suitable for substantial non-infringing use. Thus, TCL is liable for infringement of the '341 Patent pursuant to 35 U.S.C. § 271(c).

112. TCL has been on notice of the '341 Patent since at the latest, November 8, 2019. By the time of trial, TCL will thus have known and intended (since receiving such notice), that its continued actions would actively induce and contribute to actual infringement of at least claim 3 of the '341 Patent.

113. TCL undertook and continues its infringing actions despite an objectively high likelihood that such activities infringed the '341 Patent, which has been duly issued by the USPTO, and is presumed valid. TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '341 Patent, nor could it reasonably, subjectively believe that the patent is invalid. For example, since at least November 8, 2019, TCL has been aware of an objectively high likelihood that its actions constituted and continue to constitute infringement of the '341 Patent, and that the '341 Patent is valid. On information and belief, TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '341 Patent, nor could it reasonably, subjectively believe that the patent is invalid. Despite that knowledge and subjective belief, and the objectively high likelihood that its actions constitute infringement, TCL has continued its infringing activities. As such, TCL willfully infringes the '341 Patent.

114. Maxell has been damaged by TCL's infringement of the '341 Patent.

COUNT 4 - INFRINGEMENT OF U.S. PATENT NO. 10,015,558

115. Maxell incorporates paragraphs 1-114 above by reference.

116. U.S. Patent No. 10,015,558 (the “’558 Patent,” attached hereto at Exhibit 4) duly issued on July 3, 2018 and is entitled *Method and Device for Adjusting Television Notification Display Duration and Television*.

117. Maxell is the owner by assignment of the ’558 Patent and possesses all rights under the ’558 Patent, including the exclusive right to recover for past and future infringement.

118. The ’558 Patent is generally directed to dynamically (versus fixed) controlled timings for displaying notification messages on a TV when received by the TV from a server and according to the level of interest of a user. At the time of the priority date of the ’558 Patent, a great variety of applications, such as video applications, user installed applications, system built-in applications or physical signal source, and so forth would run on the television. During execution, notifications of various types may be pushed by the system and/or applications, such as, system application notifications, background-recommended notifications, physical signal source-associated notifications, and so forth, and such notifications would then be displayed on the television screen so that a user can be informed of basic contents of the notifications.

119. However, at the time of the ’558 Patent, the conventional methods that existed for adjusting the display time of notifications were preset (fixed) according to an empiric value, resulting in the display durations of the same type of notifications always being equal—for example, when the notification display time reached a preset display duration, the notification would disappear automatically. This caused a problem for users interested in a displayed notification that would disappear, or a problem where a user would have to wait for the notification to automatically disappear even when the user was not interested. In addition, subsequent notifications of the same type continued to display at the same preset time intervals that were not desirable to the user.

120. The '558 Patent solved this problem by providing a specific solution to receive and determine different types of notifications sent by a server that require different display durations and dynamically adjust the television and notification according to a user operation instruction. That is, the '558 Patent claims generally relate to a specific solution used in a TV, for example, so that it is capable of adjusting notification display times depending on both 1) the notification type received by a server and 2) if the user shows interest (e.g., by clicking a button). More specifically, the television adjusts television notification display durations by receiving and determining a first display duration corresponding to a notification type of the first notification information, receives an operation instruction by a user (e.g., by clicking a button), and adjusts the display duration for a subsequent notification information that is independently received from the server.

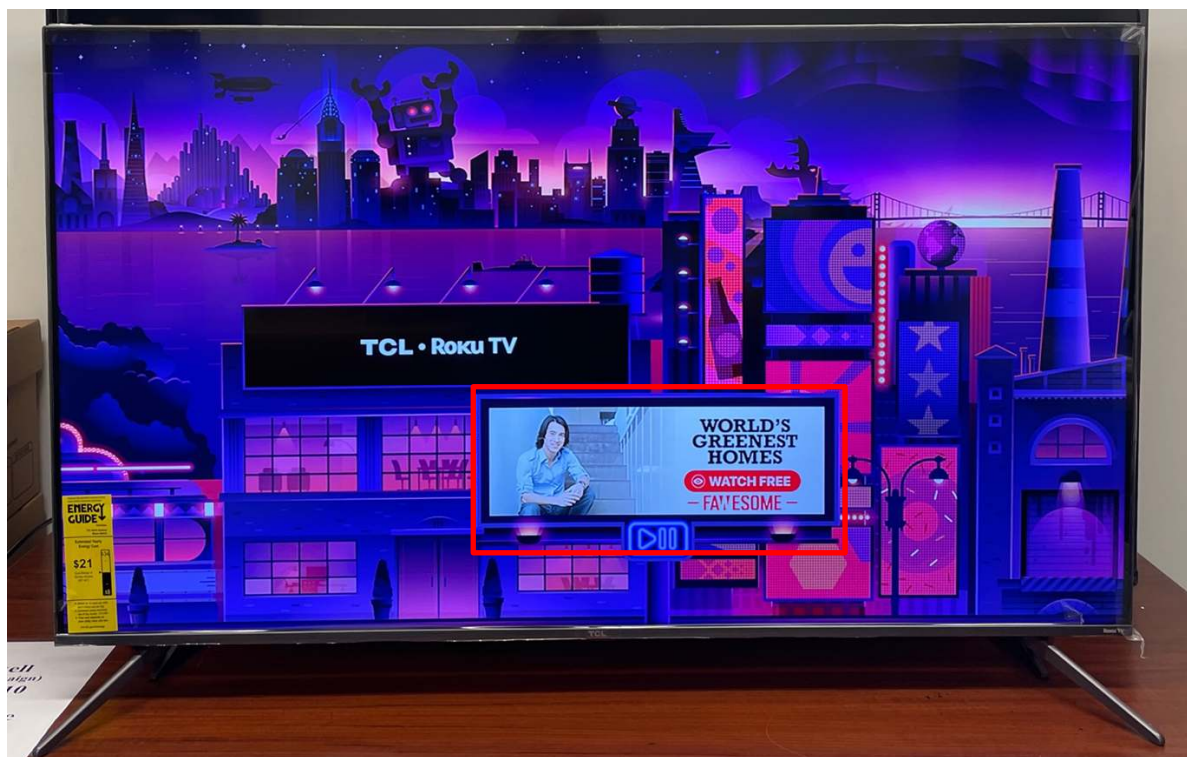
121. TCL has directly infringed one or more claims of the '558 Patent in this District and elsewhere in Texas, including at least claim 1 literally and/or under the doctrine of equivalents, by or through making, using, importing, offering for sale and/or selling its televisions, including by way of example a product known as the 50S535.

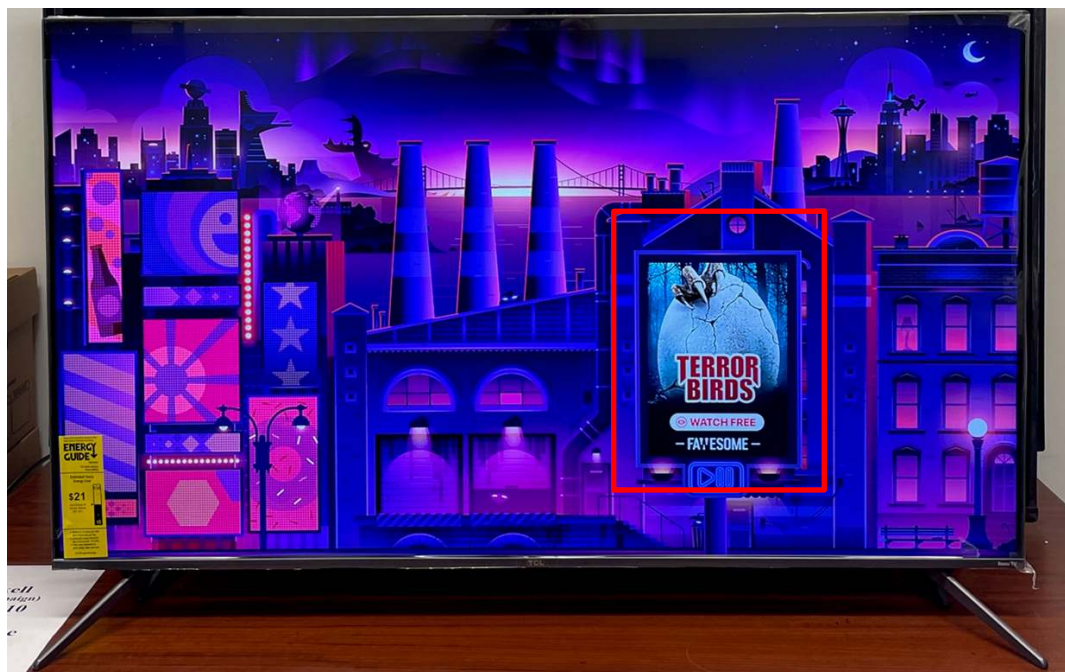
122. The TCL 50S535 is a smart television capable of connecting to a network via an Ethernet port or Wi-Fi, and that receives notification information from a server, for example, a server on the internet, and displays a notification to the user that can be adjusted.

123. For example, the TCL 50S535 has a processor configured by software also referred to as firmware to execute applications having notifications, display notifications, and support adjusting television notification display durations used. For example, the TCL 50S535 receives and displays to the user auto notifications for a "Smart TV Experience" and notifications in the form of advertising, and gives the user the ability to enable or disable such notifications. The user can control the duration of the notification by making a selection so that the notification is not to

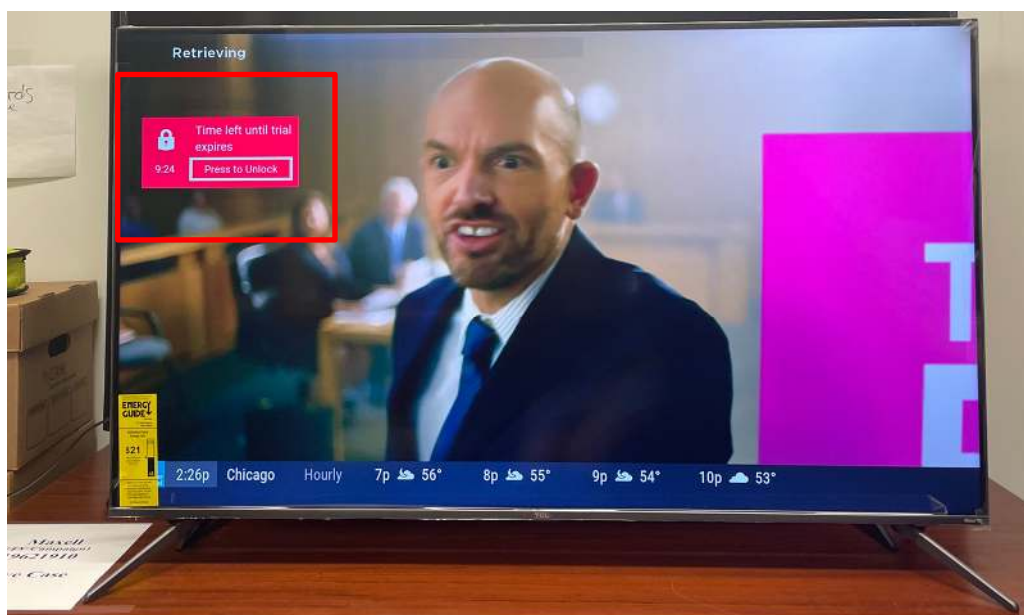
be shown again. As another example, the TCL 50S535 supports updates to its software or firmware, and, if an update is found, the TV will notify and ask the user to confirm the update. The user can control the duration of the notification by making a selection to, for example, install the update so that the notification will not be shown again, or “install later” so that the notification is only shown again at a future time. The TCL 50S535 shows exemplary Smart TV experience and personalized advertising notification information received in the screenshots below.





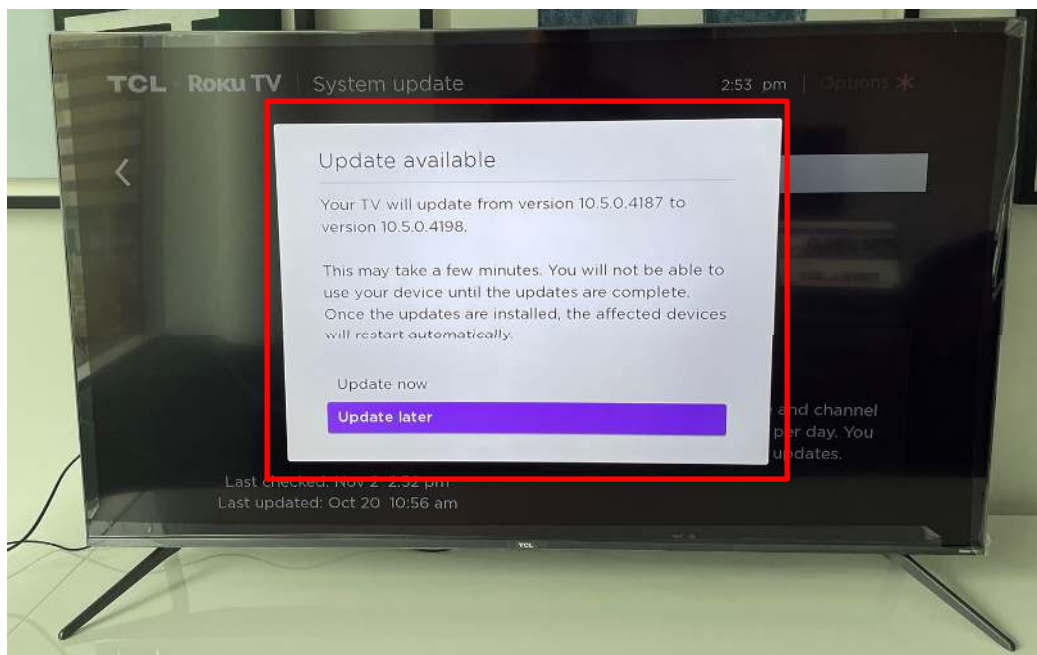


124. As another example, TV applications also receive notification information from a server on the internet such as, for example, the Weather Channel app notification information related to a free trial period.



125. As another example, the TCL 50S535 supports receiving notification information about updates to its software or firmware, and, if an update is found, the TV will notify and ask the user to install the update.





126. In addition, the TCL 50S535 supports multiple notification types that are displayed to the user with different display durations. For example, the TCL 50S535 displays to the user notifications about personalized advertisements and displays to the user for a certain duration. Testing of the TCL 50S535 shows exemplary Smart TV experience and personalized advertising notification information displayed to the user for a certain duration (e.g., indefinitely on “My Offers” and about 25 seconds on screensavers). As another example, TV applications also display notifications such as, for example, the Weather Channel app notification related to a free trial period, shown for a specific duration such as until the user unlocks the application. As another example, the TCL 50S535 supports displaying notification information about updates to its software or firmware, for a certain duration, such as until the user installs the update or decides to install it later.

127. The TCL 50S535 receives and displays to the user notifications about personalized advertisements. The user can operate the remote controller to instruct the television regarding the notification, for example, to enable/disable “Limit ad tracking” or enable/disable “auto

notification” for Smart TV experiences. As another example, TV applications also displays notifications such as, for example, the Weather Channel app notification related to a free trial period. The user can operate the remote controller to give operation instructions related to the application notification such as to “Press to Unlock” the application. As another example, the TCL 50S535 supports displaying notification information about updates to its software or firmware. The user may give operation instructions using the remote controller related to the software update notification such as to “Install Now” or “Install Later.”

128. The TCL 50S535 is a smart television that displays notifications received from a server, for example, a server on the internet, and adjusts the duration corresponding to the notification type to a second display duration for subsequent notifications independently received. For example, the TCL 50S535 receives and displays to the user notifications about personalized advertisements from the internet. The television will display the notification at different durations, such as an infinite time until the user has acknowledged it (e.g., in the My Offers screen), a specific time (e.g., about 25 seconds on the screensaver), or zero time if the user has acknowledged it or if advertisements are limited or turned off. As another example, TV applications also display notifications such as, for example, the Weather Channel app notification related to a free trial period. The TCL 50S535 will display the notification at different durations, such as a specific duration left of trial if the trial period has not expired, or such as zero if the application trial period has ended or the application has been Unlocked. As another example, the TCL 50S535 supports updates to its software or firmware, and, if an update is found, the TV will receive a notification from the internet, such as TCL’s servers, with the details of the update, such as its version. The TCL 50S535 will display the notification at different durations, such as an infinite time if an update is available and the user does not acknowledge it, or such as zero if the software update version

matches the software version already installed on the television. In the TCL 50S535, the second display duration is the duration when the second notification information is being displayed on the screen of the television and different from the first display duration.

129. The foregoing features and capabilities of the 50S535, and TCL's description and/or demonstration thereof, including in user manuals and advertising, reflect TCL's direct infringement by satisfying every element of at least claim 1 of the '558 Patent, under 35 U.S.C. § 271(a).

130. On information and belief, TCL further infringes the '558 Patent through additional products utilizing the same or reasonably similar functionalities as described above with respect to the 50S535 (collectively, "the '558 Accused Products"). The '558 Accused Products include, by way of examples 8-Series (65Q825, 75Q825), 6-Series (55R635, 65R635, 75R635, 55R646, 65R646, 75R646, 65R648, 75R648, 55R655, 65R655, 75R655, 85R655), 5-Series (55S531, 65S531, 50S535, 55S535, 65S535, 75S535, 50S546, 55S546, 65S546, 75S546, 50S555, 55S555, 65S555, 75S555, 55T551, 65T551, 65T554, 50T555, 55T555, 65T555, 75T555), 4-Series (55S21, 55S41, 65S41, 43S45, 50S45, 75S45, 43S421, 50S421, 55S421, 65S421, 75S421, 70S430, 43S431, 50S431, 55S431, 65S431, 75S431, 85S431, 75S433, 43S434, 50S434, 55S434, 65S434, 70S434, 75S434, 43S435, 50S435, 55S435, 65S435, 85S435, 43S446, 50S446, 55S446, 65S446, 75S446, 85S446, 43S451, 50S451, 55S451, 65S451, 75S451, 85S451, 43S453, 50S453, 55S453, 65S453, 75S453, 43S455, 50S455, 55S455, 58S455, 65S455, 75S455, 85S455), 3-series (32S21, 32S327, 32S330, 40S330, 32S331, 32S334, 40S334, 43S334, 32S335, 40S355, 32S356, 32S357, 32S359), S-Class (32S210R, 32S250R, 32S310R, 40S310R, 43S310R, 32S330G, 40S330G, 43S330G, 32S350F, 40S350F, 40S35F, 32S350G, 40S350G, 43S350G, 32S350R, 40S350R, 43S350R, 32S370G, 40S370G, 43S370G, 43S450F, 50S450F, 55S450F, 65S450F, 75S450F,

43S450G, 50S450G, 55S450G, 65S450G, 75S450G, 85S450G, 50S45G, 43S450R, 50S450R, 43S470G, 50S470G, 55S470G, 58S470G, 65S470G, 70S470G, 75S470G, 85S470G, 98S550G), Q-Class (55Q650F, 65Q650F, 75Q650F, 50Q550G, 55Q550G, 65Q550G, 55Q650G, 65Q650G, 75Q650G, 85Q650G, 55Q670G, 65Q670G, 75Q670G, 85Q670G, 55Q750G, 65Q750G, 75Q750G, 85Q750G, 98QM850G, 85QM850G, 75QM850G, 65QM850G), XL Collection (85X925PRO, 98R754, 85R745). These additional products each include all necessary hardware and operating systems and work as described above with respect to the 50S535. Maxell reserves the right to discover and pursue any additional infringing devices that incorporate infringing functionalities. For the avoidance of doubt, the '558 Accused Products are identified to describe the TCL's infringement and in no way limit the discovery and infringement allegations against TCL concerning other devices that incorporate the same or reasonably similar functionalities.

131. Since July 20, 2021, TCL has indirectly infringed at least claim 1 of the '558 Patent in this judicial district and elsewhere in the United States by, among other things, actively inducing the use, offering for sale, selling, or importation of at least the '558 Accused Products. TCL's customers who purchase devices and components thereof and operate such devices and components in accordance with TCL's instructions directly infringe one or more claims of the '558 Patent in violation of 35 U.S.C. § 271. TCL instructs its customers through at least user guides, such as those for the 50S535 located at the following website: <https://www.tcl.com/us/en/products/home-theater/5-series/50-class-5-series-4k-qlcd-hdr-smart-roku-tv-50s535>. TCL is thereby liable for infringement of the '558 Patent pursuant to 35 U.S.C. § 271(b).

132. Since July 20, 2021, TCL has indirectly infringed at least claim 1 of the '558 Patent, by, among other things, contributing to the direct infringement of others, including customers of

the '558 Accused Products by making, offering to sell, or selling, in the United States, or importing a component of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in infringement of the '558 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

133. For example, the '558 Accused Products include a processor configured to execute applications having notifications, display notifications, and support adjusting television notification display durations use. These are components of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process. Furthermore, such components are a material part of the invention and upon information and belief are not staple articles or commodities of commerce suitable for substantial non-infringing use. Thus, TCL is liable for infringement of the '558 Patent pursuant to 35 U.S.C. § 271(c).

134. TCL knows and intends that its continued actions will actively induce and contribute to actual infringement of at least claim 1 of the '558 Patent.

135. TCL undertook and continued its infringing actions despite an objectively high likelihood that such activities infringed the '558 Patent, which has been duly issued by the USPTO, and is presumed valid. TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '558 Patent, nor could it reasonably, subjectively believe that the patent is invalid. As an example, since at least July 20, 2021, TCL has been aware of an objectively high likelihood that its actions constituted and continue to constitute infringement of the '558 Patent, and that the '558 Patent is valid. Despite that knowledge and subjective belief, and the objectively high likelihood that its actions constitute infringement, TCL has continued its infringing activities. As such, and based on TCL's knowledge of its likely infringement and the

strength and value of Maxell's portfolio due to the prior licensing and negotiation history set forth in this complaint, TCL willfully infringes the '558 Patent.

136. Maxell has been damaged by TCL's infringement of the '558 Patent.

COUNT 5 - INFRINGEMENT OF U.S. PATENT NO. 10,219,020

137. Maxell incorporates paragraphs 1-136 above by reference.

138. U.S. Patent No. 10,219,020 (the "'020 Patent," attached hereto at Exhibit 5) duly issued on February 26, 2019 and is entitled *Portable Terminal, Information Processing Apparatus, Content Display System and Content Display Method*.

139. Maxell is the owner by assignment of the '020 Patent and possesses all rights under the '020 Patent, including the exclusive right to recover for past and future infringement.

140. The '020 Patent is directed to a display apparatus, such as a smart television, that can be controlled by an external mobile terminal, such as a smartphone, to start, control, and stop video content acquired via the internet. The '020 Patent specifically relates to casting content from an external mobile device to a television and then controlling that video content based on information received from the external mobile device. The '020 Patent claims are directed to controlling the display apparatus to display broadcast TV content and to terminate that display in response to information received from the external mobile terminal to display a second video content acquired via the internet. The '020 Patent claims are also directed to executing commands from the remote controller, which is different from the external mobile terminal.

141. Prior to the filing of the '020 Patent application, internet video relay systems could not be seamlessly operated by a single mobile terminal, and instead needed additional operation of the display either directly by an operation input or by the use of additional remote controls. Furthermore, operators of these prior art systems would need to first terminate viewing in the

mobile terminal in order to then view it on a separate screen. This caused interruption in viewing. Further, “change-over operations” of internet content from the mobile terminal to another display device, caused numerous problems. For example, one problem was that the internet video content would restart from the beginning rather than resuming from the position of a scroll bar where it was being viewed in the mobile terminal.

142. The asserted claims of the '020 Patent recite an improved information processing apparatus. Specifically they recite an improved video relay system with specific means of controlling the display video state of a display device according to distinct action-triggering information acquired and received from a mobile terminal. The claimed identifier and instructions sent by the mobile terminal is specific state information that triggers operation of the display in a specific manner, (e.g., by passing a URL of target video content, login authentication information, Cookie information, or the position of a scroll bar or pointer indicating a relative position of the video). This achieves an improved level of automation that provides an advancement over the prior art systems, enabling the continuous reproduction of internet video content and the smooth cooperative operation when the viewing of a content that is being viewed on a portable terminal but is to be relayed or passed to a separate video playback display device.

143. Prior to the priority date of the '020 Patent, video relay systems that display content acquired via the internet were not controlled solely by a mobile terminal by action-triggering information. The asserted claims of the '020 Patent brought an improved solution to these systems by the use of instructions from the mobile terminal to control the display unit to perform change-over and operation of internet video content between the devices uninterrupted. This results in the smooth, uninterrupted, and seamless relay of internet video content from a mobile terminal to a separate display device.

144. TCL has directly infringed one or more claims of the '020 Patent in this judicial district and elsewhere in Texas, including at least claim 1 literally and/or under the doctrine of equivalents, by or through making, using, importing, offering for sale and/or selling their televisions, including by way of example a product known as the 50S535.

145. The 50S535 is a smart television with a display, which can connect to a wireless network to access the internet through its wireless adapter and can receive content through its applications. It can also display broadcast television. The photograph below shows the 50S535 displaying broadcast television. The 50S535 can receive digital television broadcast signals over the air or over cable, for example, RF Input or via cable, in digital formats such as Clear QAM and can de-multiplex the digital broadcast signal into video and audio to display on its display and output on its speaker or audio output channels. The 50S535 also has a video processor, such as a graphic processor, for converting the format of video data and an audio processor, such as a system processor, for converting the format of audio data.



146. The 50S535 is equipped with a network interface allowing it to communicate with other devices on the same network, such as Wi-Fi enabled mobile terminals such as smartphones

and allowing it to receive data from an external mobile terminal. For example, the 50S535 incorporates built-in Wi-Fi and Wi-Fi Direct interfaces for receiving data from an external mobile terminal. The 50S535 also has an infra-red (IR) receiver that receives commands from its remote controller that is different from the external mobile terminal.

147. The 50S535 has a system processor for controlling the operation of the TCL 50S535, including its display to display, for example, a first video content via a received broadcast signal. The processor in the 50S535 also responds to communications received over its network interface from a mobile terminal. One such communication from the external mobile terminal may contain an identifier for identifying a second video content acquired via the internet and displayed on the display. This is shown in the screenshots below from the 50S535.

Step 1: The TCL 50S535 displays broadcast TV; the mobile terminal plays video via Netflix:



Step 2: The mobile terminal searches for the TCL 50S535 on the same network. The mobile terminal is shown below:



Step 3: The mobile terminal transmits information containing the identifier to the TCL 50S535 upon the user selecting "50" TCL Roku TV" on the mobile terminal (screenshot from mobile terminal):



Step 4: The TCL 50S535 terminates broadcast TV and initializes the Netflix application:



Step 5: The TCL 50S535 starts displaying a second video content acquired via the internet through the Netflix application based on the identifier:



148. The processor in the TCL 50S535 executes operation instructions received from the external mobile terminal via the radio receiver, for example its Wi-Fi adapter, while the second

video content is being displayed, including playback control instructions received from the mobile terminal. This is shown in the screenshots below from the 50S535.

Step 1: The TCL 50S535 displays the second video content:



Step 2: The TCL 50S535 pauses the second video content after receiving a pause command (operation instruction) from the mobile terminal after the user presses the pause icon on the mobile terminal, as shown in the first and second picture below. The second picture of the mobile terminal shows the play button is ready to be pressed when the user wishes to resume playing the content:



Step 3: The TCL 50S535 resumes play of the second video in response to receiving a play command (operation instruction) from the user pressing the play icon on the mobile terminal:



149. The foregoing features and capabilities of the 50S535, and TCL's description and/or demonstration thereof, including in user manuals and advertising, reflect TCL's direct infringement by satisfying every element of at least claim 1 of the '020 Patent, under 35 U.S.C. § 271(a).

150. On information and belief, TCL further infringes the '020 Patent through additional products utilizing the same or reasonably similar functionalities as described above with respect to the 50S535 (collectively, "the '020 Accused Products"). The '020 Accused Products include, by way of examples 8-Series (65Q825, 75Q825), 6-Series (55R617, 65R617, 75R617, 55R625, 65R625, 55R635, 65R635, 75R635, 55R646, 65R646, 75R646, 65R648, 75R648, 55R655, 65R655, 75R655, 85R655), 5-Series (55S531, 65S531, 50S535, 55S535, 65S535, 75S535, 50S546, 55S546, 65S546, 75S546, 50S555, 55S555, 65S555, 75S555, 55T551, 65T551, 65T554, 50T555, 55T555, 65T555, 75T555, 43S525, 50S525, 55S525, 65S525), 4-Series (55S41, 55S41, 65S41, 43S45, 50S45, 75S45, 43S421, 50S421, 55S421, 65S421, 75S421, 43S425, 49S425, 50S425, 55S425, 65S425, 75S425, 70S430, 43S431, 50S431, 55S431, 65S431, 75S431, 85S431,

75S433, 43S434, 50S434, 55S434, 65S434, 70S434, 75S434, 43S435, 50S435, 55S435, 65S435, 85S435, 43S446, 50S446, 55S446, 65S446, 75S446, 85S446, 43S451, 50S451, 55S451, 65S451, 75S451, 85S451, 43S453, 50S453, 55S453, 65S453, 75S453, 43S455, 50S455, 55S455, 58S455, 65S455, 75S455, 85S455), 3-series (32S21, 32S325, 40S325, 43S325, 49S325, 32S327, 32S330, 40S330, 32S331, 32S334, 40S334, 43S334, 32S335, 40S355, 32S356, 32S357, 32S359), S-Class (32S210R, 32S250R, 32S310R, 40S310R, 43S310R, 32S330G, 40S330G, 43S330G, 32S350F, 40S350F, 40S35F, 32S350G, 40S350G, 43S350G, 32S350R, 40S350R, 43S350R, 32S370G, 40S370G, 43S370G, 43S450F, 50S450F, 55S450F, 65S450F, 75S450F, 43S450G, 50S450G, 55S450G, 65S450G, 75S450G, 85S450G, 50S45G, 43S450R, 50S450R, 43S470G, 50S470G, 55S470G, 58S470G, 65S470G, 70S470G, 75S470G, 85S470G, 98S550G), Q-Class (55Q650F, 65Q650F, 75Q650F, 50Q550G, 55Q550G, 65Q550G, 55Q650G, 65Q650G, 75Q650G, 85Q650G, 55Q670G, 65Q670G, 75Q670G, 85Q670G, 55Q750G, 65Q750G, 75Q750G, 85Q750G, 98QM850G, 85QM850G, 75QM850G, 65QM850G), XL Collection (85X925PRO, 98R754, 85R745). These additional products each include all necessary hardware and operating systems and work as described above with respect to the 50S535. Maxell reserves the right to discover and pursue any additional infringing devices that incorporate infringing functionalities. For the avoidance of doubt, the '020 Accused Products are identified to describe the TCL's infringement and in no way limit the discovery and infringement allegations against TCL concerning other devices that incorporate the same or reasonably similar functionalities.

151. Since November 8, 2019, TCL has indirectly infringed at least claim 1 of the '020 Patent in this judicial district and elsewhere in the United States by, among other things, actively inducing the use, offering for sale, selling, or importation of at least the '020 Accused Products. TCL's customers who purchase devices and components thereof and operate such devices and

components in accordance with TCL's instructions directly infringe one or more claims of the '020 Patent in violation of 35 U.S.C. § 271. TCL instructs its customers through at least user guides, such as those for the 50S535 located at the following website: <https://www.tcl.com/us/en/products/home-theater/5-series/50-class-5-series-4k-qlcd-hdr-smart-roku-tv-50s535>. TCL is thereby liable for infringement of the '020 Patent pursuant to 35 U.S.C. § 271(b).

152. Since November 8, 2019, TCL has indirectly infringed at least claim 1 of the '020 Patent, by, among other things, contributing to the direct infringement of others, including customers of the '020 Accused Products by making, offering to sell, or selling, in the United States, or importing a component of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in infringement of the '020 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

153. For example, the '020 Accused Products include a processor with software for conducting communication with a mobile terminal to cast the video content from the mobile terminal to the accused product. These are components of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process. Furthermore, such components are a material part of the invention and upon information and belief are not staple articles or commodities of commerce suitable for substantial non-infringing use. Thus, TCL is liable for infringement of the '020 Patent pursuant to 35 U.S.C. § 271(c).

154. TCL knows and intends that its continued actions will actively induce and contribute to actual infringement of at least claim 1 of the '020 Patent.

155. TCL undertook and continued its infringing actions despite an objectively high likelihood that such activities infringed the '020 Patent, which has been duly issued by the USPTO, and is presumed valid. TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '020 Patent, nor could it reasonably, subjectively believe that the patent is invalid. As an example, since at least November 8, 2019, TCL has been aware of an objectively high likelihood that its actions constituted and continue to constitute infringement of the '020 Patent, and that the '020 Patent is valid. Despite that knowledge and subjective belief, and the objectively high likelihood that its actions constitute infringement, TCL has continued its infringing activities. As such, and based on TCL's knowledge of its likely infringement and the strength and value of Maxell's portfolio due to the prior licensing and negotiation history set forth in this complaint, TCL willfully infringes the '020 Patent.

156. Maxell has been damaged by TCL's infringement of the '020 Patent.

COUNT 6 - INFRINGEMENT OF U.S. PATENT NO. 10,321,206

157. Maxell incorporates paragraphs 1-156 above by reference.

158. U.S. Patent No. 10,321,206 (the "206 Patent," attached hereto as Exhibit 6) duly issued on June 11, 2019, and is entitled *Method for Switching an Audio/Video Application, Apparatus And Smart TV*.

159. Maxell is the owner by assignment of the '206 Patent and possesses all rights of recovery under the '206 Patent, including the exclusive right to recover for past and future infringement.

160. The '206 Patent is directed to an intermediate interface that is displayed when switching between audio/video (AV) applications, such as those in a television. The intermediate

interface consumes less resources and does not utilize the AV decoder and can therefore be quickly presented as feedback to users switching between AV applications.

161. TCL has directly infringed one or more claims of the '206 Patent in this judicial district and elsewhere in Texas, including at least claims 1-5, 8-13, and 16-17 literally and/or under the doctrine of equivalents, by or through making, using, importing, offering for sale and/or selling their televisions, including by way of example the products known as the 50S535.

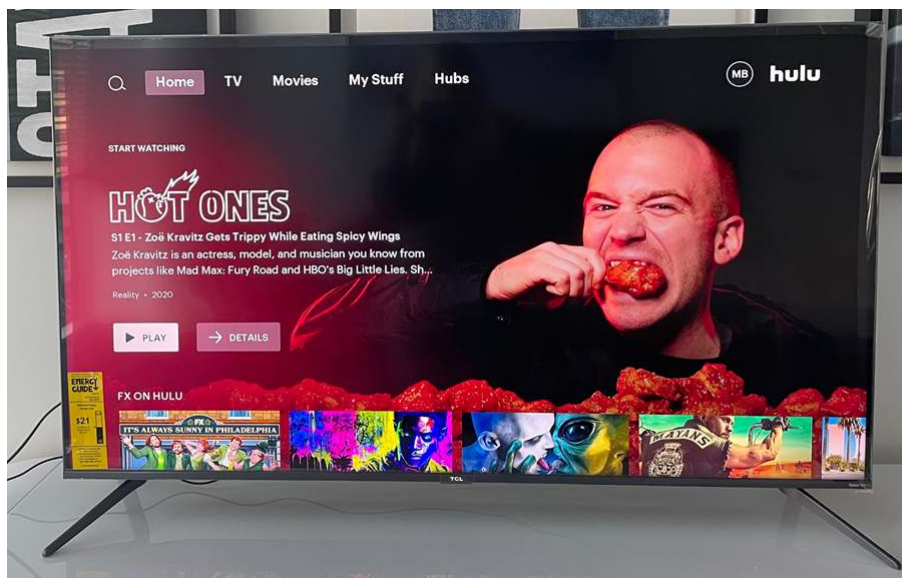
162. The 50S535 has several video apps (e.g., Live TV, Netflix, Disney+, Hulu, and Sling) that can, for example, be started by instructions received from its remote control shown below.



163. When a button for the app or input is pressed on the remote control, the video apps can be switched between one another, starting a preset intermediate interface (e.g., a loading screen) and setting an AV application currently in use to be a background program. This

intermediate interface is shown in the exemplary screenshots below from the 50S535 when switching to Hulu and when switching to Netflix.







164. The intermediate interface (e.g., a loading screen) does not utilize the AV decoder and contains less resource and less interface content than the target AV application (e.g., Hulu or Netflix). As such, the AV decoder is released. This is shown in the exemplary screenshots below from the 50S535, showing that the intermediate interfaces are basic loading screens with no AV content.



165. The target AV application is instructed to send a playback instruction to the AV decoder if the AV decoder is in an unoccupied state. For example, this is shown in the exemplary screenshots from the 50S535 above, showing the target AV applications (e.g., Hulu and Netflix) playing AV content.

166. The foregoing features and capabilities of the 50S535, and TCL's description and/or demonstration thereof, including in user manuals and advertising, reflect TCL's direct infringement by satisfying every element of at least claims 1-5, 8-13, and 16-17 of the '206 Patent, under 35 U.S.C. § 271(a).

167. On information and belief, TCL further infringes the '206 Patent through additional products utilizing the same or reasonably similar functionalities as described above with respect to the 50S535 (collectively, "the '206 Accused Products"). The '206 Accused Products include, by way of examples 8-Series (65Q825, 75Q825), 6-Series (55R635, 65R635, 75R635, 55R646, 65R646, 75R646, 65R648, 75R648, 55R655, 65R655, 75R655, 85R655), 5-Series (55S531, 65S531, 50S535, 55S535, 65S535, 75S535, 50S546, 55S546, 65S546, 75S546, 50S555, 55S555, 65S555, 75S555, 55T551, 65T551, 65T554, 50T555, 55T555, 65T555, 75T555), 4-Series (55S21, 55S41, 65S41, 43S45, 50S45, 75S45, 43S421, 50S421, 55S421, 65S421, 75S421, 70S430, 43S431, 50S431, 55S431, 65S431, 75S431, 85S431, 75S433, 43S434, 50S434, 55S434, 65S434, 70S434, 75S434, 43S435, 50S435, 55S435, 65S435, 85S435, 43S446, 50S446, 55S446, 65S446,

75S446, 85S446, 43S451, 50S451, 55S451, 65S451, 75S451, 85S451, 43S453, 50S453, 55S453, 65S453, 75S453, 43S455, 50S455, 55S455, 58S455, 65S455, 75S455, 85S455), 3-series (32S21, 32S327, 32S330, 40S330, 32S331, 32S334, 40S334, 43S334, 32S335, 40S355, 32S356, 32S357, 32S359), S-Class (32S210R, 32S250R, 32S310R, 40S310R, 43S310R, 32S330G, 40S330G, 43S330G, 32S350F, 40S350F, 40S35F, 32S350G, 40S350G, 43S350G, 32S350R, 40S350R, 43S350R, 32S370G, 40S370G, 43S370G, 43S450F, 50S450F, 55S450F, 65S450F, 75S450F, 43S450G, 50S450G, 55S450G, 65S450G, 75S450G, 85S450G, 50S45G, 43S450R, 50S450R, 43S470G, 50S470G, 55S470G, 58S470G, 65S470G, 70S470G, 75S470G, 85S470G, 98S550G), Q-Class (55Q650F, 65Q650F, 75Q650F, 50Q550G, 55Q550G, 65Q550G, 55Q650G, 65Q650G, 75Q650G, 85Q650G, 55Q670G, 65Q670G, 75Q670G, 85Q670G, 55Q750G, 65Q750G, 75Q750G, 85Q750G, 98QM850G, 85QM850G, 75QM850G, 65QM850G), XL Collection (85X925PRO, 98R754, 85R745). These additional products each include all necessary hardware and operating systems and work as described above with respect to the 50S535. Maxell reserves the right to discover and pursue any additional infringing devices that incorporate infringing functionalities. For the avoidance of doubt, the '206 Accused Products are identified to describe the TCL's infringement and in no way limit the discovery and infringement allegations against TCL concerning other devices that incorporate the same or reasonably similar functionalities.

168. Since July 20, 2021, TCL has indirectly infringed at least claims 1-5, 8-13, and 16-17 of the '206 Patent in this judicial district and elsewhere in the United States by, among other things, actively inducing the use, offering for sale, selling, or importation of at least the '206 Accused Products. TCL's customers who purchase devices and components thereof and operate such devices and components in accordance with TCL's instructions directly infringe one or more claims of the '206 Patent in violation of 35 U.S.C. § 271. TCL instructs its customers through at

least user guides, such as those for the 50S535 located at the following website: <https://www.tcl.com/us/en/products/home-theater/5-series/50-class-5-series-4k-qlcd-hdr-smart-roku-tv-50s535>. TCL is thereby liable for infringement of the '206 Patent pursuant to 35 U.S.C. § 271(b).

169. Since July 20, 2021, TCL has indirectly infringed at least claims 1-5, 8-13, and 16-17 of the '206 Patent, by, among other things, contributing to the direct infringement of others, including customers of the '206 Accused Products by making, offering to sell, or selling, in the United States, or importing a component of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in infringement of the '206 Patent, and not a staple article or commodity of commerce suitable for substantial non-infringing use.

170. For example, the '206 Accused Products include a processor that is configured to load an intermediate interface and trigger the release of its Audio/Video (AV) decoder from the current AV application to a new target AV application when switching AV applications. These are components of a patented machine, manufacture, or combination, or an apparatus for use in practicing a patented process. Furthermore, such components are a material part of the invention and upon information and belief are not a staple article or commodity of commerce suitable for substantial non-infringing use. Thus, TCL is liable for infringement of the '206 Patent pursuant to 35 U.S.C. § 271(c).

171. TCL knows and intends that its continued actions will actively induce and contribute to actual infringement of at least claims 1-5, 8-13, and 16-17 of the '206 Patent.

172. TCL undertook and continued its infringing actions despite an objectively high likelihood that such activities infringed the '206 Patent, which has been duly issued by the USPTO, and is presumed valid. TCL could not reasonably, subjectively believe that its actions do not constitute infringement of the '206 Patent, nor could it reasonably, subjectively believe that the patent is invalid. As an example, since at least July 20, 2021, TCL has been aware of an objectively high likelihood that its actions constituted and continue to constitute infringement of the '206 Patent, and that the '206 Patent is valid. Despite that knowledge and subjective belief, and the objectively high likelihood that its actions constitute infringement, TCL has continued its infringing activities. As such, and based on TCL's knowledge of its likely infringement and the strength and value of Maxell's portfolio due to the prior licensing and negotiation history set forth in this complaint, TCL willfully infringes the '206 Patent.

173. Maxell has been damaged by TCL's infringement of the '206 Patent.

PRAYER FOR RELIEF

WHEREFORE, Maxell prays for relief as follows:

174. A judgment declaring that TCL has infringed and is infringing one or more claims of the '366, '780, '341, '558, '020, and '206 Patents;

175. A judgment awarding Maxell compensatory damages as a result of TCL's infringement of one or more claims of the '366, '780, '341, '558, '020, and '206 Patents, together with interest and costs, consistent with lost profits and in no event less than a reasonable royalty;

176. A judgment awarding Maxell treble damages and pre-judgment interest under 35 U.S.C. § 284 as a result of TCL's willful and deliberate infringement of one or more claims of the '366, '780, '341, '558, '020, and '206 Patents;

177. A judgment declaring that this case is exceptional and awarding Maxell its expenses, costs, and attorneys' fees in accordance with 35 U.S.C. §§ 284 and 285 and Rule 54(d) of the Federal Rules of Civil Procedure;

178. A grant of preliminary and permanent injunctions enjoining TCL from further acts of infringement of one or more claims of the '366, '780, '341, '558, '020, and '206 Patents; and

179. Such other and further relief as the Court deems just and proper.

JURY TRIAL DEMANDED

Maxell hereby demands a trial by jury.

Dated: October 12, 2023

By: /s/ Geoffrey Culbertson

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